National Research & Innovation Conference for Graduate Students in Social Sciences 2014 (GS-NRIC 2014)

Empowering Sustainable Development through Knowledge and Human Advancement

5th - 7th December 2014

Corus Paradise Resort Port Dickson
Negeri Sembilan, Malaysia

Organized by

Universiti Putra Malaysia
and
Ministry of Education Malaysia

PROCEEDINGS



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Proceedings of the National Research & Innovation Conference
for the Graduate Students in Social Sciences 2014

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Universiti Putra Malaysia
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ISBN 978 983 2408 22 2

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Table of Contents

The Editorial Committee xii

Preface xiii

GS-NRIC2014_BUS-10: Relationships between Fiscal Deficits, Money Supply and Inflation: Empirical Evidence from African Countries [*Abstract only*] 1
Abu Nurudeen and Mohd Zaini Abd Karim

GS-NRIC2014_BUS-11: The Influence of Human and Social Capital of Board of Directors in the Period of Crisis: Evidence from Firm Performance of Asian Tourism Firms 2
Chai-Aun Ooi, Chee-Wooi Hooy and Ahmad Puad Mat Som

GS-NRIC2014_BUS-18: Supervision and Its Significant Influence on Teachers' Job Satisfaction 15
Olurotimi Shonubi and Prof Dr Spencer Empading Sanggin

GS-NRIC2014_BUS-19: Intention towards Sustainable Entrepreneurship: Individual's Perception as Mediator 22
Wei-Loon Koe and Izaidin Abdul Majid

GS-NRIC2014_BUS-26: Foreign Direct Investment, Energy Consumption, and Pollution Haven Hypothesis in Africa 34
Alhaji Jibrilla Aliyu and Normaz Wana Ismail

GS-NRIC2014_BUS-31: Tour Operator Perspectives on Responsible Tourism and Green Tourism 48
Kai Xin, Tay and Jennifer Kim Lian, Chan

GS-NRIC2014_BUS-32: When Hazards Meet Vulnerability: The Need for Emergency Planning in Hotels 68
Ahmad Rasmi Albattat and Ahmad Puad Mat Som

GS-NRIC2014_BUS-33: Attitudinal Factors Affecting the Adoption of Internet Banking Services among Small and Medium Enterprises in Yemen 85
Nabil Hussein Al-Fahim, Assoc. Prof. Dr. Wan Jamaliah Wan Jusoh and Assistant Prof. Dr. Adewale Abideen

GS-NRIC2014_BUS-34: Determining the Criteria to Measure Successful University-Industry Collaboration, Particularly during Development Research Stages 101
Mohamad Faizal Ramli and Aslan Amat Senin

GS-NRIC2014_BUS-35: Sustainable Medical Tourism: Understanding Medical Tourist Companion's Demographic Profile of Private Hospitals in Malaysia 115
Wan Normila Mohamad, Azizah Omar and Mahmod Sabri Haron

GS-NRIC2014_BUS-40: The Impact of Relationship Quality on Brand Equity: Empirical Evidence from Automobile Industry 129
Jalal Hanaysha, Haim Hilman and Noor Hasmini Abd Ghani

GS-NRIC2014_BUS-49: The Inter-Relationship between Malaysian Manufacturing and Non-Manufacturing Sector 142
Loo Sze Ying and Mukaramah Harun

GS-NRIC2014_BUS-55: Strategies to Improve Commercial Office Rent Performance in the Golden Triangle Kuala Lumpur (GTKL) [*Abstract only*] 156
Cheah, J. H., Ng, S. I., Teoh, K. G. C. and Lee, C.

GS-NRIC2014_BUS-62: Effect of Organizational Justice on Employees Work Engagement: An Empirical Study 157
Ibrahim Al-Jubari

GS-NRIC2014_BUS-64: An Empirical Examination of Over-Subscription in the Malaysian IPO market 168
Ahmad Hakimi Tajuddin, Rasidah Mohd Rashid, Nur Adiana Hiau Abdullah and Ruzita Abdul Rahim

GS-NRIC2014_BUS-69: Marketing Program Adaptation Practice of *Halal* Products among Malaysian *Halal* Exporters 185
Hazlinda Hassan and Jamil Bojei

GS-NRIC2014_BUS-70: The Influence of *Halal* Food Supply Chain Integrity towards Traceability System Adoption in Food Industry in Malaysia 198
Norasekin Bt Ab Rashid, Jamil Bojei and Norharyanti Md Nor

GS-NRIC2014_BUS-76: Food Purveyors' Attitudes towards Regulated Food Standards 210
Mazni Saad, Toh Poh See and Lovelyna Benedict Jipiu

GS-NRIC2014_BUS-77: The Mediating Effect of Absorptive Capacity on the Relationship between Social Capital and Technology Transfer 225
Rahimi Abidin, Che Sobry Abdullah and Norlena Hasnan

GS-NRIC2014_BUS-78: Measurement for Supply Chain Collaboration and Supply Chain Performance of Manufacturing Companies 237
Hassan Barau Singhry, Azmawani Abd Rahman and Ng Siew Imm

GS-NRIC2014_BUS-80: Consumption and Housing Wealth in Malaysia [*Abstract only*] 247
Wong Wang-Li and Lee Chin

GS-NRIC2014_BUS-81: Financial and Social Outreach Productivity of Microfinance Institutions: A Malmquist Productivity Approach [*Abstract only*] 248
Md Aslam Mia and VGR Chandran

GS-NRIC2014_BUS-84: CO_2 Emissions, Output and Energy Consumption; Evidence from Panel Causality in Countries with Different Income Level 249
Reza Sherafatian-Jahromi and Mohd Shahwahid Othman

GS-NRIC2014_BUS-86: The Effect of China's Foreign Direct Investment on the Malaysian Economic Performance 259
Fanyu Chen, Zi-Wen Wong Vivien and Choong Chee Keong

GS-NRIC2014_BUS-89: The Influence of Ethical Leadership and Flexible Work Hours on Generation Y Work Outcomes [*Abstract only*] 275
Risidaxshinni Kumarusamy and Ho Jo Ann

GS-NRIC2014_BUS-90: Long-Run Relationship between Malaysian Crude Palm Oil Spot and Futures Market 276
Salami Monsurat Ayojimi, and Assoc. Professor Dr. Razali Haron

GS-NRIC2014_BUS-92: High Commitment Human Resource Management and Employee Service Behavior: The Mediating Effect of Trust in Management 291
Nadia Newaz Rimi and Yusliza Mohd Yusoff

GS-NRIC2014_BUS-99: International Student Flow and R&D Spillovers: Importance of Economic Freedom 310
Tee Chee Lip, Azman Saini W.N.W, Saifuzzaman Ibrahim and Normaz Wana Ismail

GS-NRIC2014_BUS-101: The Impact of Institutions on Helth Care Expenditure and Infectious Diseases in Africa*:* A System GMM Approach 323
Hassan Adamu Mohammed, Dr. Norashidah Mohamed Nor and Dr. Zaleha Mohd Noor

GS-NRIC2014_BUS-105: The Impact of Tourism Service Quality on Satisfaction [*Abstract only*] 338
Khairunnisak Latiff and Ng Siew Imm

GS-NRIC2014_BUS-107: The Role of Oil Price and US Economy on Thai's Macroeconomy vs. Monetary Transmission Mechanism 339
Fatemeh Razmi, Azali Mohamed and Lee Chin

GS-NRIC2014_BUS-110: Crude Palm Oil Market Volatility: Malaysian Evidence 360
Assoc. Professor Dr. Razali Haron and Salami, Monsurat Ayojimi

GS-NRIC2014_BUS-111: Determinants of Deforestation In Selangor: An ARDL Approach 373
Gayathri Priyatharisini Vythalingam and Abdul Rahim Abdul Samad

GS-NRIC2014_BUS-113: Perception on Intention to Use Mobile Tourist Guidebook: Comparison of Self-managed Tour and Package Tour 391
Numtip Trakulmaykee, Ahmad Suhaimi Baharudin and Muhammad Rafie Mohd. Arshad

GS-NRIC2014_BUS-114: Bonus Share: Test with Event-Induced Variance 406
Ng Chee Pung, Choo Wei Chong, Annuar Md Nassir and Bany Ariffin Amin Nordin

GS-NRIC2014_BUS-119: Internet Financial Reporting and Firm Value: Evidence from Gulf Co-Operation Council Countries [*Abstract only*] 420
Hasan O. Bin-Ghanem and Akmalia M. Ariff

GS-NRIC2014_BUS-120: The Influence of Communication, Empowerment and Trust on Organization's Ethical Climate [*Abstract only*] 421
Tan Houng Chien and Ho Jo Ann

GS-NRIC2014_BUS-121: The Retention of Student Employees in Kuala Lumpur Travel Agencies 422
Kamelia Chaichi and Dr. Dahlia Binti Zawawi

GS-NRIC2014_BUS-122: Individual Perceptions and Compliance Behaviour under the Prevailing Tax Climate in Malaysia 437
K-Rine Chong, Ramasamy Ravindran and Barjoyai Badai

GS-NRIC2014_BUS-129: Economic Valuation of Urban Green Space in Kuala Lumpur: A Preliminary Study 455
A.S. Nur Syafiqah, A.S. Abdul Rahim and M.Y. Mohd Johari

GS-NRIC2014_BUS-133: Stylized Facts and Impact of Oil Price Shocks on International Shariah Stock Markets 470
Tan Kim Leng, Chin Wen Cheong and Tan Siow Hooi

GS-NRIC2014_BUS-135: Impact of External and Domestic Shocks on Malaysia's Electronic and Electrical (E&E) Export 482
Norashida Othman and Mohd Azlan Shah Zaidi

GS-NRIC2014_BUS-139: Factors Influencing Corporate Social Responsibility Initiatives by Malaysian Hotels: A Managerial Perspective 500
Vahideh Abaeian, Ken Kyid Yeoh and Kok Wei Khong

GS-NRIC2014_BUS-145: Trade Effect of EAC Customs Union on Tanzanian Industrial Sector: An RCA Approach 518
Huda Ahmed Yussuf and Hanny Zurina Binti Hamzah

GS-NRIC2014_BUS-147: Sources of Regional Welfare Disparity in Nigeria: A Decomposition Analysis [*Abstract only*] 534
Habibu Mohammed Umar, Russayani Ismail and Roslan Abdul-Hakim

GS-NRIC2014_BUS-187: Value Relevance of Earnings Reports of Pyramid-Structure Firms with Institutional and Minority Shareholdings [*Abstract only*] 535
Nazratul Aina Mohamad Anwar, Bany Ariffin Amin Noordin and Mohamad Ali Abdul Hamid

GS-NRIC2014_BUS-189: The Availability of Sawn Timber and Sustainable Forest Management (SFM) Practices in Peninsular Malaysia 536
A.W. Noraida, A.S. Abdul Rahim and H.O. Shahwahid

GS-NRIC2014_BUS-190: Assessing Social Responsibility towards Satisfaction and Trust in the Five-Star Hotel Brand 555
Mohd Raziff Jamaluddin, Salleh Mohd Radzi and Rahmat Hashim

GS-NRIC2014_BUS-191: Green Concept: A New Concept in Malaysia? 570
S. Punitha, Yuhanis Abdul Aziz and Azmawani Abd Rahman

GS-NRIC2014_BUS-196: Consumer Purchase: A Journey of Intention Formation, Implemented Intention and Point of Purchase [*Abstract only*] 584
Sohel Ahmed, Ding Hooi Ting and Satirenjit Kaur Johl

GS-NRIC2014_BUS-200: Multivariate Value-at-Risk Evaluation between Malaysian Islamic Stock Index and Sectoral Indices 585
Ng Sew Lai, Chin Wen Cheong and Chong Lee Lee

GS-NRIC2014_OSS-1: Revenue Efficiency of Islamic and Conventional Banks in the GCC Countries: Does Country Governance Matters? 602
Fakarudin Kamarudin, Fadzlan Sufian and Annuar Md. Nassir

GS-NRIC2014_OSS-41: Green Innovation for Sustainable Development: A Quantitative Analysis of the Impact of the Kyoto Protocol 624
Yoomi Kim and Katsuya Tanaka

GS-NRIC2014_OSS-66: A Disaggregated Analysis on the Energy Consumption and Real GDP for the Case of Malaysia 641
Poh Paik Xuan and Lee Chin

GS-NRIC2014_OSS-68: Dispute Resolution in the Islamic Finance Industry in Malaysia: Some Legal Conundrums 653
Aishat Abdul-Qadir Zubair and Umar A. Oseni

GS-NRIC2014_OSS-96: Influence of Power Distance on Voice and Silence Behaviours of Employees in Nigerian Tertiary Educational Institutions 670
Malami Umar and Zaiton Hassan

GS-NRIC2014_EDU-8: Relationship between Principals' Leadership Attributes and School Effectiveness in Niger State Secondary Schools, Nigeria 681
Garba Bagobiri, Soaib Asimiran and Ramli Basri

GS-NRIC2014_EDU-9: Antecedents of Employees' E-training Participation in a Selected Private Company 696
Tan Yen Ying and Roziah Binti Mohd Rasdi

GS-NRIC2014_EDU-14: Level of Gross Motor Skill by Ethnic Groups among Children in Malaysia 714
Chun Cheng Chuan and Saidon Amri

GS-NRIC2014_EDU-23: The Exploration of Adolescents' Perception on the Issues of Mental Health in Malaysia 725
Ismail Abdulfatai Olohunfunmi and Nik Ahmad Hisham Ismail

GS-NRIC2014_EDU-36: Employing Classroom Debate and Socratic Method to Enhance Critical Thinking 742
Pezhman Zare, Moomala Othman and Rosnani Hashim

GS-NRIC2014_EDU-43: Relationship between Demograhic Varriables and Job Satisfaction among Academicians in Nigerian Public Universities 761
Oladipo Kolapo Sakiru, Jamilah Othman and Abu Daud Silong

GS-NRIC2014_EDU-45: Development of Critical and Creative Thinking among Kindergarteners 773
Wong Li Jean and Yeo Kee Jiar

GS-NRIC2014_EDU-46: Effect of Social Support and Race on Resilience among International Student of UPM 787
Fatemeh Sabouripour, Norlizah Che. Hassan and Samsilah Bte Roslan

GS-NRIC2014_EDU-49: Counselor's Efficiencies: A Qualitative Research among School Counselors 800
Mohd Nur Al Sufi Bin Romele and Syed Mohammed Shafeq Bin Syed Mansor

GS-NRIC2014_EDU-53: Teachers' Perceptions on Transformational Leadership in Primary Schools in Malaysia 813
Baharak Talebloo, Ramli Bin Basri, Aminuddin Hassan and Soaib Bin Asmiran

GS-NRIC2014_EDU-58: The Relationship between Flow Experience, Organizational Citizenship Behavior and Work-family Conflict: An Exploratory Study among Hotel Employees 827
Mark Kasa and Zaiton Hassan

GS-NRIC2014_EDU-60: Procedural Understanding in Physics Practical Work 841
Liew Sang Sang and Ong Saw Lan

GS-NRIC2014_EDU-69: A Study on Academic Cheating among Final Year Undergraduates in Faculty of Education, Universiti Teknologi Malaysia 859
Uzailun Nafais Bin Zainal Abidin and Hee Jee Mei

GS-NRIC2014_EDU-71: Perceptions and Attitudes of Youth towards Education Level Attained for Sustainable Employment 874
Agnes Indra Chokkalingam and Kalaivani Chellappan

GS-NRIC2014_EDU-83: Breadth and Depth of Vocabulary Knowledge and their Relationship with Reading Comprehension of Malaysian Undergraduates 892
Saeideh Bolandifar and Nooreen Noordin

GS-NRIC2014_OSS-27: The Relationship Between Networking Behavior and Successful Career Transition among Practitioners Turned Academics 907
Khairunnisa binti Mohd Pauzi and Roziah binti Mohd Rasdi

GS-NRIC2014_HUM-5: Knowledge Level of Selected Noble Values among Multi-Ethnic Youths in Selangor 926
Wan Nor Azilawanie Tun Ismail, Adlina Ab. Halim, Lee Yok Fee and Zarina Muhammad

GS-NRIC2014_HUM-6: Parents' Understanding of Home Schooling: Refugees' Point of View [*Abstract only*] 935
Abdul Cafoor Muhammadu Kijas, Ismail Sheikh Ahmad and Sarabdeen Masahina

GS-NRIC2014_HUM-7: The Politics of Sara Suka and Youth Involvement in Bauchi State, Nigeria 936
Kabiru Bello Ilelah, Adlina Ab Halim and Ku Hasnita Ku Shamsu

GS-NRIC2014_HUM-9: Enhancing Capacity Building in Seaweed Cultivation System among the Poor Fishermen: A Case Study in Sabah, East Malaysia 950
Rosazman Hussin, Suhaimi Md. Yasir, Velan Kunjuraman and Aisah Hossin

GS-NRIC2014_HUM-11: Identification of Food Heritage: Food Identity Analysis on Demographic Background 966
Adilah Md Ramli, Mohd Salehuddin Mohd Zahari and Salim Abdul Talib

GS-NRIC2014_HUM-13: Youth's Perception of Personal Factors, Social Factors and Basic Psychological Needs in Sustainable Employment 984
Puspalathaa Armum, Kamisah Bt. Osman and Kalaivani Chellappan

GS-NRIC2014_OSS-58: Social Sustainability of Oil Palm Settlers 1002
Halima Begum, A. S. A. Ferdous Alam and Er Ah Choy

GS-NRIC2014_LC-3: What are Patterns of Language Choice and Use among University Students? 1016
Mehdi Gran Hemat, Ain Nadzimah Abdullah, Chan Swee Heng and Helen Tan

GS-NRIC2014_LC-6: A Conversational Analysis on Formality In Small Firm Business Meetings 1036
Danish Johari and Afida Mohamad Ali

GS-NRIC2014_LC-24: Dissecting Nature and Grotesque Elements in Tunku Halim's Juriah's Song [*Abstract only*] 1052
Nur Fatin Syuhada Ahmad Jafni, Wan Roselezam Wan Yahya and Hardev Kaur

GS-NRIC2014_LC-26: Problems in Amateur Subtitling of English Movies into Arabic [*Abstract only*] 1053
Abed Shahooth Khalaf, Sabariah Md Rashid, Muhd Fauzi Jumingan and Muhd Suki Othman

GS-NRIC2014_LC-29: Sense of Rootedness as A Medium of Self Recovery in Margaret Atwood's *Surfacing* [*Abstract only*] 1054
Nur Faathinah Mohammad Roshdan and Hardev Kaur

GS-NRIC2014_LC-35: Influence of Ethnocentrism on Offline and Online Interethnic Interactions among Local Students in Malaysian Public Universities 1055
Somayeh Mortazavi Ganji Ketab, Ezhar bin Tamam, Saeed Pahlevan Sharif and Ashraf Sadat Ahadzadeh

GS-NRIC2014_LC-37: Fusions of Animistic and Islamic Practices in Anthony Burgess's The Malayan Trilogy 1075
Farahanna ABD Razak, Ida Baizura Bahar and Rosli Talif

GS-NRIC2014_OSS-7: The Impact of Food Policy on Food Insecurity in Developing Countries 1091
Nur Marina Abdul Manap and Dr. Normaz Wana Ismail

GS-NRIC2014_OSS-20: Finding Contextually Identical Behavioral Variables in Information System Journals 1105
Wendy W.S. Tan and Bong Chih How

GS-NRIC2014_OSS-25: Embracing Psychological Well-Being among Professional Engineers in Malaysia: The Role of Protean Career Orientation and Career Exploration 1123
Norizan Baba Rahim and Siti-Rohaida, M. Z.

GS-NRIC2014_OSS-28: Narcissism, Self-esteem, Communication Apprehension, and Need for Affiliation: Difference between Social Networking Sites Users and Non-Users 1139
Ashraf Sadat Ahadzadeh, Saeed Pahlavan Sharif, Hossein Emami and Khong Kok Wei

GS-NRIC2014_OSS-37: Determinants of Visitors' Willingness-to-pay for Biodiversity Conservation: A Case of Yankari Game Reserve, Nigeria 1150
Abdullahi Adamu, Prof. Madya Dr. Mohd Rusli Yacob, Prof. Madya Dr. Alias B. Radam and Dr. Rohasliney binti Hashim

GS-NRIC2014_OSS-38: Towards Understanding the Strengths of Long Term Marriages among the Malaysian Chinese 1165
Teoh Gaik Kin, Dr. Haslee Sharil Abdullah and Dr. Lau Poh Li

GS-NRIC2014_OSS-48: The Effects of Structural Change on Rural Poverty in Agrarian Economy: Evidence from Nigeria 1180
Alhaji Bukar Mustapha, Rusmawati Said, Law Siong Hook and Shauffique Siddique Fahmi

GS-NRIC2014_OSS-51: Influence of Empty Fruit Bunch Biochar on Performance of Nitrogen-Fixing Bacteria Applied to Sweet Corn 1194
Diyar Kareem Abdulrahman, Radziah Othman, Halimi Mohd Saud and Rosenani Abu Bakar

GS-NRIC2014_OSS-53: Malaysian Rice Farm Efficiency: Application of Parametric, Non-parametric and Bootstrapped DEA 1208
Lira Mailena, Mad Nasir Shamsudin, Ismail Latif, Zainalabidin Mohamed and Alias Radam

GS-NRIC2014_OSS-65: Review of Generation Expansion Planning (GEP) in the Restructured Power Market with the Presence of Wind Power Plants 1223
M.T. Askari, M.Z.A. Ab. Kadir and H.b. Hizam, J. Jasni

GS-NRIC2014_OSS-78: Effectiveness Investigation of Web Guide and Impact of Graphics in Ensuring Success of Blended Learning 1239
Khairi Shazwan Dollmat, Ho Sin Ban and Ian Chai

GS-NRIC2014_OSS-81: Socio-demographic Factors Influencing Visitor Satisfaction in Kilim Karst Geoforest Park, Langkawi 1263
Mohamad Safee Sapari, Ahmad Shuib, Sridar Ramachandran and Syamsul Herman M.A

GS-NRIC2014_OSS-84: Assessing the Governance of Co-Management Eco-Tourism using Social Network Analysis: Case of Kampung Luanti Baru, Sabah and Kampung Kuantan, Selangor 1280
Mohd Iqbal Mohd Noor, Mohd Shahwahid Hj Othman, Amira Mas Ayu Amir Mustafa and Rahinah Ibrahim

GS-NRIC2014_OSS-88: Industry Structure and Market Concentration: Case of Malaysian Construction Industry 1300
Nurul Afifah A. Aziz, Zaiton Ali and Azman Hassan

GS-NRIC2014_OSS-90: Experiences and Positive Deviance towards Environmental Disclosure Quality 1314
Amar Hisham Jaaffar, Say Keat Ooi and Azlan Amran

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PREFACE

The utmost gratitude is due to The Almighty for granting this success. This conference proceedings contains the papers accepted to the National Research & Innovation Conference for the Graduate Students in Social Sciences 2014 (GS-NRIC2014) held at Corus Paradise Resort Port Dickson, Negeri Sembilan, Malaysia on the 5th – 7th December 2014.

The conference is a premier forum for presentation of research results and findings on social sciences field of study. This is the second event jointly organized by Universiti Putra Malaysia (UPM) and Ministry of Education (MOE), Malaysia. The mission of the conference is to provide the graduate students with the needed exposure in their respective areas of expertise.

The theme chosen was '*Empowering Sustainable Development through Knowledge and Human Advancement*'. The conference serves as a platform for the postgraduate students to present and to share their novel research findings. It is the intention of the conference to facilitate students in the expansion of their networking among peers and fellow researchers. The call for papers attracted submissions from postgraduate students across Malaysia. Divided into 7 main tracks (Economics; Management and Business Studies; Accounting and Finance; Hospitality, Tourism and Marketing; Education; Language, Literary Studies and Communication; and Other Social Sciences), 101 papers including 14 abstracts published here pick up on the various social sciences field.

This volume of proceedings from the conference provides an opportunity for readers to engage with a selection of refereed papers that were presented during the event. We received an overwhelming number of submissions (total of 454 papers) thus the papers published (101 selected) in the conference proceedings are evidence of the resulting high-quality and exciting reviewing process.

We first thanks the authors for providing the content of the program. We are grateful to the program committee and the senior program committee, who worked very hard in reviewing papers and providing feedback for authors. Finally, we thank UPM and MOE, Malaysia for hosting the conference.

SAADIATUL IBRAHIM
Head, Editorial Committee
The National Research & Innovation Conference for Graduate Students in Social Sciences 2014 (GS-NRIC2014)
Faculty of Economics and Management
UPM, Malaysia

Relationships between Fiscal Deficits, Money Supply and Inflation: Empirical Evidence from African Countries

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ABSTRACT

This paper employs VAR model and granger causality test to investigate the relationship between fiscal deficits, money supply and inflation in African countries during the period 1999-2011. The VAR results indicate the existence of a unidirectional causality from fiscal deficits to money supply and inflation, and a feedback causality between inflation and money supply. The results of the granger causality tests demonstrate that there is a unidirectional causality from fiscal deficits to money supply and inflation, and a feedback causality between money supply and inflation. The findings confirm inflation as a product of both monetary and fiscal policies including the dominance of fiscal policy. Thus, African governments should employ policies to check deficits from rising so as to avoid excessive money growth in addition to putting inflation under control.

Keywords: Fiscal Deficits, Money Supply, Inflation, Africa

-Requested by author not to be published as full paper-

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The Influence of Human and Social Capital of Board of Directors in the Period of Crisis: Evidence from Firm Performance of Asian Tourism Firms

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ABSTRACTS

The recognition of the negative impact of a crisis on tourism firm performance has been established in the tourism literature. This paper further investigates the implication of board diversity in human capital (educational background and working experience) and social capital (external network ties via interlocking directorates) towards the relationship between crisis and tourism firm performance. Cross sectional time series data from 85 tourism firms across four Asian countries, namely China, Hong Kong, Malaysia and Singapore are investigated, from 2001-2011. Sudden and gradual occurrence types of crisis are classified. We find that adopting greater board diversity in external network ties shows significant positive implication towards the relationship between gradual occurrence type of crisis and firm performance. Instead, adopting greater board diversity in working experience shows significant negative implications towards sudden and gradual occurrence types of crisis and firm performance. The influence of board diversity in educational background is found insignificant.

Keywords: Board of Directors, Diversity, Crisis, Performance, Tourism

INTRODUCTION

The tourism industry is susceptible to a wide range of external crisis such as natural disasters, disease outbreaks, terrorism, war as well as economic/financial crisis. Previous empirical studies have provided the evidence showing a negative relationship between crisis and tourism demand. Following the decline in tourism demand during the crisis period, the performance of tourism firms has been adversely affected, as shown by the studies of Chen (2007a) and Chen (2011). In fact, a crisis may not merely affect the earning sales of tourism firms, but it could also endanger the firms' future growth opportunity in the long run. It is because crisis may influence the perception of the stakeholders upon the ability of the firms to protect their benefits in the turbulence. Firms with inefficient crisis management may

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constitute to the decline of shareholders' confidence to invest in the firms. It could increase the difficulty of the firms to search for financing in the future. In this case, how do tourism firms react to confide the shareholders for the worthiness of investing in the firms even though tourism industry is susceptible to a wide range of crisis?

We claim that enhancing the quality of the board of directors could mitigate the negative impacts of crisis on firm performance. According to resource dependent theory (RDT), the board of directors may act as a resource provider in an organization. With the directors' human and social capital, they can provide the resources in the form of legitimacy, advice and counsel, preferential access to resources, as well as access to channels of information between the firm and the contingency environment (Boyd, 1990; Gales and Kesner, 1994; Hillman et al. 2000). In fact, RDT has shed light on the importance of the board's human and social capital in an organization, which give rise to the worthiness of the research. It is believed that the human and social capital of the board of directors is able to enhance the firms' competitive advantages at the time of crisis by which the demand for tourism products declines. Herein, this study investigates the implication of board diversity in human capital and social capital towards the relationship between crisis and firm performance. In this study, human capital is represented by educational background and working experience, and social capital is represented by the external network ties via interlocking directorates.

This study classifies crisis by its gestation period to occur, as discussed in Seymour and Moore (2000)[1]. Terrorism and natural disasters are said to have shorter gestation periods to occur, or in other words, it occurs in sudden and immediate; war and disease outbreaks are said to have longer gestation periods to occur, or in other words, it occurs gradually. One may argue that the function of the board diversity could have different implications towards the impact of individual type of crisis on firm performance. It is because, on the one hand, greater board diversity could provide a wider range of alternatives to enhance the quality of the strategic setting within shorter period of time, which should be significant to cope with sudden occurrence type of crisis; on the other hand, the diversified suggestions provided from different area of expertise could delay the decision making process as it takes longer time to compromise for a consensus, and it is argued that greater board diversity is only significant to cope with gradual occurrence type of crisis. The unknown of the influence of the board diversity on the relationship between crisis and firm performance support the worthiness of this study.

The findings of this study make several contributions to the tourism literature. It suggests that board diversity in human and social capital is a matter to influence firm performance during a crisis period. Tourism firms are required to set up a crisis management committee specifically tackling the crisis. In the present, seldom tourism firms are found to set up the crisis management committee in the boardroom, besides of the committees like audit committee, remuneration committee and nomination committee. The establishment of the crisis management committee is intended to control over the extent of board diversity in human capital and social capital when making decisions to respond towards crisis. Our findings suggest that regulation on the board diversity in human capital and social capital is important to

[1] Seymour and Moore (2000) classify crisis into two categories according to its gestation period to occur: *cobra* type of crisis and *python* type of crisis. The former occurs in sudden and unexpected while the latter occurs gradually.

prevent deterioration firm performance during the crisis period, as well as to mitigate the negative impact of crisis on the performance of tourism firms. Although tourism demand is increasing over years, the growth of tourism industry may be slowed down due to the increasing of the frequency of crisis in the recent years as demonstrated by Hall (2010). Herein, regulating board diversity in tourism firms could be one of the alternatives to confide the shareholders upon their investment in tourism firms.

Crisis and the Role of Board of Directors

The development of the tourism sector has always been challenged by numerous external crisis, either it is in the form of natural disasters such as tsunami and earthquake, disease outbreaks or human-caused crisis such as war and terrorism. Figure 1 demonstrates the decline in the growth rate of international tourist arrivals during a number of crisis periods. Chen (2007a, 2007b), Chen (2011) and Chen et al. (2005) provide empirical evidences demonstrating that the decline in tourist arrivals during a crisis period has negatively affected the performance of tourism firms. Drakos (2004) also finds that 9/11 terrorism has brought significant negative impacts on the airline industries, including the increasing of systematic risk of airline stocks after the crisis event. The crisis leads to the U.S. airlines firms to face a bigger challenge in raising capital for advanced development. Chen (2011) explains that tourists are reluctant to travel during the crisis period for their personal safety, which causes the decreasing of profitability in the tourism industry. The decline in earnings has led to the adoption of discount on the firm's stock return due to the plunge of expected cash flow over the crisis period, eventually constitute to the poor firm performance.

Other than the empirical evidences showing the negative impacts of crisis on firm performance, the annual reports of the tourism firms also document the loss of the firm during the crisis period. For instance, Pulai Spring Berhad in the hospitality industry in Malaysia has suffered a loss in operating income from RM53 million to RM45 million due to a drastic drop in resort operations income as a direct result of the SARS epidemic. China Travel International Investment Hong Kong Limited also has suffered a decrease in net asset value of 0.2% as the result of 2009 swine flu disease outbreaks. According to Cathay Pacific Airways Limited in Hong Kong, the passenger yield has been declining from HK48.2 cents to H45.7 cents following the 911 terrorist attacks in the United States in the year 2001.

The past crisis events have revealed how tourism firms react towards the challenges. For instance, Singapore Airlines Limited takes several actions against the outbreaks of SARS disease in 2003, such as working closely with the Civil Aviation Authority of Singapore and the Singapore Ministry of Health, as well as closely following up with the World Health Organization (WHO) upon the safety measures to guard against the SARS virus. It is believed that Lim Boon Heng, one of the board of directors in the firm, who is also the Minister in Prime Minister's Office in Singapore at that time, has successfully utilized his social networking advantages to link the firm with the government or main authorities concerned. The board in Food Juntions Holdings Limited instead proposes a dividend of 25% per ordinary share less tax at 22 percent, amounting to approximately S$1.9 million for the Financial Year of 2003, with the intention to reward the shareholders for their confidence in the firm despite the impact of SARS outbreaks. Contradictory, the board from China

Travel International Investment Hong Kong Limited does not recommend the payment of dividend in 2009, the year of swine flu disease outbreaks which has caused the decrease in the net asset value of the firm. With respect to the 2008 economic crisis, the board of directors in Huatian Hotel Group Company Limited personally provides workshops to the managing executives and the other staffs so that to enhance the quality of management as well as the quality of the services providing to the customers. The measure aims to sustain the firm performance during the turbulence. Also, following the economic crisis, the board of directors in Skywest Airlines Limited, Singapore, immediately initiates major changes to the structure and senior management of the company and shift the strategic focus of the firm from high growth pursuit to one of fiscal conservatism as a consequence of the global financial crisis. All of these evidences obtained in annual report of individual firm indicate the important role played by the board during a crisis period.

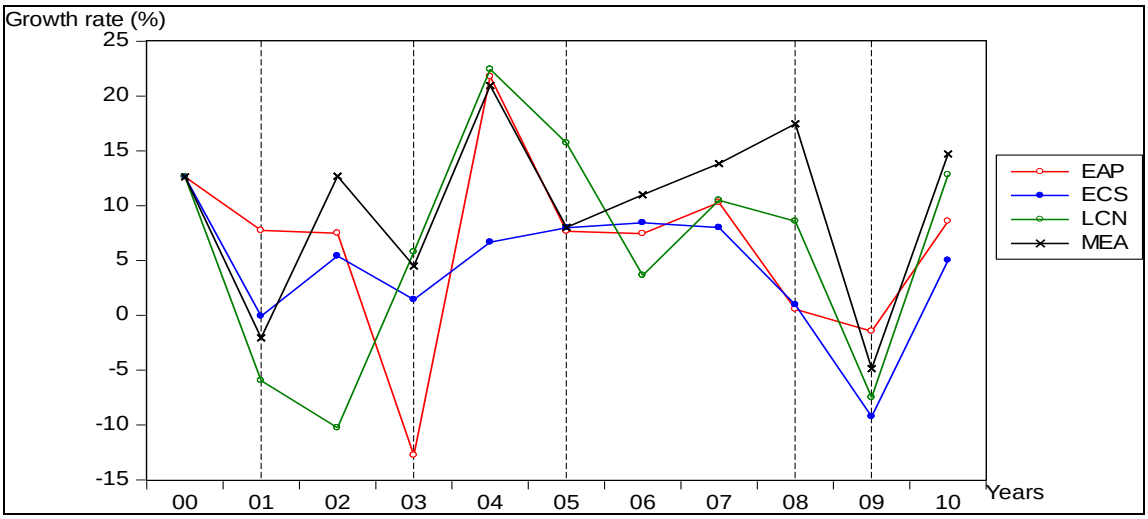


Figure 1 The growth rate of international tourist arrivals from 2000 to 2009

*Note: vertical dotted lines in the graph represent the years of crisis, namely 2001 U.S. 911 attacks, 2003 SARS outbreaks, 2005 Bali bombings, 2008 economic crisis and 2009 H1N1 disease outbreaks respectively. EAS represents East Asia and Pacific; ECS represents European and Central Asia; LCN represents Latin America and Caribbean; MEA represents Middle East and North Africa and lastly WLD represents world. Data is collected from WorldBank database.

Shareholders are very concerned about the board's quality and structure when the firms suffer from an unexpected crisis (Lean and Smith, 2009). Francis et al. (2012) show that firms with poorer board quality are likely to suffer extensive loss during financial crisis period, while Brauer and Schimdt (2008) demonstrate that competent board could improve firm performance in a turbulent circumstance. The findings of the empirical studies have coincided with the definition of Mace (1971) upon the function of boards as "a source of advice and counsel, serve as some sort of discipline device, and act in *CRISIS* situations". This has implied that the quality of the board of directors are particularly important with respect to a crisis situation.

Fiol (1994) claims that studying on the board diversity should take into account of the firm business environment. It is supported by the other study like Schneider and Angelmar (1993) suggesting that adopting greater board diversity is only effective for decision making in the complex environments. Similarly, Walsh (1988) also document that a wide range of perspectives and views which could be

provided by a great board diversity is effective to cope with an uncertain issue. Also, the findings of Carpenter and Westphal (2001) suggest that adopting greater board diversity in social capital is more preferable during an unstable environment. These may be due to the essence of innovation to cope with the crisis or complex issue effectively, and in that case, greater board diversity could help to improve the innovative performance of a firm Wincent (2010). The innovation is critical for a firm to seize the competitive advantages in the market when the environment is unstable. With that, the influence of board diversity in human capital and social capital could cast the investors' attention and reflect in the stock prices[2].

Data and Methodology

The names of tourism firms are extracted from Osiris-Bureau van Dijk database according to the NACE Rev. 2 industrial codes given by UNWTO. Tourism firms from Malaysia, Singapore, Hong Kong and China are selected. There are a total of 85 firms. The period of study is from the year 2001 to 2011. Time series (yearly) data for firm fundamental variables is collected from DataStream, a division of Thomson Financial. Time series (yearly) board-related data are collected from individual firms' annual reports. Five crisis events are selected, namely 2001 U.S. 9/11 terrorism, 2003 SARS outbreaks, 2005 Bali bombings, 2008 financial downturn and 2009 H1N1 outbreaks. The nature of the crisis in terms of its gestation period to occur for the corresponding crisis event is stated in Table 1 according to Maditinos and Vassiliadis (2008).

Table 1 Tourism Crisis Events from 2000-2010 and its corresponding Crisis Typologies

Year	Crisis events	Gestation Period to Occur
2001	U.S. 911 terrorism	Sudden
2003	SARS outbreaks	Gradual
2005	Bali Bombings	Sudden
2008	Financial crisis	Gradual
2009	H1N1 outbreaks	Gradual

Model Specification

Equation (1) shows the baseline model. Two crisis dummy variables are incorporated in the model, one with the crisis events which occur in sudden or having a shorter gestation period to occur; another one with the crisis events which occur gradually, or having a longer gestation period to occur. Panel regression with firm fixed effect specification is applied to the model. We further adjust the standard errors for correlations across the four economies through clustering approach.

$$\begin{aligned} FirmPerformance_{it} &= \beta_0 + \beta_1 FirmSize_{it} + \beta_2 Leverage_{it} + \beta_3 FirmGrowth_{it} + \beta_4 Capex_{it} \\ &+ \beta_5 IndepBoard_{it} + \beta_6 BoardOwnership_{it} + \beta_7 BoardMeeting_{it} + \beta_8 Crisis_{Sudden_t} \\ &+ \beta_9 Crisis_{Gradual_t} + \beta_{10} DFirm_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

[2] Empirical evidences provided by Carpenter and Westphal (2001) demonstrating that board diversity in human capital and social capital could improve firms' innovative performance significantly.

The firm's stock return is used as the proxy for firm performance. $FirmSize_{it}$ is measured by the natural logarithm of total assets of firm *i* at year *t*; $Leverage_{it}$ is measured by the ratio of long-term debts to total assets of firm *i* at year *t*; $Firm\ Growth_{it}$ is measured by market-to-book value of firm *i* at year *t*, and $Capex_{it}$ is represented by the total capital expenditure of firm *i* at year *t*. $IndepBoard_{it}$ represents for the composition of an independent board of directors of firm *i* at year *t*, which is measured by the ratio of independent board and total board size; $BoardOwnership_{it}$ is measured by total board ownership of firm *i* at year *t*, and $BoardMeeting_{it}$ is measured by the number of board meetings of firm *i* at year *t*. $Crisis_{Sudden}$ and $Crisis_{Gradual}$ are the dummy variables denoting 1 for the years of crisis with the corresponding nature of gestation period to occur, and 0 otherwise.

To investigate whether board diversity in human capital and social capital could have implications towards the relationship between crisis and firm performance, interaction terms comprising of the multiplication of crisis variable ($Crisis_{Sudden}$/$Crisis_{Gradual}$) and the board diversity variable (*Board diversity in educational background / Board diversity in working experience / Board diversity in External Network Ties*) are further incorporated in the model (1). If significant relationship found between firm performance and the interaction terms, we would say that the board diversity implies a significant link to the relationship between crisis and firm performance.

Measuring the Board Diversity Variables

This study follows Gibbs and Martin (1962) in measuring board diversity index. In general, Gibbs and Martin diversity index is defined as:

$$1 - \sum_{i=1}^{n} p_i^{\,2}$$

where p_i^2 is the proportion of a board in group *i*. The higher the diversity index, the more diversified of the subject. The maximum value of the diversity index is 1, implying 100 percent diversification, while the minimum value is 0, implying no diversification at all.

The board's educational background is categorized into seven groups, namely business and economics, law, liberal arts and social sciences, basic science and engineering, medical and pharmacy, military, and lastly, arts and physical education. Individual director belonging to either of the categories would be counted, and the overall board diversity in educational background is then measured using Gibbs and Martin approach. Also, the board's working experience is categorized into eight groups, namely government, domestic and foreign financial, tourism related related activities, accountant, professor, organization member, attorney, and lastly, media and research institute. Similarly, the number of 2-digit SIC codes of the firms attached by the board in firm *i* via interlocking directorates are counted and measured using Gibbs and Martin's approach.

Descriptive Statistics

Table 2 presents the descriptive statistics of the variables used in this study. The average stock return is 0.0335, by which the positive value indicates that the

performance of tourism firms in Asia is still satisfying the investors. The average market-to-book value demonstrates positive value, i.e. 2.54, suggesting that investors are positive towards the future growth opportunity of the Asian tourism firms. Descriptive statistics further show that tourism firms adopt high board diversity in working experience in average, i.e. about 72 percent. The board diversity in external network ties and educational background are about 67 and 50 percent respectively. The minimum value of board diversity in educational background and external network ties are zero, denoting that there are firms having homogeneous/undiversified board's human capital and social capital. The homogeneous board's educational background is found referring to the study field of business and economics. Also, the maximum value of board diversity in external network ties is close to 100 percent, which indicates that there are firms having completely diversified nature of external network ties.

Table 2 Descriptive Statistics

	Mean	Median	Std. Dev.	Min	Max
Stock returns	0.0335	0.0014	0.4679	-1.1595	1.4318
Firm size	14.4544	14.3084	1.8411	10.0702	18.6675
Leverage	28.8328	24.5700	23.9003	0.0000	111.5900
Market-to-book value	2.5363	1.6700	2.9651	-3.5200	17.6000
Capital expenditure	10.7314	10.7207	2.3522	5.2040	15.9317
Ratio of outside board to total board size	0.3526	0.3333	0.0202	0.3333	0.3750
Board Ownership (%)	14.8095	0.0269	24.4939	0.0000	80.0475
Board size	9.3769	9.0000	2.9823	4.0000	26.0000
Frequency of board meeting	7.0176	6.0000	3.6460	2.0000	26.0000
Diversity in board's educational background	0.5002	0.5185	0.1821	0.0000	0.8368
Diversity in the area of board's working experience	0.7219	0.7347	0.0727	0.4898	0.8367
Diversity in board's external network ties	0.6661	0.7342	0.2610	0.0000	0.9546

RESULTS DISCUSSION

Column (1) in Table 4 presents the regression results of the baseline model. Firm size is found to have no significant relationship with firm performance. The capital expenditures, however, show significant negative relationship with firm performance, implying that the capital expenditures of tourism firms do not bring desire returns to the tourism firms. However, significant positive relationship between market-to-book value and firm performance found indicates that the future growth opportunities of the Asian tourism firms are still positive. We find that board size is not significantly related to firm performance. It implies that increasing the board's human capital and social capital does not benefit firm performance, instead, it leads to the significance of emphasizing on board diversity in human capital and social capital. The results further show that only gradual occurrence type of crisis is

significantly and negatively related to firm performance. Sudden occurrence type of crisis instead does not significantly affect firm performance. The results are logical in the sense that the duration between the period of the sudden occurrence type of crisis is shorter, and tourism demand would rebound back immediately after the crisis[3]. This explaines why our yearly data used in this study could not capture significant negative effect of the crisis on firm performance. In short, the results from the baseline model reveal that the gradual occurrence type of crisis is the main challenge for the sustainability of tourism firms.

Further results show that board diversity in educational background, working experience and external network ties does not significantly improve firm performance, when controlling for the crisis in the model. This implies that under the stable environment without crisis, the influence of the board diversity is less likely to be perceived by investors. Instead, our results show that investors tend to emphasize on the board shareholding and the composition of outside directors when the environment is stable. The issues of board ownership and independent board of directors which could lead to the agency problems is the main concern of investors. In short, our results indicate that board's human capital and social capital are less significant to influence firm performance in the stable environment.

Table 5 presents the implications of board diversity in human capital and social capital towards the relationship between crisis and firm performance. We find that board diversity in educational background does not have significant influence towards the impacts of crisis on firm performance. In contrast, board diversity in working experience has significant negative implication to the relationship between sudden and gradual occurrence types of crisis and firm performance. This implies that increasing the board diversity in working experience significantly deteriorates the negative impacts of crisis on firm performance. This is consistent with Maznevski (1994) denoting that diverse suggestions and advice provided by the board comprising of different area of expertise could lead to the difficulty in making a decisive conclusion during the board meeting. With that, it hampers the management team to operate cohesively. Furthermore, disorganization and miscommunication problems may be rising, constituting to the inefficiency of the managing activities Jackson et al. (1995). Even, we find that the magnitude of the negative implication towards the impact of the sudden occurrence type of crisis is larger relative to the gradual occurrence type of crisis. The results give us the notion that high board diversity in working experience hinders the production of immediate strategies to cope with crisis, and may even create chaos which delays the process of decision making during the critical period when immediate strategies are needed, particularly in the sudden occurrence type of crisis. It has constituted the greater loss for failing in seizing the competitive advantages in the market. In overall, the results demonstrate that diversified board's working experience could deteriorate the negative impacts of crisis towards firm performance, especially for the crisis which occur in sudden.

In opposite, we find that board diversity in external network ties has a positive implication towards the relationship between crisis and firm performance. In other words, increasing board diversity in external network ties could mitigate the negative impacts of crisis on firm performance. This implies that diversified board's

[3] Lean and Smith (2009) demonstrate that the effect of crisis towards tourism demand is merely transitory, where the declines in tourism demand would rebound back immediately after the crisis.

external network ties could strengthen the firms' abilities in managing a crisis. However, the significant positive effect found is only restricted to the gradual occurrence type of crisis. The finding is supported by the studies of Carpenter and Westphal (2001) and Wincent et al. (2010) documenting that board's strategically heterogeneous network ties could provide a wider range of alternatives as well as enhance its innovative performance for solving complicated troubles or unstable circumstances. Nevertheless, the results imply that the advantage of board diversity in external network ties could only effectively mitigate the negative impacts of crisis in the condition that the board is given sufficient time to find a consensus on the diversified points of view shared in the meeting.

Table 4 Regression results on the baseline model

	(1)	(1a)	(1b)	(1c)
Constant	-2.3513**	-2.6709***	-2.6460***	-2.2439**
	(0.0397)	(0.0027)	(0.0034)	(0.0160)
Firm size	0.0892	0.0865	0.0898	0.0858
	(0.1080)	(0.1309)	(0.1108)	(0.1844)
Leverage	0.0027*	0.0028	0.0028	0.0019
	(0.0908)	(0.1102)	(0.1222)	(0.4407)
Market-to-book	0.0577***	0.0572***	0.0573***	0.0650***
	(0.0000)	(0.0000)	(0.0000)	(0.0010)
Capex	-0.0229*	-0.0216	-0.0227	-0.0197
	(0.0634)	(0.1403)	(0.1197)	(0.2002)
Board size	-0.0779	-0.0555	-0.0628	-0.1368
	(0.4617)	(0.6138)	(0.5719)	(0.2508)
Outside board	3.6217***	3.3338***	3.3179***	2.7719**
	(0.0032)	(0.0092)	(0.0091)	(0.0360)
Board shareholding	0.0055***	0.0053***	0.0055***	0.0053***
	(0.0000)	(0.0068)	(0.0055)	(0.0088)
Board meeting	0.061	0.0735	0.0742	0.0748
	(0.3340)	(0.2544)	(0.2630)	(0.2526)
$Crisis_{sudden}$	-0.087	-0.0967*	-0.0935*	-0.0833
	(0.2630)	(0.0641)	(0.0715)	(0.1200)
$Crisis_{gradual}$	-0.3437***	-0.3491***	-0.3453***	-0.3472***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Diversity in board's educational background		0.1553		
		(0.3302)		
Diversity in board's working experience			0.0290	
			(0.9392)	
Diversity in board's external network ties				0.0692
				(0.5176)
Number of Observations	655	642	650	623
R^2	0.2348	0.1343	0.1311	0.1385

*** is significant at 1 percent level; ** is significant at 5 percent level; * is significant at 10 percent level.

Table 5 Regression results on the moderating effect of the board diversity towards the impact of crisis on firm performance

	(1)	(2)	(3)
Constant	-2.7257***	-2.9625***	-2.1951**
	(0.0022)	(0.0010)	(0.0193)
Firm size	0.0877	0.0915	0.0847
	(0.1248)	(0.1001)	(0.1943)
Leverage	0.0029	0.0029	0.002
	(0.1107)	(0.1141)	(0.4060)
Market-to-book	0.0572***	0.0561***	0.0649***
	(0.0000)	(0.0000)	(0.0010)
Capex	-0.0209	-0.022	-0.0207
	(0.1491)	(0.1284)	(0.1721)
Board size	-0.0546	-0.0548	-0.123
	(0.6253)	(0.6223)	(0.2992)
Outside board	3.2582**	3.3966***	2.7943**
	(0.0106)	(0.0079)	(0.0347)
Board shareholding	0.0055***	0.0054***	0.0054**
	(0.0065)	(0.0052)	(0.0105)
Board meeting	0.0756	0.0713	0.071
	(0.2349)	(0.2790)	(0.2857)
$Crisis_{sudden}$	-0.0282	0.8113**	-0.1866*
	(0.7992)	(0.0424)	(0.0736)
$Crisis_{gradual}$	-0.1932**	0.2415	-0.5035***
	(0.0309)	(0.4077)	(0.0000)
Diversity in board's educational background	0.2714		
	(0.1758)		
Diversity in board's working experience		0.3796	
		(0.3746)	
Diversity in board's external network ties			-0.0366
			(0.7598)
Diversity in board's educational background * $Crisis_{cobra}$	-0.1444		
	(0.5528)		
Diversity in board's educational background * $Crisis_{gradual}$	-0.3238		
	(0.1043)		
Diversity in board's working experience * $Crisis_{sudden}$		-1.2460**	
		(0.0226)	
Diversity in board's working experience * $Crisis_{gradual}$		-0.8091**	
		(0.0482)	
Diversity in board's external network ties * $Crisis_{sudden}$			0.1663
			(0.2946)
Diversity in board's external network ties * $Crisis_{gradual}$			0.2475***
			(0.0093)
Number of Observations	642	650	623
R^2	0.1359	0.1344	0.1418

CONCLUSION

This study classifies crisis, in terms of its gestation period to occur, into sudden and gradual occurrence types of crisis. The study further investigates the impact of individual type of crisis on tourism firm performance, where none of the studies conduct the research from this perspective. We find that the impact of gradual occurrence type of crisis significantly influences firm performance, however, the impact of sudden occurrence type of crisis is found insignificant. This is consistent with the study of Mat Som et al. (2014) denoting that gradual occurrence type of crisis has greater negative influence towards tourism demand than the sudden occurrence type of crisis. The result is logical as the effect of the sudden occurrence type of crisis has a shorter duration to be ended, compared to the effect of gradual occurrence type of crisis which would be ended by taking a longer period of time and hence, could bring significant loss to the tourism firms. The findings indicate that tourism firms have to put more effort in tackling gradual occurrence type of crisis. Nonetheless, the impact of sudden occurrence type of crisis should not be neglected as the way of tourism firms handling the crisis to protect the shareholders' benefits could influence the perception of shareholders upon the worthiness of their investment in the firms, which would be reflected in the firms' stock returns.

By controlling the impacts of crisis in the regression, we find that board diversity in educational background, working experience and external network ties do not significantly affect firm performance. In other words, the influences of the board diversity does not significantly affect firm performance in a stable environment. However, does board diversity with respect to human and social capital matter in crisis management? The findings of this study could add to the body of literature on the implication of board diversity on the relationship between firm performance and crisis.

Our results indicate that board diversity in social and human capital significantly influences the relationship between crisis and firm performance. The results further find that board diversity in educational background has significant negative implication to the relationship between firm performance and sudden occurrence type of crisis; board diversity in working experience has significant negative implication to the relationship between sudden/gradual occurrence types of crisis and firm performance. Instead, adopting greater board diversity in external network ties has significant positive implication to the relationship between sudden and gradual occurrence types of crisis and firm performance.

The findings suggest that tourism firms should establish a crisis management committee specifically tackling on a crisis. The committee members should be nominated upon the consideration of the diversities in board's human capital and social capital in the committee. The findings suggest that board composition of the crisis management committee should be controlled in moderate extent of diversity in board's educational background and lower extent of diversity in board's working experience and external network ties.

In short, our results could enhance the existing body of tourism literature by suggesting that diversities in board's human capital and social capital imply linkages towards the relationship between crisis and the performance of tourism firms. With the unavoidable crisis striking tourism industry, tourism firms could at least take the initiative to strengthen its ability to mitigate the negative impact of the crisis. Improving the board quality from the perspective of the diversities in board's human

capital and social capital is found as one of the alternatives for sustainability of tourism firms in long run. This could however alleviate the worry of investors to inject their modal into tourism industry for profit seeking, hence sustain the growth of the global tourism sector in the future.

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Supervision and Its Significant Influence on Teachers' Job Satisfaction

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ABSTRACT

This article examines factors that influence job satisfaction and job performance on public secondary schools teachers in Sarawak. The quantitative method was used to obtained empirical and variable data for this study. Six public Secondary schools in Kuching and Samarahan divisions of Sarawak were selected. The choice for the two divisions was based on their diversity and coupled with the fact that both include urban and rural public schools. About 350 questionnaires were distributed to the teachers in these schools and 270 were returned, which represent 77% of the total targeted respondents. Correlation analysis was used to test the hypotheses and to answer the research questions. Based on the objectives, the findings also revealed that there is a significant relationship between supervision on teachers' job satisfaction and job performance.

Keywords: Supervision, Teacher, Job satisfaction, Job Performance

INTRODUCTION

Teachers are the governess of knowledge, and arguably the architect creators of knowledge. Through the utilization of various pedagogies, teachers' educate and train both the world newest members, and the older generations. Indeed, teachers can affect how students perceive a course, dedication to knowledge or how they will turn out in the future. Robbins & Coulter (1999) and Raju &Srivastava (1994) affirmed that several studies have shown that teachers who showed enthusiasm towards teaching can affect a positive learning experience towards their students. Teachers in many instances, transform students' understanding of their environment and social realities. Therefore, dedication and commitment are essential tools in communicating and parting knowledge especially to the younger generation.

Also studies have shown that teachers' performance is among the most important concern in the educational sectors. For instance, Zhang et al. (1999) argued that teachers are very important in every society and their wellbeing should be hold at the highest esteem. This is because teaching profession can be over-demanding and stressful in nature. Certainly, teachers are human and their performance and

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delivery of knowledge could be influenced by various socio-economic or even political elements in their environments.

Teachers plan and prepare courses and lessons for teaching according to the educational needs of the pupils assigned to him/her, including the setting and marking of work to be carried out by the pupils in school and elsewhere. Assessing, recording and reporting on the development, progress and attainment of pupils are the common duties for the teachers. Teachers help to promote the general progress and well-being of individual pupils and of any class or group of pupils assigned to them thus providing guidance, advice to pupils on educational and social matters. It also includes future careers including information about sources of more expert advice on specific questions, making relevant records and reports. They also make records of and reports on the personal and social needs of pupils except in instances where to do so might be regarded as compromising a teacher's own position. Communicating and consulting with the parents of pupils is another important role of teachers such as communicating and co-operating with such persons or bodies outside the school as may be approved by the employing authority and the Ministry of education participating in meetings arranged for any of the purposes described.
There is no organization that could survive without its employees. Studies have shown that employees are the main reason an organization could exist for a long period of time. If employees are satisfy (or happy) with their jobs, their satisfaction would be translated into high productivity (Robbins & Coulter, 1999). Other studies have equally shown that teachers who are happy with their work produce diligent and intellectuals of the future (Raju and Srivastava 1994).

However, Abdullah et al (2009) claimed that teachers in the Malaysian government schools are dissatisfied with their profession. Ultimately and the perennial experience of job dissatisfaction wearies the workers to the point of abandoning their commitment to the profession (Abdullah et al 2009). Thus, this study examines factors that influence job satisfaction and performance of teachers in the public secondary schools. More specifically, the study explores the relationship between job satisfaction and job performance among public secondary school teachers.

REVIEW OF THE LITERATURE

This study focuses on two main concepts, namely job satisfaction and motivation. Various studies have discussed certain factors that may hinder workers' performance and satisfaction, in relation to both public/civil servants, private employees and other, particularly teachers. Philbin et al (1999) argued that every employee expects something in return for any service render to their employer. These are often referred as *elements* that truly connect employee interest to their respective institution. Henrietta Zalkind[4] (1997) wrote;

> *Institutions are like kids, it's all about development If you give them good, strong values, a clear vision of the future, and the view that everything is possible, they will grow up to be like that and . . . vice versa*

[4] *Henrietta Zalkind with her Down east partnership for Children (Zalkind, 1997)*

According to Zhang et al (1999), employees or workers tend to reduce their level of commitment to such institution and claimed that some of these unfairly treated workers may see no point in putting so much effort and this may eventually lead to lack of commitment and low productivity to performing above average of even productively excellent. Beavis (2003) identified other major problems deterring teachers' high performances in their jobs and stressed, that poor job descriptions and goal clarity is major hindering factors towards workers or teachers' high performances.

Supervision

In an organization supervisor plays an important role, as they are essential part of the management team that gives an organization purpose and leadership (Lester et al) 1990. Without supervision the organization cannot be maintained properly. Supervisors are employee assigned to oversees, guide and support other employees in an organization as a result of their experience in order to achieve organizational goals. They also manage the performance of other employees to ensure high productiveness and promote teamwork among employees in an organization. Sometimes, it was assumed that good supervision lead to better performance. According to Brad et al (2007) it was affirmed that good supervision affects employee well-being and performance output. The need for supervision in an organization are numerous and inevitable, according to Douglas McGregor theory X and Y. Theory X state that management assumes employees are inherently lazy and will avoid work if they can and that they inherently dislike work. As a result of this, management believes that workers need to be closely supervised and comprehensive systems of controls developed. Supervision is an essential part of the management process. It refers to the direct and immediate guidance and control of subordinates in the performance of their work. It helps to put plans into action towards the accomplishment of organizational goals. The success of an organization depends upon effective supervision.

Job Satisfaction

Awang et. al (2010) stressed that modeling job satisfaction is the responsibility of the employers or superiors to provide support to their subordinates. The writer believed that this is important to ensure a productive workplace is maintained and developed, which will in turn satisfy the employees. Elements of motivation include approval, praise, recognition, trust, respect, high expectation, loyalty, financial incentives, job enrichment and good communication. Sirin (2009) concluded that job satisfaction is also related to motivation. Employers need to create and maintain a conducive and an enjoyable working environment to motivate the employees. There are three basic items for creating that environment, namely fairness, job security and involvement. When the employees are motivated, they will perform well in the jobs and this lead to job satisfaction. Additionally, Sirin, argued that there is need for teachers to be well motivated for better performances. He said that it was imperative that the government upgraded the teacher's scale to reflect their contribution and seniority in the teaching system. "With few available vacancies for promotions, the only other way to recognize a teacher's contribution is by upgrading the teacher's scale. If this can be done, teachers will be motivated to work harder."

Job Performance

Job performance of employees is an important issue for any organization and refers to whether an employee does his job well or not (Gamage et al. 2014). Job performance consists of behaviors that employees do in their jobs that are relevant to the goals of the organization (see also Campbell et al. 1993). Motowidlo (2003) defines job performance as based on employee behavior and the outcome is vital for the organizational success. Muchinsky (2003), explains, that job performance is a combination of employee's behaviors. Further he observed that it can be monitored, measured and evaluated as outcomes at employee level and linked with the organizational goals. Therefore job performance is a vital determinant for organizational success.

METHODOLOGY

For this study, quantitative approach using a survey questionnaire as its instrument was chosen because it is the most appropriate mean to provide a better insights into the general view of the issues being investigated. The samples for the study consists of 300 teachers from rural and urban public secondary schools in the Kuching and Samarahan divisions which is only considered subset from the total population. Six public Secondary schools in Kuching and Samarahan divisions of Sarawak were selected. The choice for the two divisions was based on their diversity and coupled with the fact that both include urban and rural public schools. The collection of data was done using a questionnaire consisting of issues and statements that the respondents have to respond on a 5 - Likert's scale ranging from strongly agree to strongly disagree. The procedure of the data collection was explained clearly to each school respondent/informant by the researcher. About 350 questionnaires were distributed to the teachers in these schools and 270 were returned, which represent 77% of the total targeted respondents. The raw data obtained from the questionnaires are analyzed using the Statistical Package for Social Science (SPSS) version 20.0 for window. Statistical analysis in the form of Pearson's correlation was used in this study to measure the strength of the relationship between supervision and teachers' job satisfaction (Pallant, 2007 & Jill Collis & Roger Hussey, 2009).

RESULT

The results of correlation co-efficient of study have been presented in table 1 below accordingly:

Table 1 Correlation co-efficient between the scores on supervision and job satisfaction

Variables compared	Correlation co-efficient(r)	Level of significance
Supervision and Job Satisfaction	0.625	.000

The Pearson Correlation in Table 1 above shows that there is a positive relationship between Supervision and Job Satisfaction at r value= 0.625. It also shows that the correlation between both variables is significant at p=0.000.

DISCUSSION

The main purpose of this study is to examine the factors that influence job satisfaction among teachers in the public secondary schools in Sarawak. The coefficient correlation analysis techniques were employed.

The finding shows that teachers in secondary schools especially Kuching and Samarahan division where the data was collected have high positive attitudes towards supervisor allowing as its influence their job satisfaction and increase in job performance. Additionally, having good supervisor help the subordinate to be committed to the organization and likewise to be more productive.

This means that teachers that have supervisors who trust them, help them to improve, give them clear instructions, acknowledge them and encourage team work will tend to be satisfied with their jobs, thereby becoming more productive. This supports the findings by Gilbreath, (2012). According to Gilbreath, supervisor's management style can make or break an employee's level of engagement. If employees perceive that their supervisor is too controlling or micromanages their work, they are much more likely to disengage. But by fostering a style that is more participative and facilitative, supervisors empower their employees to "get on with the job" rather than bogging them down with too much direction. Gilbreath also argued that a supervisor's ability to provide support and guidance is directly linked to strong engagement. Ways to support employees include showing openness and availability by sharing ideas, holding regular meetings, both formal and informal, to give employees a chance to express thoughts, and creating opportunities for exposure and connection to others in the organization.

She further argued that supervisors who foster strong engagement from their teams gain the trust of their employees by being perceived as honest, authentic and competent. Employees gauge this by whether they believe that their supervisor is good at his own job and whether their supervisor has gained the respect of others in the organization. Additionally, supervisors with engaged employees differentiate themselves by having their words match their actions. The lesson for supervisors of any size of organization is that it pays to focus on each individual employee. Those who take an active role in developing those under their charge, and who actively recognize their contributions, reap the rewards of an engaged workforce.

On the basis of the above result it can be said that there is positive correlation exist between supervisors' supervision and job satisfaction. Thus, this study has revealed that supervision has a great influence on employees' job satisfaction and job performance (See Table 1).

CONCLUSION AND RECOMMENDATION

As mentioned earlier, this study assessed the factor that influences satisfaction among teachers and their job performance. The study revealed that Supervision have stronger positive relationship with teachers' job satisfaction and job performance. Thus, based on the outcomes of this study, the following recommendations are to be taken into consideration:

The school supervision should make it a point of duty to promote teamwork and cooperation among member of staff and ensure that there is not any form of unfairness perceived as this will lead to a decrease in their job satisfaction and

performance. Additionally, supervision should always take into consideration that they play a significant role in the job satisfaction and performance levels of teachers, because they are essential part of the management team that gives an organization purpose and leadership. Finally, supervision should use communication as a tool to influence its subordinate job satisfaction and job performance, relaying important information that has to do with teaching timely and clearly, Once supervisor fail to communicate, employees begin to worry; they often assume the worst that their ideas, feelings, and input were disregarded or dismissed and this triggers a destructive combination of mistrust and a sense of powerlessness and resentment. However, an employee who gets a good or satisfactory feedback will see it as an opportunity to increase their level of performance.

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Intention Towards Sustainable Entrepreneurship: Individual's Perception as Mediator

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ABSTRACT

Sustainable development has been introduced as a practice which emphasizes on using resources without compromising the future generations. Linking the concept to entrepreneurship has given birth to a new concept called sustainable entrepreneurship. Unfortunately, businesses are still less interested to embark on it, especially among SMEs because they regard it as something new. As such, this research was carried out as an initial effort to study the intention toward sustainable entrepreneurship among SMEs in Malaysia. There were 404 SMEs selected using stratified sampling method and further surveyed through questionnaire. The results were rather congruent with previous studies. They revealed that intention towards sustainable entrepreneurship was significantly and positively affected by sustainability attitude and social norm. The results indicated that in order to develop sustainable entrepreneurship, it is important to ensure positive attitude on sustainability management. Pressures from the social factors were also playing a crucial role. In addition, sustainability attitude and social norm also recorded an indirect influence on intention towards sustainable entrepreneurship through perception, making perception an important factor in predicting such intention among SMEs. This paper has also discussed the implications of the results and put forth some recommendations for future researchers.

Keywords: Entrepreneurship, Intention, Small and medium enterprises, Sustainability

INTRODUCTION

Sustainability has attracted the attention of industry players for about four decades long. It started from just simply complying with environmental legislation in the early days to voluntarily preventing pollution at present (Keijzers, 2002). Although much efforts have been put forth to encourage high participation in sustainability practices among business firms, its result is still far from satisfactory. For instance,

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Kyoto Protocol has long been implemented; unfortunately, its result is still slow (Greenpeace International, 1998; Grubb & Depledge, 2001; McKitrick & Wigle, 2002). The earth continues to suffer from over development, over deforestation and overused of non-renewable resources.

Realizing that environmental problems could bring disastrous effects to us and our future generations, businesses are urged to be active in resolving environmental problems (Palazzi & Starcher, 1997; Dean & McMullen, 2007). This has given birth to a new concept known as sustainable entrepreneurship. In business practices, sustainable entrepreneurship can be considered as something new (Cohen& Winn, 2007; Richomme-Huet & Freyman, 2011) which requires further investigations due to its low number of studies in literature (Hall, Daneke, & Lenox, 2010; Shepherd & Patzelt, 2011; Nowduri, 2012).

Entrepreneurship and small medium enterprises (SMEs) are inseparable. In Malaysia, SMEs are important in transforming entrepreneurial activities from conventional to sustainable. It is because they made up of about 97% of total business establishments (Department of Statistics Malaysia, 2012), contributed about 32% of gross domestic production (GDP), hired about 59% of workforce and denoted about 19% of export in the country (National SME Development Council, 2013). Although programs such as MyHijau and Eco Labeling have been successfully launched by Malaysian government; unfortunately, SMEs embarkation on sustainability management is still less embracing because they regard sustainability as something new (Moorthy, Yakob, Chelliah & Arokiasamy, 2012). In addition, there are scant researches which studied sustainability management among SMEs in the local context.

Since most SMEs regard sustainable entrepreneurship as something new and its development is still in the infancy stage; it is important to scrutinize the intention of SMEs owners-managers to transform their business into it. However, not many studies have really looked into this matter. The above gaps have steered this study towards examining the contexts that affect and mediate the intention of SMEs towards sustainable entrepreneurship.

LITERATURE REVIEW

Sustainable Entrepreneurship

Sustainable entrepreneurship is a sub-field under the umbrella of entrepreneurship. It can be explained as a practice of bridging sustainability development to entrepreneurial activities (Schaltegger & Wagner, 2008). Some studies have referred it as green entrepreneurship, eco-preneurship or environmental entrepreneurship, but these terms are overlapping and sometimes vague in their meanings (Gibbs, 2009).

Sustainable entrepreneurship is very much related to the concept of triple-bottom-line (TBL). TBL emphasizes on creating value through economic prosperity, environmental quality and social justice (Elkington, 2004). It has also been widely adopted by researchers in explaining sustainable entrepreneurship (Schlange, 2006; Dixon & Clifford, 2007; Hall *et al*., 2010; Hockerts & Wüstenhagen, 2010). However, some important domains have been overlooked in this concept (O'Neill, Hershauer & Golden, 2009). As such, some researchers have suggested that sustainable entrepreneurship should encompass an equal footing on four domains, namely economic, social, ecological and cultural (Majid & Koe 2012).

Theory of Reasoned Action (TRA)

Human do not behave in certain manner without any triggers. Theory of reasoned action (TRA) could be considered a reliable early theory which explains human behavior (Fishbein & Ajzen, 1975). Greene (2009) further explained that TRA illustrated the cause-and-effect relationship between people's cognition and behavior. Simply put, the theory delineates that human behavior is an effect of their behavioral intention. Thus, individual's intention can be deemed as a stimulant for one's behavior. Over the years, TRA has showed consistent results in various fields of studies such as dental hygiene, education, contraceptive behavior, smoking, blood donation etc. (Vallerand, Deshaies, Cuerrier, Pelletier, & Mongeau, 1992).

Based on the theory, it is believed that intention is a good predictor of behavior. Intention is further affected by attitudinal and normative factors. As Hale, Householder and Greene (2002) mentioned, TRA could be used to explain volitional behaviors. Engaging sustainable practices in business is definitely a voluntary, intentional and planned behavior; as such, TRA is deemed appropriate for this study.

Research Model and Hypotheses

The positive relationship between attitude and intention has been proven in both TRA and theory of planned behavior (TPB) (Ajzen, 1991). Attitude refers to an individual's extent of favorable or unfavorable evaluation of a behavior, which can lead to whether or not a behavior will be practiced (Ajzen, 1991). Studies have found that attitude predicted a person's entrepreneurial intention (Fini, Grimaldi, Marzocchi & Sobrero, 2009; do Paço, Ferreira, Raposo, Rodrigues & Dinis, 2011; Moriano, Gorgievski, Laguna, Stephan & Zarafshani, 2012). In addition, it also influenced the pro-environment intention among business operators (Tonglet, Philips & Read, 2004; Schick, Marxen & Freimann, 2005).

In addition, TRA and TPB have also confirmed the positive influence of social norm on intention. It is the extent of social pressures perceived by an individual, which influences the person's decision in adopting a behavior (Ajzen, 1991). Social norm has been found as an influential determinant of entrepreneurial intention (Kautonen, Tornikoski & Kibler, 2011; Moriano *et al*., 2012). Extant literature has also found that social norm significantly influenced a person's intention towards sustainable practices (Vermeir & Verbeke, 2008), ecological behavior (Birgelen, Semeijn & Keicher, 2009) and environmental entrepreneurship (Meek, Pacheco & York, 2010).

It is undeniable that both attitude and social norm are capable in influencing intention. However, previous research found inconsistent results between the relationship between social factors and intention (Liñán & Santos, 2007). It is because social factors influence one's intention through one's perceptions, such as perceived desirability and perceived feasibility. Therefore, perception which made up of perceived desirability and perceived feasibility could be deemed as a mediator between the relationship of attitude, social norm and intention. In fact, such mediating effect has also been evidenced (Izquierdo & Buelens, 2008; Liñán, Rodríguez-Cohard & Rueda-Cantuche, 2005).

Based on the above discussions, the research model for this study is suggested in Figure 1. The hypotheses suggested are:

H1: Sustainability attitude positively affects intention towards sustainable

entrepreneurship.

H2: Social norm positively affects intention towards sustainable entrepreneurship.

H3: Perception mediates the relationship between sustainability attitude and intention towards sustainable entrepreneurship.

H4: Perception mediates the relationship between social norm and intention towards sustainable entrepreneurship.

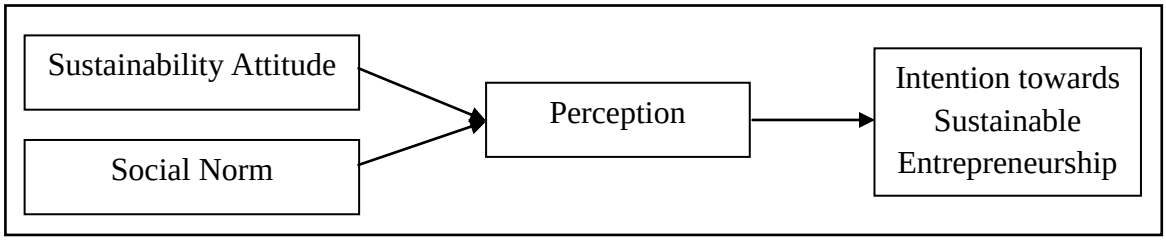


Figure 1 Research Model

RESEARCH METHODOLOGY

The population of this study was the SMEs registered in the directory of SME Corp Malaysia. Sample was then selected by using stratified sampling. The owners-managers were the target respondents. This study employed a questionnaire survey method. The questionnaire comprised of 55 items to operationalize the four variables. It used 10-point Likert type rating scale, ranging from 1 – strongly disagree to 10 – strongly agree. All items in the questionnaire were derived from past literature. Prior to the distribution of questionnaire, a pilot test was conducted. Feedbacks from respondents were collected and amendments were made accordingly. Furthermore, the Cronbach's alpha values for each construct were above 0.7. Exploratory factor analysis has also successfully categorized the items into their respective group.

All data collected were keyed into the computer for further analyses by using Statistical Package for Social Science (SPSS). For hypotheses testing purposes, regression test was done to test H1 and H2. Subsequently, H3 and H4 were tested by using Baron-Kenny approach (Baron & Kenny, 1986). Sobel's test was also performed to determine the significance of mediation.

FINDINGS AND DISCUSSIONS

Data Exploration

All data were carefully treated before the analysis process. Skewness and kurtosis statistics revealed that data has obtained reasonable approximation to normality. Furthermore, the null scatter plot also confirmed that linearity and homoscedasticity were achieved. Thus, multivariate analysis was deemed appropriate.

Background of Respondents

From a total of 1600 questionnaires sent out, 404 completed and usable responses were received; thus, the response rate was about 25.25%. Table 1 depicts the background of respondents.

Table 1 Background of Respondents

Characteristics	N = 404	
	F	%
Gender		
Male	320	79.21
Female	84	20.79
Sector of Firms		
Servicing	255	63.12
Manufacturing	123	30.45
Construction	15	3.71
Agriculture	7	1.73
Others	4	1.00
Business Legal Status		
Sole proprietorship	298	73.76
Partnership	32	7.92
Private Limited	74	18.32
Firm size (No. of Employees)		
Less than 5 (Micro)	232	57.43
5 to 50 (Small)	105	25.99
51 - 150 (Medium)	67	16.58
Firm Age (Years of Operations)		
Less than 5 years	90	22.27
5 – 10 years	153	37.87
11 – 15 years	109	26.98
More than 15 years	52	12.87
Knew about sustainable business		
Yes	361	89.36
No	43	10.64
Have practiced sustainability in business		
Yes	60	14.85
Plan to	215	53.21
No	129	31.93

Of the 404 responses received, majority of them were male (79.21%), engaged in servicing sector (63.12%), registered their firms as sole proprietorship (73.76%), hired less than five full-time employees (57.43%) and have established for five to 10 years (37.87%). In addition, 361 firms (89.36%) knew about sustainable business. Inspiringly, 60 firms (14.85%) have practiced sustainability in business while 215 (53.21%) have planned to practice sustainability.

Mean, Standard Deviation and Correlation Analysis

Table 2 depicts the results of descriptive analysis. The mean values for all the variables in this study ranged from the lowest 6.81 (sustainability attitude) to the highest 7.32 (social norm). The Pearson correlation coefficients (r) for all pairs of variables were above 0.30 and significant at less than 0.01. Since none of the r-value was extremely high, multi-collinearity was not an issue here. Thus, it further confirmed that multivariate analysis could be done.

Table 2 Mean, Standard Deviation and Correlation Coefficient

Variable	MEAN	S.D.	SA	SN	P	ITSE
SA	6.81	1.27	1			
SN	7.32	1.54	0.48**	1		
P	7.16	1.29	0.50**	0.67**	1	
ITSE	7.04	1.74	0.38**	0.49**	0.61**	1

SA: sustainability attitude; SN: social norm; P: perception;
ITSE: intention towards sustainable entrepreneurship;
** $p < 0.01$

Regression and Mediation Analysis

The first two hypotheses of this study posited that sustainability attitude (H1) and social norm (H2) positively and significantly influence intention towards sustainable entrepreneurship.

Table 3 Step 1 - Regression Results

Variable	STANDARDIZED COEFFICIENT (BETA)	t	Sig.
Sustainability attitude	0.20	4.15	0.00
Social norm	0.39	8.10	0.00
R^2	0.27		
F	73.78		0.00

Dependent variable: Intention towards Sustainable Entrepreneurship

Based on the results of regression (Table 3), the data in this study fitted the model well (F=73.78; Sig.=0.00). Furthermore, sustainability attitude and social norm explained 27% of variance in intention towards sustainable entrepreneurship. In terms of influence on intention towards sustainable entrepreneurship, positive and significant results were obtained for sustainability attitude (β=0.20; Sig.=0.00) and social norm (β=0.39; Sig.=0.00). Although both factors were significance, social norm was essentially more important than sustainability attitude. As such, both H1 and H2 were supported.

The other two hypotheses predicted that perception mediates the relationship between sustainability attitude and intention towards sustainable entrepreneurship (H3) as well as social norm and intention towards sustainable entrepreneurship (H4). To examine them, a four-step Baron-Kenny approach (Baron & Kenny, 1986) was performed.

The first step was to confirm the relationship between independent variables (i.e.: sustainability attitude and social norm) and dependent variable (i.e.: intention towards sustainable entrepreneurship). The results were in Table 3. The second step was to determine the relationship between independent variables and mediator (i.e.: perception). The results in Table 4 revealed that sustainability attitude (β=0.20;

Sig.=0.00) and social norm (β=0.62; Sig.=0.00) recorded a positive and significant relationship with perception.

Table 4 Step 2 – Regression Results

Variable	Standardized Coefficient (Beta)	t	Sig.
Sustainability attitude	0.20	5.28	0.00
Social norm	0.62	16.09	0.00
R^2	0.54		
F	236.40		0.00

Dependent variable: Perception

Then, the third step tested both independent variables and mediator on dependent variable. It was performed to determine the relationship between mediator and dependent variable. The results in Table 5 indicated that perception (β=0.50; Sig.=0.00) positively and significantly influenced intention towards sustainable entrepreneurship.

Table 5 Step 3 –Regression Results

Variable	Standardized Coefficient (Beta)	t	Sig.
Sustainability attitude	0.10	2.17	0.03
Social norm	0.08	1.46	0.15
Perception	0.50	8.63	0.00
R^2	0.38		
F	83.06		0.00

Dependent variable: Intention towards sustainable entrepreneurship

The forth step was to identify the mediating effect of mediator, i.e.: to examine H3 and H4. For this purpose, the Beta coefficients of sustainable attitude and social norm in Table 3 were compared to Table 5. It found that Beta coefficient for sustainable attitude shrunk from 0.20 (Table 3) to 0.10 (Table 5); meanwhile beta coefficient for social norm decreased from 0.39 (Table 3) to 0.08 (Table 5). The findings showed that perception demonstrated a partial mediation effect.

Sobel's Test

As Kenny (2013) mentioned, it is practical to measure the amount of mediation or indirect effect in any meditational analysis. In doing so, Sobel's test is deemed appropriate because it evaluates both the indirect effect and significance of mediation effect. Therefore, this study employed Sobel's test in examining the indirect effect of perception between sustainability drivers and intention towards sustainable entrepreneurship (Table 6).

Table 6 Sobel's Test Results

Variable	*A*	S_a	b	S_b	z	Sig.
SA – P – ITSE	0.21	0.04	0.68	0.08	4.47	0.00
SN – P – ITSE	0.52	0.03	0.68	0.08	7.63	0.00

SA: sustainability attitude; SN: social norm; P: perception;
ITSE: intention towards sustainable entrepreneurship

The results obtained from Sobel's test (Table 6) indicated that perception recorded a significant partial mediating effect between sustainability attitude and intention towards sustainable entrepreneurship (z=4.47; Sig.=0.00) as well as between social norm and intention towards sustainable entrepreneurship (z=7.63; Sig.=0.00). Thus, H3 and H4 were partially supported. The hypotheses testing results are summarized in Table 7.

Table 7 Hypotheses Testing Results

Hypotheses		Results
H1:	Sustainability attitude positively affects intention towards sustainable entrepreneurship.	Supported
H2:	Social norm positively affects intention towards sustainable entrepreneurship.	Supported
H3:	Perception mediates the relationship between sustainability attitude and intention towards sustainable entrepreneurship.	Partially supported
H4:	Perception mediates the relationship between social norm and intention towards sustainable entrepreneurship.	Partially supported

DISCUSSIONS

The first two hypotheses, i.e.: H1 and H2 were supported. The results showed support for the direct influence of sustainability attitude and social norm on intention towards sustainable entrepreneurship. This study supported TRA, in which a person's attitude and social pressure are important predictors of behavioral intention (Fishbein & Ajzen, 1975). Similarly, the results were also consistent with previous studies (Tonglet *et al*., 2004; Schick *et al*., 2005; Vermeir & Verbeke, 2008; Birgelen *et al*., 2009; Meek *et al*., 2010).

This direct effect denoted that to encourage greater engagement in sustainable entrepreneurship, it is important to shape positive attitude on sustainable practices among business operators. Moreover, pressures or influences from other parties in the society such as friends, business partners or consultants are also vital in initiating sustainable practices. In fact, social pressure was found to be more important than sustainability attitude in fostering sustainable entrepreneurship. Thus, socialization of business practitioners through appropriate channels such as trade association, seminars and conferences are important to share their sustainability knowledge.

However, this study only partially supported H3 and H4. In other words, perception partially mediated the relationship between sustainability attitude and

intention towards sustainable entrepreneurship as well as social norm and intention towards sustainable entrepreneurship. The findings were considered congruent with past literature (Izquierdo & Buelens, 2008; Liñán *et al*., 2005).

Partial mediation signified that perception could be served as an explaining mechanism of the relationship between sustainability attitude and intention towards sustainable entrepreneurship as well as social norm and intention towards sustainable entrepreneurship. It explained that people will be more intended to embark on sustainable entrepreneurship when they have positive perception on sustainable entrepreneurship. Thus, when people perceive sustainable entrepreneurship as something favorable and perceive themselves as having enough knowledge for sustainable entrepreneurship, they tend to get into it. Providing more information and knowledge on sustainable entrepreneurship through formal and informal ways could help to increase such intention.

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

The purpose of this study was to examining the factors that affect and mediate the intention towards sustainable entrepreneurship among SMEs. The empirical results supported that sustainability attitude and social norm were two factors which directly affect intention towards sustainable entrepreneurship. Furthermore, they also indirectly affect such intention through perception.

The contributions of this paper were two folds. Theoretically, it proved that TRA can be employed in sustainability studies to predict individual's intention for sustainable entrepreneurship. In addition, the role of perception should not be overlooked in explaining behavioral intention. Thus, perception could be used to enhance the model and increase the predictability of TRA on people's intention. Practically, this study pointed out that both individual and situational factors were important in shaping people's intention. Therefore, providing sufficient external supports and building positive beliefs are two crucial steps in developing sustainable entrepreneurs.

Of course, this study is not without limitations. For instance, the research model was built upon TRA which only considered attitude and social norm; future researchers could include other factors which deemed as important and relevant. Furthermore, this study only took SMEs into considerations, future studies are urged to expand the sample to include large organizations.

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Foreign Direct Investment, Energy Consumption, and Pollution Haven Hypothesis in Africa

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ABSTRACT

This study empirically examines the relationship between foreign direct investment, energy consumption, and environmental pollution for selected 19 African countries over the period 1990–2010 within a framework Pooled Mean Group (PMG) estimation technique. The study finds support for elasticity effect of both energy consumption and its intensity associated with FDI inflows on environmental damage in Africa. The study also provides evidence validating the presence of temporary pollution haven hypothesis for carbon dioxide emissions. Moreover, there is also an indication that current foreign investment and energy policies in Africa may not be favorable to the environmental quality in the continent. This, therefore indicate that incorporating issues of environmental conservation in both foreign investment and energy policies can reduce pollution emissions in the continent. Hence, in order to reduce emissions, the best environmental policy is to encourage inflows of multinational firms that abide by global technological standard, which in a way can facilitate domestic energy efficiency, thereby reducing greenhouse gas emissions.

Keywords: Foreign Direct Investment, Energy Consumption, Pollution Haven Hypothesis, Energy Intensity, Africa, PMG

INTRODUCTION

Many African countries have recently experience improvement in economic growth with an annual average growth rate of over five (5) per cent[5]. This can be partly attributed to its substantial increase in FDI inflows (Adams, 2009). One source of concern is that increasing openness of the continent to the global economy which facilitated their access to more foreign investment may likely constitute higher energy consumption and substantial consequences of pollution emissions. There has been an argument that foreign investment policies in most of countries in Africa, being dominantly resource – dependent substantially favours extractive sectors (see, union, 2009) and, these sectors are often associated with negative environmental

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[5] See, for example, Al-mulali & Binti Che Sab (2012)

consequences (Azapagic, 2004). Although, at the global scale, Africa may be the least emitter of greenhouse gases (GHGs)[6], the connection between economic progress and energy intensity in the continent (Al-mulali & Binti Che Sab, 2012) like many of the least developed countries or regions could be profoundly influenced by improvement of living condition with less or no emphasis on the quality of environment for some time[7]. Within this content, people in the continent would be less sensitive to pollution, and as such may be reluctant to facilitate either formulation or reinforcement of environmental regulations. This issue holds great significance, particularly considering African countries that are quite weak in terms of environmental regulations compared to advanced nations. This has a tendency of turning the continent into havens for polluting multinationals from advanced nations that have strict environmental laws, thereby justifying what is often referred to as pollution haven hypothesis. This postulated energy demand-pollution emissions relation however received little attention within the context of Africa.

This is unfortunate, considering its relevance from environmental policy outlook in the continent. This research therefore contributes to the existing literature by incorporating energy consumption into FDI-pollution nexus. The study also examines the impact of environmental regulation on the pattern of African inward FDI flows and the possible existence of Pollution haven hypothesis across the continent. To achieve these objectives, the paper adapted the framework developed by Antweiler, Copeland & Taylor (2001) and Cole & Elliott (2003) which is suitable for decoupling environmental effect of FDI and also examine changes in pollution that might emanate from differences in environmental laws arising from unequal distribution of income between Africa and their investment partners possibly from relatively advanced nations. Previous attempt to investigate this relationships in the continent are relatively scarce[8]. Confirming the pollution haven hypothesis is indispensable from the policy perspective. If the hypothesis is supported, it may serve as a guide for future policy formulation that can appropriately lessen the environment problem associated with foreign investment in the continent.

REVIEW OF RELATED LITERATURE

Pollution haven hypothesis is one of the leading propositions that explain FDI-environment nexus. This hypothesis suggests that openness to transboundary capital movement is driven partly by difference in environmental laws. This hypothesis further suggests advanced nations who are also the highest energy consumers in most cases incur higher cost of environmental management relative to less developed countries (LDCs). This accordingly could lead the LDCs to have comparative advantage in pollution intensive production, thereby turning them to haven for pollution generating multinationals firms from advanced countries (Wheeler, 2001). The link between FDI and environmental damage can also be viewed in form composition, scale, and technique effects (Frankel, 2009; e.t.c.). The composition

[6] See, Patz et al. (2007); IPCC (2007)
[7] See, Wolfram et al., (2012)
[8] Available evidences mostly focus on the pollution effect of energy consumption and economic growth, for example, Al-mulali et al. (2012) and, place meager effort to investigate pollution effect of energy consumption and its intensity, particularly with regard to FDI inflows.

effect relates to how FDI inflows change comparative advantage of the capital receiving nation in terms of pollution generation. This effect, however, wills depends on the sectors in which a country has comparative advantage. For example, if openness to FDI inflows leads to more energy consumption in the growing sector, the composition effect will lead to additional pollution emissions, and vice-versa. For the case of Africa, if, for instance, if FDI encourages more expansion of extractive and heavy industries relative to service sector, the continent's aggregate pollution will likely increase since both extractive and heavy industries tend to consume more energy. The Scale effect represents pollution effect of increasing scale of economic production due to more FDI inflows. The overall assumption is that FDI inflow in Africa will not only increase the scale of economic production but also more energy demand and hence all things being equal, higher levels of pollution emissions. Thus, economic integration which accelerates economic growth through scale effect has a negative consequence on the environment (see, Copeland and Taylor, 1994, 2003). However, based on analogy of porter hypothesis (Porter and van der Linde, 1995), FDI-lead technique effect which could improve energy efficiency may neutralize or even lead to less pollution emissions (Porter & van der Linde, 1995).

Available empirical literatures that investigate the possible existence of pollution haven hypothesis are at best does not provide undisputed conclusion. For example, while evidences from empirical works by List and Co (2000), Hassaballa (2014), Cole and Elliot (2005) indicated that difference in pollution abatement costs and environmental regulation stringency matters for FDI location across countries and regions, suggesting pollution haven effect, studies by Eskeland and Harrison (2003), Kirkpatrick and Shimamoto (2008), Hanna (2010) failed establish evidence for existence of pollution hypothesis in relation to transboundary/interregional capital transfer. These findings commonly suggest that multinational firms in countries with relatively lax environmental laws are even more environmentally – friendly and use more efficient energy than indigenous firms. The inconsistent inferences from these studies made it difficult to draw general conclusions with regard to pollution haven effect due to difference in environmental laws.

Although, the empirical relationship between energy consumption and pollution emissions have been intensively examined in the past two decades. However, such empirical evidences appear to be inconclusive. For example, while, Soytas et al (2007), Zhang & Cheng (2009), Chang (2010) Alam et al. (2011), Al-mulali et al. (2012) suggest that energy consumption causes pollution emissions. Ang (2008), on the contrary, failed to established robust evidence of explanatory impact of energy consumption on pollution changes. Moreover, Halicioglu (2009) claim that while both income and energy consumption explain pollution emission in Turkey, economic growth appears to be more robust in explaining pollution scenario in the country. Empirical evidences by Apergis & Payne (2009), Pao & Tsai (2011) and Wang et al. (2011) among others show that both energy usage and pollution emissions are important in determining each other, suggesting joint determination of pollution emissions and energy consumption, the situation that could only be altered by improving energy efficiency. Lack of consensus from these previous works could therefore indicate the need for further research.

MODELS

Following empirical literature, this study adapted empirical framework suggested by Antweiler et al. (2001) and Cole & Elliott (2003) to evaluate relationship between foreign direct investment, energy consumption, and environmental pollution, with a view to testing the validity of pollution haven hypothesis in Africa as follows:

$$LE_{i,t} = \alpha_{0i} + \alpha_{1i} LY_{i,t} + \alpha_{2i} LY_{i,t}^2 + \alpha_{3i} LFDI_{i,t} + \alpha_{4i} LEC_{i,t} + \alpha_{5i} LINV_{i,t} + \alpha_{6i} LINV_{i,t} * LEI_{i,t} + \alpha_{7i} LFDI_{i,t} * LEI_{i,t} + \alpha_{8i} LRY_{i,t} * LFDI_{i,t} + \varepsilon_{i,t} \quad (1)$$

$i = 1,2,\ldots,N;\ t = 1,2,\ldots,T.$

Where *E* is the per capita environmental stressor (proxied as carbon dioxide emissions, CO_2), α_{oi} denotes country – specific intercept, *Y* and Y^2 are GDP per capita and GDP per capita squared respectively, *RY* denotes Africa's relative real income per capita. FDI is defined as foreign direct investment and *EC* indicates energy consumption (proxies by kilogram of energy use per capita of oil equivalent), and EI represents energy intensity (proxies by energy use per GDP). *t* denotes time trend, while subscripts *(i)* and *(t)* indicate individual African country and time respectively, ε is the usual error term, L indicates logarithm transformation of the variables.

From eqn. (1), since FDI is known to be an important determinant of national output and, also since quality of environment is assumed to be a normal commodity; higher per-capita income would inspire higher public demand for cleaner environment. Such rising demand for environmental quality could then lead authorities to enforce strict environmental laws that might inspire reaction from domestic firms via introduction of 'green' or environmental – friendly technologies. This effect, which is related to Environmental Kuznets (EKC) hypothesis as identified by (Hübler & Keller, 2010) referred to as "income –induced technique effect", which as in Cole & Elliott (2003) is captured by square per capita income, while the scale effect is represented by per capita income (at lower level of income growth). The composition effect of FDI has significant influence on pollution emission in Africa if either of α_{3i} and α_{7i} or both are statistically significant. The inclusion of energy intensity interactively with FDI is to enable us examine whether energy intensity can be a potential determinant of FDI – induced pollution emissions in Africa.

We construct relative per capita income[9] as a measure of relative environmental stringency. To test the pollution haven effect associated with FDI inflows, since foreign capital inflows are assumed to stimulate national output, and since more output growth is related to greater energy consumption[10], country's relative income and FDI are interacted to capture environmental regulation effects. Since African countries can generally be considered to have low per capita income, FDI inflows in the continent are expected to increase energy use and pollution emissions. However, fewer emissions may be expected if the foreign multinationals use more efficient and environmental friendly technologies than their local counterparts in African countries.

[9] The country's relative income as in Cole & Elliott (2003) is expressed relative to world average, similar to that in Antweiler et al (2001).

[10] See, Hübler & Keller (2010)

METHODOLOGY

Dynamic Panel specifications, the MG, PMG and DFE[11]

To examine the long-run effect of FDI and energy consumption on environmental quality, eqn. (1) can be re-written as

$$LE_{i,t} = \alpha_{0i} + \beta_{1i} LFDI_{i,t} + \beta_{2i} LEC + \beta'_{3i} LX_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where as specified above, E represents the scalar environmental stressor (dependent variable), FDI and EC represent foreign direct investment and energy consumption respectively. X denotes the k x 1 vector of other conditional explanatory variables that affect environmental quality in Africa, β'_i is the k x 1 vector of the coefficients on the regressors, α_{oi}, as specified in eqn. (1) represents country – specific intercept. The group of conditional regressors comprised of the other explanatory variables specified in eqn. (1).

Our empirical analysis of model (2) comprises a system of N*T (balanced panel) equations that can be examined either with Mean Group (MG) estimator, proposed by Pesaran & Smith (1995), Dynamic Fixed Effect (DFE) see, Weinhold (1999) and Pooled Mean Group (PMG) suggested by Pesaran et al. (1999) all of which account for long-run equilibrium and consider dynamic heterogeneity of the adjustment process (Demetriades and Law, 2006) based on Maximum likelihood procedure. Upon

The MG estimator suggested by Pesaran and Smith (1995) involve of estimating separate OLS regressions for each cross-sectional unit and compute unweighted average of the individual country coefficients (e.g. Evans, 1997; Lee et al., 1997 in Demetriades et al., 2006) that also allows for heterogeneity among the parameter estimators.

Though, MG estimator as shown by Pesaran and Smith (1995) yields consistent estimates of the average long-run coefficients, they however caution that if the slope parameters are homogenous across group, MG estimator will be inconsistent, which may produce misleading estimate.

Alternatively, Pesaran et al. (1999) suggested PMG estimator. Unlike the MG procedure, the PMG approaches only impose restriction on the long-run coefficients, thereby allowing variation across the short-run coefficients. However, both MG and PMG are estimations are done based on the traditional autoregressive-distributed lag (ARDL) technique (Pesaran et al., 1999).

To select the appropriate model that can produce more reliable estimate among MG and PMG, the hypothesis for the existence of long-run homogeneity of slope parameters can be examined by Hausman test. The null hypothesis for the Hausman test is that the differences in the coefficients estimated between PMG and MG estimators is not statistically significant, and PMG estimator is more efficient than MG estimator (Pesaran et al., 1999).

[11] Before the estimation process unit root tests were conduction to determine the integration order of the panel dataset. The tests were conducted using the panel unit root test technique suggested by Im, Pesaran and Shin (IPS) (2003). The tests results which are not reported, and are available upon request indicated that all the variables are either integrated of order zero, I(0) and/or one, I(1). This therefore allows the use of PMG, MG and DFE to estimate our empirical model.

Based on Akaike information criterion (AIC), we impose the following ARDL(1,1,1,1,1,1,1,1,1) restrictions for environmental quality, FDI, energy consumption and other conditional control variables of our model.
Based on Pesaran et al. (1999), our unrestricted error correction on the basis of ARDL for environmental quality eqn. (2) can be written as

$$\Delta LE_{i,t} = \beta_0 + \delta_{10i} LFDI_{i,t} + \delta_{11i} LFDI_{i,t-1} + \delta_{20i} LEC_{i,t} + \delta_{21i} LEC_{i,t-1} + \delta_{30i} X_{i,t\,i,t} + \delta_{31i} X_{i,t-1} + \lambda_i \mathrm{LE}_{i,t-1} + \pi_{10} t + \varepsilon_{i,t} \quad (3)$$

The error correction reparamatization of eqn. (5) can be expressed as

$$\Delta LE_{i,t} = \Phi_i \left[LE_{i,t-1} - \beta_{1i} LFDI_{i,t} - \beta_{2i} LEC - \beta'_{3i} LX_{i,t} - \alpha_{0,i} \right] + \delta_{11i} LFDI_{i,t-1} + \delta_{21i} LEC_{i,t-1} + \delta_{31i} X_{i,t\,i,t} + \varepsilon_{i,t} \quad (4)$$

Where, the parameter, Φ_i is the error correction coefficient that measures the speed of adjustment of $LE_{i,t}$ towards the long-run equilibrium following change in FDI inflows, energy consumption and other conditional regressors. β_{1i}, β_{2i} and β_{3i} are the long-run parameters while, δ_{11i}, δ_{21i} and, δ_{31i} are the short-run coefficients relating past values of environmental pollution determinants.

The dynamic fixed effects (DFE) model like PMG estimator imposes both log – run and short – run homogeneity restrictions on both the slope coefficient and error variances. The model however, allows intercept to vary across individual units (see, Weinhold, 1999).

DATA

The analysis of this study makes use of macro panel dataset for 19 selected African countries in the period 1990 –2010. The start period is dictated based on the data availability of energy consumption for relatively longer period, while the end period is based on the availability of CO_2 emissions data. Countries are selected based on the availability of all the data required for this analysis. The list of sample countries considered and, all variables measurements and definitions are presented in table Appendix A.

EMPIRICAL RESULTS AND DISCUSSION OF FINDINGS

In this section, the estimated results for this study are presented and discussed. Since all the variables are either integrated of order zero, I(0) and one, I(1) (see footnote, 7), PMG, MG and DFE estimators are now suitable to estimate the dynamic impact of energy consumption, FDI among other variables on environmental quality in Africa. The optimal lag was selected based on AIC, which is considered more suitable for sample lower than 60 cross-sectional observations (see, Liew & Khim, 2004). Results are reported on tables 2 below.

Table 2 Estimation results for PMG, MG, and DFE, ARDL (1, 1, 1, 1, 1, 1, 1, 1)

Dependent Variable: LE	**Mean group (MG)**	**Pooled mean group (PMG)**	**Dynamic fixed effects (DFE)**
Convergence coefficient	-0.866***	-0.337***	-0.660***
	(0.287)	(0.083)	(0.048)
Long run coefficients			
LY	-292.59	2.502***	1.907**
	(383.47)	(0.665)	(0.929)
LY^2	26.04	-.2366***	-0.126
	(33.104)	(0.052)	(0.068)
LFDI	-130.76	1.738**	-2.402
	(142.10)	(0.818)	(1.562)
LINV	96.99	-.7284	0.172
	(116.94)	(0.818)	(1.191)
LEC	13.61**	2.131***	0.870**
	(7.156)	(0.173)	(0.345)
LFDI*LEI	-7.00	0. 103**	-0.129
	(7.941)	(0.049)	(0.099)
LINV*LEI	5.631	0.044	0 .003
	(7.024)	(0.051)	(0.072)
LRY*LFDI	-1.862	0. 197***	0.055
	(1.975)	(0.035)	(0.061)
Short run coefficients			
ΔLY	252.78	26.51	-6.859***
	(152.11)	(112.97)	(2.172)
ΔLY2	-18.09	-0.116	0.565***
	(11.145)	(6.829)	(0.164)
ΔFDI	-9.648	-0.224	0.262
	(27.438)	(5.555)	(1.151)
ΔINV	12.34	-7.923	0.560
	(29.355)	(12.606)	(1.067)
ΔLEC	1.028	2.842	0.222
	(8.398)	(1.784)	(0.423)
Δ(LFDI*LEI)	-0.473	-0.031	0.016
	(1.697)	(0.342)	(0.073)
Δ(LINV*LEI)	0.726	-0.049	0.037
	(1.719)	(0.777)	(0.064)
Δ(LRY*LFDI)	-0.584	-0.147	-0.061
	(0.743)	(0.252)	(0.040)
No. of countries	19	19	19
No. of obs.	399	399	399
Hausman tests	0.02 [1.00]		

Note: ** and *** indicate significance at 5% and 1% levels, respectively. AIC criterion is used to choose the lag order. Figurers in curly brackets are standard errors and those in squared brackets are the null hypothesis for the non-systematic differences between estimated coefficient between PMG and MG estimators (i.e. values for Prob>chi2).

The result of the PMG, MG and DFE are reported in table 2. From the estimated results, the Hausman test failed to reject the long –run homogeneity restrictions, suggesting that PMG methodology to be more efficient than MG estimates. Thus, FDI and energy consumption might have homogenous long – run environmental impact across Africa. For this reason and that of space our discussion will only focus on the PMG results.

As seen in Table 2, the significantly negative of the estimated error-correction coefficient or speed of adjustment of the PMG model suggest dynamic stability of its estimators. This indicates evidence of cointegration between energy consumption, FDI inflows, carbon dioxide and other conditional control variables, as well as, non-spurious convergence of any deviation from the long – run equilibrium among the variables in our model. However, the estimated result of PMG model found relative sluggishness in the adjustment process towards the long – run equilibrium.

Regarding the long-run coefficient of the PMG estimation, the income level and income squared are found to be significantly positive and negative, respectively. This validates EKC hypothesis. The coefficients of the key variables of interest, energy consumption and FDI inflows, are significant and positive in PMG specification. According to this estimate, one percent point increase in FDI inflows raises carbon emissions by about 1.74 percent, while the same percent point increase in energy consumption makes pollution rise by more than 2.00 percent. This impact may likely emanate from scale effect, that is, the previous effect of FDI – induced economic activity may have led to higher energy consumption. In order to investigate the composition effect of FDI inflows, we add interaction terms of the FDI inflows with energy intensity. This interaction term is to examine whether FDI inflows and energy use are jointly influencing pollution emissions in Africa.

As reported on table 2, it is shown that for pollution emissions to rise by 1 percent, the energy intensity through the channel of foreign capital inflows has to increase by about 10 percent points. With regard to the environmental impact of domestic investment, our result find no evidence for pollution – raising effect of aggregate domestic investment and neither its interaction with energy intensity leads to significant greenhouse gas increasing effect. The positive effect of FDI inflows on pollution emissions as against the domestic influence could be attributed to the foreign investment policies of the African countries that often substantially favour extractive industries[12]. Regarding the FDI inflows pollution haven argument in Africa, FDI inflows are interacted with relative income. The relative income differences seem to determine the composition effects of FDI inflows and, our estimate find evidence of pollution haven effect in Africa, which may be emanate from the scale effect of the foreign capital inflows.

As a check on the possibility of environmental friendly technologies spill overs from FDI inflows, we include squared FDI inflows additively in model (4) to capture its long – run effect on the environmental quality. The estimated results are reported in table 3.

[12] Due to unavailability of sectoral data that could have enable us to decouple the effects of energy consumption and its intensity in FDI inflows , our analysis is based on their overall effect. As such, interpretation of our results should be made with caution.

Table 3 Estimation results for PMG, MG, and DFE,
ARDL (1, 1, 1, 1, 1, 1, 1, 1), including squared foreign capital inflows

Dependent Variable: LE	Mean group (MG)	Pooled mean group (PMG)	Dynamic fixed effects (DFE)
Convergence coefficient	-1.31***	-0.658***	-0.657***
	(0.242)	(0.048)	(0.048)
Long run coefficients			
LY	-317.088	1.897**	1.90**
	(238.61)	(0.930)	(0.930)
LY^2	24.173	-.128*	-0.128*
	(18.804)	(0.069)	(0.069)
LFDI	173.19	-2.591	-2.591
	(109.303)	(1.581)	(1.581)
$LFDI^2$	-0.485	-0.018	-0.018
	(5.781)	(0.078)	(0.078)
LINV	-168.13	-0.127	0.127
	(110.63)	(1.261)	(1.261)
LEC	-4.032	0.915***	0.915**
	(11.009)	(0.347)	(0.347)
LFDI*LEI	10.770	0. 144	-0.144
	(8.040)	(0.103)	(0.103)
LINV*LEI	-10.177	0.0004	0 .0004
	(6.864)	(0.076)	(0.076)
LRY*LFDI	-0.589	0. 054	0.054
	(0.695)	(0.070)	(0.071)
Short run coefficients			
ΔLY	346.45	-6.948***	-6.948***
	(464.80)	(2.182)	(2.182)
ΔLY2	-23.012	0.575***	0.575***
	(35.037)	(0.164)	(0.164)
ΔFDI	-40.538	-0.222	0.222
	(41.924)	(1.179)	(1.179)
ΔFDI^2	-0.262	-0.053	-0.053
	(1.803)	(0.041)	(0.041)
ΔINV	33.185	0.678	0.678
	(45.278)	(1.067)	(1.067)
ΔLEC	-1.039	0.299	0.299
	(11.396)	(0.425)	(0.425)
Δ(LFDI*LEI)	-2.574	-0.021	0.021
	(2.589)	(0.076)	(0.076)
Δ(LINV*LEI)	1.927	-0.044	0.044
	(2.706)	(0.064)	(0.064)
Δ(LRY*LFDI)	-0.052	-0.100**	-0.100
	(1.110)	(0.046)	(0.046)
No. of countries	19	19	19
No. of obs.	380	380	380
Hausman tests	0.00[1.00]		

Note: ** and *** indicate significance at 5% and 1% levels, respectively. AIC criterion is used to choose the lag order. Figurers in curly brackets are standard errors and those in squared brackets are the null hypothesis for the non-systematic differences between estimated coefficient between PMG and MG estimators (i.e. values for Prob>chi2).

Table 3 contains our estimations of Eq. (4) with squared FDI inflows as additional regressor. The Hausman test results in Table 3 indicated again that PMG estimates are more consistent. So, relying on this this reason, again we focus our analysis on the PMG results. As expected, since the added variable is aimed to capture technique effects, we find evidence that increases in more capital inflows reduces CO2 emissions in the long- run. This may reflect the diminishing impact environmental regulatory effects that significantly exhibit negative sign when squared FDI inflows in included. This is not, therefore, unexpected, as it indicates that technique effects dominate the scale effect of FDI inflows in the long-run, suggesting temporary 'Pollution Haven' in Africa. Again, though, the per capita income squared variable is found to be weakly significant, both the per capita income variables estimated can be seen to be 'correctly' signed, similar in term of sign to those reported in Table 2. This may therefore reflect the absence of environmental regulation controlling CO_2 emissions in Africa. Note that the energy consumption variable now has a diminishing positive effect on pollution emissions, signifying that more FDI inflows tend to improve energy efficiency in Africa. A leading example would be environmental friendly technology spill over via FDI inflows.

CONCLUDING REMARKS

The analysis of this study draws on recent developments that posit the impact of global economic integration on environmental quality. In both theoretical arguments and empirical investigations, it has been argued that foreign direct investment influences environmental quality. Empirical examination of environmental impact of FDI inflows, especially in the context of Pollution haven argument received adequate attention with differing submissions.

This work has investigated the determinants of FDI-induced environmental composition effect. Specifically, this study examined whether structural changes of greenhouse gases associated with FDI inflows emanates as a result of differences in environmental regulations between Africa and its foreign investment partners. Our empirical investigation provides us with conclusions that both the main variables of interest, energy consumption and FDI inflows have positive scale effect on environmental degradation in Africa. The result also found indirect technique effect through the channel of FDI inflows that perhaps relates to structural change associated to increase in income as a result of more foreign capital inflows that could make society to demand better environmental and, hence, less greenhouse gas emissions. This could also be possible via long-run technological spillover effect from environmentally friendly technologies of the multinationals as a result of more openness to FDI inflows. Our findings also provides evidence for temporary environmental regulation effect and, with caution we conclude that short-term pollution haven hypothesis do exist in the African countries considered by this study.

Finally, since FDI inflows is known to be an essential determinant of national output and, as shown from our estimate that at higher income environmental pollution tends to decline, then more FDI inflows too can be of greater benefit to environmental quality in Africa. This indicates that African governments should integrate environmental concerns into their foreign investment and energy policies.

ACKNOWLEDGMENTS

The authors are grateful to the faculty of economic and management and, the University library, University Putra Malaysia for providing them with required logistics for this research.

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APPENDIX A

Table 1 List of sample countries

Benin	Kenya	Tanzania
Botswana	Mozambique	Togo
Cameroun	Nigeria	Tunisia
Congo DR	Morocco	Zambia
Egypt, Arab Rep.	Senegal	Zimbabwe
Garbon	South Africa	
Ghana	Sudan	

Table 2 Variables definition

Variables	Definition	Unit measurement	Source
E	Environmental stressors: Emissions of CO2	CO2 (Metric tons per capita)	World Bank (Online, 2014)
FDI	Foreign direct investment	Net inflows of FDI as a Share of GDP	World Bank (Online, 2014)
INV	Domestic investment	Gross fixed capital formation as a share of GDP	World Bank (Online, 2014)
EC	Energy consumption	Kilogram of energy use per capita of oil equivalent	World Bank (Online, 2014)
Y	Per capita income (measured by real GDP)	Constant 2000 US dollars	World Bank (Online, 2014)
RY	Relative income "expressed relative to the world average (divided by the world average). World averages are calculated as the average of all countries for whom data are reported (online) in World Bank (2014)"	Constant 2000 US dollars	World Bank (Online, 2014)
LEI	Energy intensity in the national production (total energy use per unit of GDP)	Kilogram of energy use per unit of GDP	World Bank (Online, 2014)

Tour Operator Perspectives on Responsible Tourism and Green Tourism

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ABSTRACT

Responsible tourism and green tourism are the part of alternative tourism that tends to be environmentally friendly practices. Green tourism was first recognised in 1980 and responsible tourism declared as an approach in 2002. There has been a wide range of definition of responsible tourism and green tourism. However, the tour operators' perspectives on both of responsible tourism and green tourism concepts is unknown. Therefore, the paper explores the understanding of responsible tourism and green tourism from tour operators' perspectives in Sabah. 25 tour operators were interviewed through in-depth interviews using the semi-structured questions and open-end method. The findings of this paper show all of the respondents agreed that both of the responsible tourism and green tourism are complementing each other. This paper provides an in-depth understanding of responsible tourism and green tourism to the future literature.

Keywords: Responsible Tourism, Green Tourism, Tour Operators' Perspectives

INTRODUCTION

Tourism brings both positive and negative impacts on the local community, national, and transboundary; and global environment and culture (Budeanu, 2005). Tourism industry develops and benefits to a country, however, it brings problem and negative impacts to the economic, environment, and social aspects if not properly plan and manage. Previously, mass tourism development has dominated the tourism industry, and many scholars found that in mass tourism management there is a lack of consideration upon the natural resources, impact on wildlife, threat to the cultural identities, and it ignores the environmental and social development (Risteski et al., 2012). Mass tourism also increases the economic gap and dependence between developed and developing countries (Fassati and Panella, 2012). This is because of the oligopoly of the global tourism market by developed country (Honey, 2008; Chun, 2006).

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For long sustainable growth, alternative tourism emerged as a preventive approach to mass tourism development. Alternative tourism tends to focus on environmentally friendly practices such as sustainable tourism, responsible tourism, green tourism and others (Mitani, 1993). These forms of alternative tourism are extremely difficult to draw distinction because the definition and concept of these forms of alternative tourism are overlapped, interlinked and interconnected (Mitani, 1993). Chun (2006) also states that these terms of alternative tourism are monikers for similar types of tourist activities and developments with sustainable concept.

Responsible tourism is typically understood as a broad set of tourist interactions, that engage benefit local communities, minimise negative social and environmental impacts (Caruana et al, 2014). The label of 'responsible tourism' is the most favoured industrial term that is used by tour operators (Center of Responsible Travel, 2009; SNV, 2009). The tour operator is one of the key players who is advancing the proposition in affecting changes in behaviours and attitudes of other stakeholders (e.g. Tourists, tourism suppliers) towards more responsible forms of tourism (Budeanu, 2005). In the initial period, tourism companies considered environmentalists and environmental regulations as enemies, and then obeyed them reluctantly (Cairncross, 1995). However, with recent trends, the popularity of corporate social responsibility principles have changed corporate attitudes to environmental issues positively (Budeanu, 2005; Khairat and Maher, 2012). Responsible tourism has become an important means for tourism companies to ensure long-term viability of their business, differentiate themselves from the market, and support local communities (SNV, 2009), especially for tour operators.

According to the chronology of the sustainability concept emerged, green tourism was the term first used in the tourism industry since 1980 (Swarbrooke, 1999); whereas the responsible tourism was declared as a form of tourism that can shape the sustainable spaces into a better place in the year 2002 (Cape Town Declaration, 2002). Green tourism is advantageous to the tour suppliers and tourists without spoiling the environment for future use (Font and Tribe, 2001). Additionally, Sabah is one of the popular green tourism destination in Malaysia. Thus, there is a need to explore the concept of green tourism from tour operators' perspectives in Sabah. Responsible tourism and green tourism has been widely discussed in the past decade, however, the understanding of both terms by tour operators' perspectives is unknown. Tour operators must understand the concepts of responsible tourism and green tourism, and then practise them in a more holistic way, in order to achieve the sustainable tourism in Sabah. Therefore, the paper explores the meanings of responsible tourism and green tourism from tour operators' perspectives.

LITERATURE REVIEW

A Review of Green Tourism, Sustainable Tourism and Responsible Tourism

Swarbrooke (1999) has illustrated the evolution of academic thinking on the sustainability concept development from the year 1960 to 1990. Mass tourism was dominated in the industry since 1960s onwards, at the same time, the negative impacts of tourism were recognised. In late-1960, public sector bodies tried to manage tourism through visitor management techniques, but they failed to ameliorate the worst excesses of tourism due to the small scale and did not seek to change the

nature of tourism as a whole (Swarbrooke, 1999). The terms of green issues and green tourism were used more commonly in 1980. Swarbrooke defines green tourism as reducing the environmental cost, and maximizing the environmental benefits of tourism. Since the early 1990s, the term of sustainable tourism has become more generally used to focus on the importance of the host community, the way residents treated and the desire to maximise the local economy from tourism (Swarbrooke, 1999). Responsible tourism was declared as an approach to tourism management in South Africa in 2002 (Cape Town Declaration, 2002).

There are many different definitions given by a number of scholars and practitioners in the terms of green tourism, sustainable tourism, responsible tourism separately, but there is no distinctive definition of these terms in most literature. Generally, green tourism is the form of sustainable tourism practice that takes into account the mutual needs of the ecology and environment, local people, business enterprises and tourists itself (Azam and Sarker, 2011). Green tourism is highly interrelated with sustainable development, environmental protection, biological diversity, human health and other principles (Zhibo, 2012); it also covers the issues such as business efficiency, environmental management, waste management, green transport, and topics like social responsibility and also biodiversity (Chun, 2006). According to Font and Tribe (2001) and Wight (1994), the concept of green product is easier to use than to define; this is because the products or services could be 'greenest' when it is advantageous to the producers and consumers without spoiling the environment.

The term of green tourism is widely used by many countries, as a result, there are many different definitions of green tourism used in different countries. In Europe, green tourism is always used interchangeably with rural tourism (Hong, Kim, and Kim, 2003), which is also called as environmentally sound rural tourism by Mitani (1993). In Japan, green tourism is expressed to be one of the most effective ways for rural revitalization, whereby the leisure activity is staying at the farm village area, enjoyed nature, cultural experiences, interchanged with local people (Mitsuhashi and Kim, 2007), and it has well promoted by The Ministry of Agriculture, Forestry and Fishery since 1992 (Mitsuhashi and Kim, 2007; Mitani, 1993; Tenorio, 2005). According to Ministry of Agriculture, Forestry and Fishery, green tourism defined as:

"Staying-type leisure activities to enjoy the nature and culture of the destination and interaction with local residents in rural and mountainous areas rich in natural landscape" (Hong et al., 2003:325)

However, in Scotland, green tourism is defined as any form of tourism that relates to the natural environment and cultural heritage of an area, and to demonstrate practices for minimising the negative impacts to the environment (Scottish Enterprise, 2002; Scottish Enterprise, 2004). These green tourism practices are: Use of resources wisely such as raw materials, water and energy; prevention of air, land and water pollution; and preserve and enhance the quality of biodiversity. The purpose of implementation of these practices is to minimise the impacts on ecological and environmental resources. However, Scottish Enterprise (2002) argues that sustainable tourism can be applied wider than the green tourism, which not only include the 'green' or environmental practices, but include social and economic principles.

The understanding the green tourism is presented above, then looks into the term of sustainable tourism definitions. World Tourism Organisation (2004) defines the sustainable development of tourism as a continuous process which requires informed participation of all stakeholders, strong political leadership and also a high level of tourist satisfaction. Sustainable tourism is defined in numerous ways (presented in Table 1), but the meanings are mostly originated from the basic definition of sustainable development.Sustainable development means the development meets the needs of the present without compromising the ability of future generations to meet their needs (World Commission on Environment and Development, 1987); it has two components with the meaning of development and the conditions necessary for sustainability (Tosun, 2001). As Dudley (1993) argued that the development is not just increased wealth, but it means change; changes in behaviour, aspirations, and the way that understands the world.

Based on the Table 1, United Nations World Tourism Organisation (UNWTO) (1997) and Blangy (1997) provided a formally correct, but relatively simple 'interpretations' of the World Commission's definition (Coccossis and Mexa, 2004), which concentrates on three elements: the integrity of ecosystems, economic development, and equity within and between generations (Majorca, 2002). Thus, the definition has not moved forward from the general definition of sustainable development and it has merely added some of the specificities of tourist activities (Risteski et al., 2012). Nevertheless, the definition closer to the idea of carrying capacity for tourist destinations is given by Middleton and Hawkins (1998). Travis (2011) also provides a more substantial definition that is focused specifically of tourism activity. The author also defined the sustainable tourism planning as *"defining and developing practical action programmes comprising a bundle of development and conservation policies, and achieving their realisation through fiscal and agency means, to deliver sustainable tourism products.*"(Travis, 2011:23).

Table 1 The Definition of Sustainable Tourism

Authors	Definition of Sustainable Tourism
(UNWTO, 1997:19)	"*... meets the needs of present tourists and host regions, while protecting and enhancing opportunity for the future. It is envisaged as leading to management of all resources in such way those economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes and life support systems."*
(Blangy,1997:7)	*"... any form of development, provision of amenities or tourist activity that emphasises respect for all and long-term preservation of natural, cultural and social resources and makes a positive and equitable contribution to the economic development and fulfilment of people living, working and staying in these areas."*
(Travis, 2011:22)	*"... man's responsible long-term use and re-use, for tourism purposes, of human resources, and of three sets of heritage resources – natural, cultural and built – to meet effective consumer demand within the limits of the capacities of those resources, for the benefit of both the tourists and of the permanent resident communities at the tourist destinations."*
(United Nations Environment Programme (UNEP) and World Tourism Organisation (WTO), 2011:416)	*"Sustainable tourism describes policies, practices and programmes that take into account not only the expectations of tourists regarding sustainable natural resource management (demand), but also the needs of communities that support or are affected by tourism projects and the environment (supply)."*
(Middleton and Hawkins, 1998, P.6)	*"... means [for] achieving a particular combination of numbers and types of visitors, the cumulative effects of whose activities at a given destination, together with the actions of the servicing business, can continue into the foreseeable future without damaging the quality of the environment on which these activities are based."*

In short, the sustainable tourism can be defined as operating the tourism businesses for the long term while improving the tourist destination quality. The sustainable tourism maintains the economic development, protects the social welfares as well as local culture, and sustains the ecological system. These three principles are highlighted in practising sustainable tourism. World Tourism Organisation (2004:7) also explained "*sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments, sustainability principles refer to the environmental, economic, and socio-cultural*

aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability".

Based on the common definition and characteristics of both responsible tourism and sustainable tourism, it is clear that responsible and sustainable tourism has an identical similar outcome; that is toward sustainable development. The similarities between both responsible and sustainable tourism characteristics are included minimising the negative impacts, enhancing local community welfare by economic benefits, social equity, and cultural preservation, making a positive contribution to the environment, and enrich tourists' experiences. However, the difference between two types of tourism is that the responsible tourism emphasize on the responsibility of role players in tourism with respect to the actions, tourism activities and its impacts to achieve sustainable tourism development (Tourism Department of the City of Cape Town, 2009). While, sustainable tourism is seeking the balance amongst environmental, economic, and socio-cultural aspects of the tourism industry.

In 2002, responsible tourism was declared by the Tourism Department of the City of Cape Town, with an agreement of 280 delegates in the Cape Town Conference. The delegates included inbound and outbound tour operators, national park management, provincial conservation authorities, tourism professionals, tourism authorities, NGOs and other tourism stakeholders, from 20 different countries. Republic of South Africa is the initiator to use the term 'responsible tourism' in the tourism industry rather than other terms. The Cape Town Declaration called upon tourism enterprises and trade associations in the tourism sector to adopt a responsible approach, to commit special responsible practices, and to report progress in a transparent and auditable way; the declaration also made the commitment to "*... work with others to take responsibility for achieving the economic, social, and environmental components of responsible and sustainable tourism."* (Cape Town Declaration, 2002:5).

The literature also records a variety of responsible tourism definition, such as responsible tourism is defined as *'tourism that promotes responsibility to the environment through its sustainable use; responsibility to involve local communities in the tourism industry; responsibility for the safety and security of visitors and responsible government, employees, employers, unions and local communities'* (Republic of South Africa, 1996:11). In another way, responsible tourism is simply defined as *'tourism that creates better places for people to live in, and better places to visit'*(Cape Town Declaration, 2002:3). Spenceley, Relly, Keyser, Warmeant, Mckenzie, Mataboge, Norton, Mahlangu, and Seif (2002:8) defines the responsible tourism *'as about providing better holiday experiences for guests and good business opportunities for tourism enterprises while enabling local communities to enjoy a better quality of life through increased socioeconomic benefits and improved natural resource management.* The Center of Responsible Travel (2009:17) also explains responsible tourism as *"tourism that maximises the benefits to the local communities, minimises negative social or environmental impacts, and helps local people conserve fragile cultures and habitats or species*". Likewise Chan (2010) viewed it as being grounded in environmental and social principle, and good practices consisting of strong ethical values.

From the definition of responsible tourism given by scholars above, three main elements found to be important, which include: building a better place for local community, enhancing the tourists' experiences in destination, and creating better

business opportunities for tourism enterprises. Apart from that, the Table 2 below shows the elements of responsible tourism definition. According to the Merwe and Wocke (2007), more than 95 per cent of respondents indicated that they understand responsible tourism to be a responsibility towards the community within which they operate their business. The findings are fixing the Cape Town Declaration (2002), where the four elements of responsible tourism definition are regarding to local people, such as increase local economy, involved local people in making decisions on tourism development, enhance the tourists' satisfaction through connection with local people, and to sustain the local cultural pride and confidence.

Other than that, other descriptions of responsible tourism concepts selected by more than 50 per cent of respondents include future sustainability of the industry, protecting the environment, and ethical business practices (Merwe and Wocke, 2007). These elements are seen to be a common definition of responsible tourism in industry. In Republic of South Africa (1996) and the Cape Town Declaration (2002) also has introduced these elements, such as to minimise the negative social, economic and ecological impacts, the ethical employment practices and responsibilities towards tourist experiences, and finally to sustain the industry in the long-term perspective rather than short term.

Table 2 The Prior Study on The Definition of Responsible Tourism

Author(s)	The Definition of Responsible Tourism
Republic of South Africa (1996)	White Paper describes the roles and responsibilities of a range of players. Responsible tourism implies: • Tourism industry responsibility to the environment, through the promotion of balanced and sustainable tourism, and a focus on environmentally based tourism activities; • The responsibility of government and business to involve the local communities that are in close proximity of tourism infrastructure and attractions, through the development of meaningful economic linkages; • Responsibilities of tourists, business and government to respect, invest and develop local cultures, and protect them from over commercialisation and over-exploitation; • The responsibility of local communities to become actively involved in the tourism industry, to practise sustainable development, and to ensure the safety and security of visitors; • The responsibilities of both employers and employees in the tourism industry, both to each other and the customer (responsible trade union and employment practices); and • Responsible government as well as responsibility on the part of tourists to observe the norms and practices of South Africa.
Cape Town Declaration (2002)	Responsible tourism in destination defined as: • Minimises negative economic, environmental and social impacts. • Generates greater economic benefits for local people and enhances the well-being of host communities, improves working conditions and access to the industry • Involves local people in decision that affect their lives and life chances • Makes positive contributions to the conservation of natural and cultural heritage, to the maintenance of the world's diversity • Provides access for physically challenged people • Provides more enjoyable experiences for tourists through more meaningful connections with local people, and a greater understanding of local cultural, social and environmental issues. • Is culturally sensitive, engenders respect between tourists and hosts and builds local pride and confidence.
Merwe and Wocke (2007)	The South African hotel industry responses to definition of corporate social responsibility: **Description** — **No. Respondents** Responsibility to the community — 58 Ethical business practices — 39 Protecting the environment — 38 Future sustainability of the industry — 35 Feel-good factor — 35 Legal compliance — 21 Marketing opportunity — 20 Increased profitability — 12 Strategic business tool — 12 Philanthropic donations — 11 Triple bottom line — 7 License to operate — 7 Increased cost of doing business — 4 Other — 2

Responsible tourism is also defined as a form of tourism that takes responsibility, while responding and taking action to address the social, economic and environmental issues of sustainability that arise in a destination (Goodwin, Font, and Aldrigui, 2012). There is an important note that the different destinations and stakeholders will have different priorities, and local policies and guidelines that need to be developed through multi-stakeholder processes, to develop responsible tourism in a destination (Cape Town Declaration, 2002). Evidently, more and more tourist destinations and tourism operations are acknowledging and recognising "responsible tourism" as a pathway towards sustainable tourism (UNEP, 2005). In fact, responsible tourism emerged from a question frequently asked by researchers: "who should be responsible for mitigating impact" (Miller, 2001; Sin, 2010; Budeanu, 2005; Frey and George, 2010).

Green concept is first emerged as an approach to mass tourism management. It is highlighting the mutual needs of ecology, local people, business enterprises and tourists. These needs are also the main elements in responsible tourism, which emphasizes on the responsibility of stakeholders in building a better place for local community, enhance the tourists' experience, and create better business opportunities for tourism enterprises. The literature shows both of responsible and green tourism could be synergy reaction where responsible tourism could be played significantly in tour operations while green tourism is the practices to achieve sustainable tourism.

The Tour Operators' Role in Responsible Tourism

The tour operator sector has served as a distribution channel between tourism suppliers (e.g. Accommodation, food, transportation services…) and final customer (e.g. Tourist). Tour operators' role to utilise their know-how and resources to combine tourism services into a single product, sold at one price, directly or through travel agents (Tepelus, 2005). Corporate social responsibility is normally used by private organizations in another industry, but in the tourism industry, responsible tourism is the term that used to emphasise the tour operator's responsibility in benefiting to social and cultural, economic, and ecological(Wijk an Persoon, 2006).

Budeanu (2005) and Sigala (2008) argued that tour operators are occupying the proposition that their role in effecting the changes in behaviours and attitudes towards more responsible forms of tourism. Undeniably, tour operator is a main channel to translate the principle of responsible tourism into concrete operational changes (Tepelus, 2005). This is due to their power and bargaining dominance over individual suppliers at the destination (Wijk and Persoon, 2006; Bastakis et al, 2004; Carey et al, 1997) and also tourists who look for the cheapest price offered (Curtin and Busby, 1999). There are three key areas where tour operators can play proactive role in improving the sector's environmental, economic and social performance: Supply chain management, co-operation with destination, and sustainability reporting (TOI, 2003). Supply chain management and co-operation with destination are dealing with tourism supplies and sustainability reporting could be a kind of competitive advantage in dealing with customers and stockholders.

Yet, tour operators have long been claimed as a source of irascibility amongst critics who argue that the negative impacts of tourism are at least in part caused by the actions of operators who therefore have a responsibility to act (Miller, 2001). The tour operator needs to take responsibility for the planning, organization and implementation of a coherent, responsible policy (Carey et al, 1997). Tour operators' attitude towards sustainability has been slowly changing to proactive (Budeanu,

2005; Khairat and Maher, 2012). Sustainable tourism depends on how effective co-operation of all the stakeholders in the industry (Carey et al, 1997; Miller, 2001; Risteski et al, 2012). This paper concentrates on the tour operators and their perspectives on the synergy of responsible tourism and green tourism.

RESEARCH METHOD

The qualitative method was used to collect data through 25 in-depth interviews with tour operators in Sabah. Eligible respondents were selected and shortlisted after a screening stage, carried out via email and telephone call. The purposeful sampling strategy is used in this paper to describe a subgroup in an in-depth manner. Open-ended questions are used during interviews due to the fact that the responses permit one to understand the world as seen by the respondents. Likewise, the questionnaire is also used in a flexible way to accommodate the nature of the interviewee as well as the environment where the interview was carried out. The questions asked during the interview were: 1) How do you define "responsible tourism"? And 2) What are the green tourism means to you? The data were analysed by transcribing the audio-recorded interviews verbatim into typed text. Interpretative phenomenological analysis (IPA) was used to analyse the raw data.

FINDINGS

The Definition of Responsible Tourism and Green Tourism

The empirical data show a range of definition of responsible tourism and green tourism from tour operators' perspectives. The definition emerged from the interview responses and presented in Table 3 and Table 4 respectively.

Generally, the definition of responsible tourism emerged from the data is related to create a better destination through conservation and protection, reducing impacts, sustainability of the destination, benefiting local community, improvement of tourists' experiences by enhancing tourists' satisfaction and improve safety, ecotourism and the practice of "reuse, reduce and recycle".

Table 3 The Definition of Responsible Tourism Emerged from the Interview Responses

Themes	Informant Responses	No. Responses
Create a better destination through conservation and protection	- Conservation to preserve nature for the next generation	7
	- Protecting the destination attraction	4
	- Preserve the destination for business sustainability	3
Reducing impacts	- Reduce the negative impact on nature through tour packaging	1
	- Reduce the impact to destination	3
	- Low impact on environment	3
Sustainability of the destination	- Sustainability of destination	4
	- Alternative tourism, sustainable tourism	1
Benefiting local community	- Involved with the local community in tourism development	2
	- Improve the well-being of local people	2
Improvement of tourists' experiences by enhancing tourists' satisfaction and improve safety	- Tourists' satisfaction	1
	- Safety of tourists	1
Ecotourism	- Similar with definition of ecotourism	3
The practices of 3R's	- Encourage the use of the "recycle, reduce and reuse" concept	1

Table 3 shows seven elements of responsible tourism definition from interview responses. Themajority of tour operators interpreted the meaning of responsible tourism as conservation and protection of the destination.It creates a better destination for local residents and also for tourists to visit. This interpretation is similar to the definition given by the Tourism Department of the City of Cape Town (2009) as, tourism is to create a better place for local residents and also for visitors.

"Responsible tourism is to reduce the stress on the environment in order to conserve it for our next generation"(Interview informant 1).*"We make money from nature; of course we are the ones responsible to conserve the place"*(Interview informant 9).This implies that the concept of responsible tourism relates to business sustainability, preservation of nature and responsibility for the next generation.

Responsible tourism refers to minimise the negative social and environmental impacts (Center of Responsible Travel, 2009). Based on the findings, a number of

informants interpreted that responsible tourism is to minimise the negative impact on nature. This can be evidenced in the following quotes:

"We can package the product that has less negative impact on the environment, such as using green engine cars to reduce carbon dioxide emission and also to avoid air pollution" (Interview informant 7).

Some informants indicated that responsible tourism means sustainability. It is reflected in the following quotes as: *"It refers to the sustainability of the destination…"* (Interview informant 1).*" It is about sustaining the nature and environment…"* (Interview informant 3).

Responsible tourism is the responsibility of involving the local residents into the tourism management (Republic of South Africa, 1996; Goodwin, 2012;Center of Responsible Travel, 2009; Spenceley et al., 2002). Responsible tourism also defined as a means of benefiting local communities from the data analysis. This can be referred from the following quote:

"Involve the local community to bring awareness and (help) to educate the tourists…" (Interview informant 8)

There are two respondents defined responsible tourism as to improve the tourists' experience and safety during the trip. This is in line with Spenceley et al. (2002) who defined responsible tourism as providing a better holiday experience for guests. The findings from tour operators also show that the definition of responsible tourism is similar to that of ecotourism. The informants responded that *"I think it is same with ecotourism and it is promoted by Sabah Parks."* (Interview informant 10)

Interestingly, a new element of responsible tourism emerged from data analysis, which is similar to three R's concepts which are reduce, reuse and recycle.

"It is similar to reuse, recycle and reduce concept, like to use environmental friendly products, to be responsible, (to) avoid pollution in destination"(Interview informant 21).

The findings of responsible tourism can be categoried as: (i) create a better destination through conservation and protection, (ii) reducing negative impacts, (iii) sustainability of the destination, (iv) benefiting the local community, (v) improvement of tourists' experiences by enhancing tourists' satisfaction and improve safety, (vi) ecotourism, and (vii) the practice of 3R's (Reduce, reuse, and recycle). These themes are similar to the definition of responsible tourism given by the Tourism Department of the City of Cape Town (2009), Goodwin (2012), Center of Responsible Travel(2009), Republic of South Africa(1996), UNEP (2005), and Spenceley et al. (2002). However, there are two new discoveries found from interview responses: Responsible tourism is similar with ecotourism and it is also practices of the 3 R's.

The green tourism conveys different meanings to the informants as presented in Table 4. According to the data collected, the interview responses on concept of green tourism can be categorised into five themes; (i) conservation, (ii) minimise negative impacts, (iii) ecotourism, (iv) environmentally friendly, and (v) travel experience.

Table 4 The Concept of Green Tourism

Themes	Group of Informant Responses	No. Respondents
Conservation	- Conservation to remain nature to the next generation	3
	- Protecting the attraction of the destination	5
	- Conserve nature and green environment	7
	- Focused on flora only	1
	- Protecting certain places only such as jungle, forest and others	1
Minimise negative impact	- Reduce the impact to destination	5
	- Low impact on forest and natural resources	1
Ecotourism	- Similar with definition of that ecotourism	6
	- More about nature	3
Environmentally friendly	- Use of recycled things	3
Travel experiences	- Bringing the tourists to unexplored areas, nature and adventure	1

A significant number of informants interpreted green tourism as conserving and protecting the nature, reduces negative impacts on nature resources and the destination, and as ecotourism. Chun (2006) stated that green tourism is to sustain or even improve the quality and attractiveness of the natural environment destination. These can be evidenced in the following quotes:

"Protect the attraction of the place and also to conserve it for our next generation". (Interview informant 16)

However, one of the respondents has stated that the green tourism is only focused on flora, *"Green tourism actually is not everywhere, but only certain places like a jungle, forest and others; it is about green conservation which focus on flora only, likes to appreciate the greenness"*(Interview informant 14).

In Scotland, green tourism can be applied to any form of tourism that is related to the natural environment and cultural heritage of an area, and to demonstrate practices for minimising the negative impacts to the environment (Scottish Enterprise, 2002; Scottish Enterprise, 2004). It is similar to the findings of this study as:

"Green tourism is very wide and it is covered all… to reduce the negative impacts" (Interview informant 17)

The prior study noted that ecotourism is frequently used to label nature holidays to exotic destinations (Wight, 1994); whereas green tourism claims can be used to signal that tourism operations taking place in that area do not damage the

environment (Font and Tribe, 2001). The finding of this research show green tourism is almost similar to ecotourism as both of the terms are highly related to nature and ecological system.

The respondents also mentioned that green tourism is about the use of 'green' product or environmental friendly products. The evidence shows in the following quotes:

"Green tourism is encouraged to use of recycled things, like recycle bag instead of plastic bag" (Interview informant 22)

Apart from the above mentioned; it is interesting to note that there is only one interviewee stated that green tourism is related to travel experiences, as evidence from the quote: *"Green tourism means to me is bringing the tourists to unexplored areas, nature and adventure…"* (Interview informant 19). This is also noted by Dodds and Joppe (2001) as green tourism is significant to encourage people to travel and explore a tourist destination.

The interpretation of green tourism is categorised into five themes as: (i) Conservation, (ii) minimise the negative impact, (iii) Ecotourism, (iv) environmental friendly, and (v) travel experiences. The findings of green tourism concept are same with prior literature such as Chun (2006), Azam and Sarker (2011), Zhibo (2012), Furqan et al. (2010), Font and Tribe (2001), Scottish Enterprise (2002), Hong et al. (2003), and Dodds and Joppe (2001). The following section discusses the synergies of responsible tourism and green tourism.

Discussion of Responsible Tourism versus Green Tourism

As mentioned earlier, both of terms 'responsible tourism' and 'green tourism' are closely related to each other. The findings show responsible and green tourism is complementing each other. Responsible tourism is to create a better place for people to live in, and better places for visitors (Tourism Department of the City of Cape Town, 2009). This definition is also supported by the result of this study. A majority of interview informants defined responsible tourism is about conservation and protection of the destination in order to sustain its attractions for business sustainability, and next generation. These criteria also included to define green tourism as well.

The similarities are included to minimise negative impacts to destination, sustainability concept or environmental friendly concept, improves the tourists' experiences in destination, and ecotourism which promoted by the Malaysian Government. There are many respondents are conscientiously agreed responsible tourism and green tourism is tourism management approach to minimise the negative impacts to destination (Interview informant 11, 14, 17, 21, and 25). According to The Center of Responsible Travel (2009), one of the main elements in responsible tourism is to minimise negative social or environmental impacts. On the other hand, the green tourism can be considered as a strategy to develop a governance mechanism; its intents reduce negative environmental and social impacts of tourism operations, which located in rural or urban areas of any country premises (Azam and Sarker, 2011).

Chun (2006) stated that sustainable, green, and responsible tourism is the terms of alternative tourism that are monikers for similar types of tourist activities

and developments with sustainable concept. Mitani (1993) noted that alternative tourism is tending to environmental friendly. Thus, it can be said that green tourism and responsible tourism are in the category of alternative tourism, which is tending to environmental friendly practices in destination. One of the components of responsible tourism and green tourism from interview responses is shown to sustain the destination in the long term rather than short term, and to use environmentally friendly of production in tour operation. Interview informant 19 defined green tourism and responsible tourism are also called as alternative tourism, which refers to sustainable development management in destination. The 'reuse, reduce, and recycle' encouragement is also one of environmental friendly practices.

Responsible tourism and green tourism definition are to improve the tourists' satisfaction and experiences in destination. As Goh and Yusoff (2010) noted that tourist experience is vital because if tourists do not respond positively about their experiences in a destination, very likely tourists will cease to visit again, and there will be no 'tourism'. This idea is similar with interview informant 14, who responded if no tourists visit; there is only green but no tourism takes place. One of the key elements of responsible tourism is responsible for the safety and security of visitors (Republic of South Africa, 1996), as well as provided better holiday experiences for guests (Spenceley et al., 2002). Dodds and Jappe (2001:263) suggested urban green tourism concept includes experiential richness, which providing enriching and satisfying experiences through active, personal and meaningful participation in, and involvement with, nature, people, place and/ or cultures.

Based on the Green Tourism Agenda Report in 2002, the concept of green tourism is similar with ecotourism, which cover a holiday experience that relates to the natural environment while the environment is protected and not destroyed by the holiday activity. According to Font and Tribe (2001), the differentiation between ecotourism and green tourism is ecotourism is frequently used to label nature holidays to exotic destinations (Wight, 1994) whereas green tourism claims can be used to signal that tourism operations taking place in that area do not damage the environment. It is interesting to note that one of the respondents 13, has defined green tourism as merely a point on flora only; whereas ecotourism is to focus both of fauna and flora. Several of interview informants (8, 10, and 20) mentioned that the Malaysian government is promoting ecotourism, thus they are more familiar with ecotourism rather than responsible tourism; they thought ecotourism is almost similar to the definition of responsible tourism.

The analysis of the findings shows responsible tourism is to benefit the local community, whereas green tourism is more about nature. However, green tourism is defined as leisure activities for tourists to enjoy the nature and culture of the destination; it also enables to interact with local residents in rural and mountainous areas, where is abundance of natural resources (Hong et al., 2003). It is surprising to find out that only responsible tourism brings benefits to the local community, but green tourism means to tour operators is associated with nature, greenery, and flora. This can be evidenced in the following quote:

"In Malaysia, awareness of ecotourism is (still absent), if you ask 10 tour operators, they may answer you that it is more about nature but they don't think that is responsible for the nature. They don't even know how to reduce the impacts to the local environment" (Interview informant 25). From the view of informant 25, it can

be said that Sabah, Malaysia is still a lack of understanding of ecotourism, green tourism, and responsible tourism.

The interview responses show responsible tourism is to emphasize the responsibility of everybody to sustain the destination (Interview Informants 1, 6, 9, 15, 16, 19, 23, and 25); green tourism is more about nature, environment and green (Interview informants 4, 11, 13, 14, 15, 18, 18, 20, and 25). Moreover, interview informant 22 noted that responsible tourism and green tourism complement each other. Being responsible is about not only making sure that the company's standard operating procedure is in order, but also making sure that whatever you use internally it also helps externally as well. Being green is yourself doing it; you also educate your team and also your clients what green tourism is about.

CONCLUSION AND IMPLICATION

The research findings are in agreement with many of related literature. Based on the findings of responsible tourism definition, responsible tourism can be defined as tourism that creates a better destination through conservation and protection, reduces the negative impacts for long term sustainability of the destination, benefiting local community while enhancing tourists' satisfaction and improve their safety. The findings are in line with the Republic of South Africa (1996), Spenceley et al. (2002), UNEP (2005), Tourism Department of City of Cape Town (2009), Center of Responsible Travel (2009), and Goodwin et al. (2012), who have defined the responsible tourism in different ways, but bringing similar meanings.There are two new discoveries emerged from interview responses, which are similar to the term of Ecotourism and the practice of 3R's. This findings filled the research gap that is improving the understanding of responsible tourism from tour operators' perspectives in Sabah.

The definition of green tourism is also investigated from tour operators' perspectives. Green tourism could be defined as tourism that integrated the environmental friendly into products, services, and operations; natural conservation in order to minimise the negative impact on the destination, and consequently enhance tourists' experiences. The finding of green tourism definition is supported by different scholars; like Font and Tribe (2001), Dodds and Joppe (2001), Scottish Enterprise (2002), Chun (2006), Furqan et al. (2010), Azam and Sarker (2011), Zhibo (2012), and Hong et al. (2003).

The study seems to conclude that both of responsible and green tourism are related and complement each other. It is surprising to find out that only responsible tourism is to benefit the local people, whereas green tourism is only about nature. The evidence from this study shows that responsible tourism is more on operation and its practices are needed take into tour operators' daily operation in order to achieve sustainable tourism. However, green tourism is associated with nature and it is more about marketing and packaging.Therefore, tour operators can practise responsible tourism in their daily operation, which in five implementation areas comprised of internal management, supply chain management, cooperation with destinations, customer relations, and product development and management (Khairat and Maher, 2012; UNEP, 2005), whereas, tour operators can practise green tourism in marketing and promotion. The findings suggest that sustainable tourism needs to

include both of responsible tourism and green tourism. It also recommends that there is a need to differentiate the two terms of responsible tourism and green tourism.

Limitation and Future Study

The limitation of this research is its respondent is solely focused on tour operator rather than the whole tourism stakeholders. Yet, tourism industry involves a wide range of stakeholders, such as government, tourists, and other small and medium enterprises, and the roles of each group are very significant in the development of responsible tourism in a destination. Therefore, this research suggests for further study on other tourism stakeholder perspectives on the terms of responsible tourism and green tourism. Another limitation is small sample size (25 interviews). However, it is the nature of the qualitative research as well to have less numbers of respondents than a quantitative research as it is attempting to provide an in-depth understanding of the research topic instead of researching a mass target respondents. Therefore, this research suggests a comparative work in other states of Malaysia or in different locations and countries which would prove beneficial for possible validation of the findings.

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When Hazards Meet Vulnerability: The Need for Emergency Planning In Hotels

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ABSTRACT

The main purpose of this paper is to identify emergencies which have occurred in the Jordanian hotels. Hotel preparations for past emergencies to help identify its vulnerability as well as explore future plans to manage and overcome the impacts of such emergencies. Furthermore it is hoped to, encounter its limitations. This qualitative study involved face-to-face interviews with 43 managers from 36 three, four and five star hotels. These hotels were chosen from a range of local, regional, and international inns located in Amman and Petra, Jordan. The samples were selected using the purposive snowball method. Thematic analyses was used to uncover the relevant themes. Results revealed that Jordanian hotels have been subjected to a wide range of hazards, which make them vulnerable to disasters and emergencies. Political instability and the unstable situation in the Middle East and revolutionary countries increase the hotel vulnerability to hazards. Several lessons could be learnt from the past. Unfortunately, Jordanian hotels are still vulnerable to hazards and emergencies with a greater dependency on security departments. Some emergency plans are still unimplemented, and the practical implementations are still focusing on pre-emergency rather than pro-emergency periods. For future implications, hotels must adopt one or more emergency frameworks to improve safety using effective collaboration among hotels and other related organizations. Effective free emergency training to decrease the possibility of vulnerability to hazards must also be considered.

Keywords: Hazard, Vulnerability, Emergency Planning, Hotels, Jordan

INTRODUCTION

Hospitality experts have argued that experiencing a local emergency would be undesirable while, a guest or a tourist visiting a stricken area experiencing an emergency far from home would be worse. Hotel guests can originate from anywhere

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and speak any language. Emergency planning and recovery could be a challenge for businesses and constitute acute tasks for hotel stakeholders. Low *et al.* (2010) argued that hotels are a risky business receiving employees and guests from different nations and cultures that have a tendency for disasters and emergencies to occur and cause unwanted damages. Scholars discussed the impact of terrorism on the tourism industry and argued that terrorism and instability have a considerably bad effect on the tourism industry (Paraskevas & Arendell, 2007; Sönmez & Graefe, 1998). Ichinosawa (2006), Johnston *et al.* (2007), and Johnston *et al.* (2005) explored the impacts of natural disasters on the tourism industry and argued that such events will disturb the so called destinations with negative impacts on the local communities, stakeholders, and the economy. Cashman *et al.* (2012), Valls and Sardá (2009), Hein *et al.* (2009), and Hamilton and Tol (2007) argued that globalization and over development cause a negative effect for the changing world and its habitats though, show a greater impact on hotels and the tourism business.

As one of the most vulnerable, emergencies in the hospitality industry have become more frequent and complex than ever before (Coppola, 2010), affecting both the hospitality industry and others related (Pforr, 2006). Whether man-made or natural, disasters are very important to be prepared for in order to mitigate the impact of those emergencies and minimize losses. There is no doubt that safety and security are two of the most important issues of the guests. Rittichainuwat (2005) asserted that low-cost destinations could not motivate tourists to visit, especially hazardous destinations. Organizations should establish a cross role between the media and government authorities to avoid unnecessary information, and transmit a clear message to avoid ambiguity (Mansfeld, 2006).

According to the literature, researchers have unfortunately focused on successfully managing disasters and emergencies and immediate recovery rather than their state of readiness (Higgins, 2005). Currently, the urgent need for the hotel industry is to plan better for emergencies, react to such events, mitigate damages, and recover to a normal situation faster. Recent literature has merely focused on pre-emergency planning and agree for the need to plan; named the best ways to employ such planning. Planning is not a one way task but an ongoing process. Disasters are accurately deemed as social phenomena damages due to natural hazards with people altering the surrounding environment. They do what they can to mitigate the chance of problems and make certain areas are safe for humans. Emergencies, by nature, involve human impact (Weichselgartner, 2001). Furthermore, natural disasters and technological emergencies are both have similar protection and response measures. In the purest sense, natural disasters do not exist. Disasters occurs within the society and not within nature. Simply put, no people no disaster. A multi megaton volcano explosion in Antarctica would never amount as a disaster if no one was there. A similar explosion in a populated area would book a place in our future calendars for a long time.

Taleb (2007) has argued that a natural pattern was studied and recorded for many ages. Scholars should focus on studying most recent events with accurate and reliable data. The universe is governed by the laws of physics but chaos remains as a normal variation that exists due to temporal govern through the nature of the universe (Piotrowski, 2006). The Chaos theory is a major framework which views and analyzes disaster and emergency management, and an ever present differentiation between actions and experiments. The Chaos theory will benefit when clarifying the weaknesses of the control and command model and replace it with the development

of a problem solving model. This will provide a conceptual foundation for studying an emergent behavior during disasters and emergency situations (Drabek & McEntire, 2003).

Finally, Theory of the Firm and Stakeholder Theory clarify that business exists because it benefit the society. Firms provide the service more efficiently than the individual in a cheaper, cleaner, and better way. Business serves a purpose not only making money, but to benefit its stakeholders. In the case of hotels, the needs of stakeholders have an advance need than a normal firm regarding many persons involved in and with the firm: stakeholders, management, guests, employees, suppliers, local community, and the government. Hotels are not simply a firm. The duty of a hospitality service is to provide safe and shelter to those who ask and are willing to pay. A hotel is, of course, expected to make money but not at the expense of a guest's safety. Furthermore, the hotel must do more than simply satisfy the need of stakeholders, and corporate social responsibility.

According to The United Nations Development Programme (2010) Jordan has been subjected to several threats affecting its economic, social, and state structures of the country's hospitality industry which have made it vulnerable to emergencies such as flash floods, earthquakes, epidemics and drought. Other emergencies; such as extreme temperatures, windstorms, locust swarms, (man-made emergencies) terrorist attacks, chemical or biological warfare, radioactive contamination, armed conflict and mass population migrations (Al-dalahmeh *et al.*, 2014). Jordanian hotels have experienced a wave of disasters and emergencies in the last two decades. Overall, the period from 2000 to date has been affected by natural and man-made disasters adding to the rise in political instability in the Middle East have all negatively influenced Jordanian hotels (Ali & Ali, 2011). Paraskevas and Arendell (2007) mentioned that since September 11, 2001, at least 18 different major terrorist incidents have targeted the hospitality industry worldwide including two in Jordan. While the field of emergency management is still largely unexplored in the Middle East, generally, Jordanian hotels are the focus of this research. It is the hope to identify emergencies which have occurred in Jordanian hotels; investigate their preparation for emergencies in the past; identify their vulnerability; explore their future plans to manage and overcome the impacts of such emergencies and encountered limitations.

LITERATURE REVIEW

Vulnerability

The concept of vulnerability is the key to emergency planning. Vulnerability can be the junction between risk aggravation and mitigation factors. Dictionary.com defined "risk" as 'exposure to the chance of injury or loss; a hazard or dangerous chance' (Dictionary.com). While vulnerability can be defined as 'the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from hazards. It involves a combination of factors that determine the degree to which someone`s life and livelihood is put at risk by a discrete and identifiable event in nature or in society.' (Blaikie *et al.*, 1994: P.9).

Blaikie *et al.* (1994) stated that the possibilities of emergency events in the hotel are secure to a variety of factors determined by the resilience of the staff and guests and the level of emergency preparedness by the hotel. A hotel's vulnerability to emergencies comes from four points: event, effect, resilience, and preparation. A

hotel in the mountains is not vulnerable to a tsunami. A small motel is not vulnerable to a high-rise commercial hotel fire. Eshghi and Larson (2008) mentioned that when vulnerability meets with a hazard a disaster occurs.

International law contributes directly to save the hotel guests and employees from vulnerable possibilities. Laws were set up to ensure guest safety as one of the main hotel responsibilities. Hotels have increased in numbers and enhanced in services; hotels need to be safer. Vulnerable guests are increasing therefore, the requirements to maintain their safety are increasing (Soraghan, 2009). Kwortnik (2005) argued that the hotel should co-produce extra services during and after any emergency situation than the normal situations to ensure guest safety. The tension and stress on hotels in an emergency situation is unknown. Furthermore, an aging infrastructure must not be ignored. Old cities' aging infrastructure may hinder rescue and relief operations. Any disaster may cause loss in electricity or water, in which case, fire extinguishing needed during earthquakes would not be possible.

Weichselgartner (2001) mentioned after reviewing the systems theory perspective that vulnerability is a false alarm. Disasters could be information that arouses code-specific operations, causing losses in affected area. Hotels in the surrounding area of a hurricane which are not stricken may still suffer from business losses. Though no physical damage was done to the hotels, business losses still occur. For this issue, a false alarm could carry the same force as a real event. Weichselgartner (2001) argued that the economic turn down from a forecasted but non occurring earthquake can be significantly the same as in the occurrence. The fire alarm in a hotel or shopping mall can have the same consequences with or without a fire. More accurately, false alarms and actual events share the same minimal damage rather than equal damage.

Scholars have argued that disasters will lead us toward a policy of a long term emergency management and loss reduction. In the face of emergencies, complete prevention is ultimately impossible. For these types of mitigation policies, precise risk measures may not be necessary or important. Critical issues are to provide the basis for damage reduction. For example, emergency managers should identify the factors which determine the damage and levels of potential damage. This could be used to identify the actions that must be taken in order to reduce the damage caused by future events. Since the vulnerability is constantly increasing, more people are becoming more vulnerable. Weichselgartner (2001) identified these lessons as a follows:

1. Mitigation of natural disasters should stress socially rather than on physical approaches.
2. Emphasis on pro-active rather than on reactive actions.
3. Focus on internal structures in society rather than external forces.
4. Disaster vulnerability reduction should be apart from ongoing policies.
5. Reduction policies should be reviewed, monitored, evaluated, and modified.

Pre-Emergency Planning

As a concept, planning seems so simple. Plans should be in place for every aspect of life to mitigate the effects and survive in the face of emergencies. Humans have dealt with a range of danger and learned that they must be prepared for the unexpected. People which abandon the institutionalized preparedness will fall in the process of de-learning that particular knowledge. This is because people have ceased to

experience scarcity. Scarcity could be identified as the father of preparedness. What we need may not be available at the time. Therefore, people should stockpile it when it is in abundance. Since the dawn of history, humans have made civilization possible by surplus, whereas, surplus has resulted from planning (Soraghan, 2009).

It is human nature to plan, or at least it was. Nowadays, people have realized that individual planning is no longer a necessity for survival. Globalization secures resources for whatever people may need regardless of the season. Whatever the case, where there are people, there are needs. Hotel guests are non-locals coming from other destinations without guards, behaving in a carefree manner than they may behave at home. Therefore, hotels must anticipate failure to plan for their guests' safety (Soraghan, 2009). Paton (2003) argued that what is viewed by an individual as the most pressing will get more attention more than attached by modern communication. Fright appears to be the preferred method of modern media.

Until this moment, with scholar recommendations, planning still does not occur or is inadequate. Scholars conclude that in the planning process something is out of place or darkly wrong with the planning. Alexander (2005) noticed that since planning is a globally solid requirement, planning methodology could be broken. While, Perry and Lindell (2003) noticed that emergency planning tends to be an ending nor continuous process, static not dynamic which make it dysfunctional. On the other hand, the highest standard of safety and security will affect the guest experience and a negatively impact the hotel's hospitality and image furthermore its services (Enz & Taylor, 2002). Planning by individual, regional and international hotels or local authorities should not be an isolated incident. Planning must bridge the gap between dependent and government plans.

Page *et al.* (2006) after studying the Hurricane Katrina incident it was noted that decision premises are often deformed by several reasons: (a) former commitments to past choices, (b) negative information avoidance and defense prior choices, (c) delusion of control over the uncontrollable events, and (d) wishful thinking. Schwartz (2004) noted that preparation seems to be stronger due to current trends in technology, population changes, terrorism, and conflicts which may produce inevitable surprises people can anticipate (McConnell & Drennan, 2006). Our ability to recognize surprises when they occur and plan accordingly to overcome the unexpected events is much important than whether we can anticipatethem.

A disaster can be described as an unpredictable catastrophic change that can be initiate normal response after the event by deploying contingency plans already in place or through reactive response (Prideaux et al., 2003). Proactive planning and emergency managing are not two sides of the same coin. This leads us to know that planning is not managing (Stahura et al., 2012). Cavanaugh et al. (2008) argued that planning is the most important part which an organization could rely on when dealing with emergencies. Furthermore, the importance remains the need to have proactive planning to gain control over the existing hazards (Fink, 1986). Even though the hospitality industry endures formidable losses as a result of disasters, it has been observed that its ability to deal with emergencies are limited (Henderson & Ng, 2004). Several scholars in previous studies have discovered a low level of proactive planning for emergencies within the hospitality industry, and some are disappointed by the lack of appropriate emergency planning in the hotel industry (Hystad & Keller, 2008; Lu & Law, 2007; Okumus & Karamustafa, 2005).

Proactive planning by hotels should not be undertaken alone. All planning efforts must fill the gaps between the internal and external plans. Hotels proactive

emergency planning must fill the gaps between planning for guests, employees and local authorities (Stahura et al., 2012). Many disaster frameworks proposed by scholars (De Sausmarez, 2004; Faulkner, 2001; Ritchie, 2008) are mostly focused on the recovery stage rather than proactive planning. However, the generic framework proposed by PATA (2003) could be used as a framework to formulate hospitality individual planning and to find a solution to disasters. This framework has suggested four phases:

1. Reduction. Detecting early warning signals.
2. Readiness. Preparing plans to deal with emergencies.
3. Response. Executing plans at the time of disaster.
4. Recovery. Acquiring a normal environment after a disaster.

Hotels which are a soft target for disasters should work on proactive emergency planning to avoid any harmful events and minimize losses (Henderson et al., 2010), to avoid a dramatic falls in clientele (Stafford et al., 2002). Planning is a process; created plans should be tested and evaluated through practice. Differences between planning and preparedness come from practice. Planning should be the standard of preparedness (Helsloot & Ruitenberg, 2004).

Emergency and Post-Emergency

When the worst happens, the best of people and society will be emerge since employees, guests, management, government responders and local community are all affected. Hotels have now realized that when even a small event happens; it will require time for a proper emergency response. Larger events will need plenty of time necessary to arrive and assist. Helsloot and Ruitenberg (2004) noticed that much time is needed to act in a structured way and people rely on themselves in the period directly following the disaster. It is also notable that some emergency responders will follow a thoughtful approach to guide their activities and zoning areas to provide the necessary aid to the people most affected. Therefore, some hotels and guests will be aided sooner than others.

Fischer III (2002) gave evidence to the validity of an emergence theory and approved that the traditional way of the public as helpless victims was challenged. The theory holds that volunteers and volunteer activities increase in the aftermath of disasters, as an early effort essential to rescue employees who themselves were not fully prepared for the emergency situation. For upper scale events, emergency responders and volunteers are not able to help everyone so local authorities usually plan accordingly to help and assist tourist areas not set as a high priority zone. The real situation may prove the opposite. Since tourists bring money to poor destinations, they may receive aid first in all situations.

Actions must be undertaken in spite of the plan or in the absence of a plan. Immediate reaction to a sudden emergency attempts to organize an emergency response even if the planning and preparedness have been institutionalized perfectly. Organizations structure applications to secure proper implementation of an emergency plan. Plans should contain the best response possible and cover the bases of logic and conjecture. Action should be undertaken before final consolidation. Sturman (2002) stated that not only guests are affected by the emergency situation

but also managers and employees who have been called upon to stay on duty to help and serve guests. In the event of an emergency, managers will face all kinds of pressures and personal issues as they may suffer from making decisions under pressure.

Lessons Learnt

The first notable research regarding disasters and emergencies go back to the 1970s. Quarantelli (1970) published a five page long paper at the time that scholars were inferred that disasters were not a widely studied subject prior to 1970. He continued his research with the revelation that emergency planning alone does not guarantee successful management of an emergency. Quarantelli (1988) argued that it's very easy to assume that if there has been disaster planning there will be successful emergency management. Unfortunately, research scholars showed that there are often big gaps between what was planned and what actually happens in major disasters, crises, and emergencies. The reason may propose that the preparedness planning can be poor and encourage poor emergency management.

Another reason comes from the failure to recognize that the principles of emergency preparedness planning are different from the principles of emergency management. It is unwise to assume that because emergency preparedness planning exists, management of emergencies will only require plan implementations. But preparedness planning and emergency management are not the same. Quarantelli (1996) continued his predictions based upon emergencies and disasters which have occurred. He came to the conclusion that the future is not the repeated past due to social changes that raise the probability for more disasters in the 21st century. Furthermore, scholars found that organizations plan for the future based on their experience with emergencies. The assumptions abound that disasters could be expected but never exactly repeat past occurrences. This will lead to the first lesson: *planning is not managing*.

Quarantelli's article shed some light on increasing standard of living, access of time and money which fueled the resort construction in hazardous destinations. The aging of western population also contributes to the overall vulnerability of people to disasters. This trend will be more acute when viewing the heart of hospitality. More adventurist tourists travelling internationally to the hazardous destinations are always more vulnerable to risk during disasters. Hotels in large population cities will face an increased risk of disaster if just due to an increased population. Further social diversity and bureaucracy will tend to aggravate the impact of disasters. During an emergency, homogenous communities are less vulnerable and easy to help and evacuate. The risk cannot be eliminated but society must take a realistic approach to disaster. This will lead us to the second lesson learned: *future is not a repeat of the past.*

Drabek (1995) examined the level of preparedness and evacuation planning in 185 tourist businesses to identify reasons why impact in planning and preparedness and the forces impede successful preparedness. He found that tourist businesses should plan and take the appropriate action in a case of emergency. They should resist threat denial, assign the person in charge, improve communication system with the employees and the customers, expect the needs of special populations, recognize the special need for handicaps, children, old, and families, and establish good relations with the media. Several lessons were gleaned from

Drabek (1995) research; such as: plan appropriate actions. Do not plan in regard to threat, but rather according to action. He clarified that organizations should plan for what action could be done, and not based upon what can happen. In general, the hospitality industry is not ready for disasters due to inadequate planning in line with improper management structures. The third lesson learned: *plan for action, not for situation.*

Scholars forecast the expansion of tourism in the near future based on the retirement and graying of Baby Boomer generations which is due to the impact of the size and the wealth of the hospitality industry. To improve the current stage of disaster planning within the hospitality industry Drabek advised "Through a parallel strategy, a future workshop should be designed to stimulate greater incorporation of disaster research materials and case studies into the general curricula offered by schools of tourism and hotel, restaurant, and travel administration." (1995, p.95). Quarantelli (2001) identified the problem within the scholars by clarifying that disaster studies based on statistical data and conceptual disagreements are plagued. Furthermore, many theories which lettered in the field failed to highlight the lack of established disaster criteria. This will lead us to the fourth lesson learned: *study and teach disaster and emergency management in the hospitality industry.*

Vulnerability is a core element of emergency planning. It can be described as the crossroads of risk aggravation and mitigation factors. Risk can be defined as: a dangerous chance to get injured or experience loss (Dictionary.com). A hazardous destination means a hotel will be more vulnerable to disasters and emergencies. This will give a better understanding of the formulation:' disaster occurs when hazard meets vulnerability' (Blaikie *et al.*, 1994). Laws and regulations reflect the fact that hospitality has a duty to ensure guest safety. Emergency management should maintain guest safety by enhancing and developing emergency requirements. Hotel guests will need more help and services during and immediately following a disaster than in a normal situation (Kwortnik, 2005). Emergency planning must provide the necessary basis for damage reduction. It must identify the levels of potential damage, identify factors determine such damage and action that must be taken to reduce future damage. This will bring the fifth lesson learnt: *more people are becoming vulnerable to emergencies. Vulnerability is increasing.*

METHODOLOGY

This study aims to identify emergencies which have occurred in Jordanian hotels; investigating the hotel preparation for emergencies in the past; identifying its vulnerabilities; and exploring future plans to manage and overcome the impact of such emergencies; furthermore, encountered limitation. To undertake this study, a qualitative research methodology was considered the most appropriate method to describe the existing issues related to disasters and emergencies affecting Jordanian hotels (Chaudhary, 1991). Secondary information was assembled from governmental resources. In the qualitative approach, semi-structured face-to-face interviews have been used (Riley & Love, 2000). The use of semi-structured interviews conducted between October 2013 to January 2014, with a number of pre-determined questions (See Table 1), facilitated the scientific comparison between the responses of participating interviewees (Walle, 1997). 43 key persons in charge of 36 three, four, and five star Jordanian hotels were interviewed (Sandelowski, 1995). This sample was selected using the purposeful snowball method. In regard to this method,

personal links were used to identify the most knowledgeable persons. The sample size was determined using the 'saturation criterion', mentioned by Patten (2007): "at the point at which several additional participants fail to respond with new information that leads to the identification of additional themes, the researcher might conclude that the data collection process has become saturated" (p. 152). The materials collected in this study were subjected to qualitative thematic analysis aiming to uncover the prevalent themes by identifying, describing and reporting the content of data. Results will be outlined next, featuring direct quotations to support the study's findings.

Table 1 Interview Questions

No.	Question
Q1:	Explain the types and magnitude of emergencies that occurred in this organization in the past?
Q2:	To what extent has your organization prepared for emergencies in the past?
Q3:	How did your organization manage or overcome the emergencies?
Q4:	Discuss the constraints or the limitations that your organization encountered?
Q5:	In your opinion, explain factors that would contribute to successful emergency planning in hospitality industry in Jordan?
Q6:	In your opinion, discuss barriers that impede successful emergency planning in hospitality industry in Jordan?
Q7:	How organizations/hotels could be more prepared for future emergencies?

FINDINGS AND DISCUSSION

General information

Respondents were managers in top management working in three, four, five star Jordanian hotels. All respondents clarified that their hotels have experienced emergencies in the last decade. Interview periods lasted from 13½ minutes to 1 Hour 20 minutes.

Emergencies facing Jordanian hotels

- Respondents were requested to explain the types and magnitude of emergencies that have occurred in their hotels.

The findings from the interviews revealed that Jordanian hotels were threatened by several kinds of hazards which showed a high degree of vulnerability to emergencies and political instability in the Middle Eastern region. The findings have also shown that terrorism, the Amman bombings of 2005, Libyan patient`s profile, the Arab spring revolution, financial problems, taxes, pandemics, employee turnover, black outs, fires, electric faults, low quality machines, high energy costs, the September 11 incident, the Iraqi war, regional instability, unfair competition, heavy snow, flooding, and natural threats were all identified as major emergencies currently facing

Jordanian hotels. This is consistent with Ali and Ali (2011), Sawalha *et al.* (2013) who found that the Jordanian hotels have experienced multiple disasters and crises in the last two decades. Overall, since the year 2000 to date, political instability and continued negative impacts have been witnessed. Major disasters were noticed; the Arab Revolution, the Iraqi war, and the Palestinian-Israeli conflict have all created unstable situations in the Middle East. These highly influence Jordanian hotels and create barriers which impede developmental opportunities which enhance the communities' financial situation. These findings show that these hotels, in particular, are more vulnerable to a wide range of disasters and emergencies. This is consistent with Paraskevas and Arendell (2007), and Ritchie (2004) which found that the unstable global tourism environment result in making hospitality organizations highly vulnerable to disasters and emergencies.

The findings also revealed that fires, employee' injury, poor maintenance management, low quality security machines, and weak preparations were among the emergencies facing the Jordanian hotels with negative impacts on hospitality business, related industries, and the country`s economy. Respondents also showed frustration and disappointment with the Libyan injured patient profile and the agreements conducted by the Libyan government to host and receive the injured patient's full board in Jordanian hotels. The contract stated that the Libyan government should pay the hotel claims within 14 days from the date of issuing the invoice. Unfortunately, they concluded that until now they have only received no more than 50% from their claims after a series of auditing and discounts from the Libyan committees. Furthermore, they have had to endure the high cost of energy, taxes and pressure on quality services.

Emergency planning and preparedness

- Respondents were asked to explain to what extent their hotels were prepared for emergencies and how they managed and overcome emergencies in the past.

Five star hotel respondents revealed that after the Amman bombings in 2005, a lot of preparation had been done. New safety machines and security devices have been fixed, conduction of emergency training, hiring security employees, and managing emergency plans. At the same time, respondents from the three and four star hotels complained about insufficient funds, high taxes, and high prices with low quality purchased devices. Furthermore, they had poor maintenance of their security devices. They have had difficulties when hiring security employees in the matter of their financial and management situation. Respondents also mentioned that political instability and wars in the Middle Eastern region have caused a decrease in the number of tourists visiting Jordan in the last few years. This has affected the hotel industry and threatened business as well as employees. This also gives rise to unfair competition among hotels with different star ratings. Managers have suffered from middle and low spending guests from different backgrounds and have had little experience in dealing with hotels and its assets. This is consistent with the view of Sawalha *et al.* (2013) who found that hotels have tried to apply regulations and become highly dependent on security departments. Jordanian hotels show a lack of variety for strategies and actions that could be used to mitigate, prevent, and cope

with emergencies. There is a need to show the gap between the literature and its current best practices.

- Respondents were asked to discuss the constraints that their hotels encountered when dealing with emergencies.

Findings have shown that after the September 11th incident, the government had set a lot of roles to force hotels to follow several procedures. Respondents revealed that they must install all the necessary security machines and safety devices as well as hire more security employees. This matter cost hotels a lot of money due to purchasing machines, expensive spare parts and maintenance contracts. Furthermore, the quality was found to be low. The paradoxical relation between hospitality and security was another concern. Respondents mention that hotels faced problems when it attracted security employees from military backgrounds and trained them to provide security services in the hospitality industry. Regarding the high sensitivity of hospitality to security, security employees have to know how to deal with hotel guests and maintain their satisfaction and privacy. Other issues arose in the interviews related to the guests who refused to be subjected to security checks. How hotel security employees give explanation to them and do their job effectively was a further concern. Respondents mentioned the employee backgrounds, and cultural aspects, and what is considered for quality work in hotels. There seemed to be a matter of girls, especially which led them to a higher job turn over. Furthermore, employees are not conscious enough about the hotel and tourism ethics. Inappropriate education and experience combined with bad behavior had been observed. These findings were in consistent with Sawalha and Meaton (2012) who found that cultures play a significant role in the business continuity in Jordanian companies. Also, local and regional hotels are reactive in their approach to disaster and emergency management. Sawalha *et al.* (2013) identified the cultural factors that hinder the adoption of disaster management as: the ability to learn from a past disaster, type of relationship between private and public sectors, a lack of quality infrastructure and security machines, and a lack of implementation of international standards. Finally, respondents expressed their concern about the current weak tourism markets, and the difficulties of finding new markets in the light of the Arab spring revolution in the Middle East. This is in regard to tourists thinking about their safety, thereby, search for safer and cheaper tourist destinations.

- Respondents were asked about factors which contribute to successful emergency planning in the hotel industry.

Finding have shown that Jordanian hotels lack strategies that contribute to the successful planning in order to mitigate and prevent the negative impact of emergencies. The findings also clarified the greater dependence from hotels on governmental security agents and related organizations, while some emergency plans are still not implemented or neglected by the hotels. This should fill in the gap to help explain why Jordanian hotels are still vulnerable to emergencies. Similar to these findings a discussion by Sawalha *et al.* (2013) studied best practices in disaster management. A wide range of strategies and frameworks were provided by emergency and disaster management scholars to be adopted from hotels to mitigate and lessen the vulnerability of natural and man-made disasters. They found that

Jordanian hotels seem to have a problem in the practical implementation of such strategies, focusing on the pre-emergency period rather than pro-emergency period. They noticed that funding new disaster and emergency projects have been viewed by many parties, but since it hasn't generated a direct profit it was neglected. As related to the traditional Arab organizations they also avoided implementing a new project unless it could make a short term revenue. Therefore, Jordanian hotels should adopt one or more emergency planning frameworks to improve safety and security.

Respondents discussed factors that could contribute to successful emergency planning Jordanian hotels. Effective collaboration between hotels sharing important information to update their plans, evaluate them regularly with continuous auditing is essential. The findings also emphasized the importance of effective free training within hotels and related organizations. This clarified the important role of civil defense to spread the right knowledge about plans and security systems which meet international standards. There is also a need to help hotels in fixing the systems, test it, and identify the roles of emergency employees in the case of events. Respondents also shed light on the importance of providing electric generators in the case of blackouts and four wheel drive vehicles in the case of snow storms. Handicap facilities to facilitate their stay in the hotels and ease their evacuation during emergencies were also discussed.

The findings have also shown the need to find a solution for energy problems. Respondents raised the issue that the government should find a cheaper solution and find other energy resources such as; solar systems, natural gas, and oil shale. Better collaboration between hotels and other organizations would facilitate their knowledge to transfer and adopt proactive planning in the hotels rather than solely relying on the governmental security reactive responses. The Jordan Tourism Board and the Ministry of Tourism should market Jordan as a free emergency destination among other revolutionary countries. Organizations should attract tourists from high yield categories and train human resource personnel to provide better services The Vocational Training Corporation could be a part of this solution. This is consistent with the views of Ali and Ali (2011) which have stated that JTB and other hotels should advertise Jordan in a better way. MOTA could support the hotels and provide a positive advice with travel tips issued by the Ministry of foreign affairs in Western Europe and America.

- Respondents were asked about factors which impede successful emergency planning in the hotel industry.

Based on the findings of this research, all respondents agreed that there is a lack of sufficient funds and management styles which impede emergency planning. Other respondents have mentioned that the culture and mentality of hotel guests make it very difficult convince the Jordanian and Gulf guests to subject themselves to inspections using a security stick or walk-through gates. Hotels as commercial companies are always looking for direct profits related to the company and employee culture. Factors which may lead to be absence of a sense of responsibility and ignore their duties are due to limited financial resources and high taxes. This in consistence with Al-Rasheed (2001) who found that Arab management lacks future vision and has limited insight while looking for quick revenue more than spending money on effective systems. Comparing three and four star hotels with five stars, it was shown that the five star hotels did not suffer much from such factors. One reason could be

that five star hotels are not traditional companies looking for profit only but are concerned with the safety and security of employees, guests, and properties with sufficient funds needed to install the necessary devices. They further speculated that international companies care more about safety and security for hotels and their guests. Five star hotels must meet the international cultures of the management company and the local government strategies. Furthermore, chain management irregularly sends mysterious inspectors to check the hotels to insure installing and adopting all necessary devices and procedures, evaluating the systems, and auditing properties and employees. This in consistence with Hofstede (1991) and Sabri (2004) who mentioned that Arabic culture is different from Western culture in a manner which affects the adoption of emergency management among local small and large International hotels. Also, the effects of learning from past emergencies help them to prepare well for the future (De Holan & Phillips, 2004).

CONCLUSION

Jordanian hotels have been subjected to a wide range of hazards making them vulnerable to disasters and emergencies. Political instability in the Middle Eastern region has affected Jordanian hotels. Several factors have increased the possibility for hotels to be vulnerable to hazards and emergencies; such as resilience of employees and staff, and the level of emergency preparedness in the hotel. Four points play a sufficient role to make hotels vulnerable to hazards: events, effects, resilience, and preparation. Emergency planning and preparedness by individuals, regional operations, and international hotels should not be isolated when undertaken. Planning should bridge the gap between the dependent and government plans. Proactive emergency planning for the hotels must fill the gaps between planning for guests, employees and local authorities. The finding has emphasized that political instability and the unstable situations in the Middle East and revolutionary countries have increased the vulnerability to hazards in the Jordanian hotels. Fluctuation of arrivals, affects in the industry contributes to the economy and tend to reveal the multiplier effect. Type, age, size, management styles, and experiencing emergencies earlier had a great impact on emergency planning and an affect the vulnerability to hazards. Several lessons from the past could be learnt to decrease hotel vulnerability to hazards; such as the idea that planning is not managing; the future is not a repeat of the past; plan for all types of action, not only for the situation; study and teach disaster and emergency management in the hospitality industry. Therefore, more people will now become vulnerable to emergencies as vulnerability is increasing. The findings have revealed that Jordanian hotels lack of variety of strategies used to mitigate the effects of emergencies which increase hotel vulnerability to hazards. This includes relying on security department in the face of disasters. Respondents have mentioned that employee background checks and their culture play a significant role in business continuity yet hinder the learning process from the past emergencies. Finally, Jordanian hotels are still vulnerable to hazards and emergencies regardless of their greater dependence on security departments and some unimplemented emergency plans. The practical implementation of plans is still focusing on pre-emergency rather than pro-emergency period. Therefore, hotels should adopt one or more emergency planning frameworks to improve safety and security. Effective collaboration among hotels and other related organizations with effective free

training for employees help the awareness and readiness to decrease the vulnerability to hazards.

ACKNOWLEDGMENT

The authors would like to extend their appreciation to the Universiti Sains Malaysia for the Research University Grant under the Sustainable Tourism Research Cluster entitled 'Tourism Planning' [Grant No. 1001/PTS/8660013] and for USM fellowship Scheme which made this study and paper possible.

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Attitudinal Factors Affecting the Adoption of Internet Banking Services among Small and Medium Enterprises in Yemen

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ABSTRACT

Although the wide adoption of Internet banking service in developed countries, its application is still low in developing countries like Yemen. Moreover, there is a dearth of empirical research on Internet banking services in Yemen and this makes it necessary to carry out research on adoption of Internet banking service. The purpose of this study is to examine and investigate the main factors which influence the adoption of Internet banking services by Small and Medium Enterprise (SME) managers or owners in Yemen. The research framework consists of seven latent variables, four exogenous variables and three endogenous variables. Out of 920 SME managers or owners located in Sana'a (capital city), 311 respondents (35% response rate) were eventually used to analyze the data using Structural Equation Modeling (SEM) to examine causal and mediating relationship between the latent variables. The results of the study indicate that usefulness and ease of use are significant and positive effect towards Internet banking services adoption (IBSA). It also reveals that ICT readiness, financial institution support and competitive pressure are significant and positive effect towards usefulness and ease of use. It is found that usefulness and ease of use, regulatory support are significant towards IBSA. It can be concluded that TAM is found to be a good and suitable underpinning theory to explain IBSA factors in Yemen by achievement of model goodness of fit for the GOF index. The study also discussed implications for Yemeni contexts.

Keywords: Perceived Usefulness, Perceived Ease of Use, IBSA, External factor, SMEs, Yemen

INTRODUCTION

Over the past few decades, the world has seen an unprecedented evolution of information technology (IT) which has affected life as we know it. All industrial

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sectors have been affected by this evolution, especially the services sector. In recent years, the banking industry has undergone rapid technological changes and development. As a consequence, banks have launched multiple service access methods via new delivery channels like the Automated Teller Machine (ATM) and Internet Banking Service (IBS). The growing importance of Information Systems (IS) in banks was in the establishment of a fully-fledged IBS by the Security First Network bank in the USA in October 1995 (Grandy, 1995). IBS is a new type of information system that uses the innovative resources of the Internet and allows customers to engage in financial activities through virtual space and environments (Al-Majali, 2011).

IBS is extremely beneficial to both banks and customers. The main benefits to banks are cost savings, reaching new segments of the population, efficiency, enhanced reputation and better customer service satisfaction (Nasri, 2011; Khrerwesh, 2011). IBS also offers a competitive advantage to banks by providing an unlimited distribution network. Through this technology, banks are able to provide services electronically such as lowering transaction costs and adding value to the customer-banker relationship. Internet enables banks to offer high value-financial services at lower costs (Al-Sukkar & Hasan, 2005).

In addition, Jayawrdhena and Foly (2000) suggest that IBS offers new values to customers such as reduced costs in accessing and using bank services, increased comfort and time-saving transactions that can be made seven days a week and 24 hours a day without requiring physical interaction with the bank speed of transaction. Moreover, a comprehensive IBS strategy is essential for success in the increasingly competitive financial service market. Competition and changes in technology and lifestyles have made banking more competitive and innovative. Due to the speed of technological changes, banks are forced to continuously search for alternative and innovative products and services to keep up with the rapidly changing world (Jeeven, 2000). Unfortunately, in spite of all these advantages, many customers of financial institutions have yet to embrace these technologically advanced services offered by the banking industry especially in the Middle East and in Yemen in particular (Khalel & Micheal, 2007; Al-Kibsi, 2010; Al-Majali, 2011).

Since the success or failure of IB is contingent upon the degree of its adoption, there is a need to investigate which factors influence customers' intention towards Internet Banking Adoption (IBA). This study attempts to identify and better understand these factors by focusing on the Yemeni banks' customers especially the small and medium sized-enterprises (SMEs) whereby their knowledge can help the banking industry to formulate its marketing strategies to promote new forms of IB systems in the near future in Yemen. This research tries to add to the body of knowledge in the area of technology acceptance and extends our knowledge of the factors affecting IBSA by SMEs in Yemen. Therefore, this study seeks to achieve the following objectives:

1. To explore the level of intention to adopt IB applications among SMEs.
2. To identify the important predictors of SMEs' intention towards IBSA.
3. To investigate the relationship between attitudinal factors (usefulness, ease of use, risk, trust and awareness) and intention towards IBSA by SMEs.

LITERATURE REVIEW

SMEs and Yemen Economy

Yemeni economy depends mostly on oil and the Yemeni government gets prime revenue by deducting taxes on oil industries (Mohammad & Dileep, 2012). In Yemen, SME sector is of great importance to the Yemeni economy. SMEs have been recognized as the backbone of the economy and play a significant role in generating employment, enhancing the quality of human resources and nurturing a culture of entrepreneurship as well as supporting large scale industries and opening up new business opportunities (Al-Swidi & Mahmood, 2011). SMEs are also seen as one of the suggested solutions for many economic problems related to the increasing unemployment rate. In addition, SMEs are an important and integral part of every country's economy and they have long been recognized as different from large businesses (Street & Meister, 2004). SMEs are also the fastest growing segment of most economies and are perceived to be more flexible and adaptable in terms of structure and speed of response than large organizations (Mohammad & Dileep, 2012). Most types of organizations either large organizations or SMEs depend on banks to get the financial resources required to achieve growth or even survival of their businesses (Al-Swidi & Mahmood, 2011).

Micro, small and medium enterprises (MSMEs) represent approximately 90% of the workforce in Yemen and they also contributed to 95% of the GDP in 2007 (Ministry of Industry and Trade in Yemen, 2010; Alasrag, 2010). In addition, recent estimates on the MSMEs are approximately 378,305. More than 350,138 are micro enterprises (with less than four employees) while 17,248 are small enterprises (5-9 employees). However, the medium enterprises are approximately 10,919 (between10 to 50 employees). Table 1 presents the type of MSMEs by number of employees in Yemen.

Table 1 Type of MSMEs by number of employees

Type of organizations	1-4 employees	5-9 employees	10-50 employees	Total
Service organizations	109,961	9,465	8,835	128,261
Manufacturing organizations	39,227	3,848	1,172	44,247
Trading organizations	200,950	3,935	912	205,797
Total	350,138	17,248	10,919	378,305

Source: Ministry of Planning and International Cooperation, Central Statistical Organization in Yemen, (2012)

Internet Banking Services available in Yemeni Banks

In Yemen, IBS is provided by five banks namely, the Yemen Gulf Bank, Arab Bank, CAC Bank, Yemen Commercial Bank and International Bank of Yemen (CAC Bank, 2011; Zolait, 2009). These banks provide customers with common services such as balance inquiry, annual statement of account, account-to-account transfer, account to another account transfer and request for check book and change of pin code. Table 2 shows IBSs available in Yemeni banks.

Table 2 Internet Banking Services available to Customers in Yemen

No	Bank Name	Internet Services
1	Yemen Gulf Bank (YGB)	Balance inquiry, currency rate inquiry, check book request, statement & request online, fixed term deal inquiry, change of pin code, account to account transfer, A.T.M. card stop, cheque stop
2	Arab Bank (ABY)	Balance inquiry, annual statement of account, account to account transfer, account to another account transfer, request to have a cheque book, payment withdrawals of credit card
3	Yemen Commercial Bank (YCB)	Balance inquiry, annual statement of account, account to account transfer, account to another account transfer, transfer in different transfer recharge one's phone with units, request to have a cheque book, inquiry about letters of credit, exchange rate inquiry, difference in foreign currencies, change the pin code
4	Coop. Agricultural Credit (CAC) Bank	Balance inquiry, transfer indifferent transfer recharge one phone, annual statement account, account to account transfer, account to another account transfer, payment withdrawals of credit card, request to have a cheque. inquiry letter of credit
5	International Bank of Yemen (IBY)	Balance inquiry, account to account transfer, account to account another transfer, payment withdrawals of credit card,

Source: Zolait, (2009); Homaid, (2010); CAC Bank (2012)

The Benefits of Internet Banking Adoption by SMEs

Pikkarainen, Karjaluotoand Pahnila (2004) found that IB has two fundamental reasons for development and diffusion. First, banks get notable cost savings as offering IB services and an IB channel is the cheapest delivery channel for banking products once IB is established. Second, banks have reduced their branch networks and downsized the number of service staff which has paved the way to self-service channels as many customers feel that branch banking takes too much time and effort. Therefore, time, cost saving and freedom of place have been found to be the main reasons underlying IB acceptance. For the companies, as stated by Shamim and Sardar (2010), the Internet provides a platform for purchasing products and using IB services and for running the business inside and outside the organization. They further add that all companies regardless of size are using the Internet as a source to provide their customers with products. Alam (2010) argue that firms have much greater motivation to use e-commerce or IB than consumers because it offers many benefits such as improved efficiency, massive cost saving in transaction costs and flexible relationship with key business partners. There is also evidence to suggest that the Internet has increased international opportunities for SMEs. According to Williams (1999), Internet technologies can:

1- Increase the ability of a small company to compete with other companies both, locally and foreign.
2- Create the possibility and opportunities for more diverse people to start a business.
3- Offer appropriate and easy way of doing business transactions (not restricted to certain hours of operation, virtually open 24 hours a day and seven days a week

Technology Acceptance Model (TAM) and IBSA

The Technology Acceptance Model (TAM) is one of a number of studies that has helped in providing a theoretical framework for research in the adoption of information technology over the last two decades (Davis, 1989). TAM was proposed by Davis (1989) and has been found useful in predicting intention and usage of IB in previous studies (Eriksson et al., 2008; Han & Suh, 2002; Lai, 2007). The main purposes of TAM are to search in detail customers' acceptance and why the customers accept or reject the electronic banking system.

TAM has been used extensively as the basis of a range of empirical studies (Muhammad & Khalil, 2011). .

Internet Banking (IB)

IB or online banking can be defined as "the service that allows customers to perform banking transactions using a computer with an Internet connection" (Lloyd, 2007: p. 67). Lloyd (2007) explains that these transactions include checking the balance in one's bank account, transferring funds between accounts and bill payment. Pikkarainen et al. (2004: p. 230) define IB as "an Internet portal used by customers for different kinds of banking services ranging from bill payment to investments." IB has been defined as the use of the Internet as a remote delivery channel for banking services and IB is defined as a bank that offers transactional services via the Internet (Lee, 2000).

Intention towards IBSA (Dependent Variable)

Adoption intention is defined as an individual intention to use, acquire or purchase a high technology innovation (Rogers, 1983). In this study, the researcher chooses intention towards IBSA as a dependent variable for some reasons. The first reason refers to the actual behavior which is difficult to measure due to many uncontrollable factors that may interfere with the performance of the actual behavior. Secondly, many researchers used adoption intention as the ultimate dependent variable in their models (Tan & Teo, 2000; Wang et al., 2003).

Attitudinal Factors

The Relationship between Perceived Usefulness and IBSA

Perceived usefulness can be defined as "the extent to which a person believes that using the system will enhance his/her job performance" (Davis, 1989: p. 320). Another definition by Bagozzi, Baumgarther and Yi, (1989) state that the perceived usefulness is the subjective probability that a user will increase his productivity using a specific application in his work; this application will help him to do a better and

more efficient job. They also found a direct effect of usefulness on adoptive attitude and intention to adopt technology. Han and Suh (2002) discussed the relationship between the perceived usefulness factor and bank clients' attitude in Korea. The study shows that the perceived usefulness factor significantly and positively affects the attitudes of those clients. Therefore, the following hypothesis is formulated:

H1: Perceived Usefulness has a positive influence on intention towards IBSA.

The Relationship between Perceived Ease of Use and IBSA

Perceived ease of use implies that accessible routines can be practical to the condition at hand. According to Davis (1989: p. 320), perceived ease of use is defined as "the extent to which a person believes that using the system will be free of effort." He also illustrates that customers will be more willing to adopt the new technology when it is easy to use. Several past studies discussed this relationship in different technological setting, such as the mobile online services, education online services, e-filling of tax system, online purchase services and other new technology services. Al-Hajari, (2008) suggests there are three main issues related to perceived ease of use in Omani banks: easy to manage, easy to use and easy to learn. The researcher also concludes that the difficulty of navigating on the Internet was highlighted by Omani bank managers. Another study by Homaid (2010) found that perceived ease of use has a negative impact on behavioral intention to use IB. Thus, the following hypothesis is proposed:

H2: perceived ease of use has a positive influence on intention towards IBSA.

The Relationship between Perceived Trust and IBSA

Trust is an important factor in many social activities, involving uncertainty and dependency. One main reason for the importance of trust in e-commerce activities is the fact that in a virtual setting the degree of uncertainty of economic transactions is higher than in traditional settings (Rotchankitumnuai & Spesce, 2007). Trust is one of the factors in many studies that have attracted major interest in the academic society. This is due to the fact that trust is considered as a strategic factor in current marketing (Ahasanul Haque et al., 2009). On the other hand, McLeod, Pippin and Mason (2009) found that trust of privacy has an insignificant and negative effect on intention to use tax preparation software. Furthermore, Nel (2013) conducted a study in South Africa on 750 customers of cell phone and Internet banking. The result of the study revealed that trust perception has insignificant and negative influence on convenience and perceived usefulness. Hence, the following hypothesis postulated:

H3: Trust has a positive influence on intention towards IBSA

The Relationship between Perceived Risk and IBSA

According to Graber, Krauter and Faullant (2008: p. 495), perceived risk is defined as "uncertainty which primarily relates to potential technological sources of errors and security gaps." Norazah (2010) define perceived risk as the consumer's subjective expectation of suffering a loss in pursuit of a desired outcome reported that perceived risks of innovation are inversely related to adoption in telephone based

direct banking services. Another study was conducted by Al-Majali (2011) on 537 universities staff in Jordan. The findings of the study show that the relationship between risk and customers' attitude towards IBSA in Jordan significantly and negatively influenced the use of IB. He also mentions that several researchers suggest that high levels of perceived risk are considered to be a barrier to adopting new innovations. Therefore, this study hypothesizes a negative relationship as follows:

H4: perceived risk has a negative impact on intention towards IBSA

The Relationship between Awareness and IBSA

Rogers (1983: p. 453) defines awareness of innovation when an "individual is exposed to the innovation's existence and gains some understanding of how it functions" while Sathye (1999: p. 325) defines awareness of innovation as "understanding whether the customer is aware or not of the service itself and its benefits. He also notes also that low of awareness of IB is the most critical factor negatively affecting IBA. In the same vein, Al-Majali (2011) indicates that the importance of awareness for the adoption of any innovation by increasing the awareness levels of innovation of e-commerce among users has been identified as a major catalyst to encouraging the adoption of electronic technology. Therefore, the following hypothesis is formulated:

H5: Awareness has a positive impact on intention towards IBSA

Type of the Organization (Moderating Factor)

The type of organization or nature of an organization's business is a moderator factor in this study. Therefore, business type is defined as the geographic extent of the organization's operations. It has been used to classify business organizations in terms of the nature of business. A study has done by Voges and Pulakanam (2010) show that business type not only has an impact on the number of Internet users, but also on the level of perceived benefit. This study also found that the type of business operation influences the type of technology solutions that are appropriate for the firm and that are actually used by the firm. Additionally, a study in Mauritius concludes that the relationship between the sector of operations and usage were statically significant. This study also reveals that the manufacturing sector was the better sector to adopt IB compared to the service sector (Padachi et al., 2010). Therefore, type of organization is a positive moderator between attitudinal factors and intention towards IBSA. Given that, the researcher hypothesizes that:

H6: Type of organization positively moderates the relationship between attitudinal factors and intention towards IBSA.

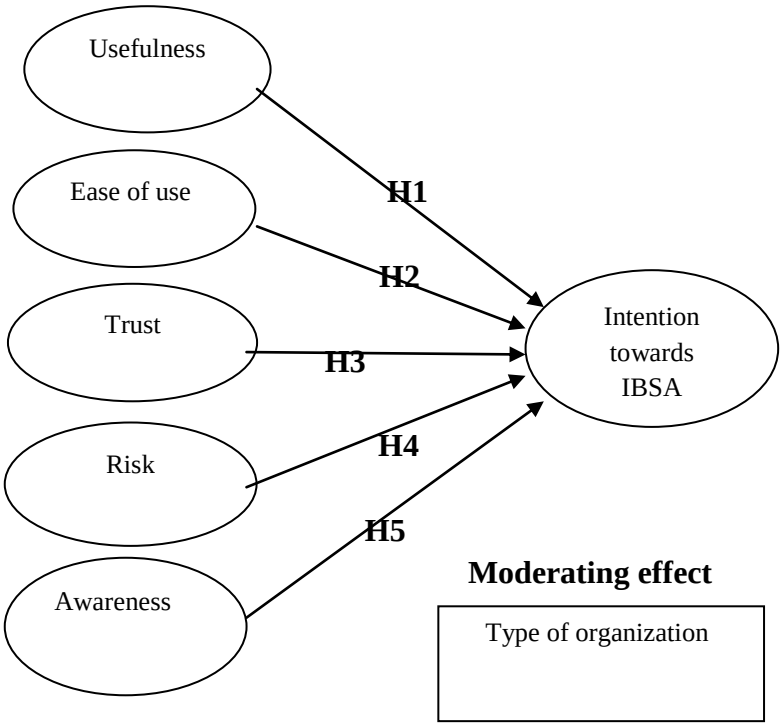


Figure 1 Conceptual Framework

METHODOLOGY AND ANALYSIS

Sampling Frame

SMEs were selected by referring to the official SMEs list published by the Ministry of Industry and Trade (MIT). Official SMEs have commercial registers for practicing business. The number of SMEs in Yemen is around 28,167 enterprises. Small enterprises are those companies that employ between 5 to 9 employees and have a capital between $5,000 and $100,000. However, medium enterprises are those companies that employ between 10 and 50 employees and have a capital of less than $5,000,000 (Ministry of Planning and International Cooperation, Central Statistical Organization in Yemen, 2012; MTI, 2012).

Sample Selection

Data was collected via a self-administrated questionnaire survey using convenience sampling. Accordingly, the study found that the conveniences sampling was used and random drawn as a customer's entered the banks. The study found that the convenience sampling method is widely used in the previous studies of ISBA such as (Sathye, 1999; Pikkarainen et al., 2004). Since the major banks which are endorsed by CBY have their headquarters in the captial city Sana'a, the romdom sample will be drwan from vistors to the headquarters if the banks in this. The researcher obtained a formal cover letter from postgrduate studies (IIUM) and Ministrty of high education, the student's acadimic sponser.

The total number of distributed surveys questionnaire was 920. Of the 920 surveys, 377 questionnaires were returned which represent approximately 40%

response rate. Due to large cases of missing values, 55 questionnaires were excluded from the analysis and thus, a total of 322 usable questionnaires were utilized.

Reliability and Composite Reliability

This study shows two types of reliability were conducted. The first type is Cronbach's alpha via the use of SPSS 18.0 and the second type is composite reliability (CR). The current study indicates the reliability (Cronbach's alpha) value ranged from 0.781 to 0.929 while composite reliability (CR) values ranged values ranged from 0.737 to 0.931. Therefore, all values for reliability and composite reliability constructs were greater than the recommended value of above 0.60. Table 4 below presents reliability (Cronbach's alpha) and composite reliability for the constructs.

Table 4

Cornbach's alpha and Composite Reliability for the Constructs

Name of Construct	Construct code	Number of items	Cronbach's alpha	Composite Reliability
IBSA	IBSA	4	0.904	0.907
Perceived Usefulness	PU	4	0.874	0.877
Perceived Ease of use	PEOU	4	0.781	0.737
Trust	Trus	5	0.896	0.897
Risk	Rsk	5	0.875	0.855
Awareness	Awa	4	0888	0.892
ICT Readiness	ICT	3	0826	0.856
Regulatory Support	RS	7	0.929	0.931
Financial Institutions Support	FIS	3	0.821	0.830
Competitive Pressure	Comp	3	0.787	0.764

Confirmatory Factor Analysis (CFA)

The first purpose of conducting CFA was to exclude any scale item or latent factor that was not well fit and thus create the best possible measurement model. The second purpose of performing CFA was to test reliability, validity and unidimensionality of multi-item measures.

CFA analysis method was used to examine convergent validity for each variable. In addition, CFA contains several functions; these functions include testing the loading factors in every construct, estimating the measurement error in framework and confirming the instrument themselves are related to the latent variables. Therefore, CFA is deployed to determine the set of factors and construct loading items confirm the requirement that is needed to measure (Bollen, 1989).

Measurement Model

As mentioned earlier, CFA analysis method was employed to test convergent validity for each variable. Moreover, the following sections explain CFA for exogenous and

endogenous variables together. This study examines five exogenous variables which are: perceived usefulness, perceived ease of use, trust, perceived risk and awareness on one endogenous variable which is intention towards (IBSA).

Final model showed the ratio of the chi-square to the degree of freedom was 1.478, less than 2 and RMSR was 0.038 less than 0.10 indicates a good model fit as well as the RMSEA was 0.039, less than 0.08 which is considered a good fit (Hair, et al, 2006). Also other measures indicated the GOF of the model to the data (CFI = 0.970, IFI= 0.970, TLI= 0.966) which indicate that the model employed in this study is a good fit to data (Schumacker & Lomax, 2004 and Lee et al., 2007). Table 3 presents the resulting statistical estimate of measurement model for exogenous and endogenous variables. Figure 2 shows measurement model for exogenous and endogenous variables.

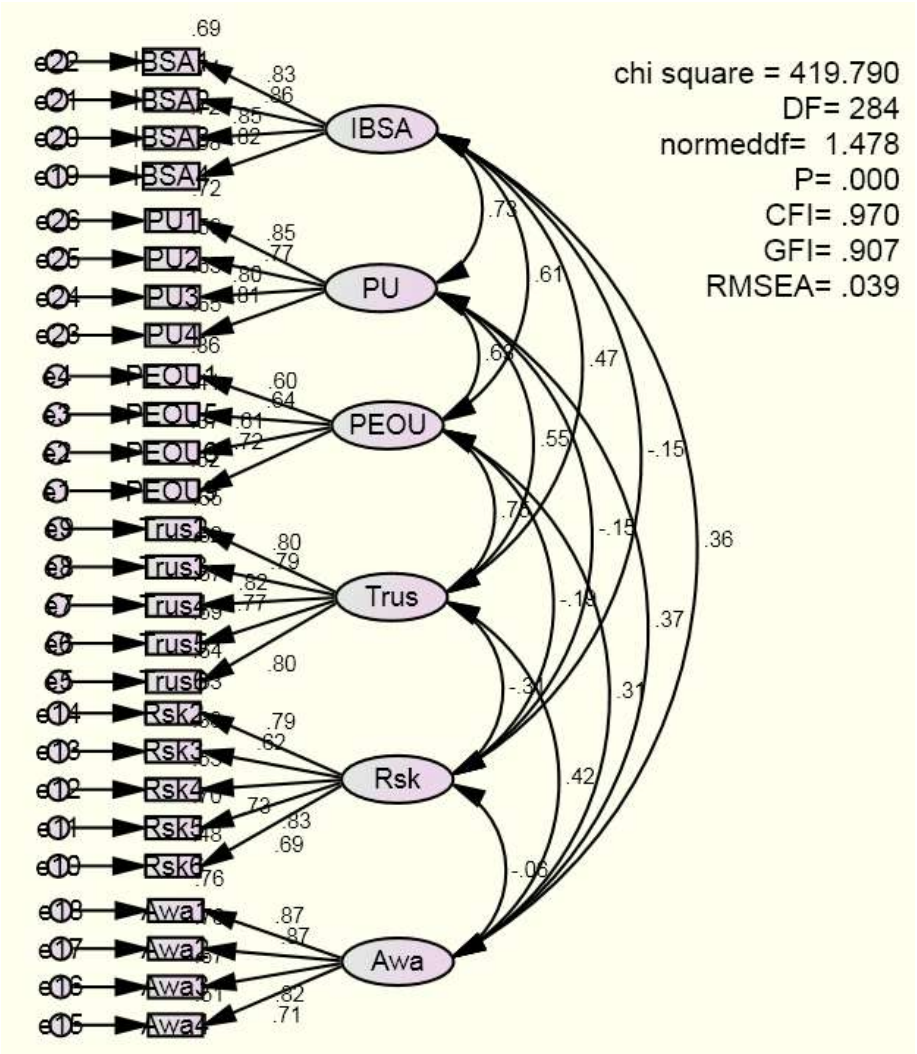


Figure 2 Measurement Model for the Variables

Structural Model

This study was conducted to test five direct hypotheses as discussed earlier. The hypothesized model includes perceived usefulness, perceived ease of use, trust, perceived risk and awareness on intention towards IBSA. The aim for the hypothesized model is to test the relationship among constructs which is assessed by GOF such as (NFI ratio, IFI, TLI, CFI, NFI RMSEA, GFI, AGFI) which were carried out to test if the constructs fit the data.

Table 5 below shows the results of the structural model. The value for the normed χ^2 is 2.056. Furthermore, (CFI = 0.929), (IFI = 0.929), (TLI = 0.921), which is fit the data well and the results also shows that (RMSEA = 0.058) less than 0.08. Figure 3 indicates the structural model (Goodness of Fit Indices).

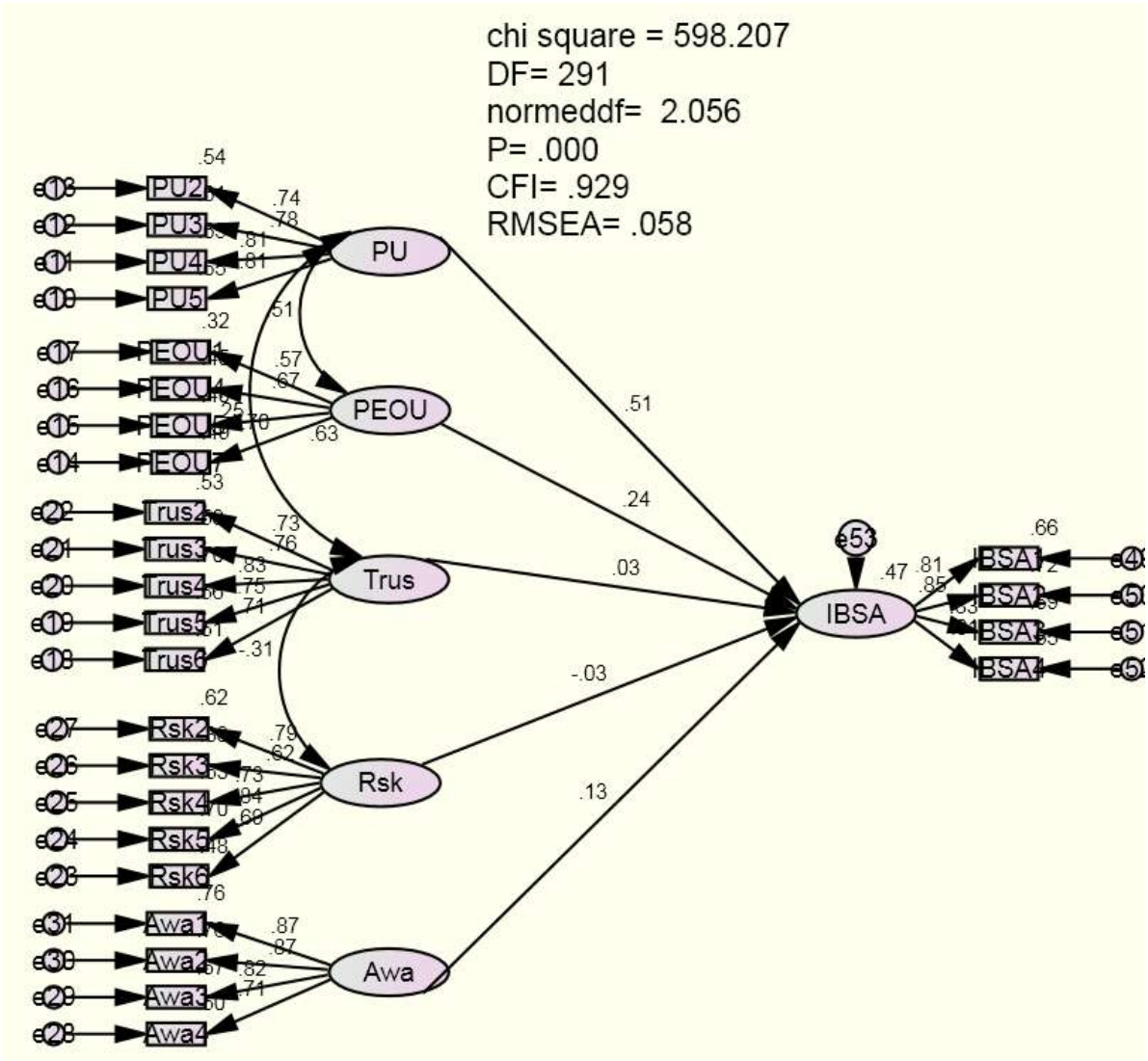


Figure 3 Structural Model with Standardized Estimated

Table 5

The Results of the measurement and structural Model (Good-of-Fit Indices)

Indictors	Measurement Model	Structural Model	Acceptable value
Absolute fit indices			
Normed χ^2	1.478	2.056	Less than 2
Incremental Fit Indices			
CFI	0.970	0.929	More than 0.90
IFI	0.970	0.929	More than 0.90
TLI	0.966	0.921	More than 0.90
Parsimonious Fit Indices			
RMSEA	0.039	0.058	Less than 0.08
P-value	0.000	0.000	

Source: Author's computation (2014)

Hypotheses Results

The findings of empirical study showed five hypotheses related to the aim of this study were tested. Out of five hypotheses that are related to the direct path between the variables, three hypotheses were accepted and two were unaccepted. Table 6 below shows hypotheses testing results of structural model.

Table 6

Hypotheses Testing Results of Structural Model

Hypotheses	Exogenous Variables	Endogenous Variable	Std. Estimates	C.R	P-Value	Result
H1	PU	IBSA	.500	6.863	0.000	Supported
H2	PEOU	IBSA	.309	3.367	0.000	Supported
H3	Trus	IBSA	.029	.456	0.646	Unsupported
H4	Rsk	IBSA	-.029	-.571	0.568	Unsupported
H5	Awa	IBSA	.124	2.483	0.013	Supported

Moderating effect of Organization Type

Table 7 below shows the structure invariance of the organization type of respondents. To test the type of organization invariance, a simultaneous analysis based on trading and services organizations grouping was conducted. In this regard, the path coefficient (Attitudinal Factors IBSA) was constrained to be equal to each other across the groups (trading = n1= 179) and (services = n2 = 132). The results show **Δ** χ^2 value (17.369) is higher than χ^2 critical value (15.086) at P<0.01. Therefore, organization type moderated the relationship between attitudinal factors and intention towards IBSA. This is because the path coefficient interacted with the attitudinal factors and intention towards IBSA. The path coefficient of trading organization

group was greater than of services organization group (0.81 and 0.47 respectively). Therefore, the impact of attitudinal factors on intention towards IBSA is greater with trading organizations. Hypothesis (H11a) is thus accepted. Table 6 shows the results of multiple-group modeling (unconstrained and constrained model of organization type invariance for attitudinal factors).

Table 7
Results of Multiple Group Modeling (Organization Type)

Hypotheses	Model	χ^2	df	Critical value	$\Delta\chi^2$	Sig.
Attitudinal Factors (H11a)	Unconstrained	858.195	598			
	Constrained	875.564	603	15.086	17.369	S

P< 0.01
S= Significant

DISCUSSION AND CONCLUSION

The first research objective aims at describing the level of intention to adopt IB among SMEs in Yemen. Study on behavioral intention creates an essential basis for predicting purchase intention (Fishbein & Ajzen, 1980). Actual usage is difficult to measure due to some factors that are difficult to control such as time between intention and actual behavior (Fishbein & Ajzen, 1980).

Although, the majority of the respondents did not adopt IBS, the findings indicated that the SMEs in Yemen have higher level of intention towards IBSA in their business. Approximately 47 percent of the total variance on the intention towards IBSA was explained. It can be seen that almost 80 percent of SMEs at least agreed with the intention towards IBSA. This result can be driven from the calculated mean from one-sample test which equal to 3.83 out of a maximum of 5. The most significant path in the model is between perceived usefulness and intention towards IBSA which suggests that the respondents in developing countries especially in Yemen are driven to accept the new technology mainly on the basis of its usefulness by perceiving relative advantages. This implies that SMEs have the intention to adopt IB by increasing their productiveness and productivity and improving the SME business. Ease of use plays an important role in the SMEs' adoption of IB in Yemen. This study finds that perceived ease of use had a positive and significant effect on intention towards IBSA. According to the study's findings, bank customers found that IB requires a certain minimum level of technical experience and competence. Moreover, the findings of the research show awareness was considered an important factor that influences intention to adopt IB among SMEs in Yemen.

On the other hand, the results also show that trust had no significant effect on IBSA. This is because the managers/owners of SMEs were confident in their banks but their confidence in technology was weak particularly the safety of their financial transactions via the Internet. As noted from the findings, SMEs felt that the use of IB is risky and may lead to lost of money. Moreover, most of the bank customers

believed that other people might get access to information about IB transactions and aspects such as security and privacy are not guaranteed when using IB.

Besides the academic implications of this model, the findings also suggest. This study is the first attempt to determine the factors that influence the intention of managers/owners of SMEs in Yemen to adopt IB. Therefore, the findings of this research have several valuable implications for banks and other organizations on e-commerce and e-business in the Yemeni context. This study also proves that managers/owners' attitude is influential in shaping their organizations' intention to adopt IB. This study has some limitations that can be addressed in future research. First, this study discussed a few factors of IBSA and disregarded other factors such as the cost, self-efficacy, security and privacy, culture and others. Second, this study targeted only small and medium organizations in Yemen. Thus, the results of this research do not reflect the behavior of other sectors such as large organizations or individual customers.

IMPLICATIONS OF THE STUDY

Implication for academic research and practice

The findings of this study have several implications on academic research. First, the extended TAM model is applicable to developing countries with different degrees of explanatory power. The success of the combined model of trust, perceived risk and awareness in the TAM is evident from the findings of the study. Second, the extended TAM model can be employed to explain other online behaviour such as e-business, e-shopping, e-commerce, e-government and other electronic activities of these organizations

The findings of this research have several valuable implications for banks and other organizations on e-commerce and e-business in the Yemeni context. First, the findings of this study found that the attitudinal factors influence the intention of managers/owners of SMEs in Yemen to adopt IB. Second, the major contribution of this research is statistically validating the factors influencing SMEs' adoption of IB. Thus, it can be predicted that SMEs with greater perceived usefulness, perceived ease of use and awareness are more likely to become users of IB. Third, this study emphasized on the role of organization type (trading and services) as significant moderator in the adoption of IB; this means trading organizations are willing to adopt IB more than services organizations. Therefore, Yemeni banks need to be proactive to identify the differences that may affect IBSA in trading and services organizations.

Limitation and future research

This study has several limitations that can be addressed in future research. First, this study discussed a few factors of IBSA and disregarded other factors such as the cost, self-efficacy, compatibility, culture and others. Second, this study targeted only small and medium organizations in Yemen. Therefore, the results of this research do not reflect the behavior of other sectors such as large organizations or individual customers. In addition, the interview with non-users and users will explain more in-depth insight on the reasons behind the non-adoption and adoption of IB. This should provide a significant research area in the future.

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Determining the Criteria to Measure Successful University-Industry Collaboration, Particularly during Development Research Stages

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ABSTRACT

Nowadays, to develop product innovations with less operational cost and become more competitive in market environments, companies find the external institutions such as university to work together for R&D purpose. There are three different stages in performing R&D such as basic, applied and development research. Development research refers to the research stage to improve, or produce new products or services that based on knowledge which generated from conducting basic or applied research. This study aims to determine the types of criteria to measure successful university-industry R&D collaboration particularly during development research stages. The reason behind this is few studies still discuss on success criteria and do not have solid criteria to measure university- industry collaboration, particularly during development research stages. This study conducted semi structured interviews with the leaders from universities and industries that have experience involving in R&D collaboration project during development research stages. The findings show that all the respondents believe, the main important criteria to measure successful collaboration in development research stages is products, while industry researchers mention that time and budget as other important criteria to measure successful collaboration. Determining the criteria is really important to set a guideline in measuring successful collaboration, thus the partner will increase their understanding about the criteria used by other partners to define a collaboration project as success.

Keywords: Research & Development, Success, University-Industry Collaboration

INTRODUCTION

According to MASTIC (1998; 2008); Czarnitzki *et al.* (2008) and Shapiro (2013) R&D is divided into three stages which are basic, applied and experimental research. Instead of *experimental research*, Shapiro (2013) uses the term *development research*. Mastic (2008) defines the development research as activities to improve or produce new equipments, processes, materials and systems through exploit the

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knowledge generates in basic or applied research. Czarnitzki *et al.* (2008) indicate that development as activities that exploit the knowledge produces from research activities to create new products. Meanwhile, Shapiro (2013) defines the development research as a stage that researchers develop the technologies discover into a product. In this study, collaboration during development research stages is based on both partners from universities and industries that work together to improve existing or produce new products.

The success of a collaboration project can be determined through the objective that the researchers stated to achieve, in the beginning of project development. Based on the reviews of past studies, there were several limitations or gaps that should be reduced in the success criteria of university-industry collaboration. Previous studies were also not focusing on university-industry R&D collaboration particularly during development research stages, thus conducting this study can increase the information regarding this area and reduce the gaps of research. Besides, the perceptions regarding the criteria to measure the successful R&D collaboration that received from both collaborating partners are still few. According to the reviews, there are still limited numbers of studies have been discussed on the types of criteria based on both R&D collaboration partners' perceptions. Thus, this study will determine the criteria from both sides that involved in R&D collaboration. Recently, in Malaysia there is an increment in the number of scholars study on determination of success criteria in university-industry collaboration such as Abeda *et al*., 2011; Raj Kumar., 2011; Chin *et al*., 2011; Rast *et al*., 2012. There are some limitations that need to be improved such as most of the researches focused only from university point of views. On the other hand, Chin *et al*., 2011 are based on both collaborating partners view but limit their studies just on SMEs scope. In Abeda *et al*. (2011) the scope of study is limited to university admin and PhD students in UTM , Rast *et al.* (2012) also focused on academics in UTM while Raj Kumar, (2011) study based on academics in a private university.

A study conducted by Perkmann *et al.* (2011) stated that existing literatures have focused on university success factors and barriers involved in collaborating but do not provide a comprehensive framework to evaluate their performance. In term of success criteria, a few studies have been focused on university-industry collaboration. Based on Dunowski *et al.* (2010), assessing the successful university-industry collaboration is difficult or challenging and still do not have any solid success criteria to evaluate university-industry collaboration. The existing literatures explained about the organizations' success criteria without specifying on the university-industry collaboration (Perkmann *et al*., 2011). For example, some of the scholars focused on success criteria of industry projects performance such as Sadeh *et al.* (2000), Nelson (2005) and Shenhar *et al.* (2001). These types of criteria can be adapted in university-industry collaboration concept. This study summaries all the criteria and tries to implement them in university-industry R&D collaboration environment, particularly during development research stages.

Based on environmental study of a firm for new products development, previous researchers discussed on the criteria to measure the performance which focused on after - products launch into the market. Usually the criteria used by the researchers are the financial and customer satisfaction from using the products. However, the study that explains the criteria to measure the performance during the stage of developing new products before that product enter the launch stage such as idea generation, concept development and product development is still limited or

difficult to determine (Tan & Amran, 2011). This is supported by Van Eersel (2011) which states that there is still limited numbers of studies explain on the criteria to measure the success during each stage in the new product development process.

Due to the above gaps and limitations, this study aims to determine the types of criteria in evaluating the successful university-industry R&D collaboration particularly during development research stages. The success can be determined based on the objectives that the collaborating partner's aim to achieve from the established R&D collaboration between university and industry (Mora-Valentin *et al*., 2004). Determining the criteria is really important in order to become a guideline to measure a successful collaboration. This research can help to specify the criteria to evaluate successful R&D collaboration especially during development research performance based on universities and industries perceptions.

LITERATURE REVIEWS

The success of university-industry R&D collaboration has defined based on the shareholders (university, industry and government) perceptions. The objectives stated by both partners to achieve from established collaboration can be considered as the criteria to evaluate R&D collaboration success. This is supported by Wit (1988), where the success of a firm's projects can be determined based on the objectives that willing to achieve. Success criteria are determined to measure the effectiveness of collaboration and these criteria will lead to produce the effective tangible outcomes (Abeda *et al*., 2011). According to Nelson (2005), success means the project is finished according to the schedules and budget allocated. While, based on Faber (2001) to conclude the definition of success in collaboration is a difficult task. Usually, the researchers implement variety of criteria to measure the success of a collaboration projects in developing new products. There were some researchers who used the projects time and goal achievement as the criteria to measure successful collaboration in new product development. A few studies have focused on both institutions perceptions (Chin *et al*., 2011) while most studies have focused on university (Abeda *et al*., 2011, Rast *et al*., 2012, Raj Kumar, 2011) or industry (Dunowski *et al*., 2010; Perkmann *et al*., 2011; Okumora, 2007) perceptions toward the criteria used to define successful university-industry collaboration.

A study in Malaysia conducted by Keun *et al.* (2009) analyze about the success of university-industry collaboration environment among firms within three fields which are biotechnology, automotive and electronic. The study shows that the proportion of project collaborations between the firms in these fields and universities recorded or estimated to be successful are 94.8%, 42% and 80.6% respectively. The summary of the results which involve all samples in their study shows that 62.6 % of projects involved university sectors as partners are implemented successfully. This study is almost as same as their study conducted in Korea that based on firm perceptions; the result indicates that more than 60% of collaboration projects are successful or estimated to be implemented successfully. To explain how the successful of collaboration will be measured, this study tries to identify the criteria usually used by both partners to define successful university-industry R&D collaboration.

The results of the study toward researchers that involved in collaborating activities shows that the success of projects collaboration can be determined based on the outputs produced such as number of publications, new products, processes,

technologies and patents (Barnes *et al*., 2002). Measuring the performance of R&D collaboration through the types of outputs produced also supported by Chin *et al*. (2011). They evaluated R&D based on tangible and intangible outputs generated from established R&D collaborations. Results explained that universities have established collaborations with industries to increase the number of doctoral graduates based on market requirements. Besides, the university researchers also indicate that some of tangible outcomes generated from collaboration activities such as publications, solution concepts and develop new research outputs as the important criteria. According to this study, the results also show the creation of knowledge, problems solution and finding satisfaction as intangible outcomes that used to measure R&D collaboration between both collaborating partners. On the other hand, industry researchers indicate that the ability to assess the technology that lead to enhance their commercialize activities and become competitive in the market environments as the intangible criteria in measuring the R&D collaboration.

Besides that, Abeda *et al*. (2011) proposed a new model which recognized as CASEM Model in order to evaluate the success criteria for research collaboration between university and industry. According to CASEM model, the respondents indicate that the number of projects, number of research papers, hiring of recent graduates, similar objectives, mutual perceptions, strong commitment, scholarship and exchange of information as the best criteria to determine the successful research collaboration between both collaborating partners. Additionally, Perkman *et al*. (2011) developed a success map in order to measure the successful collaboration. They determine 4 stages which are input, process, output and impact. Every stage has the criteria that used to measure the performance of each stage. According to their study, the success of each stage is based on the previous stage performance. Study shows that the successful collaboration can be measured through the number of new projects, number of solution concepts, and number of innovations, human capital, patents, publications and staff learning. For university, the journal publication used to measure the quality of academic in performing research activities. The citation provided by the ISI Science Citation Index can be used to measure the performances. In term of technological outputs generated through university-industry collaboration, patents can be used as criteria to evaluate the performance of collaboration. They also developed some metrics in order to assess the success of staff such as the number of doctoral and postdoctoral offer in alliance and number of co-supervision arrangement between company and university.

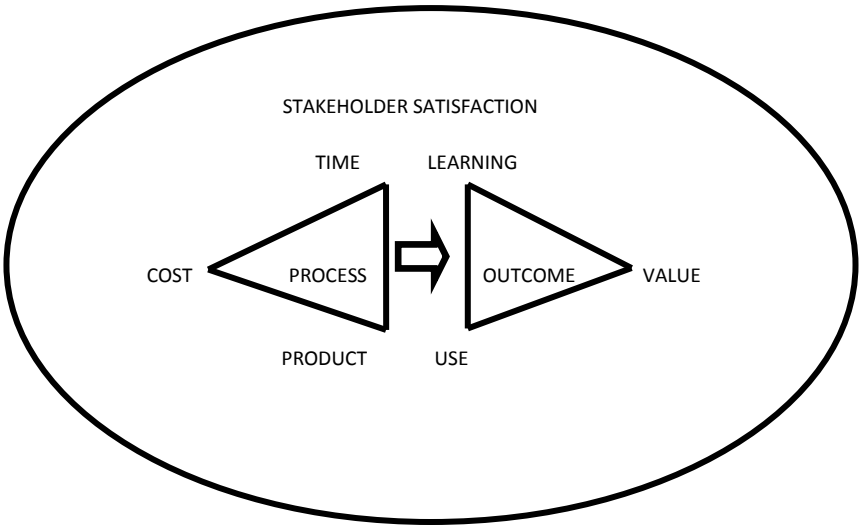
Furthermore, successful R&D projects also can be measured based on the technology and commercial success (Okamuro, 2007). This study focuses on SMEs firms in Japan. From SMEs perspectives, the technology can be measured through patents application, while commercial is based on the growth of sales generated through market the collaboration outputs. 38 percent of firms achieved the technological success while 43 percent of firms achieved the commercial success through established collaboration. Result indicates that, when a firm establishes collaboration with other business partners, it leads to have a positive relation in achieving commercial success but the result shows negative relationship when the collaboration is implemented with university or public research institutions (Okamuro, 2007).

A study conducted by Rast *et al.* (2012) focused on design a model to evaluate the criteria of success for research and technology collaboration between university and industry in Malaysia. This study is based on university perceptions

and the authors determine the criteria according to 5 types of research and technology collaborations which are consulting, R&D agreement, licensing, spin off companies and contract research. For example in order to measure the successful R&D projects, they used indicators like value related to R&D, access for technology equipment, number of R&D agreement, client and publication. According to them, each project has its own criteria of success.

As stated in Dunowski *et al.* (2010), result determines that time, cost and quality are the most famous criteria used by firm to measure the successful university-industry collaboration. These criteria also agreed by some researchers that focused on industry projects performances such as Atkinson (1999), Shenhar *et al.* (2001) and Nelson (2005). These studies determine the criteria based on the successful industry project without specifically focus on university-industry R&D collaboration. These types of criteria can be adapted in university-industry R&D collaboration environments. This statement is supported by a study conducted by Perkmann *et al.* (2011), where the criteria to evaluate university-industry collaboration are similar to the firm internal projects that are not involved in the university or other institutions as their partners.

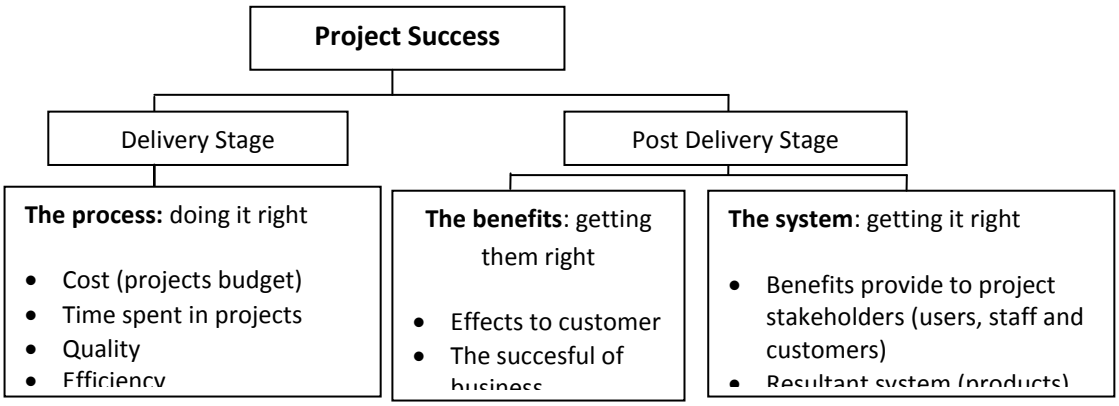
A project should not over the time limit and should be completed within the stated duration, project follow the budget spent, create high quality of products and achieve the specification that will be accepted by the target consumer can be considered as successful company projects (Nelson, 2005). In this study, the data gains based on the perception of IT projects stakeholders toward the two types of success criteria which are process related and outcomes related. According to the analysis, the criteria preferred by the stakeholders (projects manager and team members) is more on process related criteria such as completing the projects on time and produce products that required by the targets market. However, the top management and project sponsors focused on outcomes related criteria in measuring the success of projects. The important criteria indicated by both stakeholders are valuable which means the project can be helped to increase the effectiveness and efficiency of their customers. High level of value provided to the client will lead to creating successful collaboration. In contrast, the customers prefer more on the usage of the products as criteria to measure the success of a firm's projects. The result also summaries that the stakeholders perception shows that they determine products, use and value as the most famous or important success criteria use in measuring the project success while learning indicates as the least moderate important criteria. Below shows the model developed by Nelson (2005) in order to evaluate successful firm project.



Source: Nelson (2005)

Figure 1 Project's success criteria

In a research implemented by Atkinson (1999), the criteria of success project has divided into two stages which are "delivery stage" (the process: doing it right) and "post delivery stage" (the benefits: getting them right and the system: getting it right) (refer to figure 2). The criteria that implemented in this study can be used to measure the successful projects. Cost, time and quality has known as the iron triangle and this criterion is agreed by several researchers in ordering to measure the success projects.



Source: Atkinson (1999)

Figure 2 Atkinson's Model of Criteria to Measure the Successful Projects

Shenhar *et al.* (2001) classified the criteria to measure successful projects into four dimensions. They divide the dimensions into project efficiency, impact on the customer, business success and preparing for the future. The efficiency of projects can be measured in short term, during the project implemented. The second dimension can be evaluated when the output of projects introduced to market and purchased by the customers. The customers feedback after used the products can be helped to determine the project's either success or failure implemented. Business

success can be determined one or two year after projects. This dimension based on the sales of project output achieved by the company. While in the last dimension is preparing for future can be evaluated after two years.

Table 1 Success Dimension and Measures

Success dimension	Success Measures
Project efficiency	Schedule goal
	Budget goal
Impact on the customer	Functional performance
	Technical specifications
	Fulfill the customer requirement
	Help to solve users problem
	Products use or purchase by the customer
	Customer satisfy with the outputs
Business success	The commercialize of products
	Enhance the market share
Preparing for the future	Develop the new market
	Produce new product line
	Develop new technology

Source: Shenhar *et al.* (2001)

R&D collaboration also can be used to measure the value gain from commercialize R&D outputs, patents, publications, prototypes, publicity and products (Dunowski *et al*., 2010). Whereas, a study states that some elements can be used to evaluate the commercialization activities such as the number off spin off companies created by the academic researchers and the number of patents (Kamariah *et al*., 2008). A study by Rast *et al.* (2012) determine several criteria to measure successful licenses projects based on university perceptions such as number of licenses, incomes, inventions produced, patents and value generated from licenses. Besides, Thursby & Thursby (2007) is also focused on determining the criteria to measure the one of the success of R&D collaboration outcome which is license activities. Some other criteria which are used to measure successful license activities are royalties generate, sponsor research funds, number of licenses, number of patents and number of inventions commercialize. Results show that TTO and administration are agreed with criteria royalties/license fees generated which are 70.5% and 69.4 % respectively, whereas the faculty demonstrates that the sponsor research funded as criteria to evaluate successful licensing activities.

As stated by Cyert & Goodman (1997), the effective collaboration consists of the number of new product, publication, patent, student trained, student hired and introduce of new company. Whereas, Brekkers & Bodas (2010) evaluated the performance of collaboration based on the knowledge and technology advanced and commercialized of new products development.

Table 2 Summary of Past Studies on the University and Industry Perception toward University-Industry R&D Collaboration Success Criteria

Authors	Method	Findings: Industry	Findings: University
Chin *et al.* (2011)	Focus : Research & Development (R&D) Method: Semi-structured approach, Face two face interview (19 respondent) Respondents: University, industry (SME), research agency and university spin off. (Position: project leader or lead researcher)	• Assess technology of their product • Increase the product commercial • Become more competitive in market environment .	• Paper publications • New findings • Problem solutions • Produces more doctoral graduates with industrial exposure
Abeda *et al.* (2010)	Focus : Research collaboration Method: Survey questionnaire & structure interview Analyze: descriptive (percentage) Respondents: PhD students and research officers from the "Research centers and Centers of excellence"		• **First important criteria**: the number of project, number of research paper, hiring of recent graduates, similar objectives, mutual perception, strong commitment, scholarship and exchange of information • **Second important criteria**: Number of technical staff per project, Workshops, Seminar, Flexible and informal interaction, Intuitional facilities, Interchange concept and Interchange ideas
Okamura (2007)	Focus : Research & Development (R&D) Method: Survey (1,577 firms) Descriptive and Relation analysis (test hypothesis) Respondents:	• 38 percent firms achieved the technological success • 43 percent firms achieved the commercial	

Authors	Method	Findings: Industry	Findings: University
	SME - manufacturing sector (with50–300 employees)	success • Have positive relation to achieve commercializes success when firm collaborated with others business partners. • Have negative relation to achieve commercializes success when firm collaborated with university or public research institution.	
Dunowski *et al.* (2010)	Focus : Research & Development (R&D) Method: Interview (26 respondents) Respondents: senior manager Majority from technology-oriented company	• Time, cost, and quality • Commercialize R&D outputs, patents, publication, prototypes, publicity and products • The value of commercialize activities	

Sources: *Compiled by the author*

Based on the above literature reviews, in this study the criteria to measure successful university-industry R&D collaboration during development research stages are divided into two, which are process-related and outcome-related. The relevant processes include schedules and budget while the related outcomes consist of the products or outputs development during this stage. Each of these elements has its own criteria in order to measure successful R&D collaboration between university and industry, during development research stages. The success criteria in this study can be showed in the table 3 below:

Tables 3 University-Industry R&D Collaboration Success Criteria during Development Research Stages

Process related	Success criteria	Outcomes related	Success criteria
R&D schedules	Compete the R&D projects on time Reduce development cycle time	Product development	Produce products that required by the target market Achieved product specification and performance Create high quality of products Produce products lead to commercialize Produce products helps to solve firm problems
R&D budget	Follow the budget goal		

Source: The Author

METHODOLOGY

In order to conduct this study, preliminary study was conducted to identify the relevant variables and items. A director at research centre in one of Malaysia Research University was selected for an interview session to share the information regarding the criteria to evaluate the success of collaboration during development research stages. The interviewee mentioned that industry was focused on the criteria such as developed technology and intellectual property. While, for university researchers the criterion uses to measure the successful project during development research stages is to develop products that lead to commercialize. University depends on the number of commercialize and license technology of company as a guideline in determining the success of project during this stages. Beside, a total of 30 questionnaires were distributed among the selected university and industry researchers which involved in R&D collaboration particularly during development research stages in Malaysia. All the items have recorded the cronbach's alpha more than 0.7 and the results showed that industry researchers preferred the process related criteria (total mean= 3.60) while university researchers focused more on outcome related criteria (total mean=4.00). The most preferred criteria stated by the university researchers is *the collaboration project produces the products that are required by the target markets* (mean=4.20) while for industry researchers is *the collaboration project uses the budget allocated* (mean=3.63). In the actual study, there were eight (8) respondents of semi-structured interview which is shown in Table 4. Respondents consist of universities and industries leaders that involved in collaboration particularly during development research stages. The projects were conducted during 2006 until 2013 and received financial support from MOSTI under Techno Fund scheme.

Table 4 Respondents of Semi-Structured Interviews

Semi-structured Interview:		
Interviewee	**Respondents (Leader)**	**Field of research**
A	University	Biomedical engineering
B	University	Engineering
C	University	Engineering
D	University	Biology sciences
E	Industry	Engineering
F	Industry	Engineering
G	Industry	Agriculture
H	Industry	Biomedical engineering

DATA ANALYSIS AND FINDINGS

Respondent A evaluated the successful of project during development research stages based on the product development compare to time and budget. Respondent B refers the successful of collaboration project when the product developed from the project move to the next stage which is commercialization. The interviewee mentioned that when the product commercialized and accepted by the target market, thus the project can be determined as success. Meanwhile, the time and budget are more preferred by the funder than the researchers. Respondent C stated that it depends on the objective of the projects. Thus, the interviewee explained that producing the quality product that can be commercialized and accepted by the target market as the criteria of success for their project collaboration. Respondent D showed that the successful of their collaboration project is based on the product development which is in this case referring to working prototypes.

Moreover, respondent E stated that the project is successful in term of project deliverable. The interviewee also believed that the time, budget and goal of the projects are the important criteria to determine the success of collaboration project. Besides, respondent F mentioned that during the early stages of collaboration, the researchers determine the goal or outcome to achieve from establishing the collaboration project. Once the project achieved the goal which is to produce a quality product, within the time frame and the budget allocation, the project can be considered as success. In the case of respondent G project, the criterion of success depends on the products or working prototypes. According to the interviewee, for the small project the criteria of success can be determined through finishing the project on time and within the allocated budget, while for huge projects the criteria is more to achieving the objective such as product development. Contrast with respondent H project, the leader mentioned that the project is failed due to the researcher do not success to compete the project according to the planning. The project needs to terminate during the process of collaboration; however the project is still success in term of developing the plant and generates several patents from the project.

Table 5 Summary of Success Criteria in University-Industry Collaboration Particularly during Development Research Stages

Respondent	Criteria		
	Product	Time	Budget
A	✓		
B	✓		
C	✓		
D	✓		
E	✓	✓	✓
F	✓	✓	✓
G	✓		

Source: The Author

Based on table 5, the results show that all the respondents believed that the product is the criteria to measure the success of university-industry collaboration particularly during development research stages. Some of the respondents mentioned that producing the working prototypes, a quality product and product that lead to commercialize as the criteria to measure the success. This is similar to study conducted by Dunowski *et al.* (2010), which indicate that producing a quality product as a one of the most important criteria to measure successful university-industry R&D collaboration. Besides Atkinson (1999), study based on firm project also supported the quality product as the criteria. However for time and budget, only industry sides believe that these criteria are important. Based on the above table, only two respondents mentioned these types of criteria. The finding is in line with the Dunowski *et al* (2010) study which is based on industry sample; the results indicate that time and budget as more important criteria to measure the successful collaboration project. The similar results also recorded in several previous studies that based on firm projects such as Atkinson (1999), Nelson (2005) and Shenhar *et al* (2001). These studies record time and budget as important criteria to determine successful firm project performance.

CONCLUSION

In order to measure the success of university-industry R&D collaboration, particularly during development research stages, there are several criteria can be used by the researchers such as time, budget and products. The results have determined that the most frequent criteria preferred by the both collaborating partners are the outcome related criteria (products). All of the respondents preferred the product such as producing a quality product, a working prototypes or a product that lead to commercialize as the criteria should be used in evaluating the successful of collaboration project during this stages. However, for process related criteria only the industry researchers have mentioned that time and budget as important criteria to measure the success. The findings of this study can provide relevant information for collaborating stakeholders (industry, university and government) in order to understand the criteria which the partners focused to define their project

collaboration during development research stages as success. Thus, it will increase the partners' understand what is their partners requirement or aims in collaboration.

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Sustainable Medical Tourism: Understanding Medical Tourist Companion's Demographic Profile of Private Hospitals in Malaysia

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ABSTRACT

The main purpose of this paper is to investigate and understand the demographic profile of the medical tourist companion in the Malaysia private hospitals. The medical tourist's companion refers to their spouses, parents, children, partners, relatives and friends who accompanied the medical tourist to receive medical treatment in Malaysia. A cross-sectional study involved 438 respondents from four approved private hospitals in Penang, Malacca and Kuala Lumpur. Data collection for this study was based upon self-administered survey by using purposive sampling method and judgmental sampling type. Data was analysed using the statistical package for Social Science (SPSS) software for windows (20) and Partial Least Squares (PLS). Majority of the respondents were females (52.7) and were Indonesian (97.7%) and a regular companion (63.5%). In addition, majority of the companion accompanied their husband (31.3%) for the purpose of the medical treatment. At least these medical tourists bring along two companions (34.5%) and stayed for less than a week (54.8%), and uses hotel as their accommodation (53.4%). Meanwhile, most of the medical tourists and their companions got the information or recommendations regarding Malaysian private hospitals from their family members (45.4%), participated in tourism activities (51.1%) with majority of them like to shop while in Malaysia (28.1%). Spending estimation on medical expenses was between RM1000-RM5000 (38.6%), and majority of the respondents use cash payment mode for the medical expenses (83.8%). Lastly, implication and limitations of the study are further discussed.

Keywords: Demographic Profile, Sustainable Healthcare, Medical Tourism, Medical Tourist Companion, Tourism

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INTRODUCTION

Health tourism which is also being called as "medical tourism" or "medical travel" is a rapidly growing industry catering to patients who travel across national borders to receive medical treatment (Yap, Chen, & Nones, 2008). Carrera and Bridges (2006a) define health tourism as "the organised travel outside one's natural healthcare jurisdiction for the enhancement or restoration of the individual's health through medical intervention", using but not limited to invasive technology (p. 447). In Southeast Asia, medical tourism is an increasingly common phenomenon. Aside from receiving elective procedures like cosmetic surgery and specialist treatments, medical treatment such as chemotherapy for cancer, major and minor surgeries, dental care, or even routine health checks, leisure activities are integrated into a package for the patient as well as their companion, thus making the phrase of "health tourism".

In tourism industry context, tourists usually travel with families or friends for vacations. While in medical tourism context, patients often travel with companions to ensure their comfort, safety, and feeling of security. Various studies empirically reveal the importance of family to patients' engagement in medical decision-making (Clayman, Roter, Wissow, & Bandeen-Roche, 2005), satisfaction with physician care (Wolff & Roter, 2008), treatment adherence (DiMatteo, 2004), quality of health care processes (Glynn, Cohen, Dixon, & Niv, 2006; Vickrey et al., 2006), physical and mental health (Seeman, 2000), and mortality (Christakis & Allison, 2006). However, despite vast understanding that families matter, specific knowledge regarding which actions and manners undertaken by family members are most helpful, or effective in improving health, is limited (Wolff & Roter, 2011). The complexity of family attributes and dynamics and capacity to both benefit and exacerbate health and health care (DiMatteo, 2004; Seeman, 2000), complicate measurement and interference efforts. Therefore, a better perspective of the pathways by which families and friends wield their influence within medical tourism context could inform understandings on their interest and behaviour during visitation in Malaysia private hospitals.

The expansion of the travel industry and budget airlines has also facilitated this medical tourism industry by making travel easier and cheaper within the region. This is supported by numerous studies (Kher, 2006; MacReady, 2007b) stating countries such as India, Malaysia, Singapore, and Thailand are well-established destinations for medical tourists seeking cardiac surgery and orthopaedic surgery. In addition, under the Tenth Malaysian Plan, the Malaysian Government has targeted the revenue from healthcare travel to increase by 10% a year thus making Malaysia a preferred healthcare destination in the region (The Economic Planning Unit, 2010). The country's private hospitals participating in medical tourism have demonstrated an overall remarkable performance by the World Health Organisation's (WHO) standards.

Originally, the development of medical tourism in Malaysia evolved due to a paradigm shift in the understanding and delivery of health care services towards patients and their companions. In this context, patients' companions refer to their spouses, parents, children, partners, relatives, and friends who accompanied patients to receive medical treatment in Malaysian private hospital. This has also been stressed by the Malaysian Deputy Health Minister, Datuk Rosnah Abdul Rashid Shirlin when launching the Asia Healthcare Operations Summit 2011 on 23 March 2011. According to her, now the government wishes to spur the growth of the

healthcare industry and for healthcare transformation under the Tenth Malaysia Plan (TMP). Under the TMP the key points to healthcare, access, coverage and quality will continue to be improved. Hence, the needs of both entity, the medical tourist and their companions should become the highest priority for any healthcare providers in order to retain their customers.

Data from the Malaysian Health Tourism Council in Table 1.1 shows that in 2011, Malaysia has subsequently received 578,403 foreign patients from over 20 countries in the world with Indonesia contributing the highest percentage of 69% with 335,150 patients (Table 1.1) receiving medical treatments for the total medical tourists.

Table 1.1

Medical Tourists from Top 20 Countries of Origin, 2011

No.	Country of Origin	Total Patients	Percentage (%)
1.	Indonesia	335,150	69
2.	India	18,604	4
3.	Japan	16,111	3
4.	United Kingdom	12,704	3
5.	China	11,029	2
6.	United States	10,584	2
7.	Australia	9,678	2
8.	Iran	8,836	2
9.	Libyan Arab Jamahiriya	7,225	1
10.	Nepal	6,727	1
11.	Saudi Arabia	6,580	1
12.	Myanmar	5,885	1
13.	Singapore	5,879	1
14.	Philippines	5,602	1
15.	Virgin Islands, British	5,479	1
16.	Others	5,367	1
17.	Bangladesh	5,071	1
18.	Germany	3,991	1
19.	Korea, Republic Of	3,521	1
20.	France	3,394	1

Notes. Taken from Malaysian Healthcare Travel Council (2012)

In a hospital environment, patients are in a state of physiological or psychological discomfort (Duggirala, Rajendran, & Anantharaman, 2008) and will

require the assistance of others to interact with the service providers. Research by Yeoh et al., (2013) clearly indicated that 70% of medical tourists come to Malaysia with at least one companion with most of them stayed for 7 days (22.2%). For example, in Malaysia, foreign patients will normally be accompanied by their companion such as parents, sister or brother, friends and immediate families. This attention to the patient's companion is paramount for medical tourism industry as patients are often accompanied by friends or family members in their quest for medical treatment in foreign countries that have different environment, culture and language. These companions not only will judge the care and services provided to their immediate families but also will experience the service provided to them. With the current scenario on the increase number of foreign patients to Malaysia, there will be another focus that the service provider needs to take into consideration.

Understanding the preferences of the medical tourist companion may benefit significantly towards the hospital as well as other integrated services industry. The investigation on the companion is critical because they come from different cultures and backgrounds which require a specific marketing strategy as compared to the locals who are already familiar with the local customs and practices. Moreover, the healthcare industry and other integration services are highly advised to know how to develop an attractive service and improve marketing efforts while maximize their use of resources. Accordingly, this would allow the healthcare and other related organizations to identify the best and suitable marketing strategy to be taken to attract the companion to indulge in the tourism activities. Consequently, this would boost the tourism industry in Malaysia, thus further contributes to the economic growth of the country. Similarly, understanding further the demographic differences such as gender and others of the medical tourist companion would provide a useful basis for segmentation and positioning of the healthcare and integrated services with regards to demographic segmentation.

With projections of growth in the industry, it is an appropriate time to undertake knowledge syntheses to assess services offered to medical tourist companion and what exactly is known about medical tourism so as to ultimately inform research, government, and industry agendas alike. In the remainder of this article we take on this task, presenting the scoping review that addresses the question: what is known about the companion's contribution in medical tourism? This article is hope to serves as one of the knowledge contributor in drawing together on this issue, and thus is a valuable contribution to the burgeoning literature on medical tourism in a different perspective.

LITERATURE REVIEW

Medical Tourism in Malaysia

Today, medical tourism in developing countries (e.g. Malaysia, Thailand, and India) not only provides an alternative option for better access in health services to inbound tourists, in terms of cheaper costs and superior services, or both, but also helps these countries to sustain their growth domestic products, especially with the recent deterioration and fluctuation of economy in many Asian countries (e.g. Asian Economic Crisis in late 1990s) (Musa, Thirumoorthi, & Doshi, 2011). In Malaysia, medical tourism has emerged as one of the integral contributors of the country's

economic growth over the past years. In fact, Malaysia aims to become the regional hub for medical tourism in Southeast Asia. Thailand, Malaysia, Singapore and India are the major 'hubs' of the trade in Asia (Smith, Chanda, & Tangcharoensathien, 2009).

The Malaysian government has identified healthcare industry in particular long-stay treatment as one of the potential services to generate national economic growth as the country is fast gaining recognition to be a preferred destination for healthcare travellers. In line with the greater focus on healthcare development, under the Tenth Malaysia Plan (2011-2015), a total of RM20 billion has been allocated to promote private sector investment in strategic priority areas including infrastructure, education and healthcare. Specifically, healthcare has been announced as one of the 12 National Key Economic Areas (NKEAs) priority sector investment as it has the potential to drive the economic growth of the country (Lai, 2011).

The Importance of Companion

In Malaysia, there have been very little studies that particularly looked upon the importance of companion in medical tourism industry. Medical Tourism Association (2010) conducted the first patient survey of outbound American patients, as part of a larger research project to study the medical tourism industry. They found that 83% of the respondents travelled with a companion. 95% of the respondents, including their companions, participated in tourism experiences, such as sightseeing, shopping, eating, and enjoying the local culture. 70% of respondents rated the quality of medical services at the hospital as excellent. 51% of respondents used medical-tourism facilitators. In another study by Musa et al. (2011) of an inbound medical tourist to Kuala Lumpur, it further justifies that most respondents travel with companion. They found that 47.1% of the respondents travelled to Malaysia in the company of their family and relatives while another 15.2% and 13.0% of the respondents travelled with their spouses and friends. This showed that a total of 87.6% respondents travelling with companion while those who travelled alone only constituted 10.1%. The travelling companion varied from none to 13 in a group with an average number of two. The majority of the respondents received healthcare services in the hospital for a period of 6-10 days (64.5%), however, 3.6% of the respondents stayed for more than 21 days due to their critical illnesses (Musa et al., 2011). The process of patient travelling with a companion for treatments abroad is an emerging phenomenon in the healthcare services industry that has the potential to generate multiplier effects on the economy. Therefore, a better perspective of the pathways by which medical tourist's companion wields their influence within the medical tourism context could inform efforts to improve the services of the private hospital providers and its integrated services industry.

METHODOLOGY

A cross-sectional study has been conducted in a hospital environment setting where the variables in this study were measured at the individual level so called the patient's companion. According to Sekaran and Bougie (2011), cross-sectional studies are carried out whereby data are gathered only once over a period of time

(days, weeks or months) and data collected at one point time was sufficient. A structured questionnaire was applied in this study.

The target population of this study was the medical tourist's companion (spouses, parents, children, relatives, friends or partners) who stayed for at least a day while accompanying the medical tourist, who seeks medical treatments in 41 private hospitals in Malaysia. Based upon the data by MHTC (2011), there are approximately 275,930 medical tourists visiting Malaysia in 2011 for the purpose of seeking treatment. Purposive sampling method was used in this study as it is confined to specific types of people who can provide the desired information. The judgment sampling types is the most suitable to this sample design as a medical tourist's companion (spouses, parents, children, relatives, friends or partners) are in the best position to provide information required for this study. Accordingly, they could reasonably be expected to have expert knowledge as having gone through the experiences and processes themselves, thus, am able to provide good data or information (Sekaran & Bougie, 2011). The respondents were the medical tourist companions who stayed for a day in the four approved private hospitals in Penang, Kuala Lumpur, and Malacca. The respondents were accessed through the International Patients Department in the approved four private hospitals. The selections of hospitals were based upon the data provided by MHTC (2012). Medical tourist companion from the age of 18 until 60 years old and above was eligible to participate in this study.

Data collection for this study was done through a self-administered questionnaire which was given via hard copy to the respondents. Questionnaire was developed with the intention to capture the respondent's profiles background and consisting of 24 questions. The first six questions capture the individual profile of the respondents such as their gender, age, religion, nationality, occupations and education level. The six visitation experience questions explore whether they have visited Malaysia, number of trips to Malaysian private hospitals, number of accompanied companion, length of stay, type of accommodation and companion's relationship with the respondents. The next seven questions further asked on the respondent's sources of choosing medical treatment and their participation in tourism activities in Malaysia. The last five questions conclude on the respondent's estimation of medical expenses and the type of payment mode made by them. The questionnaire was prepared in English and translated into Bahasa Indonesia catering for 98% of the respondents. In addition, the screening questions were included to identify the suitable respondent to participate in this study. After removing incomplete responses, 438 valid questionnaires were used to analyse the current study. Data was analysed using the statistical package for Social Science (SPSS) software for windows (20) and Partial Least Squares (PLS).

DATA ANALYSIS AND FINDINGS

In this study, simple frequency and descriptive analysis was conducted on the medical tourist companion demographic profile throughout their experience as a companion. Table 1.2 present the descriptive result of the respondent's profiles.

Table 1.2

Respondent's Demographic Profile

Demographics	Category	Frequency	Percentage
Gender	Male	207	47.3
	Female	231	52.7
Age	18-19	8	1.8
	20-29	71	16.2
	30-39	100	22.8
	40-49	120	27.4
	50-60	97	22.1
	More than 60	42	9.6
Religion	Muslim	133	30.4
	Christian	178	40.6
	Buddhist	125	28.5
	Hindu	1	.2
	Others	1	.2
Nationality	Indonesian	428	97.7
	Singaporean	2	.5
	Australian	2	.5
	American	4	.9
	Others	2	.5
Occupation	Professional	106	24.2
	Self-employed	191	43.6
	Retiree	17	3.9
	Housewife	96	21.9
	Sportsman	7	1.6
	Others	21	4.8
Education Level	Post-graduate	43	9.8
	Graduate	156	35.6
	College	23	5.3
	High school	181	41.3
	Primary school	33	7.5
	Others	2	.5

The proportion of female companions is higher with 52.7% as compared to 47.3% male companions (Table 1.2). Middle aged adults and older companions covered the majority of respondents with 27.4% in the range of 40 to 49 years old, 22.8% for 30 to 39 years old and 22.4% covering the ranging age of 50 to 60 years old. Respectively, 40.6% of the respondents are Christian, followed by Muslim with 30.4% and 28.5% are Buddhist. As expected, the Indonesian companions formed the majority of the respondents with the highest percentage of 97.7%. Almost half of the respondents were self-employed showing the percentage of 43.6% and 24.2% were professionals with 21.9% of the respondents were housewives. Accordingly, 41.3% of the respondents went to high school with another 35.6% of respondents were graduates qualifiers and 9.8% had post-graduate qualifications.

Table 1.3
Descriptive of Visitation Experience

Visitation	Category	Frequency	Percentage
Have visited Malaysia?	Yes	278	63.5
	No	160	36.5
Number of Trips to Malaysian private hospital as Companion	One time	159	36.3
	2 times	104	23.7
	3 times	39	8.9
	4 times	26	5.9
	5 times	27	6.2
	More than 6	83	18.9
Number of Accompanied Companion	One person	150	34.2
	Two person	151	34.5
	Three person	75	17.1
	Four person	33	7.5
	Five person	12	2.7
	More than 6	17	3.9
Length of stay in Malaysia	Less than 1 week	240	54.8
	1-2 weeks	149	34.0
	2-3 weeks	22	5.0
	3-4 weeks	9	2.1
	More than 4 weeks	18	4.1
Type of Accommodation	Accommodation by X hospital	46	10.5
	Hotel	234	53.4
	Private apartment	107	24.4
	Home stay	40	9.1
	Relatives house	11	2.5
Companion's Relationship with Patient	Children	106	24.2
	Parents	92	21.0
	Wife	137	31.3
	Siblings	24	5.5
	Friend	21	4.8
	Partner	3	.7
	Relative	47	10.7
	Others	8	1.8

Table 1.3 shows that more than half of the respondents (63.5%) had accompanied their family members to Malaysian private hospitals previously to get medical treatment. Although 36.3% of the respondents were first time companion but 23.7% of them made the trip for the second time. In fact, 18.9% of the respondents had been a companion for more than six times. Half of the respondents (54.8%) stayed for a week accompanying their family members with another 34% stayed between one to two weeks in Malaysia. Majority of the respondents (53.4%) stayed in a hotel while accompanying their family members, followed by another 24.4% respondents who stayed in a private apartment. The sample also indicates that 31.3% wives accompanied their husbands getting medical treatment in Malaysian private hospitals with 24.2% children accompanied their parents here. Respectively, parents formed 21% of the respondents followed by relatives forming about 10.7% of companion respondents.

Table 1.4
Sources of Medical Services offering

Information	Sources	Frequency	Percentage
How do companion know about medical treatment?	Medical travel agents	28	6.4
	Website	25	5.7
	Family members	199	45.4
	Advertisement	3	.7
	Doctor Referral	31	7.1
	Exhibition	1	.2
	Friends	149	34.0
	Others	2	.5

Based upon Table 1.4, family recommendations formed the highest percentage of 45.4% for the patients and their companion in coming over to Malaysia to seek medical treatment. Consequently, 34% of the patients and companion get to know about medical treatment in Malaysia from their friends. Nonetheless, only 7.1% of the respondents were recommended through doctor's referral, 6.4% of them through medical travel facilitators and 5.7% through the website information. While patients and companion interest that arises from advertisement, exhibition and others formed percentages of less than 1%.

Table 1.5
Types of Tourism Activities

Activities	Category	Percentage
Participation in Tourism	Yes	51.1
	No	48.9
Touring	Yes	27.6
	No	72.4
Shopping	Yes	28.1
	No	71.9
Entertainment	Yes	6.2
	No	93.8
Visit Relatives	Yes	4.3
	No	95.7
Spa	Yes	1.1
	No	98.9

While accompanying the patients on their medical treatment in Malaysia, 51.1% of the companions participated in tourism activities (Table 1.5). Shopping activities formed the highest activity with 28.2%, followed by tour activities forming another 27.6%. Only 6.2% of the companions went for entertainment activities and 4.3% of them visited their relatives while they were in Malaysia and 1.1% went for spa activities. Further illustration in Figure 1.1 detailed out the respondents specific tourism activities forming the 51.1%.

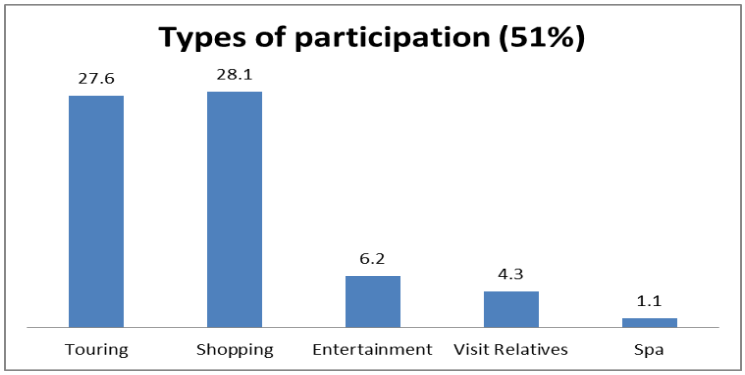


Figure 1.1 Types of Companion's Participation in Tourism

Table 1.6
Medical Expenses and Payment Method

Estimation & Method	Category	Frequency	Percentage
Estimated Medical Expenses	Below RM1000	34	7.8
	RM1000-5000	169	38.6
	RM5001-RM10000	116	26.5
	More than RM10000	119	27.2
Cash Payment	Yes	367	83.8
	No	71	16.2
Insurance Pay	Yes	15	3.4
	No	423	96.6
Credit Card	Yes	81	18.5
	No	357	81.5
Others	Yes	3	.7
	No	435	99.3

Table 1.6 illustrate on the medical expenses and payment method by the respondents. Patients spent more than RM1000 for their medical treatment in Malaysian private hospitals with 38.6% of them spent between RM1000 to RM5000 during each visitation. Respectively, 27.2% of the patients spent more than RM10000 for their medical treatment with another 26.5% spent between RM5001 to RM10000 in one trip to Malaysian private hospitals. Only 7.8% of the patients spent less than RM1000 for this visitation. Majority of the patients and their companion (83.8%) paid cash for all the medical expenses in Malaysian private hospitals. Only 18.5% of the respondents paid their medical expenses through credit card, whilst, payment through insurance formed only 3.4%.

CONCLUSION AND IMPLICATIONS

Past studies have only focused on patient's perspective neglecting the presence important component of companion. The value for this study is to provide practical information for the service provider, the Malaysian Health Tourism Council and medical tourists and their companions. As this study is customer oriented and based on the actual facts, hence, the findings of this study also could provide a valuable suggestion in the development of actions and sustainable industry in medical tourism. Statistics showed the age group, number of companions accompanying the medical tourist, length of stay in Malaysia and participation in tourism activities.

Over 98% of the medical tourists bring along at least one (34%) or two companion (35%). Further to that, most of the medical tourists and companions would stay for 7 days (55%). Such information is extremely useful to the travel and hospitality industry, thus, driving the public and private sector to develop more product and service to cater for the needs of these tourists. These data is also useful for the government in their short-term or a long-term planning.

It shows the importance of companion's presence easing the burdening feelings of medical tourist being on their own. Thus, companion could be seen as an important contributor and indicator used in assessing the quality of service in private hospitals. The presence of companion in this industry will also contribute towards the sustainability of tourism sector with the continuance usage of hotel, transportation and airline services. With the growth of medical tourism in Malaysia, indeed Malaysia's private healthcare industry is a hidden jewel that has a strong potential to compete successfully and to be an earner of foreign exchange, thus, gearing the economic growth of our country. Indeed, growth in the medical tourism industry will further contribute towards sustainability of the Malaysian tourism industry.

LIMITATIONS AND FUTURE RESEARCH

Several limitations inherent this study and may benefit future research by addressing it. Firstly, although the Malaysian Health Tourism Council have supported and encourage the study to be done in all the private hospitals in Malaysia, only four private hospitals have given their consents for the data collection procedures. Similarly, this is due to the confidentiality and ethical concerns, where most of the private hospitals in Malaysia were unwilling to participate in this study. Secondly, a lot of time was wasted in waiting and getting the ethical permission from various private hospitals due to their ethical concern and procedures. Although, all requirements by some of the hospitals have been followed and checked, frustratingly, the consents were not granted by them. Thirdly, most of the respondents came from Indonesia (98%), thus, it does not represent the medical tourists globally. As such, the generalisation of the findings to the study is limited to compare for the global populations, thus, the culture and findings would be different.

Future research may consider a qualitative study on the companion's experience with the services provided by the Malaysian private hospitals. In-depth description of the experience will be useful to explore deeper into the issues of the importance of services provided to the companion from their own words and experience. Further, a comparison study with neighbouring country could also be undertaken to further understand the difference on the services provided towards the companions in the region. The findings would be an important insight and effective marketing tools in the medical tourism industry in Malaysia. The service must provide a satisfactory experience not only to the medical tourists but also their companions.

ACKNOWLEDGEMENT

The authors would like to thank the Malaysian Ministry of Health (MOH), the Malaysian Health Tourism Council (MHTC), Universiti Teknologi MARA and Universiti Sains Malaysia for supporting this research.

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The Impact of Relationship Quality on Brand Equity: Empirical Evidence from Automobile Industry

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ABSTRACT

Brand equity and customer relationships are two important areas of research that have received remarkable interests in the literature. The current study examines the impact of relationship quality on brand equity in Malaysian automobile market. The primary data were collected using an intercept mall survey from a sample of 470 car users in Northern region of Malaysia. Structural Equation Modeling (SEM) was employed to run the analysis and generate the results. The findings suggest that relationship quality has a significant positive impact on brand equity and its dimensions in the Malaysian automobile industry. The results of this study provide useful insights and suggestions to auto manufacturers serving the Malaysian market in branding-strategy development. This study makes a valuable contribution given the fact that there are limited empirical research works of this nature focusing on Malaysia. This study also opens avenues for several future research directions to enhance the understanding of relationship quality role in developing brand equity.

Keywords: Brand equity, Relationship Quality, Automobile Sector

INTRODUCTION

Brand equity is one of the most important topics in the field of brand management which has recently received significant attention among schoalrs in different contexts (Boo, Busser, & Baloglu, 2009). Keller (1993) indicated that firms having strong customer based brand equity can enjoy the benefits of higher profit, greater revenue, and less costs. In addition, it strengthens the ability of the brand to charge higher prices on its products, and increases the willingness of customer to search new distribution channels. From the point of view of customers, this intangible asset can be the main factor that affects their selection of a particular brand over another (Gill & Dawra, 2010).

Previous studies indicated that for brand success, the reliance of brands on relationship marketing is fundamental (Noor Hasmini, 2012). In fact, the investigation of relationship marketing in branding area still needs further research attention (Kyung, Kang, Dong, Jong, & Suk, 2008; Hamlin & Chimhundu, 2007;

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Noor Hasmini, 2012). Up till now, there exist few researches that have come across at the relationship between important brand equity issues and the role customer relationship in building strong brand equity (Chen & Myagmarsuren, 2011). Moreover, Schreuer (2000) urged that greater focus should be laid on both branding as well as customer relationship management in the future. This argument was supported by Ha, Janda, and Muthaly (2010) who stated that there are limited studies that have empirically investigated the effect of relationship quality on brand equity.

Based on the above statements, this study aims to examine the role of relationship quality in affecting brand equity in Malaysian automobile market. Particularly, the automobile industry is one of the main industries in the manufacturing sector of Malaysia that has a significant contribution towards developing the economy of the country (Yan & Foung, 2007; Salleh, Kasolang, & Jaafar, 2012). Noor Hasmini (2012) stated that it is necessary to conduct a research to explore relationship marketing in Asian context, particularly with reference to Malaysian branding context as there is a limited research on this topic. Indeed, the Malaysian automobile industry, especially the suppliers, must be able to keep their competitiveness in the market. Currently, the Malaysian automobile industry is expected to make a significant contribution to the manufacturing sector in the country and permit it to achieve the status of becoming a developed nation by the year of 2020 (Malaysian-German Chamber of Commerce and Industry, 2012). The preceding sections provide a brief review of literature on brand equity and relationship quality and explains how both variable relate with each other.

LITERATURE REVIEW

Brand Equity

Several definitions were introduced to brand equity in the past literature. Brand equity at first, was defined by Farquhar (1989) as "the 'added value' with which a given brand endows a product" (p. 24). Brand equity was also defined as "the enhancement in the perceived utility and desirability a brand name confers on a product" (Lassar, Mittal, & Sharma, 1995, p. 13). Brands that enjoy high equity can easily build up their competitive advantage, charge a price premium on their products; and maximize customer demand. Besides, there are additional advantages for obtaining high brand equity, for example brand extension will be easier; advertising campaigns would be more appealing to customers; enhanced trade power; profit margins can be larger; and the organization becomes less subject to rivalry (Bendixen, Bukasa, & Abratt, 2003).

Aaker (1991) indicated that several dimensions cover the variable of brand equity. These dimensions include brand awareness, brand associations, perceived quality, brand loyalty, and other proprietary brand assets. These dimensions are the basic cornerstones and represent important elements in the process of improving brand equity and generating sustainable competitive advantage. Aaker (1996) added that brand leadership is another dimensions of brand equity that plays a vital in strengthening the power of the brand. Furthermore, Keller (1993) demonstrated that brand equity involves brand image, brand awareness, and brand response, reflecting consumers' perceptions, attitudes, and preferences toward a brand. However, this study aims to contribute to the body of literature on brand equity by focusing on

brand awareness, brand loyalty, brand image, and brand leadership as the core components of brand equity.

Brand awareness refers to the ability of customers to recognize or recall a certain brand from equivalent brands in a particular industry (Aaker, 1991; Keller, 1998). Yoo and Donthu (2001, p.3) referred brand loyalty to "the tendency to be loyal to a focal brand, which is demonstrated by the intention to buy the brand as a primary choice". Another dimension of brand equity is brand image which was initially defined as "the perception of consumers toward a brand as reflected by the brand associations held in consumer memory" (Keller, 1993, p. 3). Henard and Dacin (2010) indicated that, an organization that enjoys a positive image is likely to be considered as an industry leader and thus customers think positively about it. Finally, brand leadership was defined by Keller (2008) as the ability of the brand to influence customers and gains large market shares, which in turns allow it to charge a premium price, and cope with competitive players.

Relationship Quality

Creating a strong relationship between business and its customers is of considerable importance for continued success and gaining competitive advantage (Delgado-Ballester & Munuera-Aleman, 2005). This can be attained through high-quality relationship marketing objectives (Morgan & Hunt, 1994). Relationship quality has also been defined by Morgan and Hunt (1994) referred relationship quality to all activities that are focused toward creating, developing, and sustaining useful relationship exchanges. On the other hand, Pi and Huang (2011) defined relationship quality as the relational process that aims to provide, improve, and sustain values for both customers and businesses.

Past literature shows that several elements form the concept of relationship quality. For example, Dorsch, Swanson, and Kelley (1998); Baker, Simpson, and Siguaw (1999) regarded commitment and trust as the fundamental components for relationship quality. Furthermore, Crosby, Evans, and Cowels (1990) suggested that relationship quality consists of satisfaction and trust. Morgan and Hunt (1994) recommended that in addition to brand trust and commitment, other relationship marketing variables should be explored and considered for further critical assessment, replication, and extension should be applied in marketing practices and disciplines. Based on this argument, brand satisfaction was included in this research. Overall, relationship marketing constructs was operationalized in this research in terms of three important behavior elements - trust, commitment, and satisfaction. These components are conductive to relationship marketing success.

Several definitions were given to the aforementioned elements of relationship quality. Particularly, brand trust was defined as the "willingness of the average consumer to rely on the ability of the brand to perform its stated function" (Chaudhuri & Holbrook, 2001, p. 82). Doney and Cannon (1997) referred brand trust to customer's perception towards the benevolence and credibility of a brand. Besides, brand commitment was defined in the literature as the extent to which a brand is strongly embedded as the merely acceptable choice over competitors within its product class (Bouhlel, Mzoughi, Hadiji, & Slimane, 2009). With reference to satisfaction, Tsai (2011) referred relationship satisfaction as the total positive and negative assessment about partner's relationship.

Linking Relationship Quality and Brand Equity

Nyadzayo, Matanda, and Ewing (2011) considered social exchange theory as a strong theoretical grounding for understanding the effect of relationship quality on building brand equity. According to several researchers (e.g., Farquhar et al., 1991; Son et al., 2005), the theoretical argument for the relationship between relationship quality and brand equity is explained based on the main exchanges, value and utility through social exchange theory. Moreover, Delgado-Ballester and Munuera-Aleman (2005) indicated that relationships with customers are the main antecedent and asset of brand equity. Thus, social exchange theory provides the theoretical base for the link between relationship marketing and brand equity (Dhanushanthini, 2011).

The concept of relationship marketing has received significant attention from academic scholars and business practitioners, and it has recently become among the principal trends in business research. The aim of relationship marketing is to develop brands in order to acquire customer values throughout building valuable customer relationships. Wulf, Schroder, and Lacobucci (2001); Tuan and Jusoh (2013) demonstrated that relationship bonding significantly related the establishment of brand equity. Similarly, Morgan and Hunt (1996) demonstrated that resources like commitment and trust cannot be imitated or purchased. These resources can be used in order to build strong brand equity and create sustainable competitive advantages (Azizi & Kapak, 2013). The finding was supported by Kim, Kim, Kim, Kim, and Kang (2008) who reported that trust had a positive influence on building brand loyalty, brand awareness, and brand image.

The significance of relationship quality in the explanation of brand equity was further supported by a number of studies and commonly being accepted. For instance, Nezakati, Yen, and Akhoundi (2013); Akbar and Azhar (2010) proved that brand relationship quality is an important factor for building brand equity and has a significant positive influence on its dimensions such as brand awareness (Loureiro & Miranda, 2011) and brand leadership (Beverland, Napoli, & Lindgreen, 2007; Ghodeswar, 2008). Similarly, Kim et al., (2008) found that relationship quality was significantly related to brand awareness, and brand image. This result was supported with that of Hong-Youl, Janda, and Muthaly (2010) who declared that relationship quality had significant relationship with brand equity assets such as brand loyalty. Moreover, Noor Hasmini (2012) found that relationship quality assets such as trust, commitment, and satisfaction lead to higher brand equity asset such as brand loyalty, brand leadership. Based on the discussion made in this section, the following hypotheses are presented:

H1: Relationship quality has significant relationship with overall brand equity.
$H1_a$: Relationship quality has significant relationship with brand awareness.
$H1_b$: Relationship quality has significant relationship with brand loyalty.
$H1_c$: Relationship quality has significant relationship with brand image.
$H1_d$: Relationship quality has significant relationship with brand leadership.

METHODOLOGY

As mentioned earlier, the current study aims to examine the effect of relationship quality on brand equity. Thus, the primary data was collected from car users in the

Northern region of Malaysia in three different states (Penang, Kedah, and Perlis). These states are considered to be representative of whole Malaysia, and certain past studies focused on Northern region Malaysia to collect the data from respondents (Hasnizam, 2012; Mohamad, 2012). In order to ensure the heterogeneity of respondents, the capital city in each state has been targeted for data collection. Due to the limit budget and time constraints, systematic sampling technique was employed. The population represented only those respondents who are currently using passenger cars. The questionnaires were personally administered to the respondents across several shopping malls whereby every 10th leaving customer was approached to participate in this study. Following the suggestions of Krejcie and Morgan (1970), they demonstrated that a study 1 million population or more, should at least cover a sample size of 384. However, in order to decrease the response bias and ensure that the desired number has been obtained, the sampled was doubled to 768 in line with Shamsudin (2012).

The measurement items for the constructs of this study were primarily adapted from past literature to make sure that content validity has been established. Some improvements were done taking into consideration the context of this study which is Malaysian automobile market. all items were measured on seven-point Likert scale ranging from 1 to 7, with anchors ranging from ‘‘strongly disagree’’ to ‘‘strongly agree’’. Particularly, relationship quality constructs was operationalized in terms of three important behavior elements - trust, commitment, and satisfaction. For instance, brand trust was measured using the five items adapted from the study of Ok, Choi, and Hyun (2011) which were initially developed by Chiou and Droge (2006). The items were selected because they had high reliability with Cronbach’s alpha of more than 0.8 (Hair et al., 2010). Besides, brand commitment was measured using four items adapted from Ok et al. (2011); Breivik and Thorbjornsen (2008). the items were reported at high reliability Cronbach's alphas of more than 0.8. Additionally, brand satisfaction was measured using the five items adapted from Oliver’s (1997) consumption satisfaction scale; and Zboja and Voorhees (2006). The items had strong construct reliability, ranging from 0.94 to 0.96.

Furthermore, brand equity was measured in terms of four unique dimensions; brand awareness brand loyalty, brand image, and brand leadership. For example, the measurement items of brand awareness were adapted from Yasin et al. (2007) to fit the context of this study. Those items were reported at an acceptable reliability with Cronbach’s alpha of 0.82 (Hair et al., 2010). Brand loyalty on the other hand was measured using four items adapted from Villarejo-Ramos and Sanchez-Franco, (2005). The items have been validated in several previous studies and reported with an acceptable reliability. Similarly, brand image was measured through five items adapted from Villarejo-Ramos and Sanchez-Franco, (2005). Finally, brand leadership was measured using five items adapted from previous scales developed by Aaker (1996).

ANALYSIS OF RESULTS

To comply with the requirements of data collection, 768 questionnaires were distributed to passenger car users in North region of Malaysia. However, only 470 questionnaires were returned back representing around 61 % response rate of the overall study. The descriptive statistics of respondents showed that female and

especially young respondents are represented by 54.9 % of total respondents and only 45.1% were male. More than 46% of the respondents were in the age category of 25-35, and 22% were 45 years and above. In addition, the qualification of the respondents ranged from high school, undergraduate students, to postgraduate students. Particularly, the majority of the participants had undergraduate certificate and work in government sectors. Moreover, 77% of the respondents were Muslims, 13.8% were Buddhists, 4.9% were Christians, 3.8%, were Hindu, while 0.4% were from other religions. Overall, 470 out of 768 questionnaires were considered for further empirical data analysis.

Two types of factor analysis were used in this study in order to validate the scale employed in this study. Initially, exploratory factor analysis (EFA) was conducted and the results showed that the value of Kaiser-Meyer-Oken (KMO) equals 0.959 which satisfies the recommended cut off value of o.6 according to Pallant (2001). The Bartlett's test of spherecity was found to be significant (P = < 0.05) which provides an initial support for existing correlations between the constructs. Additionally, principal component method was selected to run the analyses, and the result showed the existence of the desired number of components according to the Eigen value. These constructs have captured 86.39% of total variance in the items. On the other hand, confirmatory factor analysis (CFA) using AMOS 18 was also performed to confirm the factor loadings of relationship quality dimensions (brand trust, brand commitment, and brand satisfaction) and brand equity (brand awareness, brand loyalty, brand image, and brand leadership). From the results, it shows that the factor loadings for the items of all constructs were satisfactory, ranging from 0.74 to 0.96. This means that all constructs confirm/ satisfy the construct validity.

Following the CFA using AMOS, the measurement model was tested and ensured satisfactory levels of reliability and other validity tests among constructs (Fornell & Larcker, 1981). Specifically, the reliability tests revealed that all dimensions had Cronbach's alpha with values exceeding the cut-off point of 0.7 as suggested by Hair et al. (2010). The value of composite reliability also exceeded the cut off value of 0.7. This means that the results support the internal consistency among the constructs. Convergent validity was also tested to confirm the items for each constructs whereby all the indicators had loadings exceeding the cut off value of 0.5. Hulland (1999) demonstrated that only items having factor loadings of less than 0.50 should be deleted. In addition, to support discriminant validity and further ensure the convergent validity, the Average Variance Extracted (AVE) should be higher than 0.50 (Fornell & Larcker, 1981). However, the AVE values in current study fulfill the minimum cut off value of 0.5.

SEM is concerned with the model fit which comprise all variables together. However, several indices were used to determine the goodness of fit of the model. As it can be seen the figure 1 below, the modified structural model has yielded an expected significant chi-square (750.004, $p<0.05$) given the large sample size employed in this research. Other fit indices were also used to support chi-square and ensure the goodness of fit such as: (GFI = 0.893, AGFI = 0.871, TLI = 0.959, CFI = 0.964, and RMSEA = 0.054). From these results, it can be concluded that the model achieved a good fit for the data (Hair et al., 2010).

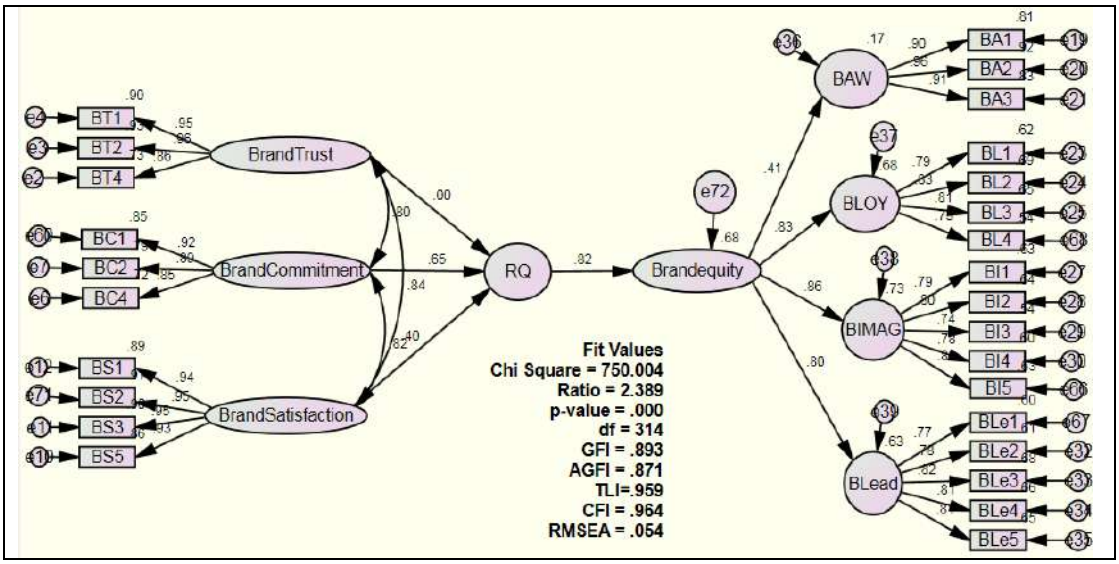


Figure 1 Structural Model

As shown in table 2, the findings reveal that relationship quality has significant relationship with overall brand equity (β= 0.771, CR= 19.166, p= <0.05), thus H1 is accepted. The findings also show that relationship quality has significant relationship with brand awareness (β= 0.771, CR= 19.166, p= <0.05), therefore H1a is accepted. Additionally, the findings demonstrated that relationship quality also has significant relationship with brand loyalty (β= 0.761, CR= 22.187, p= <0.05), thus H1b is also supported. Moreover, the findings of this study supported the relationship between relationship quality and brand image (β= 0.725, CR= 16.786, p= <0.05), thus H1c is accepted. Finally, this study found that relationship quality has significant relationship with brand leadership (β= 0.815, CR= 20.738, p= <0.05). Thus H1d is accepted. Overall, the independent variables explained 68% of total variance in brand equity.

Table 2 Research Findings

	Hypothesized Effect	Std. Estimate	S.E.	C.R.	P	Support
H1a:	Relationship quality has significant relationship with brand awareness.	0.280	0.037	7.589	***	Yes
H1b:	Relationship quality has significant relationship with brand loyalty.	0.464	0.056	8.365	***	Yes
H1c:	Relationship quality has significant relationship with brand image.	0.441	0.052	8.436	***	Yes
H1d:	Relationship quality has significant relationship with brand leadership.	0.421	0.052	8.149	***	Yes
H1:	Relationship quality has significant relationship with overall brand equity	0.183	0.033	5.497	***	Yes

***: p<0.001; **: p<0.01; *: p<0.05

DISCUSSION

The purpose of this study is to examine the effect of relationship quality on brand equity in Malaysian automobile market. Overall, the findings support all the presented hypotheses indicating that relationship quality has significant positive effect on developing brand equity. The results also showed that relationship quality has significant effect on brand awareness, brand loyalty, brand image, and brand leadership. In particular, the findings suggest that customers are likely to develop better awareness towards brands that successfully manage to develop valuable relationships with them during purchase process. Thus, knowing that relationship quality play a significant role in building brand awareness, it is very important for brands to base their relationship with customers on mutual trust and keeping them commited in highly competitive markets.

Moreover, the results of this study also revealed that relationship quality has significant positive effect on brand loyalty. In other words, building favourable relationship with customers is a key predictor of brand loyalty. This result was supported by several previous studies (Berry and Parasurman, 1991; Aziz & Kapak, 2013; Lin & Chung, 2013; Tu, Li, & Chih, 2013) who reported that a higher degree of relational bonds lead to a higher level of relationship quality, and thus, higher level of brand loyalty. Relationship quality was also found to have significant positive relationship with brand image. This result was confirmed by Chen, Shan, and Hsieh (2008) who revealed that when a brand develops successful relationships with customers, it can as a result motivates them to develop favourable image toward

the brand in their minds. Moreover, Ika and Kustini (2009) reported that the more widely a brand is known, certain images will be made up towards it.

As expected, relationship quality has a significant positive impact on brand leadership. This result is in line with that of Ghodeswar (2008) who declared that leading brands seek to develop good relationships with customers through providing products and services with added value that differentiate them from competitors. Overall, this study supports the significant relationship between relationship quality and brand equity. Greater support was reported by Noor Hasmini (2012); Nezakati, Yen, and Akhoundi (2013) who found that relationship quality develops brand equity and enhance the value of the brand.

In general, this study provides an evidence for the significant role of relationship quality in strengthening brand equity in the automobile sector. The findings of this study contribute to the theoretical base of social exchange theory by further testing relationship quality as an antecedent of brand equity; since past literature has paid less attention to the empirical examination of the relationship between both variables. The findings also provide useful suggestions and insights for business practitioners to set up the relevant strategies to promote their brand equities in the international arena. Besides, establishing successful relationships with customers will be helpful to enhance brand equity and create sustainable competitive advantage. The preceding section discusses the limitation incurred in the current study and sheds light on several suggestions that can be considered in future research.

LIMITATIONS AND FUTURE RESEARCH

As with any other research, there are some limitations in this study that should be considered for future research. first, the current study has relied on only single informants to explore the current framework which includes customer-based brand equity. The framework can be measured more reliably via a dyadic data collection including both customers and managers. Second, the respondents were only limited to those in Northern region of Malaysia. The results can be strengthened by enlarging the sample size and involving participants from other geographical areas. Third, the current study is cross-sectional in nature whereby the generalizability of the results to other contexts might be doubtful. Therefore, future research should consider longitudinal data in order to overcome the limitations of a cross-sectional analysis.

Moreover, the dimensions that were used in this study may not be sufficient enough to represent brand equity. Different scholars have measured brand equity in different ways; hence, it is important to include other relevant dimensions in future studies. Finally, the study has focused on durable products, fast moving consumer goods and other brands, may yield different path relationships. Further studies should look into this possibility from a theoretical as well as empirical point of view.

CONCLUSION

There are some conclusions that can be stated according to the results of this study. Given the effect of relationship quality on brand equity, the implications for automobile manufacturers are to manage and measure relationship quality maintenance, and observe how consumer-based brand equity and its set of dimensions can be affected. Automobile manufacturers should consider such possible gains when allocating sufficient resources for their customer relationships development in their budget. From the above discussion, it can be concluded that managing good relationship quality with customers provides better opportunities to enhance firm's brand equity. This justifies the reason why some brands have high brand equity and others are not.

Building a quality of relationships between a firm and its customers can make it easier to create favourable intangible associations, which are also important to brand's long-term success and gaining leadership position. This current study stressed the importance of building relationships for automobile brands with customers, and provides recommendation to incorporate relationship quality elements into their fundamental branding strategies. For example, automobile manufacturers should exert large efforts to establish positive brand image from their prospective customers, and particularly concentrate on building a long-term and mutually profitability relationships with them. This ultimately would result in favourable competitive advantage. As a matter of fact, by successfully managing to develop positive brand images, it would be easier to position themselves in the minds of customers.

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The Inter-Relationship between Malaysian Manufacturing and Non-Manufacturing Sector

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ABSTRACT

The aim of this paper is to investigate the inter-industry relationship between manufacturing and non-manufacturing sector in Malaysia by using input-output approach. In producing the manufactured output, raw materials demand from other economic sectors as input production and also utilized manufactured output as input productions. Thus, backward and forward linkages are used as an analytical tool in examining this inter-industry relationship between manufacturing and non-manufacturing sector. The findings showed that there are high effects of backward and forward linkage existed in manufacturing sector. Therefore, manufacturing sector is the Malaysian key economic or the main production sector in increasing the rates of economic growth of the country.

Keywords: Manufacturing and Non-manufacturing Production, Inter-industry Relationship, Backward and Forward Linkages, Key Economic

INTRODUCTION

Malaysian economy was experienced a structural change from primary-oriented economy into manufactured-oriented economy during 1990's. This condition happened as there was a boom expansion happening in the industry of manufacturing especially after the imposition of export-oriented policy as a result of high productivity occurs in manufacturing industry. (Rohana and Tajul, 2010) According to the Annual Report of Bank Negara, the Malaysian export for manufactured goods was accounted for 80% of the total export in the late of 1990's.

During 1990s, the transition of Malaysian economy from primary-based into manufactured-dependency happened as there is a large proportion of domestic output is contributed by manufacturing sector particularly among good sectors. There is an increasing trend of output produced by manufacturing sector during 1990s. As it is shown in Table 1.1 as following, in 1985, there is 20.18% of domestic output contributed by manufacturing sector. Furthermore, it has followed by an increase of contribution by manufacturing sector, that is, 23.84% in 1990, 25.8% in 1995 and 29.9% in 2000 respectively. Even though, there is a decrease trend of manufacturing production towards domestic output afterwards as a result of high contribution of

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service sector, but it still a main contribution among good sectors. In 2012, there is 50.9% of domestic output contributed by service sector and 24.5% of domestic output contributed by manufacturing sector. In contrast, there is 10.52% by mining and quarrying; 10.16% by agricultural, forestry, and fishing; and only 3.91% by construction contributed for domestic output.

Table 1.1 The Share of Manufactured Output to The Malaysian GDP (in % value)

Year	Agricultural, Forestry, and Fishing	Mining and Quarrying	Manufacturing	Construction	Services
1985	23.52	10.36	20.18	1.48	44.47
1990	14.98	11.66	23.84	2.18	47.33
1995	12.67	6.1	25.8	2.56	52.88
2000	8.33	10.23	29.9	2.89	48.66
2005	8.22	14.07	29.0	2.69	46.02
2008	10.02	16.43	25.75	2.73	45.06
2010	10.46	10.97	24.76	3.43	50.37
2012	10.16	10.52	24.5	3.91	50.9

Source: Department of Statistics, Malaysia

Note: The percentage values of domestic output distribution are derived by dividing the value of output in an industry with the GDP in Malaysia.

Since Malaysia is still a developing country, thus, the production of manufacturing sector tends to be labor-intensive commodities rather than capital-intensive commodities. Thus, an expansion of manufacturing sector would create a broad range of jobs especially for low-skilled workers for the country. As a result, our national unemployment rate can be reduced. As it is shown in Table 1.2 as below, there is an increasing trend of employment rate happened in manufacturing sector under the period of the study. In 1985, there was 15.04% of labor employed in manufacturing sector. Due to the expansion of manufacturing sector, it has increased the percentage of labor's absorption in its sector. In 2000, there is 23.46% of labor as compared to only 19.94% and 23.29% of labor worked in manufacturing in 1990 and 1995, respectively. However, there is a significant decrease in employment rates for manufacturing sector with only 19.8% in 2005, 16.89% in 2010 and 16.77% in 2013, respectively due to highest employment rate for service sector. However, it still highest labor absorption among good sector. As such, in 2013, the employment rate for agricultural, fishery and forestry with 12.73%, for construction with 9.42%, and for mining and quarrying with only 0.66.

Table 1.2 The Distribution of Employment by Sectoral in Malaysia (in % value)

Year	Agricultural, Livestock, Forestry, and Fishing	Mining and Quarrying	Manufacturing	Construction	Services
1985	30.38	0.79	15.04	7.42	46.38
1990	26.0	0.55	19.94	6.34	47.18
1995	19.97	0.43	23.29	8.0	48.32
2000	16.75	0.29	23.46	8.2	51.3
2005	14.64	0.36	19.8	9.0	56.19
2010	13.25	0.50	16.89	9.16	60.2
2013	12.73	0.66	16.77	9.42	60.42

Source: Department of Statistics, Malaysia

Note: The percentage values of domestic output distribution are derived by dividing the value of output in an industry with the GDP in Malaysia.

Currently, knowledge-based economy that is driven by a high capacity for creativity, innovation has been highlighted by our government in order to become a high-income nation in the year of 2020. However, the manufacturing sector is still a very important sector particularly because it is the most productive among goods sector. Without a strong foundation of the development in manufacturing sector, knowledge-based economy could not be achieved in the future. Indeed, the co-operation between economic sectors has to be promoting at the same time. In the circular of production system, outputs that are produced by one production sector becomes an input production for another production sectors. At the same time, its production sector demands others' output as its input production. For instance, manufacturing sector demands raw materials from primary sector and supply its manufactured output to primary sector as its input. Thus, inter-industry relationship existed in an economic system due to the existence of demand and supply relationship between sectors. To fulfil our objective of this paper, the relationship between manufacturing and non-manufacturing sector from the aspect of production is highlighted.

In this paper, input-output approach is used as an analytical tool by using input-output table that is published by our Malaysian Statistic Department. Throughout input-output table, a clear illustration of the circular flows of goods and services in an economy could be seen. There are empirical studies have been done by using input-output approach in Malaysia such as Social Accounting Matric (SAM) multiplier analysis was used in the study of Mukaramah, Siti Hadijah and Ahmad Zafarullah (2012) in examining the effect of public expenditure towards household incomes. Rohana and Tajul (2010) have applied the econometric and input-output approaches in examining the growth of manufacturing sector particularly the period after the imposition of export-oriented policy. The Structural Decomposition Analysis (SDA) was used for input-output approach in their study.

Economic linkage is most suitable analytical tool in examining the inter-industry relationship between economic sectors among input-output techniques in achieving our objective of the study. Economic linkage has been used in previous empirical studies in investigating the relationship between sectors such as Andreosso and Yue

(2000), Yay and Keceli (2009), Fauzana (2007), and Hussain (2009, 2010, 2010). Moreover, the economic linkage of this paper is measured by using traditional approach, that is Chenery-Watanabe method and Rasmussen method.

This paper is involved the following sections, that is, previous empirical studies are discussed in literature review part; The concept and application of backward and forward linkage are described in methodology part together with the description of data use in this study. Next, the findings of the study are analyzed clearly. This paper concludes the findings briefly. Limitations and recommendations are involved in the last part of this study.

LITERATURE REVIEW

According to three Kaldor's Law, there is a relationship between the manufacturing growth and economic growth. First, manufacturing sector is the engine of growth of one country. The economic growth of one country happens in respective of the growth of manufacturing sector. Secondly, the productivity in manufacturing sector is related positively to the manufacturing output growth, as the term is called as the Law of Kaldor-Verdoom. Thus, there is an increasing return to scale existed in manufacturing industry. Third, an expansion of manufacturing industry will be rise up the productivity of other industries. The Kaldor's Laws were tested empirically by using econometric method in the study of Mamgain (1999) and also Ener and Arica (2011). Libanio and Moro (2011) who were only involved the first and second laws of Kaldor growth theory only in describing the manufacturing industry and economic growth in the case of Latin America between the year of 1980 and 2006.From their findings, in overall, countries experienced a huge economic growth due to the growth of manufacturing sector. Furthermore, Mamgain who was examined these three Kaldor's Law for newly industrializing countries involving Malaysia has found that the growth of manufacturing sector was followed by an increase of the growth of non-manufacturing sector.

The interdependence relationship between manufacturing and non-manufacturing production sectors is reflected by third Kaldor's Law that there is an increase of other industries' productivity due to the expansion of manufacturing sector. Therefore, the production of manufacturing sector could gives impact towards other non-manufacturing sector. The pioneer of the interindustry relationship was Francois Quesnay (1694-1774) who used *Tableau Economique* in explaining the circular flow of economic activities by involving only three main sectors, that is, farmer which is representing the productive class followed by the sterile class that is represented by manufacturers and last but not least merchants instead of landlords. However, Quesnay was preferred a large scale of agriculture production due to the high productivity of agriculture industry as compared to manufacturing sector. Accordingly, this was because the surplus of agriculture production can reinvest for the agriculture industry again. However, it was argued by Turgot that manufacturing industry was able to create a surplus to reinvest purpose as well as the factory farm industry. (Eltis, 1984)

This idea had been adopted by Wassily Leontief in constructing the first input-output table for United States with 46 economic sectors involved in the year of 1919 by highlighting the co-operation between industries. Based on the input-output analysis, the flow of commodities and services are existed between industries either in directly or indirectly perspective. The production of an industry required output from other industries which is represented by the column in the input-output table. In opposite,

an extra production of industry utilizes more inputs to other industries' use which is represented by the row in input-output table.

The Leontief input-output analysis has been expanded by Hollis B. Chenery, Tsunehiko Watanabe and Poul N. Rasmussen especially in examining the economic interdependence. Chenery and Watanabe (1958) had used the backward and forward linkage in doing a comparative study of productive structures for the United States, Norway, Japan and Italy. This linkage based on Chenery and Watanabe was addressed as direct backward and forward linkage. In addition, linkage based on Ramussen (1956) was addressed as total effects of backward and forward linkage. (Andreosso and Yue, 2000)

Andreosso and Yue (2000) have used four measurements in examining the economic linkages and identifying the main economic activity in China from year 1987 and 1997, that is, Chenery-Watanabe method, Rasmussen method, Pure-Linkage method and Dietzembacher method. Based on the findings showed that there was an increasing trend of economic interdependence in respective to the economic growth between industries and manufacturing industry is a leading sector for China under the study's period as compared to the industry of agriculture, mining and service. Key economic sector was determined by using the indicators of linkage above the average values only. The same results are gained in the study of Yay and Keceli (2009) who used Chenery-Watanabe and Rasmussen method only in examining the intersectoral linkage for Turkish economy. Differently, Yay and Keceli has classified economic activities from 2002 Input-output tables into three main sectors, that is, Ricardo, Heckscher-Ohlin and High Technology sectors. Ricardo Sectors are referred to natural resource intensive production such as agricultural production and food manufacturing industry. High-Technology Sectors are represented high-technology intensive production especially in the chemical manufacturing industry. Heckscher-Ohlin Sectors are represented capital-labor intensive production respectively which there is a standardized proportion of labor and capital in production. For example, utilities, construction, publishing and so forth. Indeed, manufacturing industry from Heckscher-Ohlin particularly has a high linkage effect and it was fulfilled the first Kaldor's Law.

Hussain (2009) had been used the input-output structural decomposition analysis (SDA) as analytical tool in investigating the Malaysian production structure over the period of 1983-2000. In order to compare the structure change of the production, economic sectors from four input-output tables were aggregated into 39 sectors based on International Standard Industrial Classification (ISIC). Again, Hussain I (2010) has re-investigated the structure for Malaysian production by using economic linkage analysis. Indeed, the indices of backward and forward linkages based on the Leontief model are used in explaining the success of government policy towards economic growth. Based on the findings, the economic interdependence throughout the years of study was remained weak.

Furthermore, Hussain II (2010) has used also backward and forward linkages in examining the relationship between Malaysian energy and agriculture sectors. Fauzana (2007) who was only focused palm oil from agriculture industry used also economic linkages in examining the structure Malaysian agriculture industry.In her study, she found that the level interdependence of agricultural industry is low as compared to other industries as a result of the focus of government in manufacturing and service sectors.

METHODOLOGY

Data

The objective of this paper is to investigate the relationship between manufacturing and non-manufacturing sector in Malaysia. Furthermore, it will follow by highlighting the main economic sector in increasing the rates of economic growth of Malaysia particularly from the perspective of domestic production. The Malaysia Input-Output Tables of year 2000 and 2005 that published by Malaysian Statistical Department are used as data source of analysis. In order to see more clearly the relationship between manufacturing and non-manufacturing sector, sectors are highly aggregated from original Malaysian Input-Output Tables into six main economic sectors based on the Malaysia Classification of Products by Activities (MCPA) 2009 in this paper. Economic sectors are classified into manufacturing and non-manufacturing; which non-manufacturing sector is represented by agriculture, fishery and forestry; mining and quarrying, utility, construction and service. Thus, a highly aggregated transaction table is constructed based on the origin input-output table and is shown as following.

Table 3.1 Symbolic Form of Transaction Table

Inputs		**Intermediated Demand**						**Final Demand**	**Total output**
		1	**2**	**3**	**4**	**5**	**6**		
Agriculture, Fishery & Forestry	**1**	x_{11}	x_{12}	x_{13}	x_{14}	x_{15}	x_{16}	Y_1	X_1
Mining and Quarrying	**2**	x_{21}	x_{22}	x_{23}	x_{24}	x_{25}	x_{26}	Y_2	X_2
Manufacturing	**3**	x_{13}	x_{14}	x_{15}	x_{16}	x_{17}	x_{18}	Y_3	X_3
Utilities	**4**	x_{41}	x_{42}	x_{43}	x_{44}	x_{45}	x_{46}	Y_4	X_4
Construction	**5**	x_{51}	x_{52}	x_{53}	x_{54}	x_{55}	x_{56}	Y_5	X_5
Service	**6**	x_{61}	x_{62}	x_{63}	x_{64}	x_{65}	x_{66}	Y_6	X_6
Total Primary Inputs		Z_1	Z_2	Z_3	Z_4	Z_5	Z_6		
Total Inputs		X_1	X_2	X_3	X_4	X_5	X_6		

Along the row of transactions table, it reflects output produced by these six main sectors and the input that is used in production for these six main sectors is recorded along the column of the table. Thus, the sum of each column of transactions table is the total expenditure on inputs by i^{th} industry. This can be shown by the following formula.

$$z_i = \sum_{i=1}^{n} x_{ij}$$

The total for each row can be represented by the following figure, that is,

$$z_i = \sum_{j=1}^{n} x_{ij}$$

where *i* represents the total value of *its* industry's output that is distributed among industries including itself in the production.

Input coefficient can derive by calculating from the transactions table directly. When sector *i* increase its output, it will bring a demand increase on a sector that provides a product to sector *i* as input. Thus, input coefficient illustrates how much of commodity *i* consume for every unit of commodity *j* produce. The following equation is the way to calculate the input coefficient.

$$a_{ij} = \frac{x_{ij}}{X_j}$$

or $$x_{ij} = a_{ij} X_j$$

Therefore, the basic relationship of inter-industry can be represented by the formula as follows:

$$x = Ax + y \qquad \ldots\ldots (1)$$

where A denotes input matrix and y denotes vector of final demand.

Backward and Forward Linkage

Backward and forward linkages are used in examining the interdependence relationships between sectors in the study. However, backward and forward linkages are reflected only the externalities rather than market prices. (Khayum, 1995; Husssain, 2010)

Backward linkage in input-output analysis reflects the demand relationship between sectors. (Hugo and Antoni, 2006; Hussain, 2010) When sector *i* increase its output, it will bring a demand increase on a sector that provides a product to sector *i* as input. *Forward linkage* is measuring how much output for *i* industry affects the change of other industry's production when there is a unit change of primary input of it. Thus, *forward linkage* in input-output analysis reflects the supply relationship between sectors. (Hugo and Antoni, 2006; Hussain, 2010) Furthermore, the matrix of forward linkages can be derived by transposing the column (horizontal) view of the model to a horizontal (column). (Hussain, 2010)

Measurement

In explaining the interdependent relationship between sectors in the economy, backward and forward linkages are measured by using traditional approaches, that is, *Chenery-Watanabe method* and *Rasmussen method.*

Direct Backward (Forward) Linkage

By using *Chenery-Watanabe method*, direct backward (forward) linkage can be only determined since there is only involved first round effect of industry's interrelationships. (Andreosso and Yue, 2000)

The measurement of backward linkages according them is by using the column sums of matrix A (as mentioned previously), that is, input (technical coefficient).

$$BL^{C}_{j} = \sum_{i=1}^{N} \frac{x_{ij}}{x_j} = \sum_{i=1}^{n} a_{ij}$$

where BL^{C}_{j} indicates the backward linkage of j by using Chenery-Watanabe approach, x_{ij} denotes the indices of i industry output which use as input for j industry, x_j denotes j industry's output and lastly, a_{ij} denotes the input (technical) coefficient of j industry to i industry.

Direct forward linkage of i is measured by using the following formula:

$$FL^{C}_{J} = \sum_{j=1}^{N} \frac{x_{ij}}{x_i} = \sum_{j=1}^{n} b_{ij}$$

Where FL^{C}_{j} indicates the forward linkage of j by using Chenery-Watanabe approach, x_{ij} denotes the indices of i industry output which use as input for j industry, x_i denotes i industry's output and lastly, b_{ij} denotes the output coefficient of i industry to j industry.

Total Backward (Forward) Linkage

Backward linkage based on Rasmussen approach has measured the total effect such as direct and indirect effects of the inverse of one unit in the final demand for industry j on other industries. Hence, the backward linkage based on Rasmussen approach can be measured by the following:

$$BL^{R}_{j} = \sum_{i=1}^{n} g_{ij}$$

where g_{ij} denotes the Leontief Inverse Matrix for ij^{th} element that we gained from $G= (I-A)^{-1}$.

Forward linkage based on Rasmussen approach is measured how much of i output increases whenever there is a unit change in final demand in all sectors. Jones (1976) suggested using the row sum of output inverse matrix which was introduced by Augustinovics in 1970, to measure total forward linkages rather than the origin of Rasmussen method's forward linkage. It can be efficiently in eliminating the problem of double counting of causal linkages which is the result of Chenery-Watanabe and Rasmussen's approaches. (Andreosso and Yue, 2000)

Forward linkage of sector *i* can be measured by following a formula:

$$FL^{R}_{i} = \sum_{j=1}^{n} g_{ij}$$

where it is referenced in the row sums of the Leontief inverse matrix only.

Power of Dispersion and Power of Sensitivity

Power of Dispersion and Power of Sensitivity is used in determining the main sector in driving up the economic growth of the country. Industry with a high indicator of *Power of Dispersion* is referred as strong backward linkages. Industry with low indicator of *Power of Dispersion* is referred as weak backward linkages. The industry is referred as strong forward linkages if there is a high level indicator of high Power of Sensitivity recorded. The industry is referred as weak forward linkages if there is a low degree indicator of *Power of Sensitivity* recorded. (Fauzana, 2007; Kula, 2008; Hussain, 2010). The sector with the indicators of backward and forward linkage greater than 1 is considered as key sector in the economy in this paper.

Index of the Power of Dispersion by sector can be calculated as follows.

$$\text{Index of The Power of Dispersion by Sector j} \equiv \frac{\text{Each Sum of Column in Inverse Matrix Coefficient Table}}{\text{Mean Value of Whole Vertical Sum in The Inverse Matrix Coefficient Table}}$$

$$\equiv \frac{\sum_{i}^{n} b_{ij}}{1/n \sum_{i}\sum_{j} b_{ij}}$$

Note: The numerator indicates the average stimulus imparted to other sectors for one unit in the final demand for industry ***j.*** *Furthermore, the denominator reflects the average stimulus for the whole economy when there is one unit increase of all final demands for all sectors.*

Furthermore, Index of the *Power of Sensitivity* by sector can be calculated as follows.

$$\text{Index of The Power of Sensitivity by Sector } j \equiv \frac{\text{Each Sum of Row in Inverse Matrix Coefficient Table}}{\text{Mean Value of Whole Horizontal Sum in The Inverse Matrix Coefficient Table}}$$

$$\equiv \frac{\sum_{i}^{n} b_{ij}}{1/n \sum_{i}\sum_{j} b_{ij}}$$

Note: b_{ij} denotes Leontief Inverse Matrix and n denotes number of sectors.

DATA ANALYSIS AND FINDINGS

Backward and Forward Linkages

The indices of backward and forward linkages for year 2000 and 2005 have shown by table 4.1 as following. In year 2000, the highest indicator of backward linkage is construction sector and at the same time manufacturing sector is the second highest indicator of backward linkage. It is followed by the sector of utility, agriculture, fishery &forestry; service and only mining & quarrying. However, the highest indicator of backward linkage is replaced by utility sector with the value of 1.89 but there is only 1.74 for backward linkage for construction sector. And, manufacturing sector is still ranked as second place of backward linkage in year 2000. Comparatively, the value of backward linkage for manufacturing sector is increased between year 2000 and 205, that is, with the value of 1.49 and 1.76, respectively. It reflected when there is RM1 increase of final demand for manufacturing sector happened, it could increased RM1.49 output of all sectors that provided output to the manufacturing sector as input production in 2000. But, in latter days, it able to increase the total output for the entire system of economy by RM1.76 for every RM1 increase of final demand for manufacturing sector. Therefore, it has reflected the demand relationship between manufacturing and other non-manufacturing sectors become increase and in turn, it could bring an impact of overall production when there is an expansion happening for manufacturing sector.

At the same time, the indicator of forward linkage for manufacturing sector stood for highest values in year 2000 and 2005 as shown by Table 4.1. In year 2005, the highest indicator of forward linkage is manufacturing sector and followed by the sector of service, agricultural, fishery &forestry; utility; mining and quarrying; and last but not least, construction. Other than manufacturing sector stand for highest places of forward linkage in year 2005, service sector is stand for second highest value of forward linkage. It is followed by the sector of utility, agriculture, fishery &forestry; construction and the mining and quarrying sector has a lowest indicator of forward linkage. When there was RM1 increase of final demand for manufacturing in the year 2000, manufacturing can be generated an extra value of RM2.13 manufactured output to other industries as their input production. However, there was RM2.52 incremental output that manufacturing could be generated when there was RM1 increase of final demand for manufactured output in the year 2005. Thus,

the supply relationship of manufacturing sector with other production sector is strong which the product of manufacturing sector could initially stimulated industry spread to upstream sector widely.

Table 4.1 Backward and forward Linkages in Year 2000 and 2005

Sectors	Backward Linkages		Forward Linkages	
	2000	2005	2000	2005
Agricultural, Fishery &Forestry	1.3802	1.4532	1.1647	1.2317
Mining & Quarrying	1.1075	1.2553	1.1023	1.1412
Manufacturing	1.4892	1.7640	2.1272	2.5152
Utility	1.4036	1.8941	1.1318	1.2926
Construction	1.6263	1.7435	1.0316	1.1618
Services	1.3388	1.2035	1.7879	1.9711

Note: An indusrty with high value of backward linkage could bring big total effects toward economic activities when it is experienced an expansion of its production. In addition, high degree of forward linkage reflects the product of the initially stimulated industry spread to upstream sector broadly.

Power of Dispersion and Sensitivity of Dispersion

From the perspective of backward linkage, there is high effect of backward linkage happened for the sector of manufacturing, utility and construction throughout the period under study. In oppositely, agriculture, fishery and forestry sector, mining and quarrying sector, and service sector have weak backward linkage's effects. . However, there are only two sectors have strong forward linkages, that is, manufacturing sector and service sector with the value of forward linkage greater than 1. Other sectors such as agriculture, fishery and forestry, mining and quarrying, utility and construction have weak forward linkages.

By using the input-output analysis of Power of Dispersion and of the Sensitivity of Dispersion, key economic can be examined in order to know the main sector in driving the Malaysian economic growth particularly form the aspect of production sector. From the findings as shown by Table 4.2, manufacturing sector is the key economic of Malaysia with the indicators of backward and forward linkage are greater than 1 simultaneously. It is reflected that the production of manufacturing sector is the main economic activities in leading the economic growth in the study.

Table 4.2 Power of Dispersion and Sensitivity of Dispersion in Year 2000 and 2005

Sectors	Power of Dispersion		Sensitivity of Dispersion	
	2000	2005	2000	2005
Agricultural, Fishery &Forestry	0.9923	0.9362	0.8374	0.7935
Mining & Quarrying	0.7962	0.8087	0.7925	0.7352
Manufacturing	1.0707	1.1364	1.5294	1.6203
Utility	1.0499	1.2202	0.8137	0.8327
Construction	1.1692	1.1232	0.7417	0.7484
Services	0.8925	0.7753	1.2854	1.2698

Note: Economic sector with high values of backward and forward linkages is the key econmic sector in driving up the economic growth.

DISCUSSION AND CONCLUSION

In the study, manufacturing sector is the leading sector among Malaysian production sectors in prompting the expansion of economic growth. When manufacturing sector is producing its output, it demands outputs from other production's sector as its input production and at the same time, it utilize its manufactured outputs to supply to other production sector as their input production. The strong demand and supply relationship for manufacturing sector as compared to other production sectors has made it could give a significant impact to other production performance particularly when there is an expansion of manufacturing sector occurs. In short, the growth of manufacturing sector is followed by the economic growth of a country, as in this study, from the aspect of production particularly. Furthermore, the expansion of manufacturing production will increase the productivity of other production sector especially by supplying the low cost and high quality of manufacturing output as their input production. Thus, it has fulfilled first and third of Kaldor's Law.

However, there is only locally produced intermediated inputs involved in the study and ignore the contribution of import commodities as one part of intermediated inputs among production sector. This has been highlighted in the study of Reis and Rua (2006) that there was high consumption of import commodities as input for the manufacturing industry. As in this study, there is low effect of demand relationship of manufacturing sector as compared to other non-manufacturing sector since there is an ignorance of import commodities as their input production in the study. Thus, further study is needed in involving the import commodities as input production to examine more accurately the inter-industry relationship. Meanwhile, the contributions of household, government and export towards our economic growth are invalid since the final demand sector from the input-output table is being ignored. As a result, it could only reflect the GDP from the aspect of production structure rather than real economic growth.

Manufacturing sector is an important sector in increasing the economic growth of a country, the integration between manufacturing sector and non-manufacturing sector is very crucial especially in making sure the existence of the economic growth over time. Thus, government should not solely focus on the development of the manufacturing sector, but also other non-manufacturing sectors

such as agriculture, fishery and forestry sector and also mining and quarrying. This is because it could accelerate the sustainable growth of manufacturing sector continuously. In addition, government should encourage the activity of Research and Development (R&D) in the manufacturing sector. It could bring an increase the productivity level of manufacturing sector as emphasized by second Kaldor's law, high productivity level of manufacturing sector could increase the production of manufacturing sector. As a result, high productivity level of manufacturing sector could also increase the productivity level of other sectors by supplying the manufacturing output to them as input production.

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Strategies to Improve Commercial Office Rent Performance in the Golden Triangle Kuala Lumpur (GTKL)

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ABSTRACT

Sixteen new office buildings, accumulating eleven million square feet, located in the Golden Triangle area of Kuala Lumpur (GTKL), will be completed in 2014 (DTZ, 2012). With the substantial increase in office space supply, office buildings may find it difficult to achieve reasonable a rent performance. Literature suggests three strategies to improve rent performance. The first recommendation is to charge variable rent, where inelastic or short-term tenants are charged higher rates. A second strategy involves investing in building certifications (i.e. MSC status, GBI or LEED) to achieve premium rents. Lastly, attracting financially sound tenants (i.e. foreign-owned or big local firms) is recommended. Questionnaires were distributed to 42 office buildings in the GTKL. A total of 212 tenants completed the questionnaire. The results indicate that the concept of elasticity is not currently used. Instead, longer-stay tenants are charged lower rent to minimize turnover cost. Second, it was found that buildings that are certified MSC and Green status (i.e. GBI or LEED) do indeed enjoy higher rents than non-certified buildings. Lastly, buildings occupied by foreign-owned or bigger-sized firms receive higher rent. The implications for practices and theory in this regard are discussed.

Keywords: Green and MSC Certifications, Resource-Based View (RBV), Office Rent

-Requested by author not to be published as full paper-

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Effect of Organizational Justice on Employees Work Engagement: An Empirical Study

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ABSTRACT

The main purpose of this study was to examine the role that organizational justice may play on employee work engagement. Specifically, it aimed at examining the effects of organizational justice dimensions namely procedural, distributive, interactional and informational justice on employee work engagement. Data were obtained from 218 employees working on an airline company in the Middle East. Standardized scales were tested using structural equation modeling. The results indicate that procedural justice and interactional justice have an impact on employee work engagement whereas distributive justice and informational justice do not.

Keywords: Employee Work Engagement, Organizational Justice

INTRODUCTION

Recently, increased research attention has been paid to employee engagement (Hallberg & Schaufeli, 2006) and that it has become a widely used and popular term (Robinson et al., 2004). Many organizations count on their workforce and try to engage them in order to remain viable and competitive. In fact, many studies have claimed that employee engagement predicts employees' outcomes, organizational success, and financial performance (Bates, 2004; Baumruk, 2004; Harter et al., 2002; Richman, 2006).

Since employees are the most valuable assets to organizations in today's marketplace, leaders have to adapt certain strategies in order to not only maintain the current position but also to move their organizations forward and this can't be achieved unless and otherwise the most valuable assets are being engaged and their capabilities and competencies are completely utilized. Engaged employees are more likely not only to meet but also exceed the expectations of all people they come in contact with because they have every reason for doing so. The job characteristics that they have, leadership style they are being supported by, and the organizational culture and values they are enlightened with enable them to be more loyal, well committed, extremely productive, high performers, and try to engage customers on their part.

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As it is important for businesses, it has been reported that employee engagement is in a decline and there is a deepening disengagement among employees worldwide today (Bates, 2004; Richman, 2006). It has even been argued that the majority of workers today, roughly half of all Americans in the workforce, are not fully engaged or are disengaged, costing US businesses $300 billion a year in lost productivity (Bates, 2004; Johnson, 2004). In United Kingdom, estimates of the cost of disengaged workers on the British economy range between £37.2 billion and £38.9 billion (Flade, 2003). According to him, only 19% of the total British workforce are engaged while 61% and 20% are not engaged and actively disengaged respectively. May be this can be attributed to the lack of justice in the business environment.

Justice is required and needed not only in organizations but also wherever a human being exists in order to build good societies and since it is a basic objective of Islam and a moral virtue. As justice is an important aspect of people's lives, Allah, The Al-Mighty, spoke to His Messenger in this manner arguing people to be just and fair to each other when He said: "O My slaves, I have forbidden injustice for Myself and forbade it also for you. So avoid being unjust to one another." (Saheeh Muslim).

Given this introduction, the main aim of the present study examines the role that organizational justice may play in enhancing employee work engagement. Specifically, the role of the organizational justice components namely procedural, distributive, informational and interactional justice are examined.

LITERATURE REVIEW

Employee Work Engagement

The conceptualization of employee engagement can be traced back to Kahn study (1990) where he defined personal engagement as "the harnessing of organization members' selves to their work roles and, in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances. On the other hand, personal disengagement is defined by Kahn (1990) as "the uncoupling of selves from work roles and, in disengagement, people withdraw and defend themselves physically, cognitively, or emotionally during role performances". When workers are engaged, they become physically involved in their tasks, cognitively alert, and emphatically connected to others (Kahn, 1990). They are aware of business context, and works with colleagues to improve performance within the job for the benefit of the organization. However, disengaged employees become physically uninvolved in tasks, cognitively unvigilant, and emotionally disconnected from others.

Another dimension of employee engagement can be drawn from the burnout literature where burnout research has shifted its focus to the positive side, namely job engagement. This development reflects a new trend toward a positive psychology that emphasizes human strengths and optimal functioning rather than malfunctioning and weaknesses (Seligman and Csikszentmihalyi, 2000). It has been argued that engagement is the opposite pole of burnout. Engagement, though, is characterized by energy, involvement, and a sense of efficacy which Maslach and Leiter, (1997) considered them as the direct opposite of the three burnout dimensions exhaustion namely, cynicism, and lack of professional efficacy, respectively. As engagement

was measured by the burnout instruments where, according to Maslach and Leiter (1997) approach, low scores on exhaustion and cynicism, and high scores on efficacy are considered as indicators of engagement .Schaufeli et al., (2002), reported that engagement should be measured independently with a different instrument.

As such, Schaufeli et al., (2002) defined engagement as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective cognitive state that is not focused on any particular object, event, individual, or behavior. Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterized by being fully concentrated and deeply engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work. Unlike vigor and dedication that make a direct contrast with the first two burnout ccomponents (exhaustion and cynicism), absorption is found not to be the direct opposite of last burnout dimension of reduced efficacy rather it was found to be another constituting element of engagement(Schaufeli et al., 2001;Schaufeli and Bakker, 2004).

Organizational Justice

Organizational justice is defined as the people's perception of fairness and justice in the organizations (Adams, 1965). In work place, people tend to compare themselves with their counterparts within the same organization or different organizations that perform the same task, or they tend to compare their efforts(inputs or what they give) in achieving a job with the output(what they get as a result of achieving that task) such as pay, recognition, promotion and alike. Organizational justice has three components as most of the researches mention. They are: Distributive justice, Procedural justice, Interactional justice. In the following part, those components will be described severally and their impacts or influence on employees' behavior.

Distributive Justice

Distributive justice is based on the idea of employees' perception of how an organization distributes and allocates resources (Adam, 1965). According to him, distributive justice is contributed to equity theory and they are interchangeably used where employees compare the ratio of what they get (the outcomes of the job) to the ratio of what they give (input and contribution). If it is found out that outcomes are considered to be less than others doing the same job and have the same contribution, in this case the inequity exists.

Many researches have been done to examine the influence of distributive justice on employees' behavior such as job satisfaction, organizational commitment and turnover intentions. Distributive justice influences satisfaction, organizational commitment and turnover intentions, Hassan, (2005). It is also reported that distributive justice is significantly associated with job and pay satisfaction. More recent studies have shown that there is a strong relationship between distributive justice and pay satisfaction (Roch and Shanock, 2006), job satisfaction (Hassan, 2002). Furthermore, Stecher and Rosse (2005) recently showed significant negative

relationships between distributive justice and negative emotion, intent to leave and intent to reduce efforts.

Procedural Justice

Whereas, distributive justice is concerned with the peoples' perception of the outcome they receive from their jobs, the concern of the procedural justice, as researchers conceptualized, deals with the fairness of the procedures and policies taken place to determine the outcome (distributive justice) that they receive in return. In other words, it is how salaries are determined and how promotion policies are being dealt with.

According to Tyler and Lind (1992), procedural fairness might be used as the basis by which employees establish longer relationships with their employers, enhancing their loyalty toward the organization. Other several studies have been conducted to support the idea that perception of procedural justice is positively correlated with organizational commitment (Kee et al., 2004; Martin and Bennett, 1996; Masterson et al., 2000; Sweeney and McFarlin, 1993) and negatively correlated with withdrawal intentions (Ansari et al., 2000). It is also reported that the procedural justice has an immediate effect on peoples' behavior and predict their outcomes. Cohen-Charash and Spector, 2001; Colquitt et al., 2001, proposed that procedural justice predicts pay satisfaction, job satisfaction, performance, organizational commitment and withdrawal.

Interactional Justice

Interactional justice is referred to the way that organizations treat its people and how they look towards them. Do they deal with employees with integrity, in a respectful and truthfulness manner? Or managers don't give a great attention to this aspect. According to Colquitt et al., 2001, interactional justice refers to the quality of treatment experienced by individuals in their interactions with supervisors.

For organizations to be effective, competitive and survive in today's marketplace, managers and supervisors should treat their employees based on the mutual benefits, trust and integrity and engage and get them involved in all necessary steps that organizations might take. Researchers considered interactional justice having two elements namely, interpersonal justice and the informational justice. The latter is concerned with all the necessary information related and needed by employees. It means that employees should be notified about any procedures taken why it was taken, its benefits and its consequences and how are they conveyed.

It has been found that interactional justice is related to job satisfaction, organizational citizenship behavior, outcome satisfaction, commitment, withdrawal behavior and performance (Colquitt et al., 2001). It is also reported that interactional justice predicts the quality of relations between supervisors and their subordinates (Roch and Shanock, 2006). In a recent study, Stecher and Rosse (2005) showed that interactional justice had a stronger impact on negative emotions, intent to leave, and intent to reduce work effort than distributive justice.

Informational Justice

Informational justice concerns fairness perceptions based on the clarification of performance expectations and standards, feedback received, and explanation and justification of decisions. It is argued that perception of informational justice contribute to employee satisfaction and positive attitudes.
Based on the above, the following hypotheses are formulated:
H1: Perception of distributive justice is positively related to employee engagement.
H2: Perception of procedural justice is positively related to employee engagement.
H3: Perception of Interactional justice is positively related to employee engagement.
H4: Perception of informational justice is positively related to employee engagement.

METHODS

Participants

The sample of the study consisted of 218 employees working in an airline company located in the Middle East. They were drawn from several job levels and departments in the head office and the mean number of years served in the organization was 8.40 (SD= 8.24). According to Comrey and Lee (1992) sample size of 200 is considered fair enough for factor analysis. In addition, Gorsuch's (1983) suggestion (in Bryman and Cramer, 2001) of an absolute minimum of five participants per variable (5:1) have also been adequately satisfied considering the sample size of 218 and the 36 cases (items) contained in the study.

Instruments

Organizational Justice Perception Scale: Justice perception was assessed using the four dimensions of organizational justice, namely: procedural justice (7 items), distributive justice (4 items) and interactional justice (5 items), and informational justice (4 items) developed by Colquitt (2001). Each dimension of organizational justice is measured using a 7-point scale, ranging from 1= "not at all" to 7= "to a great extent".

DATA ANALYSIS

The Use of SEM

Structural equation modeling was employed to test our model. It is hypothesized that the organizational justice four constructs namely; procedural justice, distributive justice, interactional justice, informational justice have impact on employee engagement.

The first step in performing SEM is to test the measurement model. According to Hair et al. (2010) a conventional model in SEM terminology consist of two models- the measurement model (representing how measured variables come together to represent a construct) and a structural model (showing how constructs are associated with each other).

The measurement assessment component of SEM thus assess the contribution of each indicator variable in representing its associated construct and measures how the combined set of indicator variables represent the construct (reliability and validity). On other words in SEM reliability measures the degree to which a set of indicators of latent construct is internally consistent based on how highly interrelated the indicators are with each other.

The Measurement Model

So in our case we have five constructs, namely; procedural justice, interactional justice, distributive justice, informational justice and employee engagement. So our intention in measurement model is to see how well are the mentioned construct being represented by their respective individual constructs. Mplus 7.2 was used in conducting measurement model and structural model. The measurement model and its associated fit indices is shown in Figure 1. The used fit indices to evaluate the model are ML χ^2, The Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR). The results indicate that the hypothesized model is accepted and the model represented data well: ML $\chi^2 = 824.055$, df = 367, CFI = .909, TLI = .900, SRMR = .053, RMSEA = .076 (CI .069-.083.

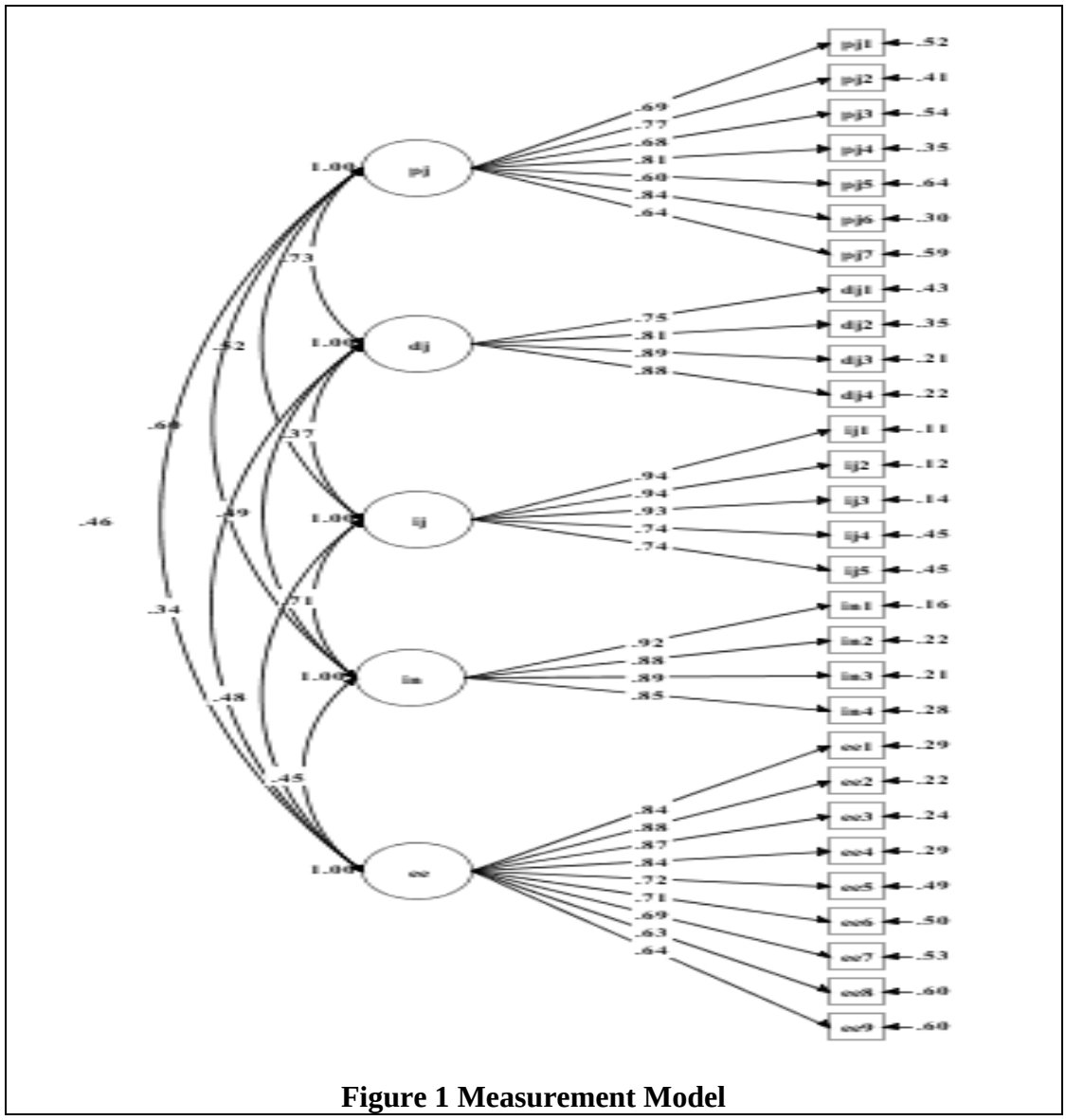


Figure 1 Measurement Model

The Structural Model

After specifying the measurement model, the next step in SEM is to specify the structural model by assessing relationships from one construct to another based on the proposed theoretical model. In other word, we want to assess the acceptability of our hypotheses. The structural relationships had been tested and the results show that the full hypothesized structural model had achieved a good fit to the observed data: ML χ^2 = 824.055, df = 367, CFI = .909, TLI = .900, SRMR = .053, RMSEA = .076 (CI .069-.083). Figure 2 illustrates the structural model.

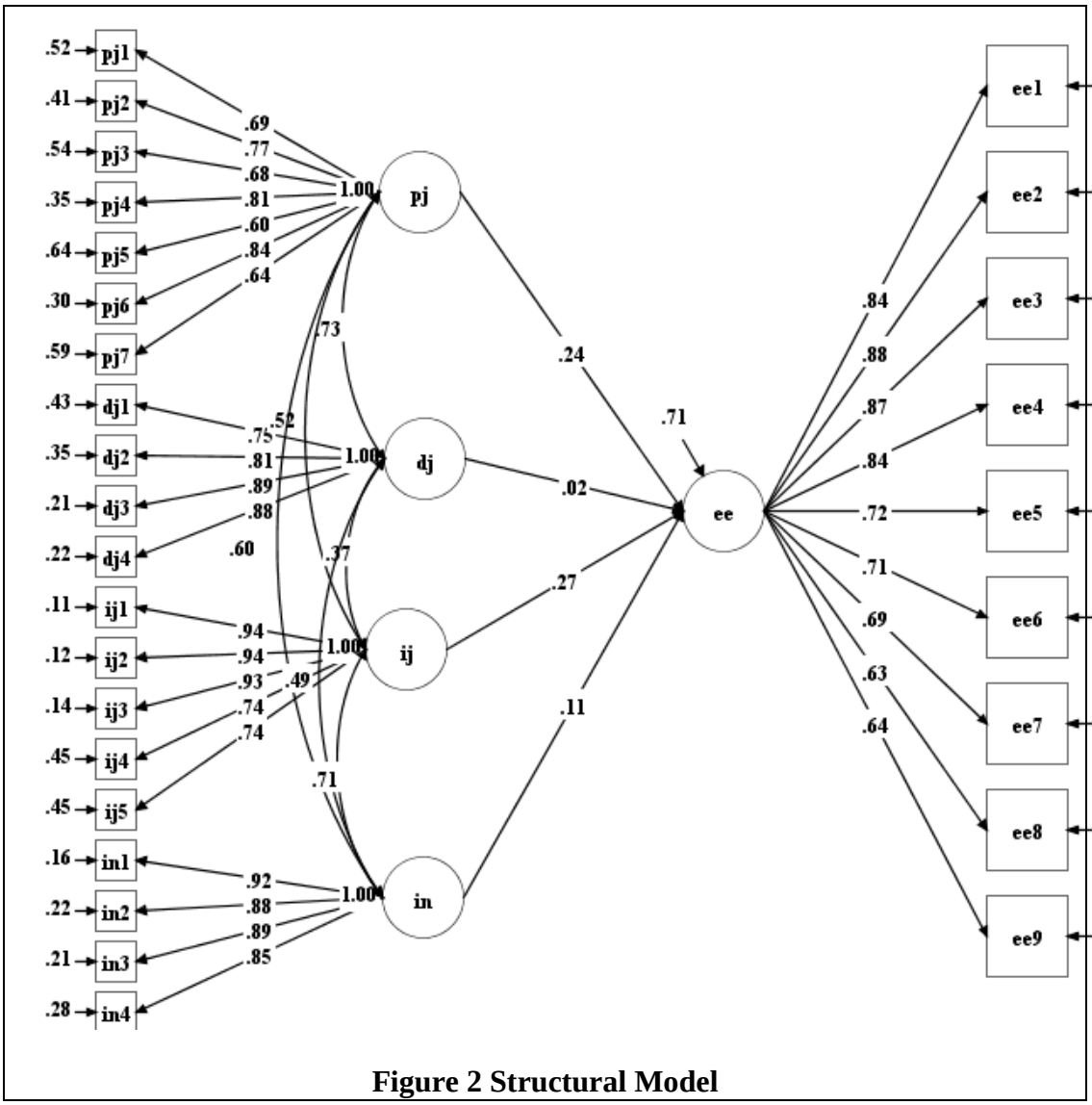


Figure 2 Structural Model

Hypotheses Testing

Hypothesis 1 proposed that procedural justice is positively related to employee engagement. The result was significant and in the hypothesized direction as expected (Standardized Coefficient = 0.238, z = 2.058, p = 0.040), which indicates that procedural justice had a medium positive effect on employee engagement and thus the hypothesis was supported.

Hypothesis 2 proposed that distributive justice is positively related to employee engagement. The result was not significant but in the hypothesized direction as expected (Standardized Coefficient = 0. 017, z = 0.168, p = 0.867), which indicates that procedural justice did not have an impact on employee engagement and thus the hypothesis was not supported.

Hypothesis 3 proposed that interactional justice is positively related to employee engagement. The result was significant and in the hypothesized direction as expected (Standardized Coefficient = 0. 274, z = 3.011, p = 0.003), which indicates that

interactional justice have the strongest effect on employee engagement and thus the hypothesis was supported.

Hypothesis 4 proposed that informational justice is positively related to employee engagement. The result was not significant but in the hypothesized direction as expected (Standardized Coefficient = 0. 107, z = 1.045, p = 0.296), which indicates that informational justice was not a predictor of employee engagement and thus the hypothesis was not supported. Table 2 presents a summary of hypotheses.

Hypothesis	Coefficient	Findings
PJ → EWE	0.238	Supported
DJ → EWE	0. 017	Not Supported
IJ → EWE	0. 274	Supported
IN→ EWE	0. 107	Not Supported

DISCUSSION

The current study aims at examining the role of perception of organizational justice among those employees in terms of allocation of organizational resources, the way these resources are allocated and the way that supervisors treat and communicate with the employees. Data were obtained from an airline company employees. The targeted sample was 10% of the total work force which consists of around 3500 employees. Thus, 350 questionnaires were distributed and 218 were filled out and returned with a response rate of 62.3.

The results of this study demonstrated that procedural justice and interactional justice were positive predictors of employee engagement. This means that employees would probably be more engaged if they perceive that the organization polices of allocating and distributing organizational resources are fair and just. This study is in line with previous study that procedural justice predicts employee engagement, Saks, (2006). Distributive justice and informational justice were not significant predictors of employee work engagement. What matters most to those employees is how policies are set and how they are being treated by their organization.

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An Empirical Examination of Over-Subscription in the Malaysian IPO Market

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ABSTRACT

The present paper examines whether involvement of informed investors and information asymmetry in fixed-price mechanism affect the over-subscription ratio in Malaysia IPO market. Using data of 373 IPOs that are listed on Bursa Malaysia from 2000 to 2012, we find a weak positive relationship between informed investors and over-subscription. However, the relationship between information asymmetry and over-subscription is strongly negative. The negative effect of company size suggests that big companies that are considered to have lower information asymmetry receive less investors' interest since investment in such companies with low risk is expected to provide lower initial return.

Keywords: Over-Subscription Ratio, Informed Investors, Information Asymmetry, Fixed Price Mechanism

INTRODUCTION

In Malaysia, most IPOs offered through fixed pricing mechanism making it difficult for the issuers and potential investors to gauge the true value of companies. In Malaysia, investors are required to pay in advance for the shares they wish to subscribe. The advance payment method in Malaysia market makes fixed price IPOs less attractive as compared to those of book-building pricing mechanism (Chowdhry & Sherman, 1996a) since investors have to bear the opportunity cost. However, in fixed pricing method, the possibility of variance in adverse selection cost for the uninformed investors is not as high of the book-building mechanism that is more uncertain. Prior to the 1996 price liberalization, the fixed pricing is based on the price to earnings (P/E) multiples. The fixed price IPOs are determined by the issuer and underwriters prior to the allocation, thus in cases when demand exceeds supply of IPOs, the new shares will be allocated on a pro-rata basis or balloting basis. The current practiced fixed price mechanism gives issuer and underwriters a great degree of freedom to set the offer of the IPOs. However, the final offer price still needs approval from the Securities Commission of Malaysia in ensuring it's priced on a fair value basis (Abdul-Rahim & Yong, 2010).

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Similar to the practices in other countries such as Hong Kong, Singapore, Thailand and the United Kingdom (offer for sale), the offer price of IPOs in Malaysia is determined within two weeks to two months prior to listing. This implies that the true value of the IPOs may not be completely reflects in the offer price. This creates an opportunity for potential investors to collect information before subscribing the company shares. In general, countries that has high over-subscription ratio will lead to higher under-pricing. In fixed price method, the information on level of investors demand can be proxies using over-subscription ratio. In book-building method, information on over-subscription does not exist (Low & Yong, 2011). The over-subscription ratio could reveal the optimism of investors about the future of the IPOs based on the pre-listing information. In this study, oversubscription refers to the public oversubscription rather than non-public (institutional) allocations. An IPO with higher over-subscription ratio indicates the high level of optimism by the retail investors about the IPOs, which generally will push the price upward due to the speculative activity. In addition, the sentiment of retailed investors (uninformed) would also influence the aftermarket trading activity since the unsuccessful investors also tend to compete in subscribing the IPO.

Prior theoretical and empirical evidence indicates that countries that employ fixed pricing method such as the UK and most of the Asian countries have higher level of underpricing and over-subscription ratio (Chowdhry & Sherman, 1996a). They argue that when there is an information leakage and problem faced by the allocation of shares largely to informed investors, a larger over-subscription can be observe. The leakage of information could come from different sources. The level of over-subscription increases when there is a longer period between offer price and closing of the biding date for the information leakage (Chowdhry & Sherman, 1996a, 1996b).

There are several motivations of the present study. Firstly, studies by Low and Yong (2011) find that pre-listing information such as demand (investor enthusiasm), supply (number of companies listed), offer price and opportunity cost of fund has significant influence on investors demand. The present study also differs from Low and Yong (2011) who examines the factors influence the over-subscription ratio in Malaysia market as well. Low and Yong (2011) examines the factors influence investors demand by employing different variable from present study where the study use IPO offer price, issue size (total number of shares floated), hot issue market and investors' opportunity cost of fund. However, the present study examines other component of information that available prior to IPO listing and has not receive enough attention such as involvement of informed investors and information asymmetry. Present study also recognize other variables that may influence the investors' demand and has been hypothesizes in earlier studies. The control variables includes investors' enthusiasm, information leakage, opportunity cost of fund, risk and market condition.

Secondly, as model of Chowdhry and Sherman (1996a), implies that investors demand is important to be examined since it will result to the success of the IPO issuance and it may provide a good signal for the value of the companies. Thirdly, participation of informed investor and information asymmetry effect do provide a signal on the future prospect of the company. Since informed investors are the institutional investors, they know more detailed information about the company's prospects. Thus, the higher involvements from informed investors do provide a good signal to the uninformed investors (Sherman 1996). Finally, as argue by (Eldomiaty,

2008) that information asymmetry level in developing market is higher than developed market; While, Goergen et al. (2006), Beatty and Ritter (1986a) and Barclay and Smith (1995) argue that small and young companies has higher information asymmetry and uncertainty compare to big companies. Therefore, small companies are more exposed to greater information asymmetry level and uncertainty. Thus, retail investors (or uninformed investors) may reluctant to subscribe the IPOs with high risk unless investors are compensated with higher initial returns. This study argues that risk neutral investors may avoid subscribing the IPO with high of uncertainty. However, if the small companies give a good signal in term of the prospects of the growth, they may have a large subscription from potential investors.

While, Rock (1986), argued that institutional investors affects initial returns positively through its effect on investor demand. Since institutional investor participation works as a certification, a bandwagon or cascade effect occurs as uninformed investors will also subscribe the IPOs, creating demand which will push the IPO price further up. Therefore, we argue that the involvement of informed investors (generally institutional investors) may create the confidence and herding for the uninformed investors to subscribe the IPOs. In the absence of informed investors, the over-subscription level may be reduced. Further, we argue that the "good" or "bad" signal will transform to the fraction of informed investors hold in the company. However, if the companies has high level of information asymmetry and risk then investors may be reluctant to subscribe to the IPO unless the high risk is offset to higher initial returns during the listing. The level of over-subscription also depends on the quality of the companies. Therefore, big companies which are more established in terms of capital and consider having lower information asymmetry may have less demand from investors since lower risk is compensated with lower initial return. Moreover, the small companies IPO price is generally set a lower offer price as compared to big companies. Once investors realized that the offer price is too low and the companies signal a good quality or prospect, this may attract investors to subscribe to the IPO.

The present paper shed light that several information in the prospectus provided by the issuers is valuable in determining the level of investors demand because information pertaining to the unlisted companies is not available for the public and the only source for them to rely on is the prospectus as to assist in decision making. Therefore, the information in the prospectus serves as a signal to investors. The present study also provides a piece of information to the issuers in ensuring the issuers are efficient in managing the IPOs in fixed price mechanism. Present study also use the unique setting of fixed price mechanism in analysing the factors that influence the investors demand which can minimizes the uncertainty of both issuer and investors in making the investment decision. In addition, so far no research that relates involvement of inform investors and information asymmetry effect on investors' demand for IPO.

This study aimed to shed light on selected important pre-listing information (involvement of informed investors and information asymmetry effects) that may affect investors demand during the subscription period. The remainder of the paper discussed the literature, data and methodology, findings and finally the conclusion of the present study.

RELATED LITERATURE

In fixed price mechanism, an IPO price of the IPO is determined prior to the allocation. In contrast, the price of an IPO in book-building mechanism will be determined by compiling and comparing bids among groups of investors. As suggested by Chowdhry and Sherman (1996a, 1996b), over-subscription ratio became a credible source of information in fixed-price mechanism. This may be due to the retail investors have to make an advance payment for the IPOs and they face unknown potential investor demand for the price that has already been fixed. Further in fixed price mechanism system including in Malaysia, issuers do not receive an interest earned from the advance payment method which can be used to reduce the underpricing cost. While in the book-building mechanisms the interest earned in advance payment method cannot be ignored.

While, Mazouz, Saadouni, and Yin (2009) find that the issues related to the underpricing and oversubscription ratio vary across the different offering methods. As pointed out by Van Bommel, Dahya, and Shi (2010), in fixed price mechanism investors faced higher uncertainty on the "true" value of the IPOs in aftermarket trading. Ritter (1991) argue that companies will be more attract to go public when investors behave irrationally and optimistic. The good signal not only will increase the company's share price but also the whole industry. Empirical work documented that small and young companies tends to have higher information asymmetry (Beatty & Ritter, 1986b; Goergen et al., 2006). Thus, the higher uncertainty sends a bad signal to the investors who assume to be risk neutral and it is likely to reduce the over-subscription. On the other hand, small companies that are associated with higher information asymmetry generally issue small size of offering during the listing. Therefore, potential investors have limited number of shares available to subscribe and this may put a pressure and push the over-subscription (Mohd, Abdul-Rahim, Yong, & Nor, 2014). As argue by Benveniste and Busaba (1997) that issue size does matter when investors demand is strong. However, Low and Yong (2011) finds no significant relation between offer size and over-subscription ratio. On the other hand, Chowdhry and Nanda (1996) show that high demand IPOs are predicted to be associated with a smaller offer price (small companies) which has a larger underpricing.

Rock's (1986) winner curse hypothesis suggests that companies that has involvement of informed investors are associated with low risk companies and accordingly investors will be compensated with lower initial return. The winner curse hypothesis suggest by Rock (1986) is routed from the information asymmetry. Informed investors normally will have a better knowledge about the companies and they will purchase the IPOs if only they believe it worth for the price such as the growth prospects of the companies. This behavior implies that the uninformed investors are more likely to purchase the IPO that the informed investors do not participate. Thus, the involvement of the informed investors and information asymmetry effects do affect the level of investors demand. This variable is distinctive since none of the previous studies have examined the interaction relationship of both informed investors and information asymmetry on investors demand.

Investor enthusiasm is one of the key features in determining investors demand. If the first day return is high, generally it will attract more investors to bid for the IPO. Accordingly, when investors are optimism about the shares, it will create a cascade on the demand. This argument is further supported by Shiller (1990) using

impresario hypothesis that high initial return leave a good impression to the investors. While Loughran, Ritter, and Rydqvist (1994), show that the demand for investors will be high when the initial returns is high and investors are well informed about the investment. The above discussion shows that investors' optimism does create a cascade on demand. This is especially true when the underpricing is high which response to investor sentiment. Few that associates underpricing with investor sentiment (Bayley, Lee, & Walter, 2006; Cornelli, Goldreich, & Ljungqvist, 2006; Fennee, 2009; Mohd-Rashid & Abdul-Rahim, 2012; Rashid, Rahim, Hadori, & Tanha, 2013). We conjecture that investor sentiment using the proxy of dummy initial return (*DUMMYIR*) and over-subscription is positively correlated.

Previous studies also show that there are other factors that play an important role in fixed price mechanism (Chowdhry & Sherman, 1996a, 1996b). In fixed price mechanism the offer price must be set before the IPO listing or potential investors apply for shares. The gap between the offer price and listing are on averages between two to four weeks. As suggested by Loughran et al. (1994), the longer time between offer and listing will lead to greater underpricing. However, Chowdhry and Sherman (1996b) argue that the greater offer periods, tend to increase the chance of information leakage and if it is good buying shares then it will cascade the oversubscription. Thus, present study use *DELAY* as a proxy of the information leakage.

In addition in fixed-price mechanism, investors to face the opportunity cost of fund from the time they submit their IPO until the IPO listing date. Fung, Cheng, and Chan (2004); (Low & Yong, 2011) find when the longer the period between last day IPO application and listing will signal a low quality IPOs and it reduced the bidding application by the investors. This study will employ Low and Yong (2011) study to proxy for the opportunity cost of funds from the last day of application to the listing date of the IPO.

The theoretical model shows that company with lower offer price is associated with increasing investors demand. Investors are more likely to bid for the IPOs where prices are normally set lower and they believe it was undervalue from the fair value. Assuming that investors are optimist, a higher investor demand will push the initial return. In other words investors will be compensated with higher initial return for bearing the high risk (lower offer price) IPOs. Offer price has been used as a proxy of risk in previous studies by Jegadeesh et al. (1993), Schultz (1993), and Willenborg (1999) who find that offer price is positive significant with initial return. While, Bradley and Jordan (2002) used the reciprocal of offer price to measure the risk of IPOs. They find the initial return and risk of the IPOs is positively significant. The clarification by Beatty and Welch (1996) may be used to explain the relationship between high risk (low offer price) and initial return. They argued that a small company that normally has a low offer price to attract more investors to subscribe the IPOs. Thus, we conjecture that risk and over-subscription are positively correlated.

The phenomenon of the hot market also plays an important role in influencing the investor optimism. As argued by Loughran and Ritter (2002); Lowry and Schwert (2001) that the recent market condition do reflects the investor interest in subscribing the IPO. Accordingly, Ma and Faff (2007) and Mahmood et al. (2011) argues that the most recent market condition prior to IPO listing do influence investors sentiment and over-subscription. Derrien and Womack (2003) uses three month prior market price to proxy for market conditions. Therefore, we conjecture that market condition and investors demand are positively correlated.

DATA AND METHODOLOGY

The sample of this study comprises of 373 IPOs that are listed from 2000 to 2012 in Bursa Malaysia (Malaysia Stock Exchange). January 2000 is chosen to allow a sufficient time for the Malaysian market to recover from Asian financial crisis in 1997 to 1999. Thus, one-year gap after the crisis allow us to stay relatively clean from the effect of Asian financial crisis. The data's on the IPOs compiled from Bursa Malaysia website, company prospectus; Star-online and information on over-subscription ratio collected from various newspaper reports. The sample of the IPOs in this study excludes IPOs with uncommon types that involve restricted offer-for-sale; restricted public issue; restricted offer–for-sale to eligible employees; restricted offer-for-sale to Bumiputera investors (Malays and indigenous people); special and restricted issue to Bumiputera investors; tender offer; and special issue. This is to avoid the less meaningful outcomes that consistent with Abdul-Rahim and Yong (2008) and Yong (2007). The final sample of this study excludes companies that have an extreme outlier as well the IPOs that have limited information availability.

To examine the impact of involvement of informed investors and information asymmetry effect on over-subscription ratio, a cross sectional regression model is applied as follows:

$$OSR_{i=} a + B_1 DPRIVATE_i + B_2 MKTCAP_i + B_3 DummyIR_i + B_4 DELAY_i + B_5 OCF_i + B_6 RISK_i + B_7 MKTCON_i + \varepsilon_i \quad (1)$$

Further analysis is executed to examine the interaction effect between informed investors (institutional investors) and information asymmetry, since present study believe that that the signaling mechanism will be different according to the level of information asymmetry. This argument also consistent with Yung and Zender (2010) who argue that level of information asymmetry do affect the signaling mechanism. Therefore, present study argue that level of information asymmetry interacts the relationship between informed investors and investors' demand. The interaction term is represented by (*DPRIVATE x MKTCAP*) as follows:

$$OSR_{i=} a + B_1 (DPRIVATE * MKTCAP)_i + B_2 DPRIVATE_i + B_3 MKTCAP_i + B_4 DummyIR_i + B_5 DELAY_i + B_6 OCF_i + B_7 RISK_i + B_8 MKTCON_i + \varepsilon_i \quad (2)$$

The dependent variable in this study is the over-subscription ratio which indicates the investors' demand and it measures the number of times the IPO is oversubscribed. A positive over-subscription indicates that the IPOs are highly demanded while a negative over-subscription ratio implies is a low investor's demand. In Malaysia, Abdul-Rahim and Yong (2010), find that a higher demand puts pressure on the aftermarket price of the IPO which resulted in an increase in initial returns. The formula is as follows;

$$OSR = \frac{Total \quad number \quad of \quad IPOs \quad Subscribed}{Total\ Offer\ Units} \quad (3)$$

There are two independent variables comprise of involvement of institutional investors and information asymmetry effect. Firstly, shares that offered to institutional investors are known as private placement (or informed investors). In the present study, institutional investor involvement is proxies by a dummy for private placements (*DPRIVATE*) in which one represent the private placements and zero otherwise. Level of information asymmetry based on the company's size, which represented by the market capitalization of the IPO. The largest market capitalization is assigned to big companies size that has lower information asymmetry effect and otherwise. Past studies that use market capitalization as a proxy for company size could be seen in the work of (Chahine, Filatotchev, & Zahra, 2011; Chambers & Dimson, 2009; Yung & Zender, 2010). Similarly, Goergen et al. (2006), Beatty and Ritter (1986a) and Barclay and Smith (1995) used size as a proxy for level of information asymmetry on smaller and young companies that are more exposed to higher uncertainties and higher level of information asymmetry. The formula for the market capitalization (*MKTCAP*) is as follows:

$$MKTCAP = PRE - (IPO\ SHARES\ x\ P^{Offer\ Price}) \quad (4)$$

Five-controlled variable that are founds to be significant in oversubscription studies are uses as controlled variables. Assuming that investors are enthusiastic with the IPO normally it will increase the investors demand to be high. We use dummy initial return (*DUMMYIR*) as suggested by Low and Yong (2011), however the measurement is a bit different where a dummy 1 consists of companies that have initial returns higher than an average of the IPO initial returns for the whole period and zero for the lowest initial returns. The present study hypothesizes when investor enthusiasm is high it would increases the over-subscription ratio. Furthermore, the longer the period between offer and closing of the IPO application, the larger the opportunity for the information to leaks. Thus, it would reduce the over-subscription ratio (Chowdhry & Sherman, 1996b). This study uses number of days from the IPO opening until closing of the application of the IPO to represent information leakage (*DELAY*). The third variable, as argued by Fung et al. (2004), an advance payment method in Malaysia creates an opportunity cost of funds for potential investors due to the length of time from the last day of IPO application to the listing date. Investors' loss the interest income earned from the other securities by putting their money in advance for the IPO allocation without knowing whether they will succeed in subscribing the IPOs. Following Fung et al. (2004); Low and Yong (2011), we use number of days from the last day of IPO application to the listing date as a proxy for opportunity cost of funds (*OCF*). The present study also argues that company risk could also influence investor's decision to subscribe. To attract investors normally companies with higher risks will be compensated with higher initial returns. The higher risk IPOs would have a lower offer price to attract investors. We use reciprocal of offer price to represent company risk (RISK) as suggested by Bradley and Jordan (2002). The fifth variable prior market conditions could also influence the over-subscription ratio. As indicated by Derrien and Womack (2003) and Agarwal, Liu, and Rhee (2008) hot market conditions will lead to a higher over-subscription. To represent the market conditions (*MKTCON*), we used average of three months EMAS index return prior to IPO listing. We hypothesize that market condition is positively related to over-subscription ratio.

EMPIRICAL RESULTS

Preliminary Result

Table 1 presents a descriptive statistic for the sample of 373 IPOs listed from January 2000 to December 2012. The average over-subscription ratio is about 30.45 times, the minimum over-subscription is about 11 times, and the maximum over-subscription is 263 times of the overall issues. This indicates that over-subscription ratio varies for each IPO that were issues in Malaysia. The large differences in the over-subscription allow this study to further examined factors that influence investor's demands.

Table 1 Descriptive statistics for the variables from January 2000 to December 2012

Variable	Mean	Median	Std. dev.	Min.	Max.
Over-subscription (times)	30.45	16.37	42.30	-0.89	263.42
Private Placements (million)	24.78	9.00	103.29	0.00	1885.00
Market Capitalization (million)	470.03	72.00	2734.85	16.00	40400.00
Initial return (%)	28.90	15.33	52.33	-50.55	404.16
DELAY (days)	12.48	12.00	5.56	1.00	74.00
Opportunity cost of funds (OPC) (days)	18.64	16.00	7.89	6.00	71.00
RISK (ratio)	1.68	1.31	1.27	0.19	8.33
Offer price (RM)	1.00	0.76	0.76	0.12	5.05
Market condition (%)	4.3	4.52	12.64	-29.12	39.24

Note: Over-subscription is number of times the IPOs are over-subscribed. Private Placements is the involvement of informed (institutional) investors. Market capitalization is number of pre-IPO shares times offer price. Initial return is percentage change in offer price and closing price on the first day listing. *DELAY* is number of days from opening to closing of IPO application. Opportunity cost of funds is the number of days from closing of the application to the listing day. RISK is reciprocal of the offer price. Market condition is the average return of EMAS Index three months prior to listing.

The involvement of informed investors (private) on average is RM24 million and the highest informed investors in IPOs is RM1885 million. Market capitalization which represent companies size on average is RM470 million while the lowest is RM16 million and the highest is RM40, 400 million. It shows a huge gap between small company and big company in the Malaysian market. The initial return on average is 28 percent, the lowest return is about negative 50 percent, and the highest is 404 percent. *DELAY* represents the offer period between openings to closings of the IPO application, used to proxy for information leakage. The average number of offer period is 12 days, with the highest offer period about 74 days and the lowest is one day.

The opportunity cost of fund is the length between closing dates of the application to the listing date. On average, the mean value is 18 days with a maximum that is close to the offer period about 71 days. The risk of the IPO is on average 1.68 and up to a maximum on of 8 which indicates there is large distances between companies with high and small risk. Finally, the market condition three month prior to the IPO listing shows on average about 4 percent and the highest market condition is 39 percent with a minimum negative 29 percent. Figure 1 illustrates that market condition positively related to the over-subscription. The declining trends of market condition attributes to lower investor demand (over-

subscription) which indicates investors are afraid to subscribe when the market in a cold condition and there is an uncertainty on the investment.

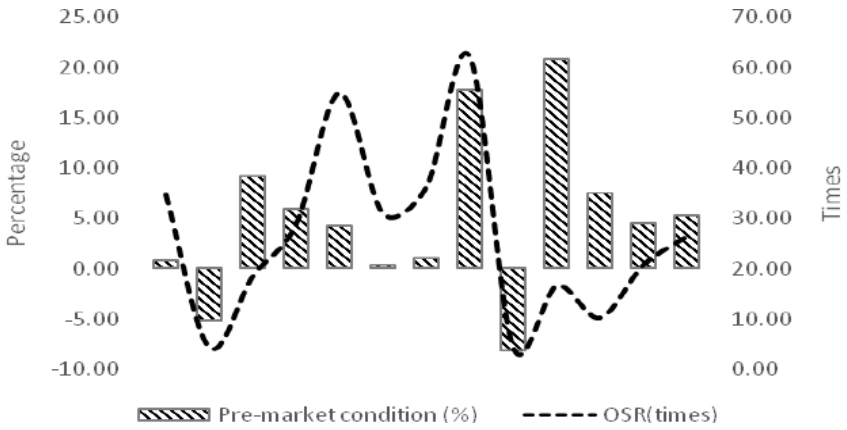


Figure 1 Average over-subscription and pre-market condition of IPO issues between January 2000 and December 2012

Table 2 provides the correlation matrix between the variables. All the independent variables have correlation less than 0.6, which indicates there is no multicollinearity. Further test using VIF (variance inflation factors) be done prior to regression analysis to confirm that there is no multicollinearity problem in regression analysis. The correlation analysis also shows that company size and offer period use to examine the influence of information leakage and opportunity cost of funds are negatively correlated with over-subscription.

Table 3 provides the differences between high and low investors demand, big and small companies, high-informed investors and low-informed investors. Panel A shows that the difference between high and low investors demand differs substantially. The high investors demand group has over-subscription 77.11 times as compared to the low demand, which is 2.43 times. The company size also differs dramatically between big and small companies. Results show that investors highly demand for the small companies IPO that has lower offer price. This contributes to the higher initial return for the highly demanded IPOs. This shows that the investors will be more interested to subscribe to the IPO if the offer price is low and there is high involvement from informed investors as well the market condition is relatively good.

Table 2 Pearson correlation matrix among variables

	OSR	DPRIVATE	MKTCAP	DUMMIR	DELAY	OPC	RISK
DPRIVATE	0.153**						
MKTCAP	-0.258**	-0.325**					
DUMMYIR	0.417**	-0.048	-0.236**				
DELAY	-0.135**	-0.258**	0.005	0.051			
OPC	-0.124*	-0.301**	0.044	0.081	0.879**		
RISK	0.305**	0.362**	-0.431**	0.140**	-0.256**	-0.245**	
MKTCON	0.144**	0.016	0.036	0.144**	-0.194**	-0.162**	-0.066

Notes: * indicates significant at 5% and ** indicates significant at 1% (2-tailed). *DPRIVATE* is dummy private placements. *MKTCAP* is market capitalization. *DUMMYIR* is dummy of initial returns. *DELAY* is number of offer period that proxy for the information leakage. *OPC* is the opportunity cost of fund using number of day from closing application to the listing date. *RISK* is the reciprocal of offer price. *MKTCON* is average return three month prior IPO listing.

Table 3 Mean values among sub-groups of IPOs

	OPC (days)	Delay (days)	Private (%)	Offer price (RM)	Initial Return (%)	OSR (times)	Risk (ratio)	Pre-market cond. (%)	Market cap. (million)
Panel A:									
High-demand IPOs	17.83	11.52	51.77	0.83	57.83	77.11	2.03	9.29	97.47
Low-demand IPOs	20.37	13.54	37.76	1.09	7.48	2.43	1.47	0.82	994.34
Wilcoxon Z-statistic	-1.13	-2.97*	-2.97*	-3.03*	-8.49*	-12.93*	-3.03*	-4.86*	-6.05*
Panel B:									
Big-company (Low-IA)	20.23	12.40	36.90	1.48	13.52	13.57	1.00	2.78	1425.54
Small-company (High-IA)	16.66	11.90	62.64	0.49	40.85	43.26	2.75	3.89	41.54
Wilcoxon Z-statistic	-2.63*	-1.47	-5.65*	-10.21*	-3.67*	-5.96*	-10.21*	-0.61	-12.93*
Panel C:									
High-informed investors	15.75	11.21	74.07	0.57	36.74	43.69	2.67	4.53	364.94
Low-informed investors	22.27	13.48	2.14	1.62	34.04	20.23	0.88	4.59	1101.84
Wilcoxon Z-statistic	-6.26*	-4.46*	-13.38*	-10.08*	-1.17	-2.39*	-10.08*	-0.46	-2.49*

Notes: * indicates statistical significance at the 1% level. IA represents the information asymmetry. The grouping is sort using Fama and French's approach comparison between group of 30 percent high and 30 percent low. The variables in this study are define in Table 1 and 2.

Another interesting point to note is that small companies have higher informed investors' involvement and this influences investors to subscribe more shares since involvement of informed investor's signals that the company has a good future prospect. The winner curse theory also suggests that investors will face less adverse selection problem if the IPO is purchase by large informed investors.

Panel C represents the difference between high-informed investors and low informed investors. The high informed investors prefer to subscribed the IPO with lower offer price (represent by small companies) may be due to expectation that investors will be alleviated with higher initial return for the high risk IPOs. In Panel

B, the opportunity cost of funds indicates lower for the small companies that might attract informed investors to subscribe the IPOs.

Regression Result

A cross-sectional multiple regression analysis result is reported in Table 4 to quantify the role of company size (information asymmetry) and informed investors in explaining the over-subscription ratio. The coefficients reported in Table 4 are generated using the Newey-West procedure to correct for the autocorrelation (Durbin-Watson is initially 1.44). The heteroskedasticity White test detects heteroskedasticity problem such that 'White consistent standard errors and covariance' are used instead. The regression model also passes the RAMSEY test for model specification.

The result in Table 4 is consistent with the correlation analysis in Table 2. The adjusted-R^2 of 21 percent shows that percentage that all variables in the model are explaining the variations in over-subscription ratio. We find that company size (*MKTCAP*) is strongly negative in explaining the over-subscription ratio. That is the bigger the company size (lower information asymmetry), the less number of investors subscribe to the IPO. Another possible explanation is that big companies have larger issue size such that the over-subscription is lower because there are more shares to meet demands of the investors. This finding is in line with Chowdhry and Nanda (1996) who found that small companies are associated with higher demand. The result also consistent with Benveniste and Busaba (1997) that company size does matter in explaining the over-subscription. In the context of this study, the company size that reflects the level of information asymmetry does influences the over-subscription of the IPO. Companies that face greater uncertainty has higher demand from the investors since the involvement of informed investors alleviate the risk of the companies accordingly.

Meanwhile, involvement of informed investors (*DPRIVATE*) is positive but insignificant in explaining the over-subscription ratio. The positive relationship is consistent with Rock (1986) who argues that the higher the involvement of institutional investors will lead the demand to increase and accordingly the return. Since informed investors subscribe more to shares that they believe have good prospects, involvement of informed investors is expected to create herding among others. However, the findings in this study show no significant relationship between the private placement and over-subscription. The finding also opposed to the winner curse argument, this may be due to the expectation from the investors that participation of informed investors which are knowledgeable investors will produce a higher initial return and accordingly it increase interest for investor to subscribe.

Evidence on investors' enthusiasm (*DUMMYIR*) is positively significant in explaining the over-subscription ratio. The finding is consistent with (Cornelli et al., 2006; Low & Yong, 2011; Sahoo & Rajib, 2010). Thus, enthusiasm of investors based on the movement of price (underpricing) reflects investors' over-subscription and it leaves an impression that the underwriter is providing a good IPO. The finding also support impresario hypothesis as argue by Shiller (1990) that investors impression is to create the demand for the IPO.

On the information leakage (*DELAY*), it is negatively related to oversubscription but the finding is not significant. The positive coefficient is suggesting that the longer the offer period for investors to place their order, the lower

the oversubscription. This is not surprising since, the longer offer period suggests the highest possibility of information leakage and it may cause the issue to fail if the bad news is reveal. Thus, investors face a high risk on IPOs that have a longer offer period and accordingly investors would lower their demand on such IPOs. This finding is consistent with the argument by Chowdhry and Sherman (1996b) that under the UK method the price is set early, thus the longer offer periods do create an information leakage.

Table 4 Regression result for over-subscription model for 373 IPOs listed from January 2000 to December 2012

Dependent variable is over-subscription ratio		
Variable	Coefficient	t-statistic
MKTCAP	-3.933	-2.785*
DPRIVATE	3.452	0.981
DUMMYIR	28.409	5.476*
DELAY	-0.197	-0.437
OPC	-0.440	-2.037**
RISK	6.471	2.736*
MKTCON	0.337	2.612*
Adjusted R^2= 0.2183		Durbin Watson D= 1.447
F-statistic= 15.844*		Ramsey Reset Test= 2.665

Note: *, **Denotes statistical significance at the 1% and 5% level. *MKTCAP* is market capitalization, number of pre-IPO shares times offer price. *DPRIVATE* takes value 1 if there is participation from private placement and zero otherwise. *DUMMYIR* takes the value 1 if the return is higher than the average initial return. *DELAY* is the number of days between openings to closing of the IPO application. *OPC* (opportunity cost of funds) is the number of days between last days of application to the listing day. *MKTCON* (market condition) is the average return of EMAS Index three months prior to listing. *RISK* is the reciprocal of the offer price.

We find a significant negative relationship between the opportunity cost of funds (*OPC*) and over-subscription ratio. The result is not surprising, since investors in Malaysia have to pay in advance for allocation of shares that they are applying. The longer the period from the IPO application closing to the listing date, the higher is the opportunity cost of funds. Thus, it reduces the investors' interest to subscribe the IPO. The finding is also consistent with Chowdhry and Sherman (1996b) who argue that the cost for ordering will increase when there is a high demand from investors.

The risk of the IPO using reciprocal of offer price shows that it is positive and highly significant in explaining the over-subscription. It indicates companies with high risk (lower offer price) will have a higher subscription from investors. The finding makes sense since investors realize that they be compensated with high initial return for bearing a high risk. The result a in line with the finding in Table 3, that company with high risk issued by smaller companies that offer lower offer price seems to have a higher demand from investors. The finding also consistent with Bradley and Jordan (2002) who point out that lower offer price are more likely to create a higher return through higher investors demand.

The impact of market condition is positively and strongly significant in influencing the over-subscription of the IPO. It suggests that if the market condition

before the IPO listing is hot (high return) then it will have an advantage to attract investors and create interest for investors to subscribe to the IPO. It also shows that, the good market condition reduces the uncertainty of the investment. Thus, it reduces the investors fear and contributes to the over-subscription of the IPO. The result is consistent with Loughran and Ritter (2002); Lowry and Schwert (2001) who conjecture that past market condition will influence the investors to bid more or less for the shares. Our main finding shows that company size which capture the level of information asymmetry, investors' enthusiasm, opportunity cost of funds, risk and market condition are significant in explaining the over-subscription of IPO.

As argue by Chowdhry and Sherman (1996a), that informed investors will not to subscribe the IPO if they have superior and ex-ante information indicating that the IPO is overpriced. Taking this into consideration, we utilize the argument of informed investors participation and information asymmetry effect may have some influence on investors demand even the direct influence of informed investors is not significant. This study adds an interaction effects between informed investors and information asymmetry (*DPRIVATE x MKTCAP*) as an additional explanatory variable in Table 5. Further, to avoid multicollinarity problem in the interaction term, the centering method is used (Aiken & West, 1991). Centering method is done by subtracting each predictor by the mean of the predictors (Cohen, Cohen, West, & Aiken, 2003).

The finding in Table 5 shows that, the interaction term is significant and negatively related to the over-subscription. The interaction term is negatively significant at the 10 percent level. From the finding, it indicates that the involvement of informed investors becomes significant by having an interaction term (*DPRIVATE x MKTCAP*). The result shows the influence of informed investors on over-subscription depend on the level of information asymmetry.

Table 5
Interaction effect between private placement and market capitalization

Dependent variable is over-subscription ratio		
Variable	Coefficient	t-statistic
DPRIVATE*MKTCAP	-4.880	-1.770***
MKTCAP	-1.912	-1.447
DPRIVATE	4.944	1.350
DUMMYIR	28.249	5.436*
DELAY	-0.172	-0.382
OPC	-0.421	-1.955**
RISK	5.880	2.506**
MKTCON	0.342	2.653*
Adjusted R^2= 0.219		Durbin Watson D= 1.447
F-statistic= 14.084*		Ramsey Reset Test= 2.454

Note: *, **, *** Denotes statistical significance at the 1%, 5% and 10% level.

Our finding supports the argument of Chowdhry and Sherman (1996b) that informed investors will subscribe and bid for the good quality IPO since they have superior information about the companies. Hence, information that are available to

informed investors will be revealed to the public through the level of over-subscription. Informed investors would only bid for the share if they believe that the true value of this share is higher than the offer price. This is further supported by the findings in Table 3, where the small companies have higher initial returns than the big companies. Another explanation on why informed investors are more attracted to subscribe to the IPO of small companies is for speculative purpose. As argue by Yong (2012) that small companies are more speculative, thus investors would bid for the share to gain a higher initial return on the day of listing.

CONCLUSION AND IMPLICATION

The present paper examines the information asymmetry effects and involvement of informed investors on over-subscription of IPOs using data from 373 IPOs listed from January 2000 until December 2012. The preliminary result suggests that the average over-subscription is about 30 times. There is a wide difference between high and low over-subscription ratio. This indicates that in this market the investors' preference to subscribe differs across investors. One of the features about Malaysia IPOs is that a fixed price mechanism and advanced payment are being practice. Such a unique feature provides an avenue for us to examine factors that influence investor's demand of IPOs. Our findings show that company's size (information asymmetry) is negatively significant in explaining over-subscription of IPOs. It implies that the higher the information asymmetry level, it creates more investors interest to subscribe since investment in company with high risk compensated with higher initial return. The finding also suggests that to increase the over-subscription, companies should have lower opportunity cost of fund, the offering of the IPOs is carried out during good market condition and high investors' enthusiasm, and lower offer price. The reason being, once investors realize that the issue price is "low", there is an overabundance of over-subscription for the company's shares. Other finding shows that there is no significant relationship between informed investors and offer period with IPO over-subscription. However, by adding an interaction term between informed investors and information asymmetry level, the result shows a significant negative relationship between an interaction terms (*DPRIVATE x MKTCAP*) with over-subscription. It indicates that the influence of informed investors on over-subscription depends on the level of information asymmetry.

In Malaysia, investors will place their IPO's subscriptions and advance payment for the application without knowing the actual number of shares that will be approve. While, issuers would fixed the offer price of the IPO without knowing the investors demand or interest on their shares. Thus, to compensate on adverse selection problem and uncertainty, investors would be compensate with higher initial returns especially in companies with higher uncertainty. The finding of this study suggests that in fixed price mechanism, regulators should ensure issuers disclose important information that might affect investors' decision whether or not to subscribe the IPO.

Our study has used a limited number of variables to understand factors affecting over-subscription of IPOs. It is likely that other factors such as underwriter reputation and macroeconomic variables might affect investor demand. Future studies could look into this to enhance the understanding of oversubscription of IPOs in Malaysia.

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Marketing Program Adaptation Practice of *Halal* Products among Malaysian *Halal* Exporters

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ABSTRACT

The purpose of this paper generally explores the marketing program adaptation practice of *Halal* products among Malaysian *Halal* exporters. The degree of *Halal* Product Integrity (HPI) and Marketing Program Adaptation (MPA) in selected Main Export Venture (MEV) were examined by distributing a self-administered survey to a sample of 110 *Halal* exporters. The results from descriptive and one-way ANOVA analyses showed a significant degree of importance and difference of HPI and MPA among product categories and market segments. Based on these findings, the precise understanding of the expectations of *Halal* product integrity and the implementation of marketing program adaptation are important for a specific product category and market segment because each export market is unique. Therefore, when exporting *Halal* products, certain degree of its marketing functions need to be adapted in response to the adherence towards Islamic guidelines, practices, and standards that serve as the main criteria by which global Muslim consumers' needs and preferences are met.

Keywords: *Halal* Product Integrity, Marketing Program Adaptation, *Halal* Product, Global *Halal* Market

INTRODUCTION

The global *Halal* market is large, and the size is increasing year over year in tandem with the growing Muslim population worldwide and the increased awareness of a responsibility to consume only *Halal* products. By looking at trade figures, the *Halal* business is estimated to be worth more than USD2.3 trillion annually and the *Halal* food sector alone is reaching USD700 billion every year (World Halal Forum, 2013). The lucrative demand of *Halal* products globally has driven many exporting firms to take part in marketing their products. However, marketing *Halal* products in international setting is more complex due to the unique demand on meeting the *Halal Toyyiban* concept that attached to the product. Muslim consumers particularly are more sensitive on the issue of *Halalness* in view of the fact that a genuine *Halal* status is an obligatory for every Muslim to fulfil. As it involves marketing strategy

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across borders, cross-contaminations are likely to occur throughout marketing activities especially during logistics (Tieman, 2006) which might turn the product to be unfit for Muslims' consumption and use. In response with the *Halalness* issues, various expectations of *Halal* integrity can be seen among worldwide consumers due to the polarization of *Halal* concept (Sungkar, 2010) and varying adherence to Islamic values (Temporal, 2011a, 2011b). Furthermore, the *Halal* markets are not similar to other markets everywhere as it is fragmented by ethnicity, location, income, *Halal* awareness and understanding, and a few other determinants (Sungkar & Hashim, 2009). As *Halal* products largely demanded by the Muslim consumer, the heterogeneity also existed among the Muslim markets worldwide and this unique condition must be understood carefully so as to prevent the international firms from offending or alienating this market (Sandıkcı, 2011; Sandıkcı & Ger, 2011; Sandıkcı & Rice, 2011).

Despite the increasing importance of *Halal* market and Muslim consumers worldwide, very scarce international marketing issues such as standardization versus adaptation has been investigated in relation to the peculiarities of the market (Prokopec & Kurdy, 2011). According to Sungkar and Hashim (2009), one-size-fits-all strategy simply cannot work as it is subject on specific conditions of the export market. Based on this scenario, it is highly suggested that firms who wish to export their product to global *Halal* market should pursue adaptation strategy so as to meet the specific demand of the market. Malaysia aims to be the global centre for *Halal* food production by 2010 and becomes a primary role in exporting *Halal* products (IMP3, 2006-2020). To secure performance in export market, firms that involve in exporting *Halal* products must have in-depth understanding on the unique features inherent in *Halal* industry so as to develop a proper and effective marketing strategy for each export market. However, studies on examining the export marketing strategy in *Halal* industry context received very limited attention in the academic literature especially in relating to the standardization/adaptation issue. Therefore, this study makes an attempt to investigate the marketing program adaptation practice of *Halal* product ventures among product categories (PC) and market segments (MS) which will explore the following issues:

- To what degree is the HPI perceived as important among PC and MS?
- To what degree is the MPA performed among PC and MS?
- Is the degree of HPI perceived differently among PC and MS?
- Is the degree of MPA executed differently among PC and MS?

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LITERATURE REVIEW

Halal Product Integrity

Halal product integrity in this study is referred to the aspect of *Halal*ness in accordance with the *Halalan Toyyiban* concept. Based on this concept, *Halal* product is being produced in accordance with religious obligations which necessitate the product to meet the vital elements of *Halal* (permissible according to *Shariah* principles) and *Toyyib* (good for human consumption). The concept of *Halal* is holistic which not only focus on the physical attributes of the product, but also emphasize the moral conducts throughout the entire production chains. As stated in Qur'anic verses: "… Eat of the good things (Toyyib) and do right..." (Qur'an, 23:51).

Based on this verse, the word *Toyyib*, translated as 'good', 'pure', and 'wholesome', which means pure both in the physical and the moral sense. Furthermore, the Prophet Muhammad SAW said: "Allah the Almighty is good and accepts only that which is good…" (Narrated by Muslim) that explains the importance of observing the aspect of *Halal* and *Toyyib* in every facet of human life (including human acts) in order to be blessed by Allah SWT. Apart from that, the principle of 'Permissibility of Things' clarifies that everything is created by Allah is permissible to Muslim except what has been stated in Qur'an and Hadith (Al-Qardawi, 2002). According to Islamic rules, this principle is not only limited to the things and objects being used or consumed, but also includes all human actions. The Qur'anic verses: "...He (Allah) has explained to you what He has made Haram for you..." (Qur'an, 6:119) is referring the *Haram* (prohibition) to both objects and actions. Therefore, the underlying dimensions of *Halal* product integrity in this study covers both physical and ethical dimension of the holistic concept of *Halal* (Hassan & Bojei, 2011). In this study, the physical dimension refers to the attributes that meet the basic needs of *Halal* status of the product, whilst ethical dimension denotes to the attributes that ensure the representation of *Halal* concept as a whole.

Marketing Program Adaptation

The adaptation of various aspects of the marketing program such as product, promotion, price, and distribution is one common type of strategy used by exporters, which is generally termed as "Marketing Program Adaptation" (Jain, 1989; Kreutzer, 1988; Sorenson & Wiechmann, 1975). At the international level, a firm basically has the option of standardizing or adapting the marketing program elements or combining these two approaches. The extent of combining standardization/adaptation (S/A) strategy depends greatly on two major factors: (1) the internal factor, which refers to the product, firm, and managerial characteristics, and (2) the external factor, which refers to the industry and export market characteristics at both macro and micro levels (Cavusgil & Kirpalani, 1993; Cavusgil & Zou, 1994; Cooper & Kleinschmidt, 1985; Theodosiou & Leonidou, 2003). In this study, the marketing program adaptation (MPA) will be analyzed in terms of the degree to which the marketing program are standardized or adapted for export markets to accommodate the specificity of *Halal* product as perceived as being important in a particular export market.

Diversity of Demand of *Halal* Products

As evidenced in the rising demand of *Halal* products and services worldwide and aggressive competition in the global arena, it becomes extremely vital for *Halal* manufacturers to understand the important issues of international marketing strategy in the context of *Halal* market. Although Muslim consumer places great importance on the *Halal* issues in their daily lives, it can be expected that the degree of importance may differs among *Halal* market segments and might be also subjected to certain product categories due to various level of awareness and understanding of the concept across the globe (Sungkar, 2010). Furthermore, with varying degree of Islamic adherence among Muslim population worldwide, different Muslim market segments may behave differently (Temporal, 2011a, 2011b). In other words, though they shared the same common faith on *Shariah* Law and the practice of Islam, not all Muslim markets are the same as there live in diverse locations around the globe. Moreover, the level of religiosity also may cause different of actions from one

Muslim to another as indicated in few empirical studies (e.g., Ernest et al., 2010; Muhamad et al., 2011). For instance, Muhamad et al. (2011) indicated that consumers who have deep religious conviction had selected the Islamic financial services based on their commitment in meeting the *Shariah* aspect as compared to the other three market segments that had based their decisions on other considerations as well (i.e., economic rationality and ethical factors).

Global *Halal* markets can be categorized into five major regions of the world: Asia, Middle East and North Africa, Europe, Australasia as well as North America. Each of these market segments may have different interpretation and expectation of what constitute *Halal*. For instance as indicated by Sungkar (2010), Muslim in European countries also expect the ethical values such as being organic, biodiversity, environmental, and socially responsible to be incorporated in the *Halal* production. Haq and Wong (2010, 2011) also indicated that significant differences of motivations for spiritual travel were evident between Australians and Pakistani Muslims which provide further evidence for the heterogeneity of the Muslim market. Furthermore, there is a need to be aware with different expectations of consumer with regards to logistics service (Bruil, 2010; Tieman, 2011). As shown in Bruil (2010) comparative study between Malaysia and Netherlands, the Malaysian Muslims have more demands according to logistics requirements as compared to the Dutch Muslims. For Dutch customer, as long as *Halal* meat can be assured to stay *Halal*, separate boxes or different pallets is enough rather than requiring exclusive *Halal* sections during the whole physical distribution chain which is needed by Malaysian Muslims. The Muslims in Brunei requires even full segregation between stunned and non-stunned *Halal* slaughtered meat as reported in Tieman's (2011) study of qualitative interview with international leading *Shariah* and *Halal* experts based in Malaysia and Brunei.

In addition to this, not all products categories demand the same level of compliance with Islamic values (Amri Sofi, 2010; Ogilvy & Mather, 2010). Based on Ogilvy and Mather's (2010) study, the perceptions of Muslim consumers from four major Islamic markets (i.e., Malaysia, Saudi Arabia, Pakistan and Egypt) revealed that product rated by Muslim consumers as most important in terms of compliance with Islamic values were food, dairy, beverages and oral care, followed by fashion, personal care, and regular finance. Meanwhile, Amri Sofi (2010) revealed that Muslims in selected *Halal* market regions (i.e. Europe, Middle East, and Asia) generally have the highest awareness level of *Halal* values for *Halal* meat and meat-based products (94-98%), followed by processed food (40-64%), pharmaceuticals (24-30%), and cosmetics and personal care (18-22%). These findings indicate that the consumable products especially meat and meat based products is perceived to have high level of exposures to *Shariah* principles which reflect the greater demand on the level of *Halal* integrity compared to other product categories.

METHODOLOGY

Data Collection and Non-Response Bias

'Malaysian Exporters of *Halal* Products and Services Directory 2010-2011' was used as the sampling frame of the study that listed 228 companies (MATRADE/HDC/JAKIM, 2010). Excluding the companies that involved in services (i.e., 13 companies), 215 questionnaires were distributed during MIHAS (4 to 7 April 2012) and Halfest (10 to 14 October 2012) because most companies listed in the directory were involved in the events and furthermore, the events were organized by MATRADE. Out of 215 questionnaires distributed, 68 were collected during MIHAS and 44 during Halfest. Of the total 112 questionnaires, two were discarded because they were not fully completed, leaving 110 representing a response rate of 51.2%. Only person in charge or with good knowledge of company's export marketing practices of *Halal* certified product is qualified to complete the survey. With regard to those who did not respond to the study, an exploratory analysis of late and early responses was undertaken to determine possible non-response bias (Armstrong & Overton, 1977; Jones & Harrison, 1996). An independent samples *t*-test was performed on key variables, such as HPI, MPA, and company profile (i.e., age and size) to compare the mean between those who responded during MIHAS and those who responded during Halfest. The t-test shows no significant difference ($p > 0.05$) in any of the comparisons (see Table 1). Moreover, since the sampling for this study included objective data on the size and age of the firm, these data could also be compared between the participant and non-participant firms. As the t-test failed to detect any significant differences also in this case, it was concluded that non-response bias did not seem to be a serious concern in this study.

Table 1 T-Test Comparing Early and Late Respondents on Key Variables

Variables	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Halal Product Integrity	-.840	108	.403*	-.25344	.30157
Marketing Program Adaptation	-1.814	108	.072*	-.79562	.43864
Size of the firm	-.614	108	.540*	-9.578	15.594
Age of the firm	1.109	108	.270*	3.798	3.424

Note: * $p > 0.05$

Measurement and Data Analysis

The questionnaire was designed to measure exporters' perception on the degree to which physical and ethical integrity are perceived as important in export market using a 5-point numerical scale ranging from (1) very low to (5) very high. The items were generated from multiple sources such as Qur'an and Hadith, *Halal* Standard MS1500, *Halal*-related documents/publications, and also interview responses because instruments measuring HPI are not available in the current literature (Hassan & Bojei, 2011). For the MPA construct, the respondents need to state the degree of adaptation of product, price, promotion, and distribution elements of main export venture as compared to the local market by using 5-point numerical scale from (1) no adaptation to (5) substantial adaptation which is adapted from the work of Lages and

Lages (2003) and Lages et al. (2008). Some of the elements were also generated from interview responses and has been validated in Hassan's (2013) study.

The unit of analysis of the study is the main export ventures which refer to the selected product or product line that has been exported to the selected export country. The product-market venture level analysis is used in order to associate MPA more precisely with its antecedents and outcomes since simultaneous use of different products and markets will lead to inaccurate measures (Lages et al., 2008). Descriptive analysis was performed to investigate the degree of perceived importance of each dimension of HPI and MPA by exporting firms in selected PC and MS. The degree of perceived importance was divided into three class intervals, which included low (mean $\leq$ 2.333), medium (mean = 2.334 to 3.666) and high (mean > 3.666). Meanwhile, One-way ANOVA was performed to investigate the mean difference of each dimension of HPI and MPA among PC and MS.

RESULTS AND DISCUSSIONS

Sample Profiles

The profiles of the sample include the characteristics of MEV, respondents, and firms participated in the study. Majority of the MEV involves non-meat-based products and exported to Asia market. Meanwhile, most respondents dominated by male, age between 26 to 35 years, Malay descendant, had completed an undergraduate degree, work as marketing/sales position, and have been working less than three years in the company. The firms involved in the study covered all states in Malaysia and most of them operating in Selangor, small and medium size category, have been operating for more than 10 years, and have been exporting less than 5 years. Detail descriptive characteristics of the sample are shown in Table 2.

Table 2 Sample Profiles

MAIN EXPORT VENTURES (MEV)					
Product category	**N**	**%**	**Market segment**	**N**	**%**
Meat/meat-based	11	10.0	Asia	60	54.5
Non-meat-based	52	47.3	Middle East-Africa	26	23.6
Beverages	20	18.2	Europe	10	9.1
Halal Ingredients	10	9.1	America	4	3.6
Cosmetics/Skincare	3	2.7	Australasia	10	9.1
Healthcare/ Pharmaceuticals	14	12.7			
RESPONDENT					
Gender	**N**	**%**	**Education level**	**N**	**%**
Male	59	53.6	Primary	1	.9
Female	51	46.4	Secondary	18	16.4
			Diploma	21	19.1
Age			Degree	65	59.1
≤ 25 years	19	17.3	Post-degree	5	4.5
26-35 years	50	45.4			
36-45 years	21	19.1	**Position level**		
≥ 46 years	20	18.2	CEO/GM/Owner	34	30.9
			Export/Trade	12	10.9
Race			Marketing/Sales	39	35.5
Malay	72	65.4	Others	25	22.7
Chinese	31	28.2			
Indian	1	.9	**Years working**		
Others	6	5.5	≤ 3 years	57	51.8
			> 3 years	53	48.2
FIRM					
State of operation	**N**	**%**	**Number of workers**	**N**	**%**
Johor	12	10.9	< 5 workers	12	11.0
Kedah	6	5.5	5-50 workers	64	58.7
Kelantan	2	1.8	51-150 workers	18	16.5
Melaka	7	6.4	> 150 workers	15	13.8
Negeri Sembilan	5	4.5			
Pahang	2	1.8	**Annual sales**		
Pulau Pinang	13	11.8	< RM250,000	11	10.0
Perak	2	1.8	RM250,000–10,000,000	55	50.0
Selangor	45	40.9	RM10,000,001–25,000,000	32	29.1
Terengganu	1	0.9	> RM 25,000,000	12	10.9
Sabah	6	5.5			
Sarawak	2	1.8	**Years of exporting**		
Kuala Lumpur	7	6.4	< 5 years	58	52.7
			≥ 5 years	52	47.3
Years of operating					
< 10 years	45	40.9			
≥ 10 years	65	59.1			

The Degree of Perceived Importance of HPI among PC and MS

As depicted in Table 3, physical integrity (PHY) was perceived as highly important in all product categories and market segments. The highest score of PHY was found in cosmetics/skincare products and from the American market. As for ethical integrity (ETH), a high degree of importance was found in meat/meat-based, *Halal* ingredients, cosmetics/skincare, and healthcare/ pharmaceuticals products, while a medium degree of importance was found in non-meat-based and beverages. For the market segments, ETH was perceived to be highly important in the Middle East-Africa, Europe, and America, while a medium degree of importance was found in Asia and Australasia. The highest score of ETH was found in meat/meat-based products and Europe market.

Table 3 Degree of Perceived Importance of PHY and ETH among PC and MS

	PHY			ETH		
	Mean	**SD**	**Degree**	**Mean**	**SD**	**Degree**
Product Categories						
Meat/meat-based	4.255	.890	High	4.218	.965	High
Non-meat-based	4.227	.622	High	3.496	.976	Medium
Beverages	3.730	.842	High	3.160	1.039	Medium
Halal Ingredients	4.099	.715	High	3.840	.771	High
Cosmetics/Skincare	4.467	.611	High	4.000	.693	High
Healthcare/Pharmaceuticals	4.257	.854	High	3.986	1.201	High
Market Segments						
Asia	3.893	.807	High	3.273	1.034	Medium
Middle East-Africa	4.292	.591	High	4.015	.688	High
Europe	4.680	.368	High	4.360	.853	High
America	4.750	.300	High	4.200	1.083	High
Australasia	4.420	.503	High	3.640	1.165	Medium

Note: SD = Standard deviation PHY = Physical Integrity ETH = Ethical Integrity

The finding indicates that physical integrity has been perceived highly important in all PC and MS since all elements score above 3.666. The result reflected to the current development where the demand of genuine *Halal* is not only limited to food products and Muslim market segments, but also has been expanded to non-food-based products and also to non-Muslim markets. As physical integrity has been regarded as basic requirements to secure the *Halal*ness status of the product, conforming to the high standard of these physical integrity attributes is vital to meet the demand of export markets.

As for ethical integrity, high degree of importance is found in meat/meat-based (mean = 4.218), *Halal* ingredients (mean = 3.840), cosmetics/skincare (mean = 4.000), and healthcare/pharmaceuticals (mean = 3.986) products. This result conforms to the current scenario where there is an increasing demand of ethical issues to be integrated not only to consumable products but also for non-food-based especially cosmetics and healthcare products. As indicated by Hussain-Gambles (2010), the skincare products must incorporate the ethical integrity so as to gain non-Muslim consumer confidence due to many misconceptions about *Halal* in the West. For the market segment, ethical integrity has been perceived highly important in Middle East-Africa (mean = 4.015), Europe (mean = 4.360), and America (mean = 4.200). This result explains that ethical integrity is highly demanded among countries

with high standard of living. Correspond to Sungkar's (2010) study, European market demands ethical integrity to be embedded in the *Halal* production as they are known with high purchasing power.

The Degree of MPA among PC and MS

As shown in Table 4, a high degree of MPA was implemented for meat/meat-based products, while the medium adaptation was implemented in the remaining product categories. For market segments, a high degree of MPA was found in Europe and the United States, whereas a medium degree of adaptation was found in Asian, Middle Eastern-African, and Australasian markets. The highest mean of MPA strategy was obtained from meat/meat-based products and from the American market.

Table 4 Degree of MPA among PC and MS

Product Categories	Mean	SD	Degree	Market Segments	Mean	SD	Degree
Meat/meat-based	3.718	.543	High	Asia	3.135	.552	Medium
Non-meat-based	3.265	.514	Medium	Middle East-Africa	3.449	.433	Medium
Beverages	3.057	.608	Medium	Europe	3.721	.539	High
Halal Ingredients	3.423	.618	Medium	America	3.732	.422	High
Cosmetics/Skincare	3.560	.273	Medium	Australasia	3.486	.659	Medium
Healthcare/Pharmaceuticals	3.434	.554	Medium				

Note: SD = Standard deviation

The finding shows that high degree of MPA had been implemented for meat/meat-based products (mean = 3.718). Among the categories, meat/meat-based product is susceptible to the risk of cross-contaminations during logistics activities. Furthermore, as in indicated in Amri Sofi's (2010) study, Muslims in selected *Halal* market regions (i.e. Europe, Middle East, and Asia) generally have the highest awareness level of *Halal* values for *Halal* meat and meat-based products which reflect the greater demand on the level of *Halal* integrity as compared to other product categories. Thus, this scenario requires more concern in adapting the marketing program elements so as to ensure the *Halal* status and securing the demand of export consumer. As for market segment, high degree of MPA has been executed in America (mean = 3.732) and Europe (mean = 3.721) markets. Countries in these market segments usually require strict quality standard, thus, higher degree of adaptation is necessary in order to meet their standards.

Difference of HPI among PC and MS

One-way ANOVA results in Table 5 reveal a significant difference of physical integrity among market segments ($p = 0.001$) but not in product categories ($p = 0.155$). Meanwhile, the ethical integrity shows a significant difference for both groups, i.e., product categories ($p = 0.045$) and market segments ($p = 0.001$). These results indicate that variations of demand of physical integrity can be found among market segments, while, dissimilarities of ethical aspects can be seen both in product categories and market segments.

Table 5 Analysis of variance of PHY and ETH among PC and MS

Product Categories					Market Segments				
Pairs	**MD**	η^2	**F**	**Sig.**	**Pairs**	**MD**	η^2	**F**	**Sig.**
Physical Integrity			1.645	.155			0.16	4.866	.001*
					Asia & Europe	-.787			.000*
					Asia & America	-.857			.016*
Ethical Integrity		0.10	2.362	.045*			0.16	4.890	.001*
MB & NMB	.722			.031*	Asia & MEA	-.742			.002*
MB & Beverages	1.058			.006*	Asia & Europe	-1.087			.020*
Beverages & HP	-.826			.019*					

Note: η^2= Effect Size MD = Mean Difference MB = Meat/meat-based NMB = Non-meat-based
HP = Healthcare/Pharmaceutical MEA = Middle East-Africa * $p < 0.05$

The insignificant result indicates that physical integrity of *Halal* product is highly concern regardless of product categories. This finding controverts with some previous studies (Amri Sofi, 2010; Ogilvy & Mather, 2010). They indicate that there are various concerns on *Halal* among product categories in which consumable products are greatly associated to the concept as compared to other product category. The reason behind this is due to the increasing awareness and demand on *Halal* attributes in non-food products. Furthermore, physical integrity is regarded as basic requirements, thus both food or non-food products must adhere to these necessities. In fact, the highest physical integrity has been found in cosmetic and skincare products (refer Table 3).

Conversely, the significant results of physical and ethical integrity among market segments show that some part of market segments have different concern on *Halal* aspects which is consistent with Sungkar's study (2010). He indicated that the meaning of *Halal* is being understood differently among various ethnics, culture-related groups, geographical locations or countries. For example in Europe market, Muslim consumers also expect issues such as animal welfare, biodiversity, being ecology friendly and having ethical producers who deal in fair trade and are socially responsible, to be taken into account and embodied within the whole production chain. The current study also shows highest demand on ethical aspects from this market (see Table 3). Hence, firms should give more emphasize on these attributes when dealing with this market segment.

Based on post-hoc results, a large mean difference of physical integrity is found between Asia and Europe, and also between Asia and America. For ethical integrity, a large difference can be found between Asia and Europe and between Asia and Middle East-Africa. These findings indicate that non-Muslim market segments (i.e., America and Europe) have shown a great concern on the *Halal*ness issues compared to Asia market segment. For the market segments, Europe have shown highest mean score on ethical integrity which consistent with Sungkar (2010), as he indicated that Muslim consumers from Europe highly demand the ethical aspects of the product. Furthermore, countries from Europe are well known with high ethical quality standards. Therefore, firms that wish to export *Halal* product to these

countries should give extra attention on meeting the expectation of *Halal* requirements of export market.

Meanwhile in product category, a moderate difference of ethical integrity is found between meat/meat-based and beverage, meat/meat-based and non-meat-based and also between beverages and healthcare/pharmaceutical products. Higher scores are found in meat/meat-based products which explain that firms should give more concern on integrating the ethical aspect in this product category compared to beverages and non-meat-based products. The reason behind this is due to increasing awareness and demand on ethical issues of animal welfare globally which is evidence in the highest score of ethical integrity (mean = 4.218) presented in the product category (refer Table 3).

Difference of MPA among PC and MS

Based on one-way ANOVA results shown in Table 6, a significant difference of MPA among product categories (p = 0.035) and market segments (p = 0.002) indicated a variations of degree of adaptation of the marketing program elements among these groups.

Table 6 Analysis of Variance of MPA among PC and MS

Product Categories					Market Segments				
Pairs	**MD**	**η^2**	**F**	**Sig.**	**Pairs**	**MD**	**η^2**	**F**	**Sig.**
		0.11	2.505	.035*			0.15	4.453	.002*
MB & NMB	1.810			.014*	Asia & MEA	-1.253			.002*
MB & Beverages	2.641			.002*	Asia & Europe	-2.344			.014*
					Asia & America	-2.387			.032*

Note: η^2= Effect Size MD = Mean Difference MB = Meat/meat-based NMB = Non-meat-based
MEA = Middle East-Africa * p < 0.05

Based on post-hoc results, a moderate mean difference of MPA can be found between meat/meat-based and non-meat-based and also between meat/meat-based and beverages. With higher score found in meat/meat-based products, this result indicates that higher degree of adaptation of marketing program is required compared to non-meat-based and beverages products. Moreover, as evidenced in the study findings, the highest score of MPA is found in meat/meat-based (M = 3.718) as presented in Table 4. One of possible explanations is because meat/meat-based products are highly associated with the need of *Halal* compliance which is consistent with several previous studies (e.g., Amri Sofi, 2010; Hashim & Othman, 2011; Ireland & Rajabzadeh, 2011). As the product is perceived to have high level of exposures to *Shariah* principles, certain degree of adaptation might be necessary so as to meet the greater demand on the level of *Halal* integrity.

For the market segments, a large difference of MPA can be found between Asia and Middle East-Africa, Asia and Europe, and Asia and America. With lower score found in Asia, the result indicates that minimal adaptation of marketing program is required for Asian market as compared to the Middle East-Africa, Europe, and America markets. Furthermore, as evidenced in the study findings (see Table 4), the lowest score of MPA is found in Asia market (M = 3.135). The logical explanation of the findings is that Asia market is quite similar to local conditions in

terms of culture, taste, and preference due to small physic distance which is consistent with the study of Lado et al. (2004). In this study, they indicated that the more distant a market is culturally, the more different are the product attributes that the foreign consumer values and, as a result, the greater effect on product adaptation. Furthermore, with the existence of Asian Free Trade Agreement (AFTA) firms can penetrate the market easily with minor export barrier. This situation enables the firms to have a more standardize marketing program to this market segment especially in terms of product elements.

CONCLUSIONS, IMPLICATIONS, AND SUGGESTIONS

Based on the results, it can be concluded that firms must ensure high standard of physical integrity elements to be incorporated in all product categories and market segments. Meanwhile, the ethical integrity elements should be highly emphasized in meat/meat-based, *Halal* ingredients, cosmetics/skincare, and healthcare/ pharmaceuticals products, and when exporting to Middle East-African, European, and American markets. Apart from that, a great concern on adapting the marketing program elements is essential when firms dealing with meat/meat-based products and exporting to Europe and America. Therefore, firm must ensure the basic requirements of *Halal* must be integrated in all product categories and the ethical integrity should be adapted according to the demand of specific product category and market segment.

Furthermore, the dissimilarities of demand of *Halal* product integrity among product categories and market segments shows that each product category and market segment are unique and demand certain degree of modification to meet the standard. Therefore, Malaysian *Halal* exporters should put more emphasis on differentiating the degree of adaptation of marketing program according to these groups since the right adaptation is vital to ensure their performance in export market. The indications of the degree of importance and variations of HPI and MPA according to product categories and market segments (refer Table 7) among Malaysian *Halal* exporters could provide some clues to assist firms in placing the right emphasis on their marketing program adaptation strategies in a particular export venture. Therefore, firms should note these important findings:

1. The exporters placed a high degree of importance on PHY in all PC and MS;
2. The exporters placed a high degree of importance on ETH in meat/meat-based, *Halal* ingredients, cosmetics/skincare, and healthcare/pharmaceuticals products and in Middle East-Africa, Europe, and America markets;
3. A high degree of MPA was implemented for meat/meat-based products and in Europe and America markets;
4. Variations of PHY were found among MS, which were highly demanded in America and Europe compared to Asia;
5. Variations of ETH were found in both PC and MS, which were highly demanded in: (a) meat/meat-based compared to non-meat-based and beverages, (b) healthcare/pharmaceuticals compared to beverages, and (c) Europe and Middle East-Africa compared to Asia;

6. Variations of MPA were also found in both PC and MS, which were highly adapted in: (a) meat/meat-based compared to non-meat-based and beverages and (b) Middle East-Africa, Europe, and America compared to Asia.

Table 7 Summary of findings

Variables		High Degree	Difference
PHY	**PC**	All	No
	MS	All	Europe & America > Asia
ETH	**PC**	All except non-meat-based & beverages	Meat/meat-based > Non-meat-based & Beverages
	MS	All except Asia & Australasia	Europe & Middle East-Africa > Asia
MPA	**PC**	Meat/meat-based	Meat/meat-based > Non-meat-based & Beverages
	MS	Europe & America	Middle East-Africa, Europe, & America > Asia

Note: PC = Product Categories; MS = Market Segments; MPA = Marketing Program Adaptation
PHY = Physical Integrity; ETH = Ethical Integrity

These findings may provide an inclusive guideline for developing an effective export marketing strategy for *Halal* products which can assist the exporting firms in identifying the critical dimensions of *Halal* features and the extent of modifications of marketing program elements to certain product categories and market segments. As firms have to compete with international corporations from a wide range of markets that have the capacity to offer the best products in the world, the understanding of the force of *Halal* integrity in influencing the marketing adaptation strategy decision will contributes to the industry practice to improve marketing effectiveness of *Halal* products in foreign markets through the development of product that is closely adapted to export market specificity.

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The Influence of *Halal* Food Supply Chain Integrity towards Traceability System Adoption in Food Industry in Malaysia

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ABSTRACT

Muslim consumers have been shocked with the news of cross-contamination issues in the *halal* food that they consumed. These issues make them aware and put more effort in ensuring the integrity of the *halal* status and curious whether the products that they purchased being monitored throughout the food supply chain. In order to achieve the untainted *halal* food supply chain integrity, each partners in the supply chain from supplier until the end user needs to play their role in ensuring the integrity are not being disintegrate. The *halal* food supply chain (HFSC) should adequately provide information that consumers and other concerned bodies need to know from the raw material/supplier until the finished goods reach the end user. This scenario might force the *halal* food firms to implement the *halal* traceability system (HTS) as to meet the expectations of *halal* qualities and protected from any risk of cross-contaminations. Based on pilot survey with 49 *halal* food producers, the study found that there is a significant influence of *halal* food supply chain integrity (HFSCIn) on *halal* traceability system adoption (HTSA). The study also reveals the highest contribution in enhancing the HFSCIn among the supply chain partners are the control system and manufacturer. The findings have given some thoughts on the development of theoretical framework specifically on the food supply chain integrity in the context of the *halal* industry.

Keywords: *Halal* Food Supply Chain Integrity, *Halal* Traceability System, *Halal* Product, Food Industry

INTRODUCTION

The various cases of contaminated *halal* food such as mixing of *halal* and non-*halal* food in storage, poultry and meat slaughtering do not comply with the *Shariah*

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requirement [1], fraudulent *halal* certification and physical contamination [2], and recently, on 23rd May 2014, Muslim consumers in Malaysia were shocked with the report by the Ministry of Health (MOH) that Cadbury Dairy Milk Hazelnut and Cadbury Dairy Milk Roast Almond analyzed by the MOH tested positive for traces of porcine DNA [3] have forced the product to be immediately removed from the marketplace and withdraw the *halal* certification of the product.

The production of *halal* food needs a very cautious understanding throughout the supply chain. Nowadays, Muslim consumers are very curious and want assurance that the products they consume are authentically *halal* and should be *toyyib*, meaning wholesome, pure, healthy, nutritious and good. Consequently, the *halal* food integrity becomes a new horizon of concerns and debates as the recent cases represent this issue. However, the complexity of the *halal* food supply chain intimidated the task of ensuring *halal* food integrity. Although current *halal* standards regulate food production, preparation, handling and storage to some degree, it does not ensure that the product is *halal* at the point of consumption [14]. Accordingly, this will increase the importance of perception in factors ensuring the *halal* food supply chain integrity [4].

In order to achieve the untainted *halal* food supply chain integrity, each partners in the supply chain from supplier until the end user need to be monitored, so that users can satisfy with the authenticity of *halal* products [5]. Therefore, it is important to observe the integrity of each of the supply chain partners. In addition, the adoption of *halal* traceability system should be addressed whilst the increasing demands for better *halal* food supply chain among customers. This is crucial to diminish and to assure that the contamination does not exist throughout the process in handling *halal* food in accordance with *Shariah* compliant. Furthermore, the traceability also can be used to trace the *halal* status of particular food products at every stage of the supply chain and can increase the *halal* transparency and strengthens the *halal* integrity [2]. Moreover, traceability in *halal* industry is defined as a communication tool to ensure that information related to *halal* food and products is available along the supply chain and can be used to strengthen the *halal* food supply chain [6].

However, there is limited empirical study that focused specifically on the relationship between *halal* food supply chain integrity and *halal* traceability system adoption. Thus, to help bridge this gap in literature, this study attempts to examine to what extent the *halal* traceability system adoption is relevant in enhancing the *halal* food supply chain integrity particularly within supply chain partners. In addition, this study also will observe which supply chain partners are the most critical in assuring the *halal* integrity been attained.

LITERATURE REVIEW

This section consists of three sub-sections. Its start with a description of *halal* concept and continues with the *halal* food supply chain, and *halal* food supply chain integrity. Then, it will persist to highlight the driving forces behind the implementation of food traceability system and the significance of *halal* traceability system in promising the *halal* food supply chain integrity.

Understanding the Concept of *Halal*

Halal is an Arabic word which means lawful or permissible by Islamic law. *Halal* is commonly used in relation to food, which refers to food that is compliant with the laws of Islam. *Halal* food products are credence quality attributed products, in which the characteristic of the product cannot be evaluated or ascertained by the individual customer, even after consumption of the same [7]. *Halal* product is being produced in accordance with religious requirements based on *halal*an *toyyib*an concept. The concept requires the product to meet the essential element of *halal* and *toyyib* that is good and high quality for human consumption [8] which are not harmful and are safe to be consumed as underlined in the *Shariah* law. From the Islamic point of view, the concept of *halal* is holistic focusing on both physical attributes and moral sense in the entire supply chain. As evidence in Quranic verses:

*"O you who believe! Eat of the good things (toyyib) that We have provided you with, and give thanks to Allah if Him it is that you serve". (*Al-Baqarah 2: 172)

"And eat of what Allah provided for you [which is] lawful and good. And fear Allah, in whom you are believers". (Al-Maidah 5: 88)

These verses explained that Islam underlines that all Muslims who live on this earth should find *rizk (rezeki),* which are *halal* and *toyyib*. They must eat *halal* food and avoid eating dirty food and any food that is prohibited in Islam so that it will not ruin their bodies and lives. Therefore, the *halalan toyyiban* concept means good, pure, wholesome, healthy, well, nutritious, unharmful, comprises quality, cleanliness and safety in both the physical and moral conduct.

In addition, the principle of permissibility of things describes that everything is created by Allah is permissible to Muslim except what has been stated in Quranic verses and the Prophet tradition [9]. The aspect of permissibility in this principle is not only limited to the things and objects being used or consumed, but also includes all human actions and behavior [8].

***Halal* Food Supply Chain Integrity (HFSCIn)**

Supply chain management is defined as the flow of materials from suppliers through manufacturer to the end users and requires all partners in supply chain to be integrated and properly informed to satisfy customer requirement. According to Turban (2008), in conventional supply chain framework, supply chain stages start with raw material, inbound logistics, warehouse, production, storage, outbound logistics, marketing and sales and customer service. Whilst *halal* is applied in the supply chain; thus the *halal* concept should be applied starting from the point of origin to the point of consumption and all activities must follow the *Shariah* law. In this scenario, every stage in supply chain process will be conducted or added in the base line according to *Shariah* law. For example, in raw material stage, the slaughtering session is done to comply to Islamic requirement where it should be slaughtered by a Muslim, using sharp knife, and initiated with Bismillah [9]. In addition, the whole partners involved in *halal* food supply chain are required to apply the *toyyib*an concept, encompassing quality, nutrition, hygiene, and ethically delivered the product to the customer [10].

Consequently, it is a big challenge for all parties involved to ensure the integrity of the *halal* product is intact throughout the whole supply chain. Several studies have agreed that *halal* integrity assurance is the key factors in developing a

well trusted *halal* food supply chain in the current complex and competitive environment [23, 24, 20]. In determining the *halal* food integrity, the following conditions need to be conformed during *halal* food production anchored in Malaysian Standard; MS 1500:2004 entitled "*Halal* Food- Production, Preparation, Handling, and Storage- General Guidelines,"

i. Does not contain any ingredients that are *najs* according to *Shariah* law;
ii. Is safe and not harmful;
iii. Is not prepared, processed or manufactured using equipments that is contaminated with things that are *najs* according to *Shariah* law;
iv. Does not contain any parts or products of animals that are non-*halal* to Muslims or products of animals which are not slaughtered according to *Shariah* law or without the name of Allah;
v. The food or its ingredients does not contain any human parts or its derivatives that are not permitted by *Shariah* law; and
vi. During the preparation, processing, packaging, storage or transportation, the foods is physically separated from any other food that fail to meet the requirements stated in (i), (ii), (iii), (iv), or (v) or any other things that have been decreed as *najs* by *Shariah* law.

Furthermore, in ensuring the integrity of *halal* food supply chain, a good traceability system is required in order to track and trace mechanism along the chain and to check the *halal* status of the food and its sources [11]. Next section will further discuss on *halal* food traceability system.

Halal Traceability System Adoption (HTSA)

According to International Standard Organization, ISO 8420, the general definition of traceability is "*the ability to trace the history, application or location of an entity by means of recorded identification*" [15, 16, 17, 18, 19]. However, a complete traceability system should address the tracing and tracking of products and the associated complete product history information throughout the food supply chain. Thus, a new comprehensive definition of food traceability is "*food traceability is part of logistics management that capture, store, and transmit adequate information about a food, feed, food-producing is correct animal or substance at all stages in the food supply chain so that the product can be checked for safety and quality control, traced upward, and tracked downward at any time required*" [12]. The study will adopt this definition and embrace it in the *halal* food environment.

There are many driving forces behind the development and implementation of food traceability system (FTS). These drivers have been categorized into five: regulatory, food safety and quality, social, economic and technological concern [12]. Most of the food companies implement FTS to fulfill the regulatory issues and stay in market. Recent developments indicate that maintaining market power (to gain customer confidence) and political pressure (to protect consumer welfare) are emerging as major drivers that push large retailers to invest in food traceability projects [15, 25, 26, 27]. In Malaysia, due to the regulatory requirement, all food producers who wish to export their products need to have the *halal* certificate and consequently need to apply the *halal* traceability system. In addition, *halal* food consumers nowadays are more skeptical on the food product that they consumed. As

a result, most of the *halal* food producers in Malaysia applied the *halal* traceability system to strengthen the customers' confidence.

In the recent two decades food traceability has become important issues due to food crises such as the melamine contamination of milk, the avian flu, the dioxin crisis, and other food safety incidents involving aquatic products [15, 26, 18, 28] that in turn cause significant crises in economic and marketing relationship at national and international levels. Liu, Ker and Hobbs (2012) reported that in 2002, EU banned import of aquatic products from China claiming that residues from veterinary medicines, pesticides and heavy metals detected in the aquatic products exceeded EU standards, hence, affected the trade of China. This issue can be related to Malaysian scenario which Cadbury Dairy Milk Hazelnut and Cadbury Dairy Milk Roast Almond analyzed by the Ministry of Health (MOH) tested positive for traces of porcine DNA that consequently turn down the quality of the product and affected the sales.

In addition, greater demand of high quality and authenticity of *halal* food products by customers, the changing lifestyles and increasing income of customers, growing awareness about their health are some social issues that motivate food companies to implement traceability systems. The existing FTS companies should not attempt only to comply with the government rules, but they should adequately provide information that consumers need to know such as variety of the food attributes, country of origin, animal welfare, and genetic engineering related issues [34].

Furthermore, economic advantage of traceability systems is relatively considered as less strong driver as efficient full chain traceability system is capital and resource intensive and require significant initial investment [12]. However, better market assess, better product prices, potential governmental funding were identified as driving forces. For example, in Malaysia, in order to obtain the product penetration, food producers are required to have the *halal* certification and traceability system which in turn they can get better market assess, improved product prices and have potential to obtain government funding.

Moreover, the effective traceability systems require more complex devices and systems which do not attract the attention of food companies due to the complexity of the devices and the systems as well as the high costs associated with them. However, the emerging new and cheaper technologies are motivating companies to develop full chain traceability systems integrating information at all stages of the supply chain [12]. Thus, this will motivate the *halal* food companies to actively participate in the development and implementation of FTS.

The benefits of effective FTS can be categorized broadly as social benefits [29, 30]; authorities' benefits [31, 32, 33]; and food companies' benefits [34, 35, 36]. However, for better explanations, Bosona and Gebresenbet (2013) have categorized the benefits into more specific categories such as increase in customer satisfaction, improvement in food crises management, improvement in food supply chain management, competence development for companies, technological and scientific contribution and contribution to agricultural sustainability. All these benefits are also expected being obtained by the *halal* food producer if they applied the FTS, specifically the *halal* FTS.

MATERIALS AND METHODS

Questionnaire Design

The questionnaire was designed to measure the *halal* food producers' perception on factors enhancing the *halal* food supply chain integrity which is perceived important by using 5-point differential scale from very low to very high. There are four subsections on factors enhancing *halal* food supply chain integrity comprises from supplier level, manufacturer level, control system level, and customer level. Each subsection includes five to nine items each. The items are adapted from Ali *et al.* (2014) and Tieman, van der Vorst, and Maznah (2012) studies.

Meanwhile, *halal* traceability system adoption section consists of four subsections which measure the degree of *halal* traceability system adoption among supplier, producer, logistics and end user by using 5-point differential scale from No adoption to Substantial adoption. Each subsection includes three to eight items each. The items are adapted from Bahrudin, Illyas, and Desa (2011) and Melatu, Tasnim, and Ibrahim (2011). Before the questionnaire is distributed to the actual respondents, the questionnaire was pre-tested to check on its reliability and validity.

Data collection

About 49 respondents have volunteered to participate in the pilot study which has been conducted via face-to-face during MIHAS exhibition from 9-12 April 2014. Only the person with good knowledge of the company and have *halal* certified product is qualified to complete the survey.

Data analysis

The unit of analysis of the study is the *halal* food producers that have been certified by JAKIM. Concentration is given to the food companies listed by MIHAS 2014 directory that produce food and beverages; poultry, meat and dairy; fast food and premises; and ingredients and raw materials. Statistical analyses have been used to address the study purposes which include frequencies and regression analysis.

RESULTS AND DISCUSSIONS

Halal Food Companies Profile

The profile of *halal* food companies involves in this study is shown in Table 1, Table 2 and Table 3. Table 1 shows the types of product cover only two categories that are *halal* food and beverages and *halal* ingredients and raw materials. The highest products types obtained for *halal* food and beverages (89.8%) followed by *halal* ingredients and raw materials (10.2%). Meanwhile Table 2 reveal the origin of the companies obtained in the study which was led by Selangor (32.7%), followed by Johor (24.5%), Kedah (12.2%), Negeri Sembilan (8.2%), and Pulau Pinang (8.2%). In addition, Table 3 discloses the number of full time employees in the companies. Based on the data, it illustrates that majority of the companies (98%) are from small and medium enterprises (SMEs) group because the number of full time employees is below 200.

Table 1 Types of Products

	Frequency	Percent	Valid Percent	Cumulative Percent
Halal food and beverages	44	89.8	89.8	89.8
Halal ingredients and raw materials	5	10.2	10.2	100.0
Total	49	100.0	100.0	

Table 2 State Firm Operates

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selangor	16	32.7	32.7	32.7
	Pulau Pinang	4	8.2	8.2	40.8
	Johor	12	24.5	24.5	65.3
	Melaka	2	4.1	4.1	69.4
	Terengganu	1	2.0	2.0	71.4
	Kelantan	1	2.0	2.0	73.5
	Perak	1	2.0	2.0	75.5
	Negeri Sembilan	4	8.2	8.2	83.7
	Sabah	2	4.1	4.1	87.8
	Kedah	6	12.2	12.2	100.0
	Total	49	100.0	100.0	

Table 3 Number of Full Time Employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-10 Workers	8	16.3	16.3	16.3
	11-30 Workers	15	30.6	30.6	46.9
	31-50 Workers	14	28.6	28.6	75.5
	51-150 Workers	7	14.3	14.3	89.8
	151-199 Workers	4	8.2	8.2	98.0
	≥ 200 Workers	1	2.0	2.0	100.0
	Total	49	100.0	100.0	

The factors enhancing HFSCIn

As shown in Table 4, the highest beta scores for factor enhancing HFSCIn were obtained from manufacturer (β = .349) and continued with control system (β = .330). This indicates that control system and manufacturer play the most important role in

ensuring the *halal* integrity of the product. It can be expected that the largest activities in producing products mainly focusing on these two level. However, this difference was not obvious with the supplier (β = .286) and customer (β =.251). In essence, this finding proves that every partner in the supply chain plays imperative role in ensuring *halal* food supply chain integrity. As suggested by Othman, Sungkar, and Hussin (2009), the whole partners involved in *halal* food supply chain are required to apply the *toyyib*an concept in assuring *halal* integrity.

Table 4 Factors enhancing HFSCIn

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.133E-015	.000		.000	1.000
	Supplier Integrity	.250	.000	.286	54289179.698	.000
	Manufacturer Integrity	.321	.000	.349	52125232.123	.000
	Control System Integrity	.250	.000	.330	66301859.355	.000
	Customer Integrity	.179	.000	.251	59653176.544	.000

a. Dependent Variable: HFSC Integrity

The influences of HFSCIn on HTSA

Linear regression analysis was used to test if the HFSCIn significantly predicted HTSA. The results of the regression indicated the predictor explained 31.9% of the variance (R^2=.319, df = 1, 46, F = 21.51, p<.001). It was found that HFSCIn significantly predicted HTSA (β=.564, t (47) = 4.64, p<.001).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.564[a]	.319	.304	.73024

a. Predictors: (Constant), HFSC Integrity
b. Dependent Variable: HTSA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.470	1	11.470	21.510	.000[b]
	Residual	24.529	46	.533		
	Total	36.000	47			

a. Dependent Variable: HTSA

b. Predictors: (Constant), HFSC Integrity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.151	.842		.180	.858
	HFSC Integrity	.910	.196	.564	4.638	.000

a. Dependent Variable: HTSA

Based on the result above, it shows that there is a strong correlation between *halal* food supply chain integrity (HFSCIn) and *halal* traceability system adoption (HTSA). This indicates that the integrity of *halal* food supply chain has become importance attributes of *halal* products and plays an important role in influencing *halal* food producers to adopt the *halal* traceability system. In addition, this finding has supported the thought indicated by Bahrudin, Illyas, and Desa, (2011), Suhaiza *et al.*, (2010), and Zulfakar, Anuar, and Talib, (2012) that *halal* food supply chain integrity can be improved with the implementation of traceability system.

Since Muslim consumers are very curious and want assurance that the products they consume are authentically *halal* and should be *toyyib*, it can be expected that the *halal* food supply chain integrity will also influence the performance of the players involved. Therefore, future study can further examine the influences of *halal* food supply chain integrity and *halal* traceability system adoption on *halal* food companies' performance.

This study only focused on *halal* food industry. Thus, future study can explore further and make comparison between pharmaceutical, cosmetics, and healthcare in *halal* industry. In addition, the sample size (N = 49) can be considered small and therefore, it is recommended that in future the subject matter be explored with a much larger sample to allow generalization of the result. Furthermore, a large sample would assist future researchers to make use of other stronger data analysis.

CONCLUSION

The study demonstrates that *halal* food supply chain integrity practice must be seen prominently in order to deliver the best authentic *halal* product to respected customers. Ensuring *halal* integrity is a daunting task for several *halal* food companies especially for the SMEs. Thus, by implementing the *halal* traceability system, the integrity for the whole supply chain can be secured. By understanding the importance of factors enhancing HFSCIn and how these factors influence the HTSA, the finding may provide a guideline and better perceptive for developing effective strategies and modifications to improve the *halal* integrity practice and the company's performance. At the same time, *halal* companies may get benefits by implementing the traceability system such as increase customer satisfaction, improvement in food crises management, improvement in food supply chain management, competence development [12] and many other benefits that in return can increase their overall performance of the companies involved.

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Food Purveyors' Attitudes towards Regulated Food Standards

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ABSTRACT

There is no denying the importance of food as an aspect of human life as it defines factors of promoting and maintaining physical and mental health. Foods need to be chosen strategically in the healthy pyramid. On the contrary, insufficiency food can cause impaired physical and mental health. Due to this, some authorities enforce the regulated food standards with the intention to serve at very best-dietary plans. However, the rationales of the regulated food standards in turn has been criticized by the consumers for its tasteless and often perceived negatively by a person who has to consume the same food menu time after time. The current study attempts to explore the state of the food performance of the regulated food standards. The outcome shows that although the results of the questionnaire survey found encouraging results, there are grievances among the food purveyors. The consistent grumbles available on all respondents interviewed. Contradictory results from the triangulation research approach and multi-level respondents are discussed and proposed accordingly.

Keywords: Food Healthy, Regulated Food, Multi-Level Research, The Government Institution, Malaysia

INTRODUCTION

The importance of food as a major factor in human life cannot be denied. On the one first hand it plays an important role in promoting and maintaining physical and mental health, on the other hand, it is a symbol of wisdom and civilization. It is the norm in developed societies to eat healthily and strive for better health. Eating healthy also helps maintain energy levels and function as a productive individual. On the contrary, research indicates it is likely that food insufficiency can lead to impaired physical and mental health as well as the immune system (Akinwande, Ade-Omowaye, Olaniyan, & Akintaro, 2008; Siefert, Heflin, Corcoran, & Williams, 2004). "Food insufficiency" according to Scott and Wehler (1998) and Yong Liu, Rashid, Kurt, Daniel, and Janet (2014) is restricted household food supplies or not enough food to eat. Inadequate, undernourished, or malnourished children could succumb to what would normally be a trivial illness in a well-fed child and become more debilitated by frequent illness in adults (Pinstrup-Andersen & Schiler, 2001).

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Healthy and unhealthy foods have already been identified and have been a major health issue among communities. Health problem is in relation to frequent issues presented by researchers including obesity, cancer, gout, diarrhea and acne among several others. According to FDA (2009) many claims that foodborne illnesses were a major cause of personal distress, preventable deaths, and avoidable economic burden. Improper food handling practices stimulate many foodborne illnesses (Hislop & Shaw, 2009). The foodborne illnesses are due to diseases caused by pathogens (Newell et al., 2010). Food and food production practices have been a vehicle for instant *Salmonella* spp. and *Escherichia coli*, to evolve (Mazni, Toh, & Mohamed Azam, 2013). Hence, safe food consumption is an important factor in human health because health-related costs from foodborne illness overwhelm the costs of microbiological contamination; that will in turn to give large impacts on private and social health care costs (Kinsey, 2005). Further to the increasing association between food and health, the phenomenon has resulted in consumers' preference to eat healthier foods as non-communicable diseases prevention (Hathorn, Biswas, Gichuhi, & Bovell-Benjamin, 2008). According to Mazni, Toh, and Mohamed Azam (2013) and Safurah et al. (2013), non-communicable diseases remain a concern in Malaysia.

Thus, the regulated food standards in accordance with the rules and Acts, such as Food Act 1983, are enforced at places, for example, Government Hospitals, the National Service Training Programmes, the National Sports Council of Malaysia, Rehabilitation Centres, Detention Centres, and Fully Residential School. The rationale of the food safety initiatives however has been criticized by consumers for its tasteless and often perceived negatively on the menu planning and food delivery. To one extent, the same food may be regarded as "healthy food" to the consumer for a short time, but not to the people who are working in the same organization for a long period. These dissatisfied 'victims' "grumbled" that the menu was not meeting the nutritional needs, and complained about the inadequate proportioning. As the consumers are dependent on the food served for their nutritional requirements, the current study surveyed the opinion of food purveyors or caterers in the government institutions to improve the menu planning and quality of food. The aim of this study is to gauge the food performance of the regulated food standards served in the government institutions.

LITERATURE REVIEW

Dietary Practices

Religion and culture play a role in the selection of foods forbidding use of some and encouraging use of some others in order to maintain health and purity. The dietary practices especially the case for Islam and Judaism where foods are classified as *Halal* (permitted, allowed, lawful or licit) and *Haram* (opposite meanings to "*Halal*" - unlawful, prohibited) in their dietary laws (Kocturk, 2002). Whereas, "*kosher*" in Biblical Hebrew means "fit" or "acceptable to eat," and "*treif*" means unclean (Eliasi & Dwyer, 2002). The impact of eating good food has been recorded in the Quran, *surah Abasa* verse 24: "Then let man reflect on the food he eats, (and how We provide it)."

Dietary practices of these religions are submission to the will of God and refrain from eating the forbidden and eating only the pure and nutritious food. Food

product labelled "*Halal*" or "kosher" must conform to state-defined food preparation and handling requirements (Farouk et al., 2014). On the other hand, medical sciences suggest using foods that are clean and hygienic thus reducing chances of the outbreak of illnesses caused by foodborne pathogens. This hygienic attitude necessitates proper behaviour on the part of food preparation and serving employees, which could reduce chances of foodborne illnesses particularly in food establishments.

Regulated Food

Regulated food is foods that are designed for a particular purpose to meet the nutritional requirements to improve some circumstances. The regulated food standards in this study is referring to a wholesome, appropriate portion of food, balanced and appealing menu looks in quality, nutrition and choice for the consumers provided by the food operators according to specific guidelines in the government institutions. Other than variety and choice, good-tasting meals are crucial as it is stimulating appetite especially sick people suffering from dementia (Sheppard, 2010).

The fact is that the prevalence of diet-related chronic diseases has been on a continual upward trend in most developed and developing nations (Ministry of Health Malaysia, 2010). The Malaysian Dietary Guidelines have proposed 14-key recommendations established by experts in nutrition and public health with involvement of the community. As suggested in the first message of key recommendation, the foods need to be chosen strategically in the right proportions from the essential food groups in the healthy food pyramid. The food pyramid recommends a variety of foods to get the required nutrients in addition to suggesting the correct amount of calories for maintaining an appropriate weight level. A serving of food is a measured quantity formulated by the Ministry of Health. For many years, healthy meal plans have been developed to achieve appropriate body weight levels. As such, nutrition experts suggest a combination of food from all parts of the pyramid with decreasing amounts as its move from the bottom to the top of the pyramid. There is greater emphasis on eating whole grains, veggies and fruits and some amount of lean meats. Eating healthy food in the recommended amounts promotes mental stimulus for thinking.

Food Menus and Sensory

Food menu is "the single most-influential plan in a foodservice operation" (Payne-Palacio & Theis, 2012, p. 124). Being most-impactful management tool, the food menu determines the dining concept and its success reflect desired results. According to Payne-Palacio and Theis (2012), the preparation and services of the foods need to meet standards of quality every time a meal is served because producing foods for health is now a highly influential social trends. Moreover, efficient and effective food business operation has to begin with "thoughtful reflection on the purpose of the menu planning process" (p. 133). As the intent of the food menu is to please the clientele, the food menus must satisfy the customers' specific populations, sociocultural influences, nutritional requirements, dietary reference intakes, food consumption, trends, habits, and preferences.

With reference to consumers' acceptance, fulfilling their needs and wants are the principal aim of the food industry although they are the last link in the food chain (Guerrero et al., 2014). Hence, their opinion particularly on food sensory is essential.

According to the acceptability of the sensory, common human senses on food are chemoreception (taste and smell), photoreception (sight), mechanoreceptor (touch), thermoception (temperature difference) (Oliveira, 2011). Sensory evaluation is a development to measure human responses to foods and minimizes the potential bias effects of brand identity and other information on consumer perception. However, it is crucial to understand that the food sensory is about food quality using sensory perception and preferences based on the senses of sight, smell, touch, taste, and hearing (Lawless & Heymann, 1998; Ouyang, Zhao, & Chen, 2014). Furthermore, studies on humans show that the effect of sensory perception of foods on appetite and amount of food intake are very much influenced by the sensory-specific satiety (Sorensen, Moller, Flint, Martens, & Raben, 2003). Seen in the light of the people's impression of foods' sensory would determine food selection and the amount of the food they eat.

Previous researches have shown that qualities of foods were measured from the food menu. In a hospital food survey, Stanga et al. (2003) found that a majority of the patients on an oral diet in two Swiss hospitals (86%) satisfied or very satisfied with hospital food, but half of them stated that their appetite decreased during their time in hospital. In fact, the satisfaction of the food provided was negatively and significantly correlated with the duration of hospital stay. Similarly, the research conducted among the cancer therapy patients shows that the quality of food and acceptability of the food menu were important points of satisfaction. Likewise, measured by nutritious food, healthy food was noted as one of the core importance in dining satisfaction where it had a significant effect on customer-perceived evaluation of the restaurant experience (Namkung & Jang, 2007). Quality of food was also found particularly important in the restaurants where atmospherics is not reaching satisfactory level (Ha & Jang, 2010).

In sum, regulators are attempting to address the health crisis, but to one extent, it caused to some controversial feedback from the consumers. It is only through virtue and caring attitudes of food purveyors to provide desired food safety practices and to achieve the objectives of healthy foods (Mazni, Toh, Mohd Faiz Foong, & Norazmir, 2013).

METHODOLOGY

Study Population and Design

Current study presents the triangulation approaches within multilevel respondents to state the food performance level and facilitate the clarification on the food purveyors' attitudes towards regulated food standards in their institutions. This study however does not attempt to propose any food menu plan.

Data analysis of the current study evaluated food performance among 258-food handlers in six-government institutions using a questionnaire survey. A total of five-items were used to measure the food performance. The measurement items used *Likert*-scale of 1=Strongly Disagree and 6=Strongly Agree. Concurrently, this study also conducted interviews with each institution's food operator to seek their opinions on the food menu regulated by the Ministry of Health. Two questions asked while the data collections were as the followings:

i. *Are you aware of any related Food Acts, regulations or code of practices related to food service?*
ii. *Based on the food served in this institution, please give your comments.*

DATA ANALYSIS AND FINDINGS

This section provides data analysis and results measured on food performance among the food handlers. Explanations drawn from food purveyors' on the regulated food standards given by the Ministry of Health are also discussed.

Findings from the Questionnaire Survey

Food Handlers Profiles

A total of 154 from 258-food handlers from selected government institution responded to the distributed questionnaire survey, and the response rate of 59.7% was obtained. In overall, female respondents dominated the study by 7.2%. The majority of the respondents aged from 18 to 30 (38.0%), they have secondary school education (63.6%). Most of them had been working for one to five years (43.1%) in the food industry.

Food Performance Level

The descriptive analysis undertaken looks at the food performance level of food handlers in government institutions; viewed from the perspective of food handlers. Table 1 presents the means and standard deviation of food performance among the food handlers. The magnitude of the mean scores ranges from 5.05 to 5.51; designates the agreement level of the food handlers on the items. The mean score examined the overall status of the food performance. The achieved means score for food performance was 5.2766 (SD = .51864). Based on the analysis, it can be inferred that most of the respondents have agreed on the food performance in the institution as shown below.

Table 1 Means and Standard Deviation of Food Performance

	Means	Std. Deviation
1. The appearance of the food we serve is interesting	5.12	.714
2. Our food is delicious	5.27	.657
3. Food temperature is maintained warm	5.05	.897
4. Menu items we serve according to the Ministry of Health are varies	5.51	.707
5. Food quality is good	5.44	.583
Food Performance	**5.2766**	**.51864**

Note. 1 to 6 Likert-type scale: 1=Strongly Disagree and 6=Strongly Agree.

From five-question items, the result revealed many have agreed that food presentation is impressive (58%), but less than 40% agreed the food temperature is maintained warm. The result also demonstrates that almost half of the food handlers strongly agreed that the quality of food is good (49%). The overall results show the positive agreement of food handlers with the food served in their institutions. Interestingly, Figure 1 shows 54% of the food handlers agreed that the food they served in the institutions is delicious. The taste of the food was found to be more than satisfactorily.

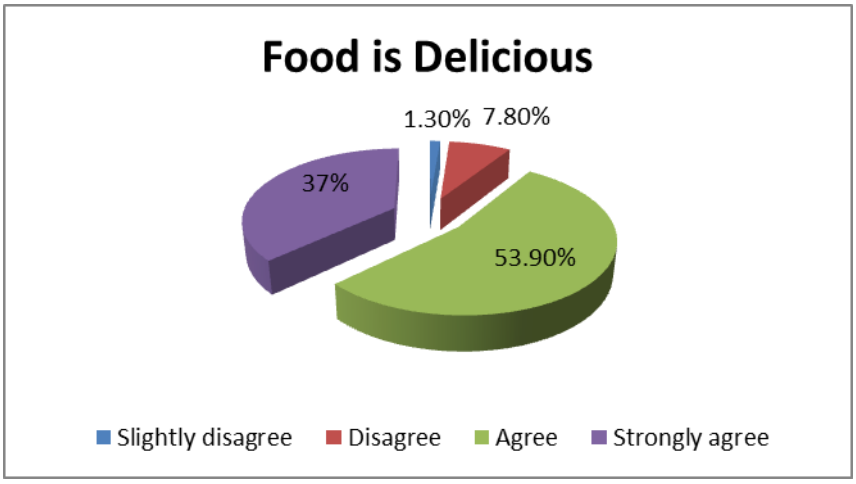


Figure 1 Food Our food is delicious

Moreover, the majority has strongly agreed that the food menus regulated are varied (61%), and Figure 2 demonstrates the level of agreement of the food handlers. The outcome clearly shows that most of the food handlers agreed (93%) that the Ministry of Health has regulated food menu items in the institutions.

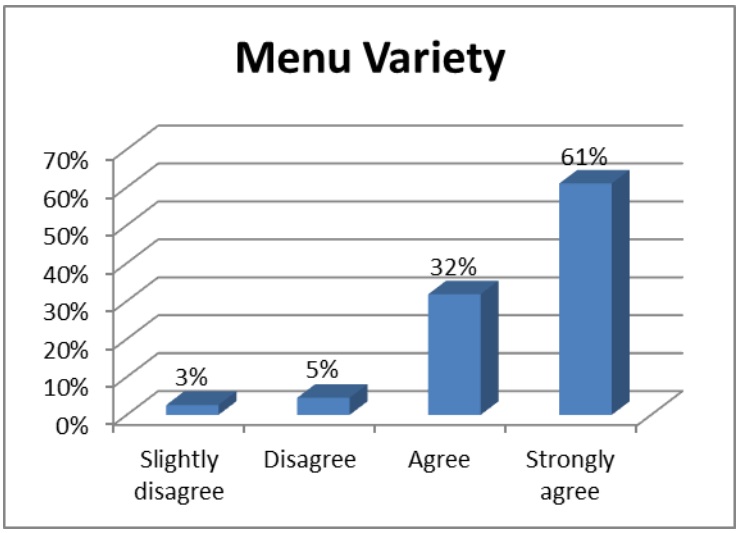


Figure 2 Menu Items We Serve according to the Ministry of Health are varies

FINDINGS FROM INTERVIEWS

Informants Profiles

Interviews were also conducted on food purveyors that comprise of a dining hall supervisor and the chef. The food handling staff was made up of six males and a female; aged from 36 to 64 years, serving between five to nine years in the government institutions. Almost all of them started working at the workplace since it was first established.

About the first question asked to the seven-food purveyors: ***"Are you aware of any Food Acts, regulations or code of practices related to food service?",*** four of them did not quite understand the contents of Food Acts and Regulations. They relied mostly on the food handling courses attended. On the whole, the food purveyors adhere strictly when preparing the food menu provided by the Ministry of Health. Table 2 demonstrates responses given for the Question One.

Table 2

Answers for Question 1: Are you aware of any Food Acts, regulations or code of practices related to food service?

Operator 1	*The book (food menu given by the Ministry of Health) acts as a guide that we need to comply with. Hence, if we want to change to other menu, we may do so based on the book as well, and not just changed on our own, we do follow the book (guidelines).*
Operator 2	*Yes, I am familiar, but only about food and nutrition.*
Operator 3	*No, I am not sure (the contents of the Food Act and regulations), but I have attended the training courses, I just did not buy the book (Food Acts, regulations) and do not intend to buy them.*
Operator 4	*Are there any revisions to the Acts? I can't remember well.*
Operator 5	*No, not very familiar. The Food Act and hygiene regulation do not have much difference to me. They are all about the food handlings; they are of the same thing. The important is its availability.*
Operator 6	*Yes, a little. Err… it keeps changing, right?*

Food Purveyors' Dissatisfaction

Although the initial results for the questionnaire survey indicated the satisfactorily level of the food performance in the government institutions, the qualitative findings tapped contradictory. On the following questions, the informants' feedbacks were recorded accordingly.

Question 2: ***Based on the food served in this institution, please give your comments.***

Food Menu and Menu Patterns

There were different feedbacks obtained from the interviewee, but food menu was highlighted most. The Operator 3 (female) complained that the food menu has never changed since the food service business was in the run. In referring to "has never changed," a male counterpart, that is Operator 3 and Operator 5 expressed their dissatisfaction on the tiredness of eating the same food repeatedly:

> *Yes, the menu has always been the same; it has not been updated for quite some time. It has been over four to five years since the menu was last revised, and even the trainees of 3-months feel sick about it, not to mention people like us that are glued to it every single day.*

Operator 3 (male)

> *We are indeed sick and tired of the fish ball soup menu here. We have been serving soup dishes all the while that people even started questioning as to whether I actually cook this every single day. Our menu does not deviate from the menu guidelines, and the book has also worn out as we almost complete all series that are to be renewed soon.*

Operator 5

The food purveyors are very concerned with the food menu set by the Ministry of Health. When asked if the alteration is possible, Operator 1 replied:

> *Often, our menu is prepared based on the menu pattern prepared by the Ministry of Health. Even when we want to change, it is very unlikely as we do need to follow the health menu as given by the ministry.*

Even though the food operators wanted to comply with the dietary book; they have finally altered the food menu according to the feedback from the trainees. The food purveyors would at first initiate a meeting to listen to the dissatisfactions from the trainees and explain that the food menu was set by the Ministry of Health. Operator 1 continues;

> *However, we might have changed a little bit as the feedback from trainees indicated that if we were to follow exactly with the given menu, it would be tasteless. If we were to comply in full, there are bound to be complaints. The trainee that came in for a week only has already been complaining endlessly. Hence, when time permits, we will meet up with them to clarify first. We would tell them that we need to comply with the book (the dietary plan) and upon mutual understanding, and then only we may change (to different dishes).*

Similar to the opinion of Operator 1, Operator 2, he would slightly modify on the taste to add flavour to the food. Both of them feel that their customers are right in terms of appetite. Operator 2 explained that:

> *Well, they (the trainees) complain about the ordinary stuff such as food not tasty, not spicy enough, not sweet, and not salty. If we were to follow strictly on the menu from the Ministry of Health, the food would be even more tasteless as we need to maintain a certain level of sweetness, saltiness, calories and spiciness. If the coconut milk can be used to make porridge, the Ministry of Health would even ask to consume it with vegetables. Do you know how does it taste? Well, I can certainly prepare the food as instructed by the Ministry of Health, but I would have to bear with the complaints from the trainees. They just have to eat healthy and nutritious meal i.e. not too sweet, not too salty and not too spicy. However, then again, we are just so used to having delicious meal.*

Operator 2 added that he had knowledge of what is a balanced diet because he has been trained as a chef from young. According to him, the Ministry of Health needs to observe comments from the operators and review food menu periodically. He said that the menu has been focuses on calories and ignored other factors such as food presentation and taste. When asked if they have highlighted the food menu to a higher authority, the Operator 2 mentioned:

> *No, we did not manage to request for the menu to be reviewed. (It is the duty of) Our higher authority will discuss it with the Ministry of Health in which they will review in terms of the right amount of calories, nutrition and so forth prior to issuing the menu. In fact, our menu here was prepared by their chefs. When I looked at it, the menu was excellent in terms of the calorie's level, but it was not right for the taste and colour. If it is 'sambal' dishes, then it will only be that. If we were to prepare it, we would use colour schemes to make the platters especially appealing to guests. On the other hand, we cannot do anything much but to follow. Regardless, I will not be bothered if the trainees ever get angry or want to complain about the food not up to their expectation. Even when they drink, they always want it sweeter. It is not healthy food when the dishes are too flavoursome.*

Dietary Intakes

The meal plans presently in government institutions offers six-meals a day. The meals plan comprised of breakfast, brunch, lunch, tea time, dinner, and supper. Besides, the meals are catered for the training activities in the surveyed government institutions that involved trainees aged from 16 to 35. Looking at the age of the trainees, the Operator 2 felt that the food portion set by the ministry was not appropriate. He grumbled on the volume or size of the food intake.

> *No, that is not possible as it has its standard weight that needs to be complied with the dietary plan. Similarly with this orange (while pointing at the orange on his palm), it has to weigh 165 gram. There would not be any problem if we were able to find those within the desired measurements. However, they (the Ministry of Health) will make noise if the oranges are smaller in sizes in which we then need to take two instead. Sometimes, it is tough attending to all these people's requirements. Similarly with the cakes, they will measure them and complain if they are not equally weighted. They want the cakes to contain the desirable level of calories and weight. The trainees only consume 200gram of rice, and that is somewhat equivalent to one cup only…. The trainees tend to eat more in the afternoon… In fact; it is certainly not enough to take only 200 gram of rice for lunch as the portion is just too small for them.*

Along with the dissatisfaction in the food intake size for rice and fruits, to eat six meals a day was considered a bad idea. The highlights were on the size and numbers of '*kueh'* and cakes. According to the food purveyors, frequent eating should go with a smaller size of *kueh* and cakes.

> *Especially during the first-month intake (of the trainees), the amount payable could go as high as … as we will serve a variety of cakes every single day during breakfast, tea time, dinner and at this hour. There are also certain days that we will serve two pieces of curry puffs for each trainee, but the snack is so huge that they do not even dare to eat them, so it will just go to waste.*
>
> Operator 5

Equipment Facilities

The menu planned ought to be produced in a comfortable work area with adequate equipment. Restrictions on the space and equipment are among the important aspects to avoid mix-ups and cross-contamination. The interview however recorded evidence of food warmers. According to Operator 6, the Ministry of Health must enforce each government institution, the compulsory use of food warmers because food poisoning has been increasing of late.

> *I am not satisfied with the counter system here. We would like to suggest that this institution would incorporate food warmer to ensure that the food can be kept warm at all times. Only then the temperature can be maintained, right? (This is because) The duration gave from food preparation until serving time is within four hours which are why the food will no longer be hot by then, and it is definitely not recommended (for consumption). If only (the authority) could set a rule on this, all food purveyors in these government institutions must adhere to it.*
>
> Operator 6

Virtually, every food establishment needs the food warmers to ensure its food stays hot until it is consumed. To keep the food at the right temperature has been one of the top rankings concern that consumers pay attention to greatly. Cooked food is safe only after it has been heated to a high enough temperature as the dropping temperature allows bacteria to thrive as food cools after cooking. Heating the cooked food would kill harmful bacteria as the danger zone for pathogen growth in food is between 5 °C to 63 °C. The descriptions of having no food warmers as compulsory equipment are consistent with the lowest mean scores obtained from the questionnaire survey.

CONCLUSIONS AND IMPLICATIONS

Current study presents examples of dissatisfaction from food purveyors to the regulated food standards and provides evidence and support for the objective of this study that measured the quality of food in terms of food appearance, taste, food temperature, food variety, and food quality. Initial examinations show the results obtained from the food handlers in the survey contradicted with the food purveyors' dissatisfactions. The evidence revealed that the excellent performance of the food was made possible because the alteration of food menu has taken place due to the feedback of the trainees. This study proposes a review by the Ministry of Health to enhance the dietary plan for the institutions under the supervision of the government. Failure to consider the food menu may put the food purveyors to be out of control. Current research also reveals that even though the intention of the diet plan menus according to the Ministry of Health to promote good governance for healthy food, the actual practices leave much to be desired. The food menu is regarded as little more than a guideline for the chef to prepare the food.

Despite the fact that the food handlers are satisfied with the regulated food standards they serve in the government institutions, the current study assumes it may be based on the aftermath of the menu changes. In addition, the dissatisfactions from the representatives of the food purveyors have revealed the information that they feel less pleasant working with the regulated food standards. The less pleasant factor may cause the alterations to the original food menu. As highlighted during the interviews, these factors include an insight in ethical intent not to comply with the dietary plans.

Food purveyors have been informed that the food warmer was not equipped as the food purveyors need to meet with the cooked food temperature settings. From the food safety point of view, it is likely that the presence of pathogen growth will lead to the non-communicable diseases such as food poisoning. The knowledge attained from the findings also demonstrates that current research can guide further research of regulated food phenomenon especially in the government institutions. Through the Food Act 1983 and Food Hygiene Regulations 2009, the Ministry of Health enforces healthy food guidelines, yet the Ministry has yet to enforce the right equipment to be in place.

The findings of the present study have implications for both theoretical and practical aspects. Theoretically, in a situation where the government is trying to maintain the same food operators, these food purveyors have the power to influence the opinion of the government in giving their views on the food menu that has long been established. From the practical point of view, by probing deeper into the menu changes in order to provide healthy food practices to the trainees, the management of the food operators could bring the issues of menu changes to the Ministry of Health through the higher authority. Compilation of feedback and comments from all coaches, trainees, and food operators can provide opportunities for a higher authority to interact and work together with the Ministry of Health. The planning of food menus needs to be monitored to ensure that choices reflect the food preferences and demands of clienteles.

Notable strength of the current study is due to the accumulation data from two different sources (i.e. from the workers and their immediate supervisors). It may thus be important to reconsider whether food menu and choices fit the role and purpose of the regulated food standards for healthy eating habits against those of available alternatives. In addition, the government needs to address growing

concerns about the balance in the basic principles (the enforcement of correct food handlings and the availability of equipment) as emphasized by the food purveyors to reform the regulated food standards in Malaysia in the future.

LIMITATIONS AND FUTURE RESEARCH

This study adopts an exploratory study method. Hence, the generalisation of results is mainly at theoretical level. In other words, the findings represent only a sample of the population of government institutions in Peninsular Malaysia. As such, the results are not comparable against other government institutions unless another study is conducted further on the same issue in other states of Malaysia, probably to represent government institutions in East of Malaysia. The results could then be compared for a better understanding of the dissatisfaction among the food operators.

The generalisations are also possible if the research study and avenue could be, within the same context of food menu in the private sectors. The study can enrich the understanding of how different types of institutions are responding to the menu specified by the authority body. The understanding may provide additional insights in how the interaction of 'food fit' between the designated authority and food purveyors. Therefore, in accordance with the recommendation made by the Malaysian Dietary Guidelines (2010); consumers need to consume less-calories, be more active, and make wiser food choices. Food menus should be reviewed from time to time so that the consumers can eat a variety of foods within the recommended intake.

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The Mediating Effect of Absorptive Capacity on the Relationship between Social Capital and Technology Transfer

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ABSTRACT

Social capital and absorptive capacity were highlighted as crucial to ensure the realization of the success of technology transfer. The study presented in this article investigate the effect of social capital and absorptive capacity on technology transfers performance by focusing on the technology advantages as the output of the transfer activities. Hypotheses were developed and tested by using data gathered from high technology companies operating in Malaysia technology parks. From the result of data analyzed, it was found that both social capital and absorptive capacity have significant effect on the performance of technology transfer. The findings also indicated that the elements of absorptive capacity mediate the effects of social capital on technology advantages.

Keywords: Technology Advantages, Social Capital, Absorptive Capacity, Technology Transfer, High Technology Industry

INTRODUCTION

Technology is determinant of innovation and knowledge generation therefore having modernized technology is essential for business firms to remain competitive in energetic and dynamic business landscape today. As technological development is progressing rapidly, firms must respond quickly to the emergence of new technologies. For this reason, it is important for the firms to be involved in technology transfer, especially when firms' ability in internal research and development is limited (Jagoda, Maheshwari, & Lonseth, 2010; Noor, 2010).

Towards flexible transfer of knowledge and technology, various efforts have been taken by the government. One of the great movements is by looking at the success of technology parks for innovation opportunities. Technology parks were developed as an evolutionary process and must be done together with the production-based economy.

According to Sarif, (2008), the government has established Malaysia technology parks through conventional planning process which then assimilates

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under the Eighth Malaysia Plan (2001-2005) and was continued in the Ninth Malaysia Plan (2006-2010). These were aligned with the aims of Malaysian's Science and Technology Policy to take full advantage of the utilization and development of science and technology as a device for nourishing economic expansion.

This paper discusses on technology transfer performance and focuses on the important firm-specific assets which are absorptive capacity and social capital. The purpose is to provide empirical validation on the relationships and influence of these variables on technology transfer performance.

LITERATURE REVIEW

Technology Transfer

In this paper technology transfer is defined as the movement theoretical and practical knowledge, the movement of skills, the movement of system of government and physical structure that can be used to develop products and services as well as production and delivery systems from the location where it was generated to the receiving location (Mitelman & Pasha, 1997; Li-Hua & Lu, 2013). Normally, firms transfer technology with the purpose to build products and services to achieve their business objectives. Li Hua (2006) highlighted that the performance of technology transfer can be indicated by the firm's capability to attain its goals or aims of the technology transferred.

According to Whangthomkum, (2006), there are three mutual objectives that firms expect to attain from end to end of technology transfer which are the primer of different or new techniques, the enhancement of different or new techniques and the generation of different or new knowledge. There are multiple outcomes from a success technology transfer process. The end result of a success technology transfer not only limited to having the skill to operate, retain or repair the machineries in the production level but a success technology transfer also may improve the firm's human resource capability and management capability. These include the ability to learn, acquire, absorb and apply new external technologies. The firm should be able to get hold of knowledge implanted in product materials, physical assets, processes and production, (Rose et al. (2009). These probably will improve the company's technological capabilities.

High technology capabilities will assist the firms in generating projected products that reach the requisite quality level. Accordingly it will support in reaching the firms' production efficiency goals. For that reason this study focused more on technology advantages such as the increased in technological capabilities, increase the management skill and capabilities, the ability to manage acquired technology and increased innovation rates.

Social Capital

Social capital comes into passionate development in the late 1990s. Nahapiet and Ghoshal (1998) describe social capital as the resources available and potentially available from the network of relationships found in the individual or community. Putnam (2000) describes social capital as the link or network of relations, activities

or associations that bind people together as a community through definite norms and inner competencies particularly trust. These elements are important for civil society, and productive of future collective action. Social capital is a surrounding substance of various social relations, joint with certain normative and cognitive social institutions that support collaboration and mutual benefit, wherein the density of matrices raise with closeness (Camison & Fores, 2010).

Although the concept of social capital has found extensive recognition, there remains widespread vagueness about its meaning and effects (Koka& Prescott, 2002). Social capital has many elements associated with complicated social context. It covers many aspects of the social context for example social bonds, believing or trusting relationships, value structures that enable actions of individuals, it is therefore important to clarify the dimensions of social capital as has been deliberated by a number of scholars (Coleman, 1988; Putnam, 1995; Nahapiet & Ghoshal, 1998, etc.), (Tsai & Ghoshal, 1998).

For the purpose of this study, three dimensions of social capital proposed by Nahapiet and Ghoshal (1998) was adopted. These dimensions are structural social capital, relational social capital, and cognitive social capital. According to Nahapiet and Ghoshal (1998) the structural social capital is the dimension of social capital which designates the structure of linkages between people within group or organization which include network connectivity, network patterns and organization relationships. While the relational social capital is the dimension of social capital which designates the sort of personal relationships people have established with each other through a times past of communications which include the elements such as trust, norms, obligations and recognition. The cognitive social capital is the dimension of social capital which is about those resources providing shared representations, understandings and systems of meaning which include common language, coding and narrative.

Absorptive Capacity

Technology transfer involved the process of diffusion and absorption of knowledge. Therefore absorptive capacity is a useful conceptual device in order to understand the success of technology transfer (Sazali et. al., 2009).The concept first appeared as important in the 1980s, with the acquisition and application of new knowledge as the fundamental role in business competitiveness. A study by Cohen & Levinthal (1990) is in general accepted as the founding paper. Based on the study, absorptive capacity is defined as the ability of a firm to identify the value of new external information, assimilate it, and apply it to commercial ends. In the context of technology transfer, absorptive capacity is related to firm's affectionateness to technological change (Kedia & Bhagat, 1988).

Besides that, Zahra and George (2002) acknowledged absorptive capacity as a dynamic capacity embedded in routine and processes. They grouped the four dimensions of absorptive capacities into two main categories those are potential capacities and realized capacities. Potential capacities include knowledge acquisition and assimilation of knowledge whereas realized capacities include transformation and exploitation of knowledge. The extended model of absorptive capacity by Zahra and George (2002) maintained that former knowledge, which is corresponding to a firm's experience, is essential to develop absorptive capacity. Moreover, they put

emphasis on other factors, for example external knowledge sources and corresponding external knowledge, are equally important.

Although the outcomes from prior studies on technology transfer in Malaysia (Noor, 2010; Sazali, et. al., 2009; Sarif & Ismail, 2006; Abidin et al. 2012) emphasized that the increase in absorptive capacity has positive influence on the success of technology transfer. Still, the studies on absorptive capacity are varied and some of the studies are on conceptual bases that necessitate for more empirical studies. Hence, this study includes internal social capital and absorptive capacity to provide empirical verification on the relationships and influence of these variables on technology transfer performance. Pull together from the literature review and discussion a research framework was developed (Figure 1).

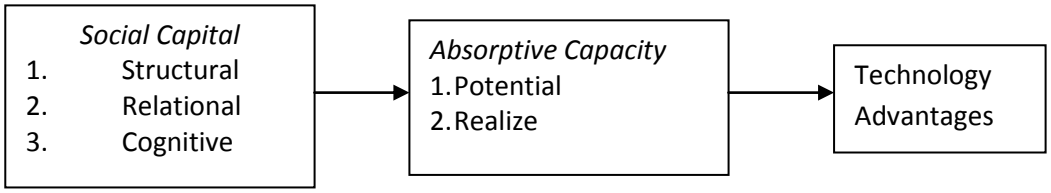


Figure 1 Research Framework

Based on the research framework the following hypotheses are formulated.

Hypotheses statements on the mediating effect of potential capacity

H_A *Potential Capacity mediate the relationship between social capital and technology transfer performance*

H_{A1} Potential Capacity mediates the relationship between structural and technology advantages.

H_{A2} Potential Capacity mediates the relationship between relational and technology advantages.

H_{A3} Potential Capacity mediates the relationship between cognitive and technology advantages.

Hypotheses statements on the mediating effect of realize capacity

H_B *Realize capacity mediates the relationship between social capital and technology transfer performance*

H_{B1} Realize capacity mediates the relationship between structural and technology advantages

H_{B2} Realize capacity mediates the relationship between relational and technology advantages.

H_{B3} Realize capacity mediates the relationship between cognitive and technology advantages.

METHODOLOGY

Data of this study was gathered through a survey conducted on high technology industry operating in four Malaysia technology park. These technology parks have been in operation for more than ten years. Based on the information gathered, the total companies located in the four selected technology parks give a target population of 518 companies. From the target population, desired sample size was determined. Within each technology park, a simple random sample of the companies was selected. A total of 358 respondents were needed in order to get 95 per cent of confidence level. However only 97 were returned, and out of 97 only 90 were completed and can be used for data analysis. Although the response rate is low, 25.13%, it is acceptable as response rate of studies in Malaysia especially which used company as it unit of analysis can be as low as 9% (Noor, 2010).

A set of close ended questionnaire which divided into four sections was developed. The first section was to obtain the background details of the firm and the respondent. The second section was developed to gather information about technology transfer performance of the firms in terms of technology advantages. The other two sections were developed to gather information on the independent and mediating variables. Seven-point scale was used to measure all items for each variable.

The data was screen and prepared for hypotheses testing. Factor analysis and reliability test were done to confirm the validity and reliability of the instrument used. The Kaiser-Meyer-Olkin (KMO) values are more than 0.6 and the Bartlett's test of sphericity are significant for each variable confirming the factorability of the dimensions. The alpha values of reliability analysis for each variable range from 0.734 to 0.942 which are more than 0.6, therefore it can be established that the instrument is reliable.

ANALYSIS AND FINDING

Regression analyses were used to organize the hypothesis testing. In this study multiple regression analysis was used to predict the variations in the dependent variables in response to change in the independent variables. Regression analysis was done to test on the hypothesis regarding dimension of social capital and absorptive capacity whether they have some sort of relationships with technology transfer performance.

This study followed the test standard proposed by Baron and Kenny (1986), Judd and Kenny, and James and Brett (1984) to examine the existence of mediating effect. This standard established that four conditions must be encountered to identify the existence of mediating factor between the dependent variables and the independent variables. Firstly, the independent variables must affect the dependent variables; this condition establishes that there is an effect that possibly will be mediated. The second condition is the independent variables must affect the mediating variables; this condition essentially involves treating the mediating variables as if it were a dependent variable; the mediating variables must affect the dependent variables. If one of these conditions is not fulfilled, it can be concluded that mediation is not possible.

The third condition is to establish the effect of the mediating variables on dependent variables. The independent variable must be controlled because it is not sufficient just to correlate the mediating variables with dependent variables as the mediating variables and the dependent variables may be correlated because they were both caused by the independent variables. The fourth condition is established by examining the change occurs in the effect of the independent variables on dependent variable. The concurrent effect of the independent variables and the mediating variables on the dependent variables is smaller than the individual effect of the independent variables on the dependent variables. The effects in both third and fourth conditions are estimated in the same equation. The summaries of these regression analyses are provided in Table 1 until Table 4.

Table 1 Regression analysis between Social Capital (IV) and Technology Transfer Performance (DV) **(Condition I)**

IV	DV	Coefficient (β)	F	R^2
Structural	Technology advantages	0.773***	130.340***	0.597
Relational	Technology advantages	0.507***	30.457***	0.257
Cognitive	Technology advantages	0.380***	14.828***	0.144

*** p<0.001, **p<0.01, *p<0.05

Table 1 provides the summary of regression analyses which conducted to identify whether the independent variable (social capital dimensions) directly influence the dependent variables (technology transfer performance). Although there are varieties of significant levels, the results show that all the independent variables have significant positive influence on all the dependent variables. The outcomes established that there are effects that may be mediated.

Table 2 Regression analysis between Social capital (IV) and Absorptive Capacity (Mediating variable) **(Condition II)**

IV	DV	Coefficient (β)	F	R^2
Structural	Potential Capacity	0.604***	50.510***	0.365
	Realize Capacity	0.539***	36.123***	0.291
Relational	Potential Capacity	0.530***	34.439***	0.281
	Realize Capacity	0.451***	22.478***	0.203
Cognitive	Potential Capacity	0.462***	23.819***	0.213
	Realize Capacity	0.557***	39.492***	0.310

*** p<0.001, **p<0.01, *p<0.05

Table 2 shows the summary of regression analyses to identify the effects of the independent variable (social capital dimensions) on the mediating variables (absorptive capacity). The results approve that all the independent variables have significant positive influence on the mediating variables with p<0.001 level of significant. Therefore, condition I and condition II are fulfilled.

Table 3 and Table 4 recapitulate the results of multiple regressions on the independent variables, mediating variables and dependent variables. They provide information to examine the occurrence of Condition III and Condition IV. Table 3

provides the results of regression analyses conducted to examine the mediating effect of potential capacity on the relationship between social capital dimensions and technology transfer performance dimensions. While Table 4 provides the results of regression analyses conducted to examine the mediating effect of realize capacity on the relationship between social capital dimensions and technology transfer performance dimensions.

Table 3 Regression analysis about Social capital (IV) and Potential Capacity (Mediating variable 1) to Technology Transfer Performance (DV) **(Condition III and IV)**

Hypothesis	IV	DV	Coefficient (β)	F	R^2
H_{A1}	Structural Potential Capacity	Technology Advantages	0.731*** 0.069	65.253***	0.600
H_{A2}	Relational Potential Capacity	Technology Advantages	0.329** 0.336**	22.247***	0.338
H_{A3}	Cognitive Potential Capacity	Technology Advantages	0.183 0.426***	17.517***	0.287

*** p<0.001, **p<0.01, *p<0.05

The existence of mediating effect can be determined by comparing the results of regression analyses between IVs and DVs when the regression analyses were conducted without mediator (Table 3) and the results of regression analyses between IV and DV when the regression analyses were conducted with Mediator (Table 3 and Table 4). If the influence of Mediator on DV is statistically significant in Table 3 and Table 4, then the interpretation is that the Mediator mediates the relationship between IV and DV. If the relationships between IV and DV become not significant with the introduction of the mediator, then the interpretation is that mediator fully mediates the relationship. If the relationship between IV and DV is statistically significant, then the interpretation is that mediator partially mediates the relationship (Shaver, 2005, Ramayah & Ignatius, 2010).

Table 3 reveals that the influence of Potential Capital and Relational Dimension on Technology Advantages are statistically significant (β=0.336, p<0.01 & β=0.329, p<0.01), this result confirms that Potential Capacity has partially mediates the relationship between Relational Dimension and Technology Advantages. Hence, the result supports H_{A2}. It is found that the Potential Capacity has significant effect on the relationship between Cognitive Dimension and Technology Advantages (β=0.426, p<0.001). Hence, the influence of Cognitive Dimension on the Technology Advantages is not significant (β=0.183, p>0.05) when Potential Capacity was included in the regression analysis. This confirms that potential capacity has fully mediates the relationship between cognitive dimension and technology advantage and this support $H_{A3.}$ However, the influence of Potential Capacity on Technology Advantages when the regression analysis was conducted with Structural Dimension is not significant, therefore hypotheses H_{A1} are not supported. In summary, it is found that Potential Capacity has moderating effect on the relationship between Relational Dimension and Technology Advantages; relationship between Cognitive Dimension and Technology Advantages.

Table 4 Regression analysis about Social capital (IV) and Realize capacity (Mediating variable 2) to Technology Transfer Performance (DV) **(Condition III and IV)**

Hypothesis	IV	DV	Coefficient (β)	F	R^2
H_{B1}	Structural Potential Capacity	Technology Advantages	0.704*** 0.127	67.563***	0.608
H_{B2}	Relational Potential Capacity	Technology Advantages	0.350*** 0.349**	23.843***	0.354
H_{B3}	Cognitive Potential Capacity	Technology Advantages	0.142 0.428***	16.129***	0.270

*** p<0.001, **p<0.01, *p<0.05

Table 4 summarizes the results of regression analyses those were conducted to examine the mediating effect of realize capacity on the relationship between social capital dimensions and technology transfer performance dimensions. From Table 5, it is evidence that the independent variable (relational dimension) and the mediating variable (realize capacity) have significant effect on dependent variable (technology advantage) (β=0.350, p<0.001 & β=0.349, p<0.01). This result confirms that Realize Capacity partially mediates the relationship between Relational Dimension and technology advantages. Hence, the result supports hypothesis $H_{B1.}$

The results indicated that realize capacity fully mediates the effects of Cognitive Dimension on Technology Advantages (β=0.428, p<0.001. In summary, it is found that realize capacity has moderating effect on the relationship between relational dimension and technology advantages; relationship between cognitive dimension and technology advantages; relationship between cognitive dimension and production performance; and relationship between cognitive dimension and business performance These findings support hypotheses H_{B2} and H_{B3}. Table 5 summarize the results of hypotheses H_A and H_B.

Table 5 Finding of the hypotheses H_A and H_B

Hypothesis	Hypothesis Statement	Remarks
	Mediating effect of potential capacity	
H_{A1}	Potential Capacity mediates the relationship between structural network and technology advantages.	Not supported
H_{A2}	Potential Capacity mediates the relationship between relational and technology advantages.	Supported
H_{A3}	Potential Capacity mediates the relationship between cognitive and technology advantages.	Supported
	Mediating effect of realize capacity	
H_{B1}	Realize capacity mediates the relationship between structural network and technology advantages	Not supported
H_{B2}	Realize capacity mediates the relationship between relational and technology advantages.	Supported
H_{B3}	Realize capacity mediates the relationship between cognitive and technology advantages.	Supported

DISCUSSION

The result reveals that social capital dimensions have strong positive relationship with potential capacity and realize capacity supporting H_2 of the study. Step 3 is to show that Potential Capacity and Realize Capacity (Mediating Variables) effect the dimensions of Technology Transfer Performance (Dependent Variables) with the dimensions of Social Capital (Independent Variable) being controlled to establish the mediating effect of mediators which is Step 4. Hence, the estimation of the effects of Step 3 and Step 4 are delivered in the same equation. Figure 2 demonstrates the results of each step in establishing the mediating effect of Potential Capacity on the relationships between Social Capital dimensions and Technology Advantages.

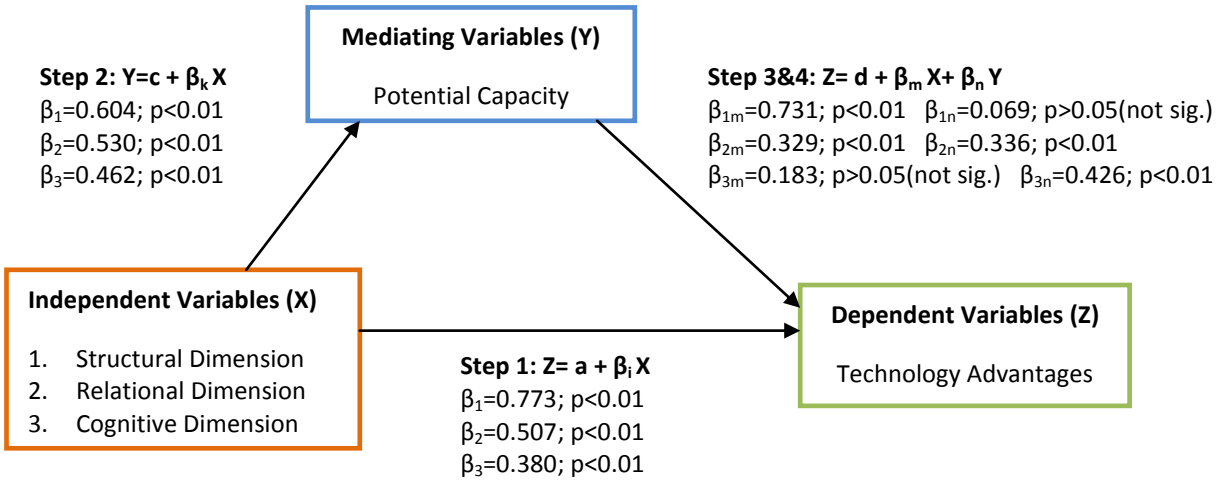


Figure 2 Mediation of Potential Capacity on Social Capital Dimensions and Technology Advantages

Figure 2 shows that all the relationships are significant in Step 1 and Step 2 which tolerate the analysis to proceed to Step 3 and Step 4. In step 3 and 4, when

Relational Dimension and Potential Capacity are regressed together on Technology Advantages, Potential Capacity is significant (β_{2n}=0.336; p<0.01) fulfilling Step 3 (supporting H_{A2}) besides, Relational Dimension also significant (β_{2m} = 0.329; p<0.01).

The result proven that there is partial mediating effects of Potential Capacity on the relationship between Relational Dimension and Technology Advantages. As well, when Cognitive Dimension and Potential Capacity are regressed together on Technology Advantages, Potential Capacity is significant (β_{3n}=0.426; p<0.01) fulfilling Step 3 (Supporting H_{A3}) while Cognitive Dimension is not significant (β_{3m}=0.183; p>0.05(not sig.). Consequently, Potential Capacity was proven to be a full mediator between Cognitive Dimension and Technology Advantages. On the other hand, Potential Capacity does not have any significant influence on Technology Advantages when regressed together with Structural Dimension (not supporting $H_{A1)}$.

Figure 3 demonstrates the results of each step in establishing the mediating effect of Realize Capacity on the relationships between Social Capital dimensions and Technology Transfer Performance dimensions.

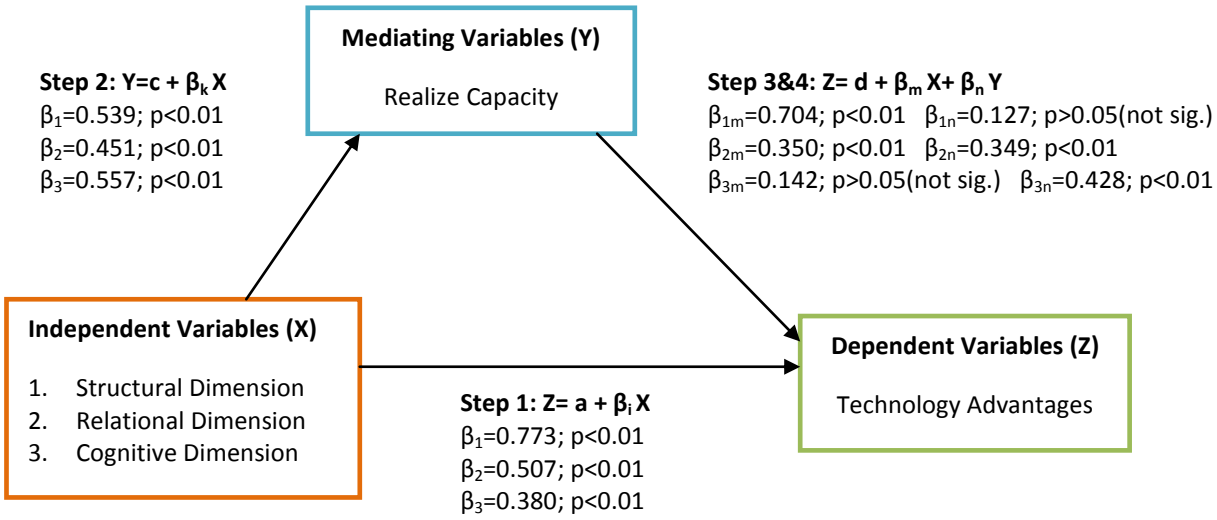


Figure 3 Mediation of Realize Capacity on Social Capital Dimensions and Technology Advantages

Figure 2 discloses that all the relationships are significant in Step 1 and Step 2 which tolerate the analysis to proceed to Step 3 and Step 4. In step 3 and 4, when Relational Dimension and Realize Capacity are regressed together on Technology Advantages, Capacity is significant (β_{2n}=0.349; p<0.01) fulfilling Step 3 (supporting $H_{4B2)}$ besides, Relational Dimension also significant (β_{2m} = 0.350; p<0.01). The result proven that there is partial mediating effects of Realize Capacity on the relationship between Relational Dimension and Technology Advantages. As well, when Cognitive Dimension and Realize Capacity are regressed together on Technology Advantages, Realize Capacity is significant (β_{3n}=0.426; p<0.01) fulfilling Step 3 (Supporting H_{B3}) while Cognitive Dimension is not significant (β_{3m}=0.183; p>0.05(not sig.). Consequently, potential capacity was proven to be a full mediator between cognitive dimension and technology advantages. On the other hand, Realize

Capacity does not have any significant influence on Technology Advantages when regressed together with Structural Dimension (not supporting H_{B1}).

CONCLUSION

This paper provides an explanation on the two important factors in technology transfer performance. The influence of social capital and absorptive capacity on technology transfer performance was examined by developing model that identifies three dimensions of social capital. It also provides an empirical test on the influence of these variables on one of the most important outcome of technology transfer that is technology advantages. It addresses the social capital as the factors which impact the success of technology transfer with absorptive capacity interface. This study follows the line proposed by Abidin et al (2012), by propositioning absorptive capacity as mediator of the effect of social capital on the performance of technology transfer.

Social capital seems to be a prerequisite for the realization of technology transfer as it is the unique interconnectivity of human capital which will provide some technology players with an advantage over those who are not so well-connected. The strong influence of structural dimension lead us to conclude that the configuration of linkages between people within organization assist in access to knowledge among network members which is important to the accomplishment of technology transfer. In addition, absorptive capacity also plays an important role in ensuring the success of technology transfer. The findings suggest that absorptive capacity mediate the effects of social capital on technology advantages in terms of relational and cognitive dimension.

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Measurement for Supply Chain Collaboration and Supply Chain Performance of Manufacturing Companies

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ABSTRACT

The changing landscape of supply chain management from strategically-decoupled to strategically-coupled as well as vertical integration to vertical disintegration calls for improvement in ways partners relate with one another. The success of supply chain depends on trust-entwine collaboration. However, an integrated measurement of supply chain collaboration is unknown in the literature. The aim of this study is to develop an integrated measurement of supply chain collaboration and supply chain performance from processional approach. To achieve this aim, various measures of supply chain collaborative process were investigated, refined, and pre-tested among 43 managers in Nigerian manufacturing companies through face-to-face questionnaire administration. The process produced an integrated measurement of supply chain collaboration with satisfactory factor loading and reliability. A significant relationship was also found between supply chain collaboration and supply chain performance. The outcome of this study can be use and tested by future researchers in order to contribute toward theory testing in supply chain collaboration. Managers of manufacturing companies can benefit by utilizing their supply chain processes to effectively collaborate.

Keywords: Supply Chain Collaboration, Social Exchange Theory, Supply Chain Performance, Manufacturers Association of Nigeria

INTRODUCTION

In today's hypercompetitive market, the individual action of a firm is not enough to win and achieve better quality, decrease costs, and flexibility. To obtain these advantages, companies have to search for supply chain collaborative opportunities among efficient and responsive partners (Wu, Chuang, & Hsu, 2014). The principle of collaboration depends on partner collectivism which is explained by a sardine strategy called "move as one" (Bolstorff & Rosenbaum, 2012). Unless there is a trust-entwine collaboration, the essence of supply chain might be defeated.

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Therefore, supply chain collaboration shall continue to be a topical issue in the field of supply chain management.

Many terminologies have been used interchangeably to describe supply chain collaboration. Being a multidisciplinary concept, collaboration is conceptualized as coordination (Singh, 2011), strategic alliance (Loke, Downe, & Sambasivan, 2013), buyer-supplier relationship (Abd Rahman, Bennett, & Sohal, 2009), integration (Yu, Jacobs, Salisbury, & Enns, 2013); information sharing (Vieira, Yoshizaki, & Ho, 2009). Terms such as dyadic (buyer-manufacturer) relationships, partnerships (Yu, 2014) are also used interchangeably to mean establishing relationship with upstream and downstream partners in the supply chain.

Previous studies have extensively contributed to measurement and theory building of supply chain collaboration by measuring its determinant. These determinants but not conclusive include information sharing, goal congruence, decision synchronization, incentive alignment, resources sharing, collaborative communication, and joint knowledge (Cao & Zhang, 2011); open communication, risks & rewards, joint planning, joint problem solving and joint decision-making (Soosay, Hyland, & Ferrer, 2008); interpersonal integration, and strategic integration (Vieira Yoshizaki, & Ho, 2009). What is unclear is the measurement of supply chain collaboration base on processional approach. Thus, the aim of this study is to examine supply chain collaboration and supply chain performance of manufacturing companies from the process perspective.

LITERATURE REVIEW

Supply Chain Collaboration

Supply chain collaboration is defined as "a partnership process where two or more autonomous firms work closely to plan and execute supply chain operations toward common goals and mutual benefits" (Cao & Zhang, 2011). Collaborations are valuable if the partners intend to pursue innovation (Fawcett, Magnan, & McCarter, 2008); joint venture is used if supply chain extends beyond national boundary while strategic alliances are appropriate when firms pursue technological innovation (Soosay, Hyland, & Ferrer, 2008). Previous studies on supply chain collaboration demonstrate significant relationship with supply chain performance. For example, buyer-supplier collaboration have positive impact on operational and innovation performance (Inemek & Matthyssens, 2013; Wiengarten, Humphreys, McKittrick, & Fynes, 2013).

This study is underpinned in social exchange theory. This theory of social behavior states that "any interaction between individuals is an exchange of resources" Homans (1958). Social exchange theory is concerned with the process of mutual reward that comes about as a result of exchanges and transaction (Emerson, 1976). It is applicable in supply chain management because collaboration is a central tenet in business-to-business (B2B) and business-to-customer (B2C) relationship (Lambe, Wittmann, & Spekman 2001).

The expected rewards include tangible and intangible resources such as goods, assets, money, advice, information, friendship or services (Gouldner, 1960; Homans, 1958). The theory further posits that each partner in the relationship has a valuable resource to offer. The relationship would end as soon as either of the partner

or even both partners perceive the relationship not rewarding. In line with previous supply chain collaboration literature and social exchange theory, the following research framework is developed:

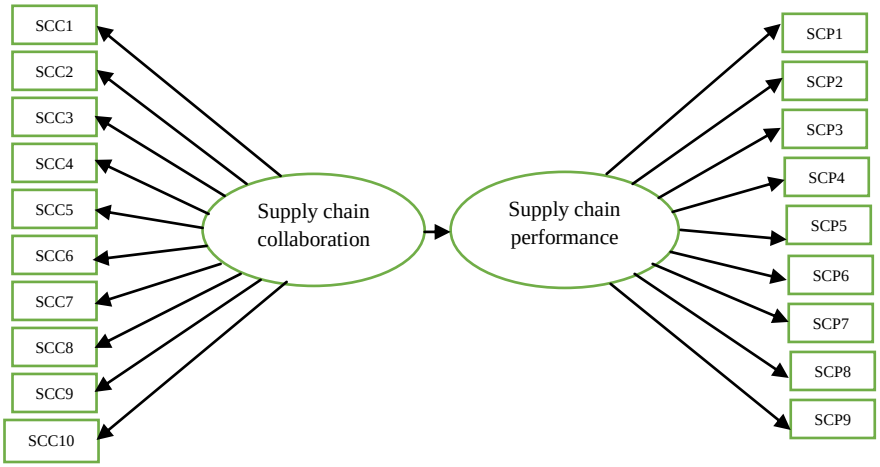


Figure 1 Research Framework of Supply Chain Collaboration

RESEARCH HYPOTHESIS

Relationship between supply chain collaboration supply chain performance

The success of today's manufacturing hinges on inter and intra firm collaboration. Supply chain members who had higher levels of collaboration practices were able to achieve better operational performance (Fawcett, Magnan, & McCarter, 2008; Soosay, Hyland, & Ferrer, 2008) and innovation activities (Kuhne, Gellynck, & Weaver, 2013; Wiengarten et al., 2013). The financial successes of Japanese manufacturers are hinged on innovation and collaboration (Nakano, 2009). Successful collaboration has been equated with the ability and readiness of managers to create trust and build relationships among partners (Panayides & Venus Lun, 2009). Supply chain collaboration has positive influence on supply chain performance (Liao & Kuo, 2014). However, collaboration has negative non-significant influence on innovation performance (Ahuja, 2000). Therefore, in line with argument above and the principles which shows that parties enter in partnership for mutual benefits, we argue that supply chain collaboration from process approach will have positive impact on supply chain performance. Therefore, it is postulated that:

H1: Supply chain collaboration has significant relationship on supply chain performance.

Measurement

The study is psychometric where perceptions of 43 managers in Nigerian manufacturing companies were pilot-tested. The respondents were randomly selected based on cluster, stratified and systematic sampling. All scales used in this study have been validated in previous literature. However, while all scales were adopted from previous measures, they are modified to suit the context of this study. All variables have been measured on seven-point Likert-type scale from 1 = strongly disagree to 7=strongly. These items measuring supply chain collaboration were adopted from multiple source such as (Chen & Paulraj, 2004; Koufteros, Vonderembse, & Jayaram, 2005; Claro & Claro, 2010; McCarthy-Byrne & Mentzer, 2011; Iyer, 2011; Green, Jr., Whitten, & Inman, 2012; Ganesan, 1994); while supply chain performance was modified from Rajaguru & Matanda (2013) and Ye & Wang (2013).

Method and analysis

The study was conducted in four stages. First was extensive literature review to determine the underlying constructs and dimensions of the study. Second was the development of measurement scales which were adopted and modified. Third, the factor loading, reliability, and test of normality were carried out to determine whether the model was fit for further analysis; and lastly, a regression analysis was conducted to determine the linearity of the construct relationship. All statistics were analyzed using statistical package for social science (SPSS version 20). The organizational data is provided below:

Table 1 Organizational data

	Frequency	Percent
Manufacturing Sector		
Food, beverages & tobacco	7	16.3
Chemicals and pharmaceuticals	6	14.0
Domestic and industrial plastic, rubber and foam	7	16.3
Basic metal, iron and steel and fabricated metal products	3	7.0
Pulp, paper & paper products, printing & publishing	6	14.0
Electrical & electronics	4	9.3
Textile, wearing apparel, carpet, leather/leather footwear	4	9.3
Wood and wood products including furniture	3	7.0
Non-metallic mineral products	3	7.0
Total	43	100.0
Department		
Vice president and above	28	65.1
Director/assistant director	8	18.6
Manager/assistant manager	4	9.3
Others	3	7.0
Total	43	100.0
Ownership structure		
Foreign-owned company	33	76.7
Local firm	8	18.6
Foreign-local firm	2	4.7
Total	43	100.0
Firm age		
1-5 years	6	14.0
6-10 years	9	20.9
11-20 years	4	9.3
21-30 years	8	18.6
31 or more	16	37.2
Total	43	100.0
Number of employees		
21-50	6	14.0
51-100	12	27.9
101 or more	25	58.1
Total	43	100.0
Annual revenue in million Naira		
10 or less	8	18.6
11-50	2	4.7
51-100	4	9.3
101-1000	10	23.3
1001 or more	19	44.2
Total	43	100.0
Annual costs in million Naira		
10 or less	8	18.6
11-50	9	20.9
51-100	18	41.9
101-1000	8	18.6
Total	43	100.0

In order to uncover the sampling adequacy, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO - MSA), and Bartlett's Test of Sphericity was conducted and the output of the test is shown on table 3.

Table 3

KMO and Bartlett's Test		**Supply chain collaboration**	**Supply chain performance**
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.652	.565
Bartlett's Test of Sphericity	Approx. Chi-Square	100.208	100.208
	df	36	36
	Sig.	.000	.000

Based on the results of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO - MSA), and Bartlett's Test of Sphericity, as shown on table 3, it was concluded that the output of EFA with KMO-MSA values ranging of .565 and .652 and Bartlett's Test of Sphericity (chi-square 100.208 and; sig. at .000) are satisfactory further analysis. The KMO index ranges from 0 to 1. Although, 0.50 is considered suitable for factor analysis, higher index is more suitable for further analysis. Furthermore, Test of Sphericity must be significant at $p<.05$ for factor analysis to be suitable (Williams & Brown, 2012). Therefore, it can be concluded that the output of the analysis is fit for further studies.

Assessing items Factor loading, reliability, mean, and standard deviation

In order to uncover the underlying dimensions of constructs, exploratory factor analysis (EFA), factor loading, reliability of instrument and items, mean, and standard deviation were conducted and the output of the tests are given on table 4.

Table 4

Factor loading, Cronbach's alpha, mean, and standard deviation of supply chain collaboration

	ITEMS	Factor loading	Reliability	CR	Mean	Std dev
SC1	We involve key suppliers at product design and development stage	.798	.758	.791	52.2821	7.24005
SC2	There is a strong consensus in our firm that supplier involvement is needed in product design/development	.758	.760			
SC3	New product design teams have frequent interaction with other functions	.711	.766			
SC4	We consulted major customer early in the design efforts for the new product	.677	.774			
SC5	Whenever our major buyer gives us advice on product design, we know it is sharing its best judgment	.657	.776			
SC6	We often participate in our customers' decisions regarding retail pricing	.551	.770			
SC7	We work with major customers to plan and execute a distribution strategy for the sale of products	.546	.770			
SC8	We get information from buyers' customers which supports us in defining prices of products for the selected buyers (supplier)	.503	.785			
SC9	Our firm can forecast and plan collaboratively with supply chain partners through integrated information systems	.586	.787			
SC10	We can depend on our suppliers to provide us with good market forecast and planning information	.569	.786			

Table 5

Factor loading, Cronbach's alpha, mean, and standard deviation of supply chain performance

	Items	Factor loading	Reliability	CR	Mean	Std dev
SCP1	Total cost reduction	.817	.771	.751	53.1667	5.56776
SCP2	Inventory cost reduction	.743	.696			
SCP3	Reduced inventory build-up	.767	.695			
SCP4	Develops new product quickly	.733	.695			
SCP5	Increase customer responsiveness	.706	.716			
SCP6	Increase on-time delivery	.672	.720			
SCP7	Delivering the right quantity	.722	.750			
SCP8	Increase order fill rate	.829	.760			
SCP9	Reduce out of stock rate	.582	.729			

Regression analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	R^2	F	t	Sig.
		B	Std. Error	Beta (R)				
1	(Constant)	37.641	6.403		.207	10.470	5.879	.000
	Supply chain collaboration	.360	.111	.455			3.236	.002

a. Dependent Variable: Supply chain performance

In order to test the effect of supply chain collaboration on supply chain performance, a regression model was run with enter method. Based on the results, F=10.494, R^2=0.207, t-value=3.236, p-value = 0.002, it can be concluded that supply chain collaboration has significant relationship on supply chain performance.

DISCUSSION AND CONCLUSION

This study intends to identify key dimensions fundamental to supply chain collaboration. Through an extensive review of literature, processional measures of supply chain collaboration and supply chain performance were identified. The measurement instrument were adopted and modified from various sources and were subjected to further exploratory factor analysis (EFA) and reliability measurement. The process of factor loading shows satisfactory sampling adequacy and factor loading. However, two items were deleted as a result of loading below 0.50. Furthermore, regression results suggest a significant relationship between supply chain collaboration and supply chain performance.

One major difficulty about supply chain collaboration is defining what variable to be included. Collaboration affects every aspect of manufacturing companies since it is a network of facilities that performs integration functions such as sourcing of material, manufacturing, and distribution of finished products from the supplier's supplier to the customer's customer (Lee & Billington, 1995). This shows

that the domain of collaboration is broad. Therefore, the study did not cover all aspect of supply chain collaboration. Future studies shall identify other dimensions of supply chain collaboration.

Developing measurement instrument is a continuing process which requires refinement across different population and study settings (Hensley, 1999; Chen & Paulraj, 2004). Thus, the study could be considered as major step in strengthening measurement and theoretical domain of supply chain collaboration using sample from Nigerian manufacturing companies. Future study shall conduct similar studies in other African and Asian countries. Having drawn from the database of Manufacturers Association of Nigeria (MAN) in 2014, the output of this study can only be generalized to members represented in the database. Even though the database comprise of many firms in different sectors, future research should investigate other sectors such as service organizations such as hospitals, banking, and educational institutions in order to extend generalizability.

CONCLUSION

Supply chain management is a strategic shift in management of modern businesses where businesses compete as supply chain and not as individual enterprises. Thus collaboration is an essential element of building an integrated and sustainable supply chain. While research on many aspect of supply chain collaboration is increasing, studies toward constructs and instrument refinement is scarce. Thus, this finding confirms the work of Kumar & Banerjee (2012), Ramanathan & Gunasekaran (2014) who suggested that collaboration improve supply chain performance. The collaborative alliances have positive relationship with supply chain performance Managers of manufacturing companies can use the outcome of this study to develop more capabilities to integrate their processes and capabilities. In line with Chen & Paulraj, 2004), it is hope that future researchers will use the outcome of this study in future to contribute toward theory building and supply chain performance.

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Consumption and Housing Wealth in Malaysia

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ABSTRACT

Fluctuations in house values over recent years (2000 - 2012) have led to an economic policy debate on the effects of housing wealth on determining household consumption behaviour. This paper investigates the strength of housing wealth and its effects on consumption using time series data in Malaysia and the cointegration test, Vector Error Correction Model (VECM), and Granger Causality. There is a mounting amount of literature as well that reveals a strong relationship between housing wealth and consumption, and our paper consistently finds that the price variation in the Malaysia housing market is associated with consumer spending, but in a different manner when compared with most of the existing literature. House wealth which is represented by housing price was found to be affecting consumption negatively in the long-run due to both financial regulation and consumers' perception.

Keywords: Cointegration, VECM, Housing Wealth, Household Consumption, Financial Regulation and Malaysia

-Requested by author not to be published as full paper-

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Financial and Social Outreach Productivity of Microfinance Institutions: A Malmquist Productivity Approach

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ABSTRACT

This study aims to investigate financial and social outreach productivity performance of small, medium and large-sized microfinance institutions (MFIs) in Bangladesh. The Malmquist total factor productivity approach was used on a balanced panel datasets over a period from 2007 to 2012. The results indicate that microfinance institutions had enjoyed, on an average, a positive financial productivity change of 9.4% whilst there was a regressing social outreach productivity of about 7.2% annually. Regardless of size, all microfinance institutions recorded positive financial and negative social outreach productivity respectively. However, in terms of rate of productivity change, at large, small institutions performed better followed by medium and large institutions in both financial and social outreach productivity. The decomposition of Malmquist index revealed that both technical efficiency and technological change have played a vital role in financial productivity while technological change was the main cause of deterioration in social outreach productivity. Thus, technological efforts, apart from monetary support, would highly benefit the MFIs in the long run.

Keywords: MFIs, Sustainability, Financial Productivity, Social Outreach Productivity, Technical Efficiency, Technological Change, Scale Efficiency

-Requested by author not to be published as full paper-

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CO_2 Emissions, Output and Energy Consumption; Evidence from Panel Causality in Countries with Different Income Level

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ABSTRACT

Investigating the causal relationship between CO_2 emissions, output and energy consumption in countries with different income level and world as a whole is the main aim of this study. For this purpose, 92 countries are divided into four groups based on their income. Two panel stationary tests, including Im, Pesaran & Shin and Levin, Lin & Chu are employed. Both tests revealed that series are first difference integrated. The long-run relationship between series is approved in all groups of countries by applying Pedroni cointegration test. Finally, new panel causality introduced by Dumitrescu & Hurlinv employed for each group of countries and the world as a whole. The findings of this test indicated that there is a bi-directional causality between CO_2 emissions and output in countries with high income and low middle income levels as well as the world as a whole. Output is not the only cause of CO_2 emissions, because, results of causal relationship between CO_2 emissions and energy consumption indicated that there is a strong reciprocal relationship between them in countries with different income level. However, such a causal relationship is not approved in global scale.

Keywords: CO_2 Emissions, Economic Growth, Energy Consumption, Heterogeneous Panel Causality, Income Level

INTRODUCTION

Carbon dioxide is a combination of one carbon and two oxygen atoms. The importance of this gas for scientists in social science, comes from the influence of this gas on greenhouse effect. Source of CO_2 emissions could be divided into two parts; natural and man-made. Volcanic outgassing, wildfires and the combustion of organic matter are three main natural sources of CO_2. Human being also can cause this emission by burning fossil fuels, using power generation, employing transportation system, producing some industrialized products such as cement, concerns about global warming, increased the attention of scientists to emission. Kyoto, Japan, in 1997 hosted industrialized countries to negotiate the reduction of greenhouse gases (GHG). Reducing the total amount of CO_2 emissions (not per

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capita) was one of the aims of the Kyoto protocol. To reach to this target, many studies have been undertaken to understand the relationship between CO_2 emissions and other variables influencing development in different countries, by applying various analytical approaches ([1], [2], [3], [4], [5]).

Energy consumption and production are one of those relationship among variables that have received attention. Investigated on the causal relationship between CO_2 emissions and these variables when employing different types of energy. For instance, [1] illustrated that there is bi-directional causal relationship between oil consumption, CO_2 emissions and economic growth in MENA countries. Relationship between renewable, nuclear energy consumption and CO_2 emissions was examined in [2]. Interestingly, there is no causality between renewable energy and CO_2 emissions, while uni-directional causality existed from nuclear consumption to CO_2 emissions.

Some studies could not find bi-directional causality between CO_2 emissions, energy consumption and economic growth. [3] studied these causal relationships in nineteen European countries. Their findings indicated that there is no bi-directional causality between CO_2 and other variables in these countries, however, in some countries uni-directional causality existed, running from energy consumption and economic growth to CO_2 emissions. Bangladesh is one case in point [4]. Uni-directional causality from energy consumption to economic growth in short-run and long-run as well as uni-directional causality from CO_2 emissions to economic growth in short-run are parts of the findings of this study. Long-run causal relationship between CO_2 emissions and energy consumption and economic growth is not supported in [5]studies in industrialized countries. However, existence of uni-directional causality from economic growth to CO_2 emissions in short-run was revealed.

Mix causal relationships were found in some studies occurred in certain countries or group of countries. [6] applied various panel causality for different groups of countries, according to their income and geographic area for the period 1990-2005. Different results obtained for the causal relationship between CO_2 per capita and gross domestic product (GDP) per capita. [7] found the bi-directional causality between per capita CO_2 and income just in Asia and Africa. In other regions particularly in Western Europe and the United States different results were obtained. Uni-directional causal relationship from emission to income exist in North American and Western European countries. Existence of causal relashionship from income to emission approved in Central and South American countries and Oceania countries as well as Japan.

On the other hand, some studies found bi-directional causality between selected relevant variables. For instance, [8] covered 88 countries from 1960-1990 and divided them based on their region. This study used per capita of CO_2 and GDP in their investigation, found bi-directional causality in all groups of countries. [9] applied non-linear causality test, indicated that there is bi-directional causality between CO_2 emissions and economic growth in Korea. The presence of bi-directional causality between CO_2 emissions and energy consumption confirmed in BRIC countries by [10]. Existence of bi-directional causality between emissions, energy consumption and income was identified in Brazil ([11]). Such a causal relationship also existed in Russia [12]. [13] found reciprocal causality between emissions and income in Turkey both in short-run and long-run.

Interestingly, [14] illustrated that income is not Granger cause of CO_2 emissions in the US in long-run. However, this study introduced energy consumption as the main cause of emissions.

Countries with different income level have a varying amount of CO_2 emissions. Figure (1) indicates the simple average of CO_2 emissions in countries with different income level. This figure shows that CO_2 emission in upper middle income level countries is substantially higher than other groups of countries. In terms of trend, upward movement in emission is obvious in these countries, however, it increased significantly during 2002-2009. Average levels of emissions occur to lower middle income countries. Interestingly, low levels of emission are recorded by high income countries with the lowest emission levels happening in low income groups. Emissions are on rising trends for all income categories of countries with the exception of the low income countries. Although, low income group of countries did increased slightly but they stay stable during the period of study.

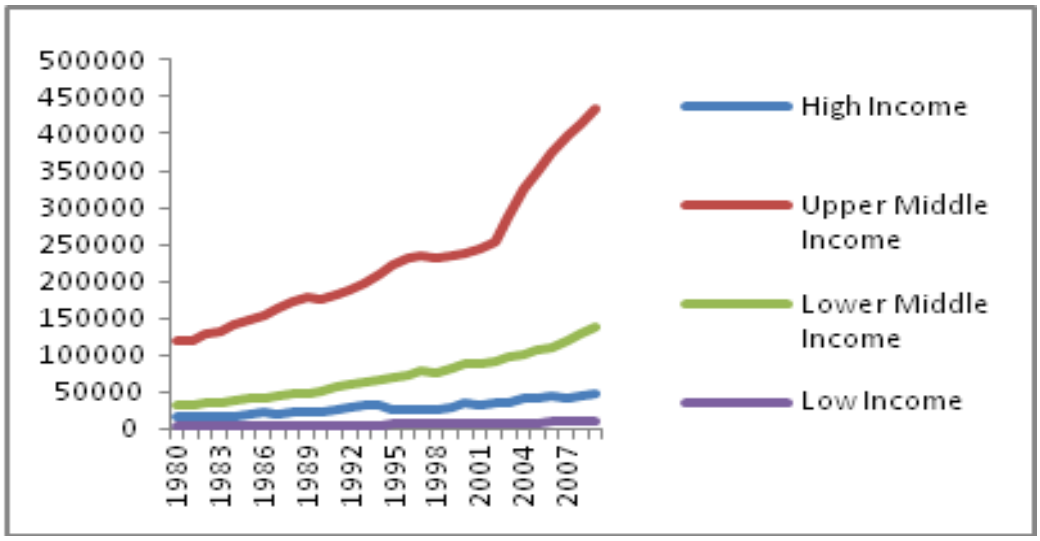


Figure 1 Average CO_2 emissions in countries with different income level

Gross domestic product and energy consumption are among those variables that could affect the CO_2 emissions. Most of the previous studies investigated the influences of per capita growth and per capita energy consumption to per capita CO_2 emissions, and reached different results based on their sample and methods of estimation. But the Kyoto Protocol was more concerned on the effects upon aggregate CO_2 emission rather than per capita CO_2 emission [16]. This study is an extension of work debating on the issue of causality between aggregate CO_2 emissions and salient economic indicators of output and energy consumption in countries with different income levels, over an prolong period from 1980-2009. A further contribution of this study is the adoption of the new panel causality test which was introduced by [15]. In the next section of this paper, the data source is described, followed by the econometrics method of estimation. This is then followed by empirical results and conclusion remarks come in last part.

DATA AND ECONOMETRICS METHODOLOGY

Data

This study assess the causal relationship between CO_2 emissions, output and energy consumption in countries with different income level. CO_2 emissions (kt) is used as a proxy to measure the CO_2 emissions (CO_2). According to World Development Indicator (WDI), CO_2 emissions (kt) "are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring". Real GDP (constant 2000 US$) is used to show the output level and energy consumption (ENG) is measured by energy use (kt of oil equivalent). Countries around the world selected in this study were based on the availability of data for the period 1980-2009 and classified into four groups according to their income level. It must be mentioned that classification of countries, as well as, capturing the data recorded by WDI Indicator. As mentioned earlier, the Kyoto protocol aimed to reduce the GHG emission levels, not decreasing them in per capita basis [16] so this justified the use of aggregate CO_2 emissions as the dependent variable. Finally, it is noted here that all variables used are in logarithmic form.

Econometric Methodology

The existence of time series data in the considered group of countries, necessitates testing the stationary level of each series of data. For this purpose, two panel unit root tests were employed including; Levin, Lin & Chou [17] (LLC, hereafter) and Im, Pesaran & Shin[18] (IPS, hereafter).

To perform the LLC test following Augmented Dickey-Fuller estimates for each cross section was undertaken first.

$$\Delta y_{it} = \rho_i y_{i,t-1} + \sum_{j=1}^{p_i} \varphi_{ij} \Delta y_{i,t-j} + z'_{it}\gamma + \varepsilon_{it} \quad (1)$$

Then, the ratio of long-run to short-run standard deviation estimation follows. Then the panel test statistic was computed following the pooled regression,

$$e_{it} = \rho_i v_{it-1} + \hat{\varepsilon}_{it} \quad (2)$$

The adjusted t-statistics in this test was,

$$t^*_{\rho} = \frac{t_{\rho} - N\tilde{T}\hat{S}_N \hat{\sigma}_{\hat{\varepsilon}}^{-2} \hat{\sigma}(\hat{\rho}) \mu^*_{m\tilde{T}}}{\hat{\sigma}^*_{m\tilde{T}}} \Rightarrow N(0,1) \quad (3)$$

LLC indicates that t^* has a normal distribution. This test limits all cross sections either to have or not to have unit root. IPS introduces a panel unit root test with less limitation in comparison to LLC.

The null hypothesis of IPS test indicates that each series in the panel has a unit root, while, the alternative allows for some of the individual series to have unit root. Estimated t-statistics of IPS also has a normal distribution as follows,

$$t_{IPS} = \frac{\sqrt{N}\left(\bar{t} - \frac{1}{N}\sum_{i=1}^{N} E\left[t_{iT}\middle|\rho_i = 1\right]\right)}{\sqrt{\frac{i}{N}\sum_{i=1}^{N} \mathrm{var}\left[t_{iT}\middle|\rho_i = 1\right]}} \Rightarrow N(0,1)$$

(4)

Investigating the long-run relationship between variables is done by applying the cointegration test. Pedroni [19] developed the panel cointegration test which is Engle-Granger based methods. He introduced seven different statistics in two groups, including four within-dimension statistics and three between-dimension statistics to examine the quality of cointegration of panel data. All calculated statistics were standardized by the following equation,

$$\frac{\chi_{N,T} - \mu\sqrt{N}}{\sqrt{\nu}} \Rightarrow N(0,1)$$

(5)

In this equation, $\chi_{N,T}$ is the appropriately standardized form of each of the seven statistics, μ and ν represent mean and variance accordingly.

Cointegration test indicates that there is a long-run relationship between series, but it must be mentioned that it does not show the direction of the causal relationship. To find the existence of a one-way or two-way causal relationship between CO_2 emissions, output and energy consumption, new panel causality test introduced by Dumitrescu & Hurlinv (2012) was applied. The null hypothesis of this test is that there is no causal relationship between variables for any of the units under the null. This test is different from [20] by introducing the alternative hypothesis based on heterogeneous non causality. Furthermore, this test is applicable for unbalanced panel and different lag orders could be used in the autoregressive process.

To show the cause of relationship, two series like CO_2 and GDP were considered. Following autoregressive distributed lag could be investigated for N individuals in T periods,

$$CO2_{it} = \nu_{1i} + \sum_{l=1}^{L} \alpha_i^{(l)} CO2_{it-l} + \sum_{l=1}^{L} \beta_i^{(l)} GDP_{it-l} + e_{it}$$

(6)

$$GDP_{it} = \nu_{2i} + \sum_{l=1}^{L} \theta_i^{(l)} GDP_{it-l} + \sum_{l=1}^{L} \gamma_i^{(l)} CO2_{it-l} + e_{it}$$

(7)

Based on these two equations, the null hypothesis in equation (6) is defined as follows,

$$H_0 : \beta_i = 0, \forall_i = 1,..., N$$

(8)

And the alternative is,

$$H_1 : \beta_i = 0, \forall_i = 1,..., N_1$$
$$\beta_i \neq 0, \forall_i = N_1 + 1, N_2 + 1,..., N$$

(9)

Which indicates that under H_1 there are some individuals with no causality from output to emissions.

In equation (7), the null hypothesis is

$$H_0 : \gamma_i = 0, \forall_i = 1,..., N$$

(10)

with the alternative;

$$H_1 : \gamma_i = 0, \forall_i = 1,..., N_1$$
$$\gamma_i \neq 0, \forall_i = N_1 + 1, N_2 + 1,..., N \quad (11)$$

In this case, H_1 illustrates that there were some individuals with no causality from CO2 emission to Output.

Similarly, causal relationship between CO2 emissions and energy consumption was investigated by using the following equations.

$$CO2_{it} = \nu_{1i} + \sum_{l=1}^{L} \theta_i^{(l)} CO2_{it-l} + \sum_{l=1}^{L} \omega_i^{(l)} ENG_{it-l} + e_{it} \quad (12)$$

$$ENG_{it} = \nu_{2i} + \sum_{l=1}^{L} \tau_i^{(l)} ENG_{it-l} + \sum_{l=1}^{L} \phi_i^{(l)} CO2_{it-l} + e_{it} \quad (13)$$

Accepting the null hypothesis of $\omega_i = 0$ and $\phi_i = 0$ shows that there is no causality running from CO2 emissions to energy consumption and from energy consumption to CO_2 emissions, respectively.

RESULTS

Tables 1 and 2 shows the results of LLC and IPS panel stationary test, respectively, for different groups of countries. In these two tests, the null hypothesis shows that each variable has unit roots. The findings of these tests illustrated that all series have a unit root in level, because the calculated statistics were not bigger than the critical values and the null hypothesis cannot be rejected. By using the first difference of these variables it is possible to reject the null and accept the alternative hypothesis. So, all series were first-order integrated, I(1).

Table 1 Levin, Lin Chu unit root test

Variables	**LCO_2**		**LGDP**		**LENG**	
	Level	First Difference	Level	First Difference	Level	First Difference
Total Countries (N=92)	12.5019 (1.0000)	-37.3508* (0.0000)	33.8035 (1.000)	-14.6978* (0.0000)	31.4987 (1.0000)	-24.8345* (0.0000)
High-Income (N = 34)	4.15072 (1.0000)	-26.9831* (0.0000)	1.56029 (1.0000)	-11.0190* (0.0000)	9.81320 (1.0000)	-18.7887* (0.0000)
Upper-middle Income (N = 26)	10.2157 (1.0000)	-18.8093* (0.0000)	17.4617 (0.9969)	-7.84870* (0.0000)	-14.7109 (1.0000)	-15.9485* (0.0000)
Lower-middle Income (N = 23)	-12.5891 (1.0000)	-23.2595* (0.0000)	25.5983 (1.0000)	-7.32445* (0.0000)	-25.1398 (1.0000)	-9.32054* (0.0000)
Low Income (N = 9)	4.18975 (1.0000)	-11.8089* (0.0000)	10.6280 (1.0000)	-2.15909** (0.0154)	16.3573 (1.0000)	-4.21759* (0.0000)

L.L.C unit root has a null hypothesis in that the series has a unit root against the alternative of being stationary.
* and ** Means that the null of the unit root test is rejected at a 1% and 5% level, respectively.
The selection of lag lengths is determined based on Schwarts Information Criterion (SBC). Probs. are in parenthesis.

Table 2 Im, Pesaran and Shin unit root test

Variables	LCO_2		LGDP		LENG	
	Level	First Difference	Level	First Difference	Level	First Difference
Total Countries (N=92)	3.19643 (0.9993)	-43.1878* (0.0000)	13.3563 (1.0000)	-22.5433* (0.0000)	7.10451 (1.0000)	-36.0204* (0.0000)
High-Income (N = 34)	-0.46570 (0.3207)	-25.6673* (0.0000)	2.43737 (0.9926)	-9.81348* (0.0000)	1.97778 (0.9760)	-20.9346* (0.0000)
Upper-middle Income (N = 26)	3.63871 (0.9999)	-22.7270* (0.0000)	7.77108 (1.0000)	-12.7576* (0.0000)	4.64205 (1.0000)	-20.5358* (0.0000)
Lower-middle Income (N = 23)	1.53676 (0.9378)	-22.9979* (0.0000)	11.3454 (1.0000)	-15.4667* (0.0000)	3.71576 (0.9999)	-18.0383* (0.0000)
Low Income (N = 9)	2.47666 (0.9934)	-12.7857* (0.0000)	6.65936 (1.0000)	-6.61658* (0.0000)	5.03299 (1.0000)	-10.7446* (0.0000)

I.P.S unit root has a null hypothesis in that the series has a unit root against the alternative of being stationary.
* and ** Means that the null of the unit root test is rejected at a 1% and 5% level, respectively.
The selection of lag lengths is determined based on Schwarts Information Criterion (SBC). Probs. are in parenthesis.

Using the non-stationary variables, it is necessary to apply the cointegration test to find the long-run relationship between variables. For this purpose, Pedroni cointegration tests was employed. Table 3 shows the results of Pedroni cointegrtion test between CO_2 emissions and output. As it can be seen, the null hypothesis of no cointegration was rejected in most cases. As a result, long-run relationship exists between these variables. Based on the findings of this test for CO_2 emissions and energy consumption, which is represented in table 4 it could be concluded that these variables are cointegrated. The existence of cointegration between variables revealed that there is a causal relationship between them. But, direction of this causality is not obvious.

Table 3 Panel Cointegration Test for CO_2 Emissions and GDP

	Total Countries	Low-Income Countries	Lower-Middle-Income Countries	Upper-Middle-Income Countries	High-Income Countries
Panel v-Statistic	2.343090 (0.0096)	0.639467 (0.2613)	0.494528 (0.3105)	0.185422 (0.4264)	4.724830 (0.0000)
Panel rho-Statistic	-6.453007 (0.0000)	-1.861821 (0.0313)	-4.058138 (0.0000)	-1.252690 (0.1052)	-5.065924 (0.0000)
Panel PP-Statistic	-8.067724 (0.0000)	-2.650871 (0.0040)	-4.547345 (0.0000)	-2.838354 (0.0023)	-5.373989 (0.0000)
Panel ADF-Statistic	-8.986311 (0.0000)	-2.513526 (0.0060)	-5.028186 (0.0000)	-4.714329 (0.0000)	-4.668250 (0.0000)
Group rho-Statistic	-4.673739 (0.0000)	-0.881460 (0.1890)	-3.151446 (0.0008)	-1.658445 (0.0486)	-3.192326 (0.0000)
Group PP-Statistic	-8.261718 (0.0000)	-2.244766 (0.0124)	-4.659866 (0.0000)	-3.870783 (0.0001)	-5.2177055 (0.0000)
Group ADF-Statistic	-8.205941 (0.0000)	-2.369902 (0.0089)	-5.281265 (0.0000)	-4.174055 (0.0000)	-4.285381 (0.0000)

Pedroni cointegration test has a null hypothesis in that the series are not cointegrated.
* and ** Means that the null is rejected at a 1% and 5% level, respectively. Probs. are in parenthesis.

Table 4 Panel Cointegration Test for CO_2 Emissions and Energy Consumption

	Total Countries	Low-Income Countries	Lower-Middle-Income Countries	Upper-Middle-Income Countries	High-Income Countries
Panel v-Statistic	5.521176* (0.0096)	1.392219 (0.0819)	1.963729** (0.0248)	1.509121 (0.06556)	7.803472* (0.0000)
Panel rho-Statistic	-11.77618* (0.0000)	-1.297473 (0.0972)	-7.412168* (0.0000)	-3.430984* (0.0003)	-11.34318* (0.0000)
Panel PP-Statistic	-12.49947* (0.0000)	-2.097711** (0.0180)	-7.275976* (0.0000)	-4.765638* (0.0000)	-10.03535* (0.0000)
Panel ADF-Statistic	-12.54309* (0.0000)	-2.299812** (0.0107)	-7.723446* (0.0000)	-4.541268* (0.0000)	-9.073445* (0.0000)
Group rho-Statistic	-8.657281* (0.0000)	-0.761615 (0.2231)	-5.337066* (0.0000)	-5.501028* (0.0000)	-4.648873* (0.0000)
Group PP-Statistic	-13.54697* (0.0000)	-2.853291* (0.0022)	-7.212489* (0.0000)	-8.309753* (0.0000)	-7.617380* (0.0000)
Group ADF-Statistic	-13.27481* (0.0000)	-2.875815* (0.0020)	-8.575722* (0.0000)	-7.381687* (0.0000)	-6.848446* (0.0000)

Pedroni cointegration test has a null hypothesis in that the series are not cointegrated.
* and ** Means that the null is rejected at a 1% and 5% level, respectively. Probs. are in parenthesis.

Causality direction is found by applying the Dumitrescu & Hurlinv causality test. Table 5 illustrates the results of this test. As mentioned before, in this test which is standardized for fixed T value, the null hypothesis suggests there is not causality between variables. Considering the CO_2 emissions and output, our findings shows that the null could be rejected when causality runs from output to emissions in high income level and low income level countries as well as total countries. But the null could not be rejected in upper middle and lower middle income countries and causal relationship from CO_2 emissions to output is not revealed in these two groups of countries. Furthermore, when it runs from output to emissions the null reject in all groups of countries. As a result, there is a reciprocal causality between CO_2 emissions and output globally as well as the high income level and low income level countries.

In the case of the causal relationship between emissions and energy consumption and based on the findings of the obtained statistics when causality runs from energy consumption to CO_2 emissions, the null could be rejected in all groups of countries. However, when it runs from CO_2 emissions to energy consumption the null cannot reject in global scale. As a result, causality between these series is reciprocal in all group of countries with the exception of global scale.

Table 5 Causality test between CO_2 emissions, Output and energy consumption

	$CO_2 \rightarrow$ GDP	GDP $\rightarrow CO_2$	$CO_2 \rightarrow$ Eng	ENG $\rightarrow CO_2$
	Z statistic	Z statistic	Z statistic	Z statistic
Total Countries	3.5292* (0.0000)	12.4430* (0.0000)	5.9686 (0.7439)	11.8803* (0.0000)
High Income Countries	3.4089* (0.0000)	5.2339* (0.0000)	2.3322** (0.0197)	6.6798* (0.0000)
Upper Middle Income Countries	0.9490 (0.3426)	7.8311* (0.0000)	2.6092* (0.0091)	4.4122* (0.0000)
Lower Middle Income Countries	0.6133 (0.5397)	4.8302* (0.0000)	5.5225* (0.0000)	6.9513* (0.0000)
Low Income Countries	3.1992* (0.0014)	3.2174* (0.0013)	4.6145* (0.0000)	5.1039* (0.0000)

Dumitrescu & Hurlinv causality test has the null hypothesis with no causal relationship between variables.
* and ** Means that the null is rejected at a 1% and 5% level, respectively. Probs. are in parenthesis.

CONCLUSION

The main purpose of this paper is investigating the causal relationship between CO_2 emission, output and energy consumption. To reach to this aim, data from 92 countries over 30 years from 1980-2009, were considered and divided into four groups based on their income. Stationary test of LLC and IPS revealed that all series were first integrated. The existence of the long-run relationship between variables was confirmed by Pedroni cointegration test. However, it does not show the direction of causality.

Finally, Dumitrescu & Hurlinv panel causality test was applied to find the direction of causality between interested series. Based on the statistics, which is introduced for fixed T, reciprocal causality between emissions and output was revealed in global scale, high and low income groups of countries. Causal relationship between emissions and output was uni-direction in upper middle and lower middle income countries running from output to emissions. Moreover, our findings shows that the causality between emissions and energy consumption is uni-direction in global scale running from CO_2 emissions to energy consumption. However, bi-directional causality was confirmed for CO_2 emissions and energy consumption in other groups of countries.

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The Effect of China's Foreign Direct Investment on the Malaysian Economic Performance

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ABSTRACT

This study examines the effect of China's foreign direct investment (FDI) on Malaysia's economic growth from 1987 to 2009, in which Malaysia's trade openness and financial development are incorporated in the model specification. By employing the Autoregressive Distributed Lagged (ARDL) cointegration approach, the empirical result shows that China's foreign direct investment plays a vital role in Malaysia's economic growth. In addition, the China's foreign direct investment also exerts a significant effect on Malaysian economic growth via its interaction with financial development other than the direct contribution.

Keywords: Economic Growth, Financial Development, Foreign Direct Investment

INTRODUCTION

Foreign direct investment (FDI) is an activity in which an investor resident in one country has a lasting interest in, and a large influence on the management of an entity resident in another country (OECD, 2003). It is important to Malaysia in the sense that it provides investible funds and foreign exchange earnings, bring in technical and management efficiency to local firms (Choong and Lim, 2009), and affects both the 'financial' variables (like balance of payment (BOP), inflation, interest rate, and foreign exchange rate) and 'real' variables such as import, export, employment, economic growth and domestic investment (Levine, 1997). Therefore, we are interested to examine the effect of China's FDI on Malaysia's economic growth from 1987-2009, where the former has been increasingly important to our country due to its rapid economic growth, openness, size of economy, and autonomous liberalization (Wong, 2006).

Figure 1 depicts the trend of FDI outflows from China into Malaysia over 1987-2009 through annual flows and its share in total China's FDI outflows to Malaysia in ringgit Malaysia (RM). Since the late 1980s, it shows a small fluctuation in trend of Malaysia's inward FDI from China with a relatively stable and low amount (amount not deviate too much). During the 1990s and early 2000s, the stable

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trend showed that China has opened up its economy to international trade and this in turn lead the amount of Malaysia's FDI receipts from China increased. In 2006, there is a dramatic increase in trend due to China's heavy investment in Malaysia's big steel project in Terengganu in producing flat irons, slabs, billets, hot rolled coils, and the former also involved in the mega project of Penang's second bridge. However, after the peak in 2007, there was a sharp decline in amount of Chinese investment which was mainly attributed to 2007/08 global financial crisis.

Although Malaysia received FDI from China, it has to contend with China for oversea funds as well as facing domestic constraints and structural weaknesses simultaneously. Specifically, these limitations include high cost of doing business, inappropriate public delivery system and lack of skilled labors. In addition, Malaysia was relatively low in terms of production cost competitiveness compared to other countries, and Malaysia's capital outflows trend has generated a few issues. One of them is the chances that deteriorating FDI will lower the country's potential output, given falling private investment. Another concern is about a loss in domestic investors' confidence in the country which is resulted from capital outflows. In short, Malaysia is still lag behind in "ease of doing business".

Anyhow, for a developing country like Malaysia, the issue of job creation is very important. According to Abor and Harvey (2008), although FDI is related to technological unemployment, it does play a critical role in job creation. FDI inflows from China are associated with large-scale and mass production and thus there is a need for large amount of domestic labor force to maintain the high production. In short, China's FDI serves as an alternative engine of growth to Malaysia. Besides increasing domestic investments, it improves the ability of foreign technology absorption, contributing to technology transfers and helping in innovation, promotes international trade integration, and thus brings our country to a competitive situation (Ghosh and Wang, 2009).

In addition, China played a major role in the expansion of intra-regional trade and vertical specialization which are becoming increasingly important. According to Zebregs (2004), China carried 32 % proportion of Asian's total export growth. The rising intra-regional trade among the Asian high-performing countries was significantly affected by spectacular outward-oriented growth performance of the Chinese economy. The vertical specialization in the case means China imports raw materials or intermediate goods from Malaysia and to produce final products which will be exported back to Malaysia. In recent years, China's trade has become more vertically specialized and China's exports contain a large proportion of imported goods from other Asian countries including Malaysia (Rumbaug and Blancher, 2004).

Furthermore, an increasing number of Malaysia's capital goods and investment, components and sub-assemblies, parts, as well as primary products have been absorbed by China. In this short period, a wholly new investment and trade pattern has occurred. Malaysian economy has been influenced both directly and indirectly by China's investment and trade, in which the indirect influences came from the method in which China's investment and trade manipulate Malaysia's economic condition; while the direct effects came from China's bilateral trade and investment relationships with Malaysia. In short, it is clear that a major economic change in Malaysia has been caused by China.

Other than that, China becomes increasingly crucial to Malaysia because of upgrading technology base reasons. According to Das (2008), China managed to absorb a wide range of industrial technologies, and was proven to be superior to other emerging market economies in doing so over the previous two decades. This period was also the period when China was gradually becoming the world's number 1 manufacturer of high-volume industrial products. The trend was due to its extra focus on science and technology education, the admittance of the private sector into the provision of tertiary education, wide-based education adjustments, and the low-wage, but acceptable skilled and flexible workers. Because of huge and increasing investment, the life span of equipment and plant was reduced to seven years (Das, 2008).

In a nutshell, since China's outwards FDI is extremely important to our nation's economy (and even important to the rest of the world), it is worthwhile and beneficial for us to study its impact on our country's economic growth. Therefore, the study is aimed to analyze the relationship between China's FDI and Malaysia's economic growth. Our research will be able to serve as a significant contributor to the efforts in stimulating Malaysia's economic growth as well as the field of development economics.

Most of the empirical literatures in examining the relationship between FDI and economic growth were too general. The rapidly emerging economies in China who is able to provide huge investment funds, provided the recipient country is fundamentally strong in terms of macroeconomics and financial system have not been studied specifically. It is a very important study as it may suggest the rationality and suitability of further employing FDI (especially from China) as an engine of growth for Malaysia.

China's FDI is important to stimulate private investment through enlarging the scope or range of vertical chain by offering production of different stages, thereby increasing the linkage within an industry and even with the rest of the economy. China's FDI also creates job opportunities because the large-scale and mass production need large amount of domestic labor force in operation (Abor and Harvey, 2008). Therefore, the study shows significance of the link between China's FDI and Malaysia's employment rate and provides a guideline to policy makers to tackle unemployment problem.

Besides, according to Das (2008), China managed to absorb a wide range of industrial technologies, and was proven to be superior to other emerging market economies in doing so over the previous two decades. Through technological transfer, diffusion, as well as experience, Malaysia may learn and adopt China's advanced technology, thereby increasing domestic productivity and economic growth. This assists policy makers in identifying and giving due importance to adequate area to upgrade Malaysia's technological level.

In short, by conducting this study, we will be able to provide more robust results on the impact of Malaysia's trade openness, financial development, and most significantly China's FDI on Malaysia's economic growth, which was seldom being analyzed by previous researchers. The causal relationship between both variables can also be justified after the study. Therefore, policy makers may implement sound policy and strategies.

REVIEWS ON THE IMPACT OF FDI ON THE ECONOMIC GROWTH

A number of researches have been done in examining the impact of FDI on economic growth, despite with different conclusions. Anyhow, most of them indicated a positive and significant relationship between the two variables.

Growth-driven FDI

This relationship is showing that the good performance of economic growth will drive FDI inflows into a country. In particular, an improvement of the economic growth enables a country to generate more FDI inflows, and consequently bring essential economic resources to facilitate the development of the host countries (Lee, 2009). In the study's review, several countries had been examined and the study found a unidirectional causality between FDI and growth (Elboiashi et al., 2009 on Morocco; Chowdhury and Mavrotas, 2006 on Chile; Srinivasan et al., 2010 on Indonesia, Philippines and Singapore; Lee, 2009 on Malaysia). For example, according to Elboiashi et al. (2009), there were some researchers provided some recommendation on improving economic condition in host country such as market size, the technology gap, technology-absorbing capability, the degree of openness and the level of the human capital development in order to attract more FDI inflows.

FDI-led Growth

The growth effect of FDI is expected to be in two ways: through inclusion of foreign technologies in the production function as well as via knowledge diffusion (Ericsson and Irandoust, 2001). In terms of start-up, marketing, and licensing agreements, FDI may be hypothesized to stimulate technological upgrading. The hypothesis is supported by Markusen and Venables (1999) who worked out an analytical framework on the process of how FDI establishes local industrial sector.

In contrast, there was an argument that the amount and kind of FDI inflows in the host country are influenced by the level of economic development. According to Caves (1996), the technological capacity of the host country has a significant relationship with the level of FDI. If MNCs are exactly the same with local firms, it is not profitable for the former to enter the domestic market (Markusen, 1995).The level of macroeconomic stability and the trade policy of the recipient country are among other factors that may have a strong linkage with FDI. As long as a country provides, adopts and fulfill the following: (i) fiscal and monetary discipline to control inflation, liberalization reforms, (ii) incentives on trade and an appropriate property right market, (iii) necessary institutional framework for cross-border legal and financial settlements, it will become more attractive and competitive. All these factors can be seen as engines of growth, and the subsequent higher growth rate may in turn attract greater FDI inflows (Ericsson and Irandoust, 2001).

Bi-directional Causality between FDI and Economic Growth

On the other hand, there were several research indicated a bidirectional causality between FDI and economic growth in quite similar countries. (See Chowdhury, 2006 on Malaysia and Thailand; Srinivasan et al., 2010 on Malaysia and Vietnam; Sridharan et al., 2009 on Brazil, Russia and South Africa; Balamurali and

Bogahawatte, 2004 on Sri Lanka; Anwar and Nguyen, 2010 on Vietnam). The absence of any causal relationship normally is less likely to be happened in the countries because many researchers recommend appropriate policies in generating more FDI to benefit the growth of the country or vice versa. For instance, Chowdhury and Mavrotas (2006) suggested to pay more attention on the overall growth and quality of growth as there are crucial determinants of FDI. However, there are some countries under reviewed like Brunei and Lao showed no causality between FDI and GDP (Srinivasan et al., 2010).

In conclusion, understanding the direction of causality between the two variables is important in formulating policies that encourage private investment in developing countries (Chowdhury and Mavrotas, 2006) as it may not be beneficial if there is no causal link between these two variables.

DATA AND METHODOLOGY

ARDL approach

In the study, the ARDL approach advocated by Pesaran and Shin (1995) (see also Pesaran and Pesaran 1997; Pesaran, Shin, and Smith 2001) was employed. The bound testing approach has the underlying computed F-statistic (Wald F-statistic), which is used to examine the significance of lagged levels of the variables under the study in a conditional unrestricted equilibrium correction model (UECM). This approach has a few advantages compared to others like Johansen and Juselius (JJ) tests and Engle-Granger two-step method. Firstly, regardless of the stationarity of the independent variables (whether they are in I(0), or I(1), or mutually cointegrated), the ARDL method is applicable. Therefore, due to its independency on pretesting the variables' order of integration, it eliminates the risks related to pre-testing the order of integration. Secondly, it can avoid the finite sample size problem which is suffered by JJ tests and Engle-Granger two-step method. In other words, it is reliable to be employed in research that involves small sample size as compared to JJ tests and Engle-Granger two-step procedure.

The study demonstrated the Vector Auto-Regression (VAR) of order p(VAR(p)) for China's FDI-led growth function in Malaysia.

$$Z_t = \mu + \sum_{i=1}^{p} \beta_i Z_{t-i} + \varepsilon_t \quad (1)$$

Where z_t is defined as the vector of both y_t and x_t, while y_t is the endogenous variable (measured by Malaysia's economic growth)andx_t(CDIM, MOPENNESS, FD) is the vector matrix of a set of exogenous variables. 't' is a time or trend variable. According to Pesaran et al. (2001), y_t must be a I(1) variable, but the independent variables, x_t can be either I(0) or I(1).

The Vector Error Correction Model (VECM) can be further developed as below:

$$\Delta Z_t = \mu + \alpha_t + \lambda Z_t + \sum_{i=1}^{p-1} \gamma_i \Delta y_{t-1} + \sum_{i=0}^{p-1} \gamma_i \Delta X_{t-i} + \varepsilon_t \quad (2)$$

Where Δ=1-L. The long run multiplier matrix as developed by Choong et al. (2005) are now separated as:

$$\lambda = \begin{bmatrix} \lambda_{yy} & \lambda_{yx} \\ \lambda_{xy} & \lambda_{xx} \end{bmatrix} (3)$$

The crossway components of the matrix are unrestricted. Thus, the chosen series can be either I(0) or I(1). If $\lambda_{yy}<0$, then y is I (0). Contradictory, if $\lambda_{yy}= 0$, then y is equal to I(1).

The ARDL method involves two stages (Pesaran, et al., 2001). Establishing the existence of a long run relationship is the first stage. After that, a two-step procedure is employed to estimate the long-run relationship. To investigate whether a long-run relationship is present in equation 1 or not, we have to estimate the unrestricted error correction models (UECM). To examine the impact of China's foreign direct investment (FDI) on Malaysia's economic growth in a specific manner, the following unrestricted error correction model (UECM) of the ARDL model is estimated:

$$\begin{aligned} \Delta InMGDP = {} & \beta_{10} + \beta_{11} InMGDP_{t-1} + \beta_{12} InCFDIM_{t-1} + \beta_{13} InMOPENNESS_{t-1} \\ & + \beta_{14} InFD_{t-1} + \sum_{i=1}^{p} \beta_{15} \Delta InMGDP_{t-i} + \sum_{i=0}^{p} \beta_{16} \Delta InCFDIM_{t-i} \\ & + \sum_{i=0}^{p} \beta_{17} \Delta InMOPENNESS_{t-i} + \sum_{i=0}^{p} \beta_{18} \Delta InFD_{t-i} + \varepsilon_{1t} \end{aligned} \quad (4)$$

where the ε_{1t} in the equation is the disturbance for the ARDL model. The null hypothesis that tests the long run relationship of the model is $\beta_{11}=\beta_{12}=\beta_{13}=\beta_{14}=0$, while the alternative hypothesis contradicts with the null hypothesis as it states that at least one β_j (j=11,12,13,14) not equal to zero, which means at least one variable has long run relationship.

If the computed F-statistic (Wald test) of ARDL bound test is greater than the upper bound critical value, we can reject the null hypothesis and conclude that the model has long run relationship. In contrast, if the F-statistic is lower than the lower bound critical value, we cannot reject the null hypothesis and we can conclude that there is no cointegration in the model. Another possible outcome is that, if the value of F-statistic reclines between the lower bound and upper bound value we can conclude that the relationship is inconclusive (Narayan and Narayan, 2004).

The F-test follows a non-standard distribution which depends on (i) whether the UECM is with drift and/ or a trend or not (ii) the number of exogenous variables, and (iii) whether the variables included in the UECM are of one order of integration I(1) or zero order of integration I(0) (Narayan and Narayan, 2004). In Pesaran and Pesaran (1997) as well as Pesaran et al. (2001), there are two sets of critical values being reported. Unfortunately, they are not suitable for this study due to its finite sample size (23 observations only). Hence, critical values generated by Narayan (2005) based on the study's sample size have to be calculated.

Data

In this paper, we study the long run and short run relationship between the Malaysian economic performance (as the dependent variable) and the China's FDI inflows to Malaysia. The respective independent variables under studied are China's FDI inflows to Malaysia, Malaysia's trade openness and financial development. The data for the variables like Malaysia's trade openness and financial development were obtained from International Financial Statistic (IFS) and Bank Negara Malaysia (BNM) respectively (as shown in Appendix 1). While the data for China's FDI to Malaysia was obtained from MIDA (Malaysian Industrial Development Authority). The annual data cover the period from 1987 to 2009 (23 observations). Moreover, all the independent variables were transformed into log form.

RESULTS AND INTERPRETATIONS

Using two widely-used unit root tests, namely the Augmented Dickey Fuller (ADF) and the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test, the study examines the order of integration of the variables in the first stage.

Unit root test

Table 1 report the results of ADF and KPSS tests at level and first differenced form by taking into account both the case of constant with trend and constant without trend. The optimal number of lag length is determined by using the Schwarz Information Criteria (SIC) and New-West Banwidth respectively. Based on the results in Table 1 (level form), the t-statistics for ADF test are statistically insignificant to reject the null hypothesis of a unit root even at 10% significance level; while the results of KPSS test provide different conclusion, whereby the null hypothesis of stationary for all variables is rejected. When the study proceeded to the first differenced level, both the results of ADF and KPSS test indicated that all variables are stationary either at 10%, 5% or 1% significance level. As a result, the study concluded that all the variables in the model are integrated of order one, and higher order of differencing is not required to be carried out.

Table 1 Results of the Unit Roots Tests

Variable	ADF Test		KPSS	
	Level	First difference	Level	First difference
	Constant With Trend	Constant No Trend	Constant With Trend	Constant No Trend
Data Period (1987-2009)				
MGDP	-1.5872 (0)	3.7462 (0)**	0.1602 (3)**	0.3914 (8)
MOPENNESS	0.0631 (3)	-2.8285 (0)*	0.1909 (3)**	0.3872 (12)
CFDI	2.3622 (2)	-6.1333 (1)***	0.1556 (8)**	0.3325 (13)
FD	-2.1521 (1)	-3.1064 (7)**	0.1648 (3)**	0.3246 (3)
MMS	-1.5872 (0)	-3.7462 (0)**	0.1602(3)**	0.3914 (8)
EXR	-1.9898 (0)	-4.6489 (0)***	0.1486 (3)**	0.2123 (1)
HCD	-2.2730 (0)	-3.7618 (8)**	0.1549 (3)**	0.3312 (7)

Note: The null hypothesis is that the series is non-stationary, or contains a unit root for ADF test, while the null hypothesis KPSS test is that the series is stationary. The rejection of null hypothesis for ADF test is based on MacKinnon (1991) Critical values, while for KPSS test is based on Kwiatkowski-Phillips-Schmidt- Shin (1992)

Figures in parentheses ( ) refer to the selected lag length. The number of lags was selected based on Schwarz Information Criteria (ADF test) and New-West Banwidth (KPSS test) in order to avoid the problem of autocorrelation that is to ensure the error terms are uncorrelated and enhance the robustness of the results.

***, ** and * indicates the rejection of the null hypothesis of non-stationary at 1%, 5% and 10% significant level respectively.

Bound Testing Approach

Table 2 Bound Test Based on Equation (1)

Computed F-statistic : 10.5708***		
Null hypothesis: No Cointegration		
Critical value		
Lower Upper		
1% significance level	5.333	7.063
5% significance level	3.710	5.018
10% significance level	3.008	4.150
Decision: Reject null hypothesis at 1% significant level		

Note: The critical value was taken from Narayan (2005), Case (iii): Unrestricted intercept and no trend.
***, ** and * denote significancy at 1%, 5% and 10% significance level.

After using the ADF and KPSS test to examine the stationarity properties of all variables, the study proceeded to the Autoregressive Distributed Lag(ARDL) model for the estimation of long run relationship between China's foreign direct investment and Malaysia's economic growth. Table 2 indicated the results of the relationship between both variables. In this case, the computed F-statistic (Wald test) is 10.5708 for equation 1 (Table 3) and it is greater than the upper bound value (7.063) at 1% significance level based on the critical value of Narayan (2005). Therefore, the null hypothesis was rejected and it was concluded that China's foreign direct investment, Malaysia's trade openness and financial development have a long run relationship with Malaysia's economic growth.

Based on Panel 1 (Table 3), the high adjusted R-squared (0.7641) mirrors the estimated model's goodness of fit. Moreover, via a series of diagnostic checking which includes Jarque-Bera normality test, Breusch-Godfrey Serial Correlation LM Test, ARCH Test, and Ramsey's misspecification test, it is shown that the variables in estimated equation 1 are valid and robust [Panel 1(a), (Table 3)]. The respective tests' results showed that the model does not contain problems associated with normality, autocorrelation, heteroscedasticity, as well as model mis-specification.

Next, we obtained similar and consistent results with most of the empirical evidence (on the linkages between FDI and economic growth) even though there were differences in terms of sample and channel being used. As a result, this reinforces the wide consensus or natural effect of FDI to a country. (See: Mencinger, 2003; Wang, 2009; Tang et al., 2008; Baharumshah and Almasaied, 2009; Lensik and Morrrissey, 2006; Vu et al., 2008; Batten and Xuan, 2009; Chee and Nair, 2010; Ghosh and Wang, 2009; Brock, 2009; Wijeweera et al., 2010).

Meanwhile, the result on the relationship between Malaysia's trade openness (MOPENNESS) and its economic growth is quite consistent with previous research (Winter, 2004; Wattanakul, 2009; Constant and Yue, 2010). The estimated results showed that MOPENNESS positively affects economic growth and it is statistically

significant at 1% significance level. The finding is consistent with Hong and Juliana, (2010) in which higher proportion of exports and imports in GDP indicates greater trade volume and is expected to be positively related to economic growth. This was also supported by various researchers (See: Edwards, 1998; Frankel and Romer, 1999; Winters, 2004; Wattanakul, 2009; Hong and Juliana, 2010; Constant and Yue, 2010)

According to Awokuse, (2008), there are three channels for which exports can spur growth. First, the expansion of export may accelerate output growth directly as a component of aggregate output. Second, the growth in exports can also indirectly influence the (economic) growth via stimulation of technological improvement, exploitation of economies of scale, greater utilization of capacity and resource allocation efficiency (Helpman and Krugman, 1985). Third, export growth provides foreign exchange reserves that can be used to import raw material and intermediate goods, which will in turn enhance capital formation, and spurs output growth (Esfahani, 1991).On the other hand, import growth may serve as a complement in promoting economic performance as a whole, as compared to expanded exports (Awokuse, 2008).Imports can be considered as sources of technology-intensive intermediate inputs of production (Mazumdar, 2001).

Another significant variable that positively affects Malaysia's GDP (MGDP) is financial development (FD), in which a sound and resilient financial development in a nation plays a crucial role in allocating resources (namely funds from surplus units to deficit units) efficiently, intensifying investment, and promoting international trade. All these are pre-conditions to attract foreign direct investment. The result is supported by most of the researchers (see: Levine et al., 2000; Maswana, 2009). According to theory, a well-developed financial system plays a few major roles to improve the efficiency of intermediation and thus spur the growth (Maswana, 2009). This implies that without a sound financial system, economic growth seldom exists (Levine et al., 2000).

Table 3 The Estimated ARDL Model

Panel 1

Variable	Coefficient	t-statistic	Probability
MGDP (-1)	-1.0302	-4.2172 ***	0.0056
MOPENNESS (-1)	0.4821	3.0575 ***	0.0223
FD (-1)	0.7313	3.2492 ***	0.0175
CFDIM (-1)	0.0804	5.3244 ***	0.0018
C	1.9049	4.7820 ***	0.0031
Adjusted R-squared	0.7641		
Standard Error of Regression	0.0315		
F-statistic	6.1821		
Probability (F-statistic)	0.0185		

Panel 1(a)

II. Diagnostic Checking

i) Autocorrelation (Breusch-Godfrey Serial Correlation LM test)

F(1)= 0.2684 [0.6265] F(2)=1.0667 [0.4253]

ii) ARCH Test:

F(1)=0.7750 [0.3935] F(2)=0.5562 [0.5875]

iii) Jarque-Bera Normality Test : χ^2 (2)= 1.0345 [0.5961]

iv) Ramsey RESET specification Test :

F-statistic = 2.0844 [0.2398] Number of fitted terms=2

Note: ***, **and * denote significant at 1%, 5% and 10% significance level, respectively. Figures in squared parentheses [ ] refer to marginal significance level. For both Breusch-Godfrey LM test and ARCH test, we are testing for serial correlation and heteroscedasticity at the significance level ranging from the first to the second order.

CONCLUSION AND POLICY IMPLICATIONS

The present study examines the short-run as well as long-run relationship between Malaysia's economic growth and China's outwards FDI. By employing the technique of co-integration (specifically the ARDL approach), an endogenous growth model is estimated for Malaysia, with the sample period from 1987 to 2009. The empirical results showed that China's FDI played a crucial role in promoting growth in the Malaysian economy. While Malaysia's trade openness and financial development also have their influence on domestic economic growth in the long-run, though the former appears to be independent of Malaysia's economic growth in the short-run. Nevertheless, it is worth to highlight that other than the direct contribution, FDI,

especially from China also stimulate Malaysia's economic growth via its interaction with financial development. Therefore, domestic absorptive capability in transferring the benefits embodied in FDI inflows into higher economic growth is important.

Generally, the empirical results of the research contributed a few policy implications for Malaysia. First of all, current policies aimed at attracting FDI will have to be revisited in terms of selecting the specific type of investment that is required. The government has to emphasize on the economic reform policies. In this case, it is proposed that, improving productivity and innovative capabilities of the economy, especially manufacturing sectors are important. This is because an increased productivity and innovation boost investors' (especially foreign investors) confidence and interest in investing in the domestic market, and hence attract more funds from overseas (especially China).

The government is also encouraged to give due importance on further concrete efforts in liberalizing the Malaysian economy. As a result, the economy can have a sustainable efficient resource reallocation. Specifically, when trade account is being liberalized, less restrictions or cost will be imposed on international trade, namely import and export. Therefore, higher importation level of raw material with lower cost (due to lower import duties and competition) enables firms to produce more output in a more efficient manner, and hence enhance productivity and economic growth. On the other hand, greater export (as a result of lower export tax) increases the level of firms' production and export growth in our country, and this will raise firms' revenue or profit, which will in turn increase national income. Greater export will also contribute in the reduction of current account deficits.

Moreover, in order to spur growth, Malaysia should not mainly focus on attracting FDI, and simultaneously ignore the development of domestic infrastructure and facilities like financial system development. Malaysia can also influent the technological change by reforming its absorptive capability via further promotions on financial reforms to gain sustainable economic growth and fully utilizing FDI inflows. This suggests that, in order to be benefited from the positive interaction between FDI and economic development, one should liberalize the economy while deregulating the financial sector. That is, a country should focus on strategies that promote financial development in the economy.

The study is not without limitation. One of them is associated with the lacking of sample size. In the field of development economics, the lacking of statistical data is not an unusual phenomenon. For our case, limited China's FDI data (from 1987 to 2009 only) might influence our results or produce undesirable results. According to the Malaysian Industrial Development Authority (MIDA), the tiny size of data is because China started their projects in Malaysia only from 1987 onwards. As a result, we suggest future researchers to employ panel data in order to have more observation and more reliable result.

In addition, although the empirical results showed that China's FDI played a crucial role in promoting growth in the Malaysian economy, FDI from other countries like the United States and Japan are also (most likely) important. This provides a path for future researcher to further looking into the subject matter.

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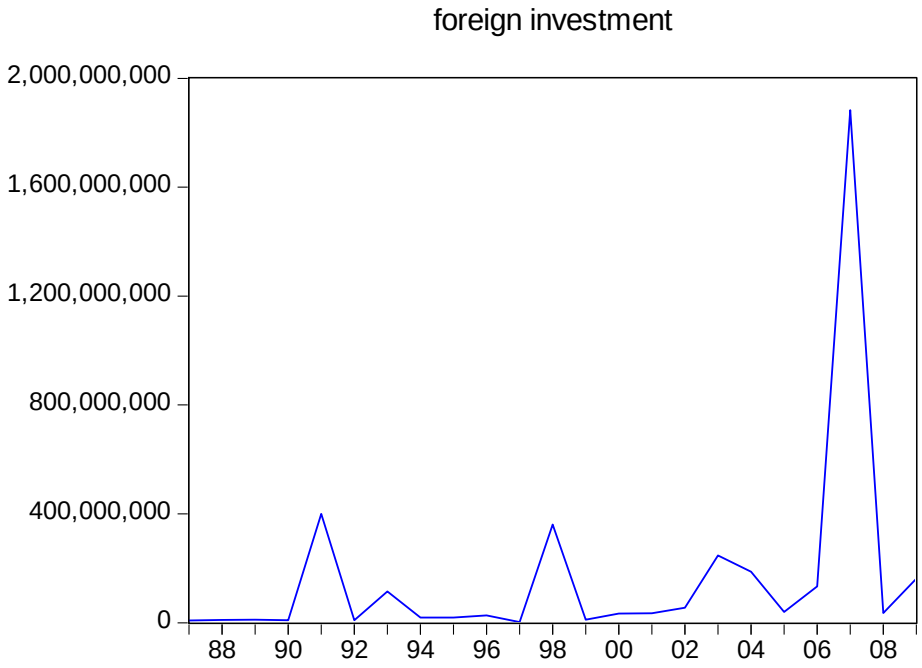
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Appendix

(i) Source of Data and Definitions

Variable	Definition	Source of data
MGDP	Gross Domestic Product (GDP) in Malaysia	IFS (International Financial statistic)
CFDIM	China's foreign direct investment inflows of Malaysia (RM Billion)	MIDA (Malaysian Industrial Development Authority)
MOPEN	Export plus import divided by nominal GDP (Malaysia's trade openness)	IFS (International Financial statistic)
FD	M3 divided by Gross Domestic Product (GDP)	BNM (Bank Negara Malaysia)

(ii) Figure 1: China's FDI outflows (RM) to Malaysia from 1987 to 2009



Source: Malaysian Industrial Development Authority (MIDA)

The Influence of Ethical Leadership and Flexible Work Hours on Generation Y Work Outcomes

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ABSTRACT

The growing population of Gen Y employees in the Malaysian workplace has raised concerns about how to manage and retain this cohort. In this effort, this study investigated the impact of ethical leadership and flexible work hours as tools to increase positive work outcomes of Gen Y employees that promote retention. Data collected from 150 Gen Y employees in Malaysia revealed that ethical leadership has a significant positive impact on the psychological ownership, organizational citizenship behavior, and organizational commitment of Gen Y employees. However, it was shown that flexible work hours only significantly increased psychological ownership of Gen Y employees. No significant relationship was found between flexible work hours and Gen Y employees' organizational citizenship behavior or organizational commitment. Theoretical and practical implications of the study as well as its limitations conclude the article.

Keywords: Gen Y, Ethical Leadership, Flexible Work Hours, Psychological Ownership, Organizational Citizenship Behavior, Organizational Commitment

-Requested by author not to be published as full paper-

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Long-Run Relationship between Malaysian Crude Palm Oil Spot and Futures Market

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ABSTRACT

This study aims at establishing a long-run relationship of Malaysian CPO futures market using monthly prices from March 1995 to March 2014. Unit-root and Johansen cointegration test are carried out as preliminary test, followed by Vector Error Correction Model (VECM) which is the main econometric approach adopted in this study. The result of this study indicates that Malaysian CPO futures market is efficient and long-run relationship is established between CPO spot and futures prices. Malaysian CPO futures market is found to be a good predictor of the spot market. The result also confirms that the direction of causation from futures market to spot market and this further supports by impulse response functions and variance decomposition. The findings of this study provide essential information to investors of Malaysian crude palm oil market and Malaysian policy maker in commodities markets.

Keywords: Market Efficiency, Long-Run Relationship, Causality

INTRODUCTION

Most emerging and developing countries such as Malaysia, Indonesia, Nigeria and so forth, capitalizing on revenues from agricultural commodities as start up for their economic development. As in the case of Malaysia, Malaysian economic development has been accounted for series of agricultural commodities such as rubber, tin, cocoa, and oil palm plantation but oil palm has made a significant impact among all. Hence, agricultural commodities have been playing substantial role in the Malaysian economic development. This is in support with the fact that oil palm is one of the oldest and successful agricultural commodities in Malaysia which is still contributing until today (Obiyathulla, 2012).

It might not be surprised that crude palm oil (CPO) has been contributing substantially to the Malaysian economic development as the successfulness of palm oil industry is the result of three effective development processes and stages since 1900s which are the experimental phase, plantation phase, and the expansion phase.

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The experimental phase was between 1900s and 1916 while the plantation development phase was from 1917 to 1960s.[14] These developments were in accordance with the underlying objective of reducing reliance of the economy on coffee and rubber.

In 1960, Malaysian Government has diversified agricultural industry with the aim to reduce country reliance of economy on coffee and rubber. This was due to the unsuccessful coffee plantation and also rubber industry which was highly competitive following price declination (Azhar, 2009). While prior to this event, the Malaysian Government had adopted a strategy of promoting oil palm industry in 1955 which was in line with the World Bank mission suggestion which has led to the establishment of Federal Land Development Authority (FELDA) in 1956. To achieve the stated objective of reducing reliance of economy on coffee and rubber, FELDA is assigned the responsibility of socio-economic development of oil palm industry until today.[15]

In addition to this, expansion phase which is the last phase of Malaysian palm oil industry development which is from 1960 until today comprises of expansion of palm oil industry to the East Malaysia in 1970 and the off-shore extension to Indonesia in 1985.[16] The off-shore extension provides Malaysian palm oil industries opportunity to benefit from economy of scales.

Moreover, CPO is one of the seventeenth edible oil traded globally (Naziman, 2012). The increase in global demand of CPO over the years has contributed substantially to the increase in the trading volume of CPO and open interest. Since the position of the CPO on the global vegetable oil is determined by the trading volume[17] and in order to handle the global demand, series of innovative markets have been developed to ensure the resilience of CPO to be able to cope and face the changes[18]. In relation to that, Obiyathulla, (2012) has put forth that tremendous increase in CPO trading volume is achievable through implementation of derivative instruments. Derivative instrument is a modern day financial instruments that has no value of their own but rather derive their value from the value of the underlying assets.

RELATED LITERATURES

Related studies on the long-run relationship of agricultural commodities markets were examined at large not focusing on crude palm oil commodities only. This gap infact opens up a wide range of potential studies in the agricultural commodities markets. As noted before that studies on CPO is few therefore different varieties of agricultural commodities were reviewed such as studies of Malliaris and Urrutia (1996); Fortenbery and Zapata (1997); Mananyi and Struthers (1997); Wang and Ke (2005); Liu (2009); Ali and Gupta (2011); Kaswadi (2011); Kawamoto and Hamori (2011); He and Xie, (2012); Naziman (2012); and Ahmad et al (2013).

Malliaris and Urrutia (1996) study on the interaction of six agricultural commodities futures contracts traded at Chicago Board of Trade (CBOT). The analysis

[14]Retrieved on 08th June 2014 from http://www.etawau.com/OilPalm/OilPalmPlantation.htm
[15]Ibid.
[16]Ibid.
[17]United States Department of Agriculture
[18] Source: PORIM website

was based on daily closing price and for the period range from 1981 to 1991. The finding recorded the co-integration in the long-run but not in the short-run. Short-term inefficiency of the market provides short-term arbitrageurs opportunity as they could make riskless profit due to price divergence but wipe off in the long-run. The finding is in consistence with Fatimah and Zainalabidin (1991), and Fortenbery and Zapata (1993) on the establishment of long-run relationship on the futures markets.

Fortenbery and Zapata (1997) evaluate the US commodity market on the efficiency of cheddar cheese and non-fat dry milk futures contracts for the period ranges from June 1993 to July 1995. The results show no co-integration in the long-run but short-run dynamicity is confirmed. This is due to both being new relative to other developed market and have not been sufficiently traded. As most futures markets are traded simultaneously with the corresponding cash market, being new and thin, cheddar futures markets and cash market are traded on different day. Furthermore, the time at which the two markets operate is also short relative to most of the well-established futures market.

Mananyi and Struthers (1997) examine the UK cocoa futures contract pricing efficiency of London Futures and Option Exchange (London FOX) during the period of 1985 to 1991 using monthly data. The result proves the cocoa futures market to be inefficient. The basis of inefficiency of the market may be due to information overlaps. Inefficiency of the market provides opportunity for arbitrage since it might take some times for the information to be fully reflected in the futures market. In other words, it implies that the two markets do not share a long-term equilibrium; thereby futures price cannot be a good predictor of spot prices or vice versa. This is a reflection of weak efficiency hypothesis. The inefficiency of futures contract in London FOX may be deduced from the persistencies in its volatility.

Wang and Ke (2005) test the efficiency of wheat and soybean futures markets in China using average weekly price of the two commodities across the country from January 1998 to March 2002. The findings show that soybean futures market is efficient in the long-run with little deviation in the short-run while wheat futures market is inefficient. The inefficiency of wheat futures market could be due to the result of over speculation and government intervention. They also point out that the risk premium and speculative activities are factors that can hinder market efficiency.

Liu (2009) finding stresses that Malaysia CPO futures market is efficient but may not yield good returns for foreign participants from developed countries such as the European participants as the market is not as efficient as the developed markets.

Ali and Gupta (2011) examine the agricultural pricing efficiency in India, using daily price series. The study examines 75 percent of futures contract traded in the NCDEX which account for 12 major agricultural commodities. The results of the findings show that two commodities that are not co-integrated are wheat and rice, while the remaining ten commodities are found to be co-integrated. The co-integrated commodities are black lentil, cashew, castor seed, chickpea, guar seed, maize, pepper, red lentil, soybean and sugar. The co-integration yielded implies that the futures market has established a long-run relationship with the underlying asset. The futures price is an unbiased predictor of the cash price. While wheat and rice futures price are a biased predictor of the spot price.

Kaswadi (2011) uses monthly price for the period from 1999 to 2009. The findings confirm that prices of close substitute commodities such as soybean oil,

sunflower oil, and rapeseed oil affect the futures price of CPO negatively. This is consistent with the fundamental assumption in predicting the futures price of an asset.

Kawamoto and Hamori (2011) study the efficiency of crude oil futures market using monthly data ranging from 1991 to 2008. The study finds the existence of co-integration between the spot and futures market. Crude oil pricing is found to be consistently efficient in both short-term and long-term within different maturities thus implying that the futures price is an unbiased predictor of spot market.

He and Xie (2012) examine the efficiency of China's commodities market by focusing on sugar spot and futures markets based on daily data. Duration of the studies ranges from January 2006 to September 2009. The study adopts Johansan cointegration and VECM. The result of the finding supports the existence of long-run relationship between futures and spot prices while further supported by granger causality of unidirectional of futures to spot prices but not vice versa. The study argues that futures prices support the weak form of efficiency market and does not have strong power of pricing besides the irrational speculative distortions experienced by the market in the past few years.

Naziman (2012) studies market efficiency of Malaysian CPO using monthly data from January, 1998 to December, 2010 resulted in 192 observations. The findings confirm that the futures market is not fully efficient as it is subject to the level of production, stock and export. The study further explains the impact of production, stock, and export on the pricing efficiency of the market. Result confirms a strong relationship between Malaysian CPO futures market, production and export.

Ahmad et al (2013) examine the form of efficiency market hypothesis(EMH) of Malaysian CPO using daily data comprising of spot, futures and interest cost (as proxy) from 1997 to 2010 using cost-of-carry model. The result reveals that the Malaysian CPO futures market represents the weak form of EMH and that CPO spot price is a good predictor of future prices.

In brief, the related literatures discussed above used data of different frequencies and wider duration of study showing market efficiency is achieved in most of the empirical studies despite different frequencies of data employed. It could be seen that markets need to achieve better trading experience otherwise the result of findings will be inconclusive. But this study will contribute to the existing literatures by examining the Malaysia CPO commodity market as a whole rather than examining individual CPO futures contracts.

THEORETICAL FRAMEWORK

Efficiency of commodities market is mostly studied through the adoption of Fama (1970) approach of EMH where the impact of information on the market price is examined. It is widely accepted that arbitrage opportunity need to be minimized or even eliminated so as to achieve fair price for the market. Fama (1970) uses the term *fully and instantaneous reflects* of available information in current price to define market efficiency. The EMH defines market as being efficient when newly market information is fully and instantaneously reflected in the current commodities price thus the market price could be the best unbiased estimate value of the investment. This implies that if market is efficient, no market participant has any opportunity to take advantage on any newly available market information to earn more than the

market average profit (Fama, 1970). Hence, in an efficient market arbitrage opportunity is completely eliminated.

Series of studies have been carried out to categories the efficiency of the market. Most markets from the developed countries are found to be efficient while emerging and underdeveloped countries yielding mixed results. Efficient market studies are centred more on developed market and emerging markets compared with the underdeveloped market such as Africa (Smith et al., 2002).

Fama (1970) review of EMH is a formal introduction of the theory and has motivated most of the researchers hence, has broadened the application of the theory in examining efficiency of different markets. Testing on market efficiency was first applied to financial market (stock market) and later introduced to commodity market. EMH has been extensively used in pricing mechanism (Sewell, 2011). Numerous studies have been done on the efficiency of developed markets as compared with the emerging markets (Charles et al., 2013).

Moreover, market efficiency is classified into three forms: weak-form, semi-strong form, and strong-form efficiency (Roberts, 1967; Fama, 1970). More detail on each of the form of market efficiency provides better understanding in classifying the result of findings such as in a weak-form efficiency market price exhibits historical information only, while semi-strong form and strong-form efficiency exhibit historical and public information, and all available information being it historical, private, and private information respectively.

As mentioned earlier empirical evidence on pricing efficiency of markets has been extensively studied and classified according to the form of efficiency. For example, some markets are in the weak form of efficiency (Wang and Ke, 2005; Ahmed et al., 2013) or semi-strong efficient markets (Charles et al., 2013; Liu, 2009).

According to Kellard and Sarantis (2008) suggest that "unbiasedness hypothesis can be expressed as"

$ff_t = E_t(s_t)$.....(1)

Wher s_t and f_t are cash price (spot price) and future price respectively. General cointegration regression for two variables relationship is shown as:

$f_t = \beta_0 + \beta_1 s_t + u_t$.....(2)

Priori expectation of the unbiasedness hypothesis is $\beta_0 = 0$, as it poses no economic value, $\beta_1 = 1$ as true predictor of futures prices, and $E(u_t) = 0$ not to be serially correlated.

The equation (2) can be further express as bellow to show changes in the relationship between the two variables:

$\ln f_t = \beta_0 + \beta_1 \ln s_t + \varepsilon_t$.....(3)

where $\ln f_t$ and $\ln s_t$ are the natural logarithms of spot and futures prices, ε_t is the error term and it captures all variables that are not in the model but can affect the model.

Market efficiency is very crucial in predicting future prices of commodities. Mobarek and Keasey (2000) study Dhaka Stock Market of Bangladesh and suggest that there is an inverse relationship between market efficiency and the predicting ability of stock price changes.

DATA AND METHODOLOGY

The data for this study are downloaded from Bloomberg from the period of March 1995 to March 2014 with 229 observations. The main variables used in this study are CPO spot and futures prices. The variables selection is based on theory and the previous empirical studies relating to commodity futures contracts pricing efficiency (Naziman Ab. Rahman, 2012; and Naziman Ab. Rahman et al., 2012). Furthermore, this study used monthly data as in consistent with Mananyi and Struthers, (1997); Kaswadi (2011); Kawamoto and Hamori, (2011). This study adopted the Vector Error Correction Model (VECM) in performing the analysis. Prior to using VECM, preliminary test such as unit-root and Johansen cointegration test were carried out to access suitability of using VECM approach. Report of unit-root test is reported based on Augmented Dickey-Fuller (ADF) and Philip-Perron (PP) unit-root test.

Augmented Dickey-Fuller (ADF) test and Phillips-Perron (PP) unit root test are the most widely adopted approach in empirical studies (Ali and Gupta, 2011; Mansor H. I., 2007). Modelling Unit root is expressed as:

$$y_t = \varphi y_{t-1} + \mu + \lambda_t + u_t \quad \text{.....(4)}$$

Model could be rewritten by estimating lagged values of ΔY until autocorrelation is eliminated.

$$\Delta y_t = \psi y_{t-1} + \mu + \lambda_t + \sum_{j=1}^{k} \gamma_j \Delta Y_{t-j} + u_t \quad \text{.....(5)}$$

where y_t stands for diagnosing variable (spot or futures prices), y_{t-1} stands for lag of dependent variable being diagnose. u_t is the error term. Coefficient of y_{t-1} is tested to ascertain the stationarity of prices.

In general information criterion can be model as follows:

$$\Delta y_t = b_0 y_{t-1} + \sum_{i=1}^{T} bi \Delta y_{t-i} + e_t \quad \text{.....(6)}$$

where, the lags Δy_t soaks up any dynamic structure present in the dependent variable, to ensure that error term (e_t) is not autocorrelated – white noise"[19] y_t stands for variables first difference base level. 'i' is the minimum lag length of the augmentation term, necessary to reduce the residuals to white noise. The null hypothesis (H_0) on the stationarity test is that b_0 is zero ($b_0 = 0$), while alternate hypothesis (H_1) refuting b_0 from being zero ($b_0 \neq 0$). Accepting H_0 at the base level implies series are stationary at first difference and could be represented by $y_t \sim I(1)$. The regression test had been examined using constant intercept, trend and intercept, and lag length through SBC.

Moreover, decision on unit-root hypotheses testing are based on the value of t-statistic relative to critical value. Threshold is, if the absolute value of t-statistic is greater than critical (χ^2) value then the series are not stationary (has unit-root) but if

[19]Introductory Econometrics for Finance, pp. 329

absolute value of t-statistic is lower than critical (χ^2) value the series are stationary (series does not has unit-root).

On Johansen cointegration, the priori expectation needs to be consistent with rank condition for cointegration equation. The rank condition is represented as:

$$r \leq (n - 1)$$

where, r stand for number of cointegration equation, and n represent number of variables.

For long-run relationship to be established at less l cointegration equation has to be confirmed by both λtrace and λmax statistics test.

FINDINGS

Preliminary Test

Preliminary tests such as unit-root test and Johansen co-integration test provide enough information on both stationarity of data and the kind of relationship among variables of study. Stationarity is a key concept underlying time series. Time series is said to be stationary if its mean, variance and covariance remain constant over time. Though preliminary test is very important, data transformation is important as well. Therefore, before proceeding with the preliminary test, we transformed the series into logarithm value. Using natural logarithms of series is one of the common approaches for time series transformation (Fama 1965; He and Xie 2012; Nakajima & Ohashi 2012,). Using logarithms value of series seem to neutralize most of the problems associating with prices changes (Moore, 1962; He and Xie, 2012). Hence, logarithm values of the series are used in this study.

As mentioned before, we first log-in series and later carry out unit-root test followed by the Johansen cointegration test. We found that series are not stationary at level but stationary at first difference, hence the series are order of 1, I∼(1) at 5 percent significant level according to both (ADF) and (PP). For series to be order 1, implies the first condition for establishing long-run relationship has been met but this is not a sufficient condition. Detail of the stationarity report of the log of price series is reported in Table 1 below:

Table 1

ADF and PP unit root tests for log of spot and futures prices from 1995 – 2014

Variable	Level				First difference			
	ADF		PP		ADF		PP	
	Intercept	Trend and Intercept	Intercept	Trend and Intercept	Intercept	Trend and Intercept	Intercept	Trend and Intercept
Spot	-1.8342 (6)	-3.1905 (4)	-1.7986 (7)	-2.8740 (7)	-6.0168* (5)	-6.0064* (5)	-14.0759* (7)	-14.0506* (7)
Futures	-2.0503 (4)	-3.3131 (12)	-1.8053 (7)	-2.8323 (7)	-6.0535* (5)	-6.0424* (5)	-14.0026* (6)	-13.9708* (6)

*Indicates at 1% significance level, maximum lag selection by each test is in the bracket.

Having checked for stationarity of the series, we could not reject the null hypothesis at the level as the series are not stationary at the level but reject null hypothesis at first difference as the series became stationary at first difference, therefore series are order 1. This indicates that one of the necessary conditions in establishing a long-run equation with VECM model has been met. We further proceed to check for sufficient condition which is the existence of at least one cointegration equation hence, we adopted Johansen cointegration test.

Johansen Cointegration Test

With Johansen cointegration test, both trace and maximum eigen confirmed one cointegration equation at 5% significance level. This indicates that null hypothesis of no cointegration equation is rejected. Thus, 1 conitegration equation is confirmed by both trace and maximum eigen test. This indicates there is enough statistical evidence to reject the null hypothesis of no cointegration as reported in Table 2 below:

Table 2
Johansen-Juselius Cointegration Test: log of spot –futures prices: 1995 – 2014

Null hypothesis	Statistical Test		Critical Values (5%)	
	Trace	Maximum Eigen	Trace	Maximum Eigen
r = 0	69.9920*	66.9048*	14.2646	14.2646
r ≤ 1	3.0872	3.0872	3.8415	3.8415

* significant at 5% significance level.

We proceed with finding the optimum lag for the long-run relationship between spot and futures market. At this junction unrestricted VAR was modelled and lag structure were checked. This implies that long-run equation was modeled by using the unrestricted VAR, and the optimum lag was determined using the lag structure. With this approach different information criterion suggests different optimum lag but we opt for the suggestion of Akaike Information Criterion (AIC), and Schwarz Bayesian Criterion (SBC) as it is mostly adopted in past research (Mansor, 2007; He and Xie, 2012; Fedoseeva, 2013).

These two information criterions are similar except AIC uses double exponential power of SBC. Moreover, SBC is more stringent and thereby heavily penalizes model complexity which results in different results. Since there is a slight difference in statistical computation of each information criterion, it is not uncommon to find contradictory result in the different criteria (He and Xie, 2012). The differences in the two information criterions may be resolved using Likelihood-ratio (LR) approach as adopted by He and Xie (2012) and adopted in this study as well. In general, most time series study report AIC.

The result of the lag structure provides different suggestion of optimum lag by different information criterion. The decision on optimum lag was based on the most common information criterions such as AIC and SC. AIC and SC suggest different optimum lag of 5 and 2 respectively. As the lag suggestion by each information criterion was conflicting, serial correlation of residual of error term of each model has been checked.

With this VECM model of 2 lags were made as suggested by SC. With SC of 2 lags, residuals of the series are correlated at lag 6 that is, Q–statistics become significant from lag 6. In Model 1, error term of residuals is correlated at lag 6 then significance of independent variable (spot price) in the model is checked through imposition of restriction. The result confirmed to be statistically significant and χ^2 = 69.8839. The model 1 is considered as unfit based on the residual correlation result. The model is written as follows:

$$F_t = -0.0065 + 1.0081S_{t-1} \quad \text{.....(1)}$$
$$(-197.874)$$
$$R^2 = 0.95\%$$

We proceeded with AIC optimum lag suggestion. AIC suggests 5 lags as mentioned earlier and the equation of the model as follows:

$$Ft = -0.1046 + 1.0114S_t \quad \text{.....(2)}$$
$$(-170.149)$$
$$R^2 = 4.98\%$$

We checked for residual correlation, the residual are not correlated for all lags i.e. Q-statistic is insignificant for all lags. Then we imposed restriction on explanatory variable to check the importance of the variable in Model 2. The result confirmed being significant and χ^2 = 27.1862. At this point, model 2 is estimated based on AIC but as the second concept in finance which is to adopt parsimony principle.

We further checked for parsimony assumption that smallest lag fit is preferred. We reduced lag length by 1 and re-check correlogram and the model as given below:

$$F_t = -0.0992 + 1.0128S_{t-1} \quad \text{.....(3)}$$
$$(-163.3810)$$
$$R^2 = 5.26\%$$

With model 3, optimum lag is 4 and Q-statistic is insignificant for all lags. Statistical significance of explanatory variable is examined. The result confirmed being statistically significant and χ^2 = 28.2913.

The log of series provide better result as parsimony principle is adopted in the chosen smallest optimum lag. The log of series also eliminate the effect of outliers. Therefore, this study used log of series in modeling the long-run relationship between the variables of study. Although sign of variables in error correction equation is still positive and insignificant, error term of residuals are not correlated for model 3. Noted also that in all models the R^2 are low.

The result indicates a positive relationship between the spot and futures prices. This implies that investors can use one market to predict another. Having such positive relationship implies that spot and futures prices is moving together over time to avoid arbitrage opportunities and futures price is unbiased predictor of spot price. This result is consistent with He and Xie (2012) and Armah and Shanmugam (2013).

For more explanation on VECM model, granger causality test, impulse response functions (IRFs) and variance decomposition are reported.

Granger Causality Test

As documented that co-integration models suggest only the long-run relationship but not direction of causation among the concerns variables (He and Xie, 2012; Mansor, 2007). Moreover, with VECM, dynamic causal interactions are captured in the form of vector error correction (Mansor, 2007). With this, short run causality is accessible through χ^2-test of each first difference term of variable lag and long-run causality is accessible on t-test of error correction term. The report of the tests is presented in Table 3.

Table 3 Granger Causality Results based on VECM

Independent Variables			
Dependent Variable	χ^2- statistics of lagged 1st differenced term [p-value]		Coefficient of ECT_{t-1} (t-ratio)
	Δf	Δs	
Δf	-	0.7690 [0.5464]	0.1833 (0.4182)
Δs	2.8886* [0.0233]	-	0.5864 (1.3941)

Numbers in the brackets are p-values ** significant at 5% significance level

Result on granger causality implies that futures market granger causes the spot market with F-statistic of 2.8886. The direction of causation which is from futures to spot (F→S) is shown in Table 4. It connotes that futures prices are leading the spot market prices that is, futures market has better ability to discover spot prices. This result is consistent with the earlier findings by Naziman (2012) and Naziman et al., (2012).

Table 4 Granger Causality Test for Malaysian CPO: 1995 – 2014

Commodity	Hypothesis	F-statistic	Prob	Direction	Reaction
CPO	S / → F	1.6658	0.1639	Unidirectional	F→S
	F / → S	5.2542	0.0005		

In other words, the unidirectional causal relationship exhibited in CPO implies that the futures markets help discover prices and that the market is efficient. Hence, the Malaysian CPO futures price efficiently predicts spot prices.

Impulse Response Functions and Variance Decomposition

Impulse Response Functions (IRFs) and Variance Decomposition (VDC) provide more statistical information on the existence of long-run relationship on variables using VECM. Impulse response considers the effect of applying a set of shock to a model. It is used to solve the model for a baseline solution. It provides detail on dynamic interaction about the variables of study. In this case detail interpretation can

be drawn from stimulating IRFs and VDC on Malaysian CPO spot and futures prices co-integration analysis report. At this point, model is re-examined using variables at level. This is valid in the context of co-integration series. Using level VAR to generate IRFs provide clear result as it enables data to decide whether the effect of shocks are temporary or permanent (Ramaswamy and Slock, 1998; Mansor, 2007).

As a bi-variate model, two reports are generated from the two dependent variables. The results are similar. In both cases, past futures prices could explain larger proportion of its own shock and the shock from spot prices. Figure 1 reports the IRF of the two variables while Table 5 reports the corresponding VDC.

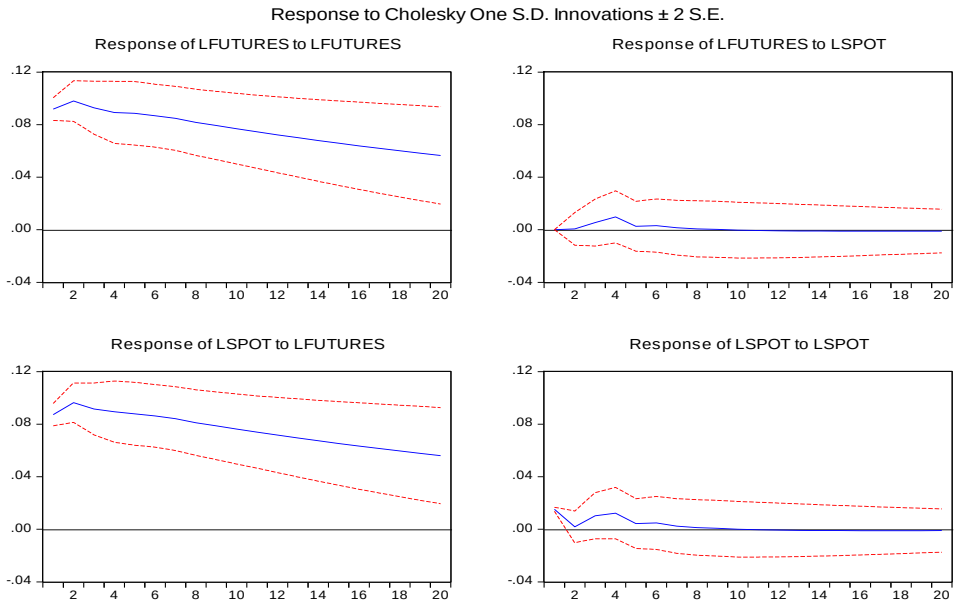


Figure 1 Impulse Response Functions

The IRFs discovered some shocks in the spot market between 1995 and 2014. For example, the shock in 1995 and 1980s from futures market to spot market was unable to return to equilibrium up to present. The shocks in period 2 (1996) was not fully stabilized until period 4 while another shock occurred in period 5. The shock at this period may be traced to 1997 Asian financial crises. Since Asian financial crises affected the economy as a whole, commodity markets such as CPO market was also affected. For more statistical confirmation tabular representation of proportion of the past prices showed by each of the variables is explained in variance decomposition.

The variance decomposition shows the proportion of the movement in the dependent variables that are due to their own shocks, versus shock to the other variable. Over time, the shock in CPO futures market is examined more by past futures prices than past spot prices. More than 99 percent of the shock in the CPO futures market is explained by its own past prices while less than 1 percent is explained by past CPO spot prices. As presented in Table 5, 0.36 percent of the shock in the futures market is explained by spot in period 4 while in the other periods less than 0.3 percent of the shocks in the futures market is explained by spot market.

Table 5
Variance decomposition of log of CPO spot and futures prices from 1995 – 2014

Variance Decomposition	Futures		Spot	
Period	Lfutures	Lspot	Lfutures	Lspot
4	99.6377	0.3623	98.5448	1.4555
8	99.7729	0.2271	99.1366	0.8634
12	99.8315	0.1685	99.3643	0.6357
16	99.8564	0.1436	99.4698	0.5302
19	99.8669	0.1331	99.5167	0.4833

In the case of shock in spot market, about 1.5 percent of the shock in the spot market is explained by past spot prices while 98.5 percent of the shock in the spot market is explained by the past futures prices in period 1. For the rest of the periods less than 1 percent of the shocks in the spot market is explained by the past CPO spot prices while more than 99 percent is explained by the past CPO futures prices.

Therefore, significant influence of the futures prices on spot price is said to reaffirm by the variance decomposition. As could be observed, past futures prices is explained about 97-99% of the current spot price. Only at the first and second period that spot has about 2.7% - 1.2% of the current spot prices. Therefore, futures prices provide enough information about the movement of the spot prices.

In conclusion, the shock in both markets is explained by the past CPO futures prices than the past spot prices. This is consistent with the unidirectional granger causation findings (Futures → Spot) and reinforces that futures market is an unbiased predictor of spot market.

DISCUSSION

The efficiency of Malaysian CPO futures contracts is worth examined as Malaysia used to be the largest producer of global CPO between 1966 and 2006 before taken over by Indonesia and being the reference price for the third countries trading CPO. The success of a futures market is very much dependent on its liquidity as represented by trading volume. In relation to the Malaysian CPO market, liquidity is still a concern. The success of risk management depends so much on good market liquidity.

Firstly, to test market efficiency, such market needs to have good trading volume or otherwise, there is a tendency that result derived from the study cannot be capitalized for effective decision making. This indicates that the market would not be considered as developed market and in most cases the findings will not be consistent with the previous studies and this may lead to a biased conclusion.

Secondly, change of ownership structure between Chicago Mercantile Exchange (CME) and Bursa Malaysia Derivatives Berhad (BMDB) could be an indication that market efficiency is consistent as the market is preparing to transform to become a developed market. Hence, examining the efficiency of the market in relation to a developed market could provide better statistical conclusion (Liu, 2009).

Third, as Malaysian CPO futures prices is a reference price for third countries trading in CPO, a continuous evaluation of the market will provide useful information to other market participants. Only with continuous evaluation on the market that concrete decision can be made by the relevant parties for the betterment of the Malaysia CPO industry be it the policy makers, producers or investors.

CONCLUSIONS AND IMPLICATIONS

Result indicates that Malaysian CPO futures market is efficient and CPO futures price is a good predictor of the spot price. As explained by impulse response functions and variance decomposition that past futures prices explained both CPO spot and futures prices, this also supports the dominant role of the Malaysian CPO futures market over the CPO spot market. As the Malaysian CPO futures market is found to be efficient, dynamicity in the short-run will decay as the maturity period is approaching which is a good signal for investors in the market. As market is efficient in the long-run, risk management through the CPO futures is proven to be a better strategy. This is highly crucial for producers in managing price risk.

Though, the study achieved the aim but still has some limitations such as using data of high frequency (daily or weekly data) which may generate more accurate result. This study has limitation by using monthly price series due to being the most suitable data available at the time of the study.

Furthermore, frequent evaluation of Malaysian CPO futures market is necessary as the market is a reference country for the third country trading CPO. Frequent evaluation also provides relevant information regarding the market efficiency to the market participants such as hedgers and may discourage speculators and reduce the arbitrage opportunity while encourage hedgers. Therefore, price efficiency of the market may be consistent.

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High Commitment Human Resource Management and Employee Service Behavior: The Mediating Effect of Trust in Management

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ABSTRACT

In this study we operationalize High Commitment Human Resource Management (HCHRM) in terms of HRM approach that builds employee trust in management and together influences employee service behavior. Testing our hypothesis on 150 line managers of Private Commercial Banks (PCBs) in Bangladesh, we find that there is a positive relationship between HCHRM and employee service behaviour in terms of in-role and extra-role service behavior. Moreover, HCHRM enhances employee trust in management that further improves employee in role-service behavior. On the other hand, the mediating effect of trust in management on the relation between HCHRM and employee extra-role service behavior is found insignificant. The present paper also mentions the limitations and directions of future studies. More studies on HCHRM and employee outcomes with the mediating effect of employee responses are recommended within and beyond Bangladesh.

Keywords: HCHRM, Trust in Management, Employee Service Behavior, Line Managers

INTRODUCTION

Human resource management (HRM) researchers have analyzed HRM as a set of practices used to manage employees for organizational performance (Huselid 1995; Delaney & Huselid 1996). Researchers have used different names to refer different sets of HRM practices such as 'high performance' (Huselid, 1995; Delaney & Huselid, 1996), 'high commitment' (Arthur, 1994; Wood & de Menezes, 1998), 'high involvement' (Lawler, 1986), or "innovative" (Agarwala, 2003) HRM practices. Coaker (2011) uses the term 'HRM best practices' to denote high performance work practices; high performance work systems; high commitment HRM (HCHRM); best practice HR; and Universal HRM practices. Scholars widely use the term 'high commitment' HRM in the UK and 'high performance' HRM (HPHRM) in the US (Gould-Williams, 2004). HCHRM is endeavouring to 'develop

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committed employees who can be trusted to use their discretion to carry out job tasks in ways that are consistent with organizational goals' (Arthur, 1994: 672). Likewise, Kehoe and Wright (2013) approach HPHRM to promote employee ability, motivation and opportunity to perform behaviors consistent with organizational goal. Hence, it is evident researchers vary in naming the approaches of HRM practices, however, they agree in the underlying theme of differing HRM approaches that is HRM aims to use human potential for organizational success. The present paper approaches HRM as HCHRM.

HRM outcomes in the organization are broadly categorized as proximal HR outcomes and distal organizational outcomes (Wright, Gardner & Moynihan, 2003; Azmi, 2011). The proximal HR outcomes generate distal organizational outcomes (Colakoglu, Lepak & Hong, 2006; Azmi, 2011). Moreover, HRM influences employee perceptions, attitudes and behaviours that affect both HR outcomes and organizational outcomes (Gould-Williams & Mohamed, 2010; Nishii, Lepak & Schneider, 2008; Sun, Aryee & Law, 2007). Therefore, HRM researchers are more interested to examine how HRM influences employee attitude and behaviour that will have positive effect on both HR and organizational outcomes (Gould-Williams & Mohamed, 2010; Nishii et al., 2008). According to Bowen and Ostroff (2004), employee perceptions and interpretations of HRM determine the desired effect of HRM on employee outcomes. Therefore, employee perception, attitude or attribution to HRM is considered as playing a mediating role between HRM and its outcomes on employees and organization.

Macky and Boxall (2007) find a positive relationship between high performance work practices (HPWPs) and the attitudinal variables of job satisfaction, trust in management, and organizational commitment, assuming a causal link between HPWPs and organizational performance through the responses of these attitudinal variables of employees. However, it is not certain whether employee attitude to HCHRM also leads to improved employee or organizational performance. More specifically, so far it is not studied whether employee attitude to HCHRM as trust in management will generate improved employees' service behavior. It is the aim of this paper to provide such evidence. The present study will examine the mediating effect of trust in management as line managers' response or attitude to HCHRM in the relationship between HCHRM and line managers' service behavior.

In this study, we define employees' service behavior as their behavior of serving and helping customers conceptualized by Liao and Chuang (2004). The present study focuses on line managers' overall service behavior including both in-role and extra-role behavior. Law, Wang and Hui (2010) view in-role and extra-role behavior as more holistic contribution of employees. Moreover, Burney, Henle and Widener (2009) consider both in-role and extra-role behavior as effective employee outcomes for the organization. Therefore, the present study focuses on overall line managers' service behaviour incorporating both in-role and extra-role service behavior.

The present study selects Private Commercial Banks (PCBs) of Bangladesh as the study context. Bangladesh represents a unique developing country context outside the Western settings (Bruton & Lau, 2008; Budhwar & Debrah, 2009). So far no study has been found on examining HCHRM and its impact on employee outcomes in Bangladesh. Hence, the present study aims to extend HCHRM literature adding developing country perspective. Additionally, limited focus has been given

on studying the effect of HCHRM on HR outcomes of service organizations (Harley, Allen & Sargent, 2007). Therefore, the present study will contribute in examining line managers' response to HCHRM and their service behaviour relationship in banking service sector of Bangladesh. Thus, the present study will add to HCHRM literature through measuring HCHRM based on employee response as trust in management and exploring its effect on bank line managers' service behavior. The present conceptualization of HCHRM as employee response can be applied in measuring the effect of HCHRM on the performance of employees of both other service and manufacturing organizations within and beyond Bangladesh.

The study proceeds early HCHRM research in three ways. First, we address the impacts of HCHRM on line managers' service behavior. Hence, line managers' response to HCHRM reflected their trust in management will be measured to examine its effect on their service behavior. Line managers' perception on HRM is recognized as an important area of research (Chen, Hsu & Yip, 2011). Second, we use a sample of line managers from a developing country context with a view to validate the results of HRM on employee outcomes examined in developed country settings. And, finally, we test trust in management as a mediator in the relationship between HCHRM and employee service behavior including both in-role and extra-role behavior. Mayer and Gavin (2005) suggest more study on the relationship between trust and performance by looking at both employee in-role and extra-role performance. Thereby, the present study works on HRM researchers' expectations. Therefore, the following Figure (1) represents the proposed framework of the relationship between HCHRM and employee service behavior with the mediating effect of trust in management.

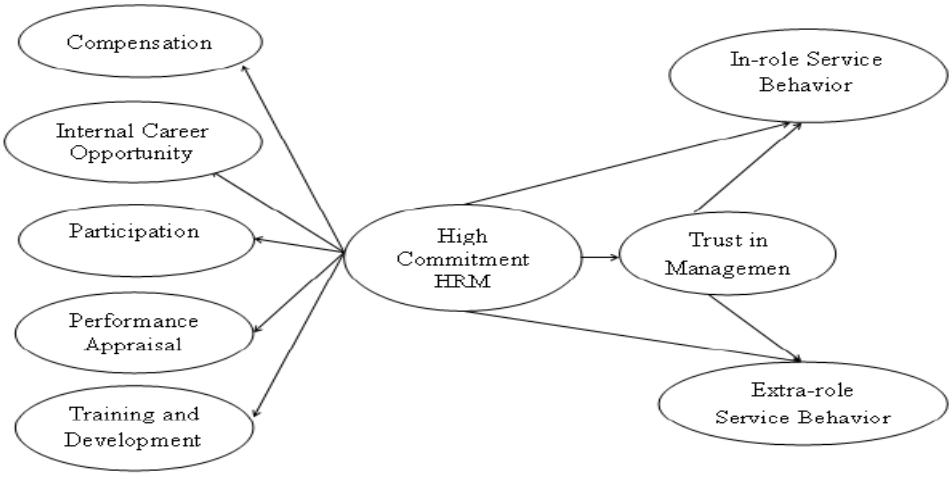


Figure 1 Proposed Framework of the relationship among HCHRM, employee service behavior (in-role service behavior and extra-role service behavior) and trust in management

The first part of the paper will outline the HRM practices that researchers endeavour to identify as HCHRM. Later, employee service behavior will be discussed to conceptualize what it refers in relation to employee performance outcomes. An elaboration on the concept of trust in management will also be added here. Following these, hypotheses will be developed and tested on the relationship among the variables of the present study model. A description will be provided for

the present research methodology used to collect data to test the research hypotheses. The results of data analyses will be provided along with previous research supports for the present findings. Finally, the concluding section will highlight the implications of the research findings with reference to the extent to which employee response as trust in management resulting from HCHRM will lead to improved employee service behavior.

LITERATURE REVIEW AND HYPOTHESIS

High Commitment HRM (HCHRM)

Researchers have used HCHRM approach to refer HRM but they vary in listing what constitutes HCHRM. Arthur (1994) identify HCHRM including employee involvement in managerial decisions, formal participation programs, training in group problem solving, socializing activities, maintenance of skilled employees and average wage rates. Wood & de Menezes (1998) characterize High Commitment Management (HCM) including HRM practices of information dissemination, problem-solving groups, minimal status differences, job flexibility and team working in combination. Whitener (2001) also examines HRM practices (selective staffing, comprehensive training, developmental appraisal, externally, and internally equitable reward systems) that represent a high commitment strategy for employee commitment and motivation. Datta, Guthrie, and Wright (2005) consider HCHRM includes practices such as rigorous selection procedures, internal merit-based promotions, grievance procedures, cross-functional and cross-trained teams, high levels of training, information sharing, participatory mechanisms, group-based rewards, and skill-based pay. Lepak, Liao, Chung, and Harden (2006) opine a HCHRM system depends on policies of selective staffing, comprehensive training, and pay for performance in combination to promote employee commitment and to maximize their contributions toward organizational performance.

Kwon, Bae, and Lawler (2010) view HRM as HCHRM incorporating job design, participation in decision making, training and development, pay for performance, high level of pay and performance appraisal for employee motivation and performance. Chiang, Han and Chuang (2011) identify HRM practices related to selective staffing, comprehensive training and development, developmental appraisal, as well as competitive and equitable compensation as HCHRM. Therefore, the present researchers consider five broad categories of HRM practices including compensation, internal career opportunity, participation, performance appraisal and training and development to be labelled as HCHRM practices as identified by early researchers.

Employee Service Behavior

Employee service behavior or performance is defined as interpersonal interaction between service provider and customer (Browning, 2006; Liao & Chuang, 2004). Service behavior is identified as employees serving customers with movements, voice and attitudes (Tsaur, Chang & Wu, 2004). Bettencourt and Brown (1997) assumed employees' providing services to customers for making them feel comfortable and being cooperative to other employees could be termed as service

behavior, a kind of prosocial behavior. Service behavior could be classified into role-prescribed service behavior and extra-role service behavior (Tsaur & Lin, 2004; Tsaur et al., 2004). The role-prescribed behavior derive from implicit norms in the workplace or from explicit obligations as specified in organizational documents such as job descriptions and performance evaluation forms (Tsaur et al., 2004). Extra-role service behavior refers to discretionary behaviors that extend beyond formal role requirements (Tsaur et al., 2004). Organizational citizenship behavior may be referred to extra-role service behavior (Bettencourt & Brown, 1997).

Tsaur and Lin (2004) explore the relationship among HRM, service behavior and service quality in the tourist hotels. The results indicate HRM have partially a direct effect on customer perceptions of service quality and an indirect effect through employees' service behavior. Drawing on the findings of a study comprising document analysis and series of expert seminars in a health service organization, UK, Humphrey et al., (2003) find organization's HRM has significant bearing on the continuity of care service performance of employees of health care organizations. Tang and Tang (2012) demonstrate high-performance HRM affect employees' cognition on how they are treated by hotels and what service behaviors are expected, which in turn can positively influence collective service-oriented OCB. Thus, HRM manages the skill, knowledge, abilities and performance of employees to generate service behavior for customer satisfaction of the service organization (Liao, Toya, Lepak & Hong, 2009). Therefore, the present study aims to examine the effect of HCHRM on employee service behavior incorporating both in-role and extra-role service behavior.

Trust in Management

Rousseau, Sitkin, Burt & Camerer (1998: 395) identify a definition of trust widely used in many disciplines: "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another." Mayer, Davis, and Schoorman (1995) define trust as the willingness to be vulnerable to another party when that party cannot be controlled or monitored. Their conception of trust identifies perceived trustworthiness has three factors: ability, benevolence, and integrity. Ability is the perception that the trustee has skills and competencies in their interest area. Benevolence is the perception that the trustee concerns the trustor's well-being. Integrity is the perception that the trustee follows a set of principles that the trustor finds acceptable. The present study conceptualizes trust as employees' intention to accept vulnerability in the organization based on their perceptions that management is competent, cares about them and adheres to the practices benevolent for them.

Mayer and Gavin (2005) suggest when employees find their managers are not honest, they will be detracted from their work performance. In contrast, individuals who feel that their manager has the honesty to demonstrate care and consideration for them, they will give back this response in the form of desired behaviors. Drawing on social exchange relationship, Konovsky and Pugh (1994) explain employees spend more time on required tasks and be willing to go "above and beyond" their job role to reciprocate their caring manager. Hence, from the perspective of reciprocity, trust may result in higher performance and OCBs. A meta-analysis of Colquitt, Scott, and LePine (2007) shows that trust has slightly higher effect on OCB than that of job performance. Another meta-analysis conducted by Dirks and Ferrin (2002) finds the

correlation between trust and OCB – civic virtue is lower than the correlation with job performance. However, Dirks and Ferrin identify a larger effect of trust on both OCB and task performance.

HCHRM and Employee Service behaviour

Chiang et al (2011) find HCHRM dominates employee knowledge-sharing behavior via perceived organizational supports and employee commitment. Bou and Beltran (2005) find HCHRM can shape employee quality-oriented attitudes. Arthur (1994) reveals HCHRM has higher productivity, lower scrap rates, and lower employee turnover. Wei, Han and Hsu (2010) and Dizgah, Gilaninia, Alipour & Asgari (2011) find a positive and significant relationship between HPHRM and OCB. Gould-Williams (2003) explains the influence on HCHRM on employee OCB. From the above mentioned research findings on the relationship between HCHRM and HR outcomes, the following hypothesis may be formed.

Hypothesis 1: HCHRM is positively related with employee service behavior.

Hypothesis 1a: HCHRM is positively related with in-role service behavior.

Hypothesis 1b: HCHRM is positively related with extra-role service behavior.

HCHRM and Trust in Management

Macky and Boxall (2007) consider management's adoption of HPWPs generates increased trust to the extent that employees perceive such action demonstrate managerial competence, reduce their perceptions of vulnerability or threat, and are beneficial for the employee's interests. Moreover, Guest's (1999) study shows the greater use of HCHRM results higher levels of perceived fairness in employee management, stronger beliefs of management concern for employees, stronger feelings of job security, and higher levels of trust in management. Gould-Williams (2003) also finds HRM is a strong predictor of employee trust in management. It could, therefore, be hypothesized that HCHRM approach of HRM acts to improve employee trust in their management.

Hypothesis 2: HCHRM is positively related with trust in management.

Trust in Management and employee service behaviour

Researchers believe that trust in management increases employee performance (Mayer & Gavin, 2005). Mayer and Gavin (2005) finds trust in both plant managers and top managers is positively related to focus of attention, which, in turn, is positively related to both in-role and extra-role performance or OCB. Davis, Schoorman, Mayer & Tan (2000) suggest that trust in management contributes to higher levels of organizational performance. According to the authors, trust leads employees to engage in a higher level of organizational citizenship behaviors (OCB). They suggest that when employees engage in more OCB, customers' needs are met more effectively that would contribute to higher restaurant performance. The meta analysis of Colquitt et al (2007) reveal moderately strong relationships between trust and the three facets of job performance; better task performance, more citizenship behaviors, and fewer counterproductive behaviors. These arguments help to form the following hypothesis:

Hypothesis 3: Trust in management is positively related with employee service behavior.

Hypothesis 3a: Trust in management is positively related with in-role service behavior.
Hypothesis 3b: Trust in management is positively related with extra-role service behavior.

Trust in Management as a mediator

Macky and Boxall (2007) identify trust in management influenced by HPWS is a potential mediator in the relationship between HPWS and employee attitudinal responses to HPWS. Gould-Williams (2004) studies employee perceived trust in management in using HCHRM can modify their behavior positively. Whitener (2001) and Appelbaum et al. (2000) recommend trust in management having an important mediating role between the employee experience of HPWSs and other attitudinal responses to these practices. Appelbaum et al. (2000) find employee participation resulting from HPWSs enhances employees' trust in managers that increases employee organizational commitment and job satisfaction. Further, it is found trust in management mediates the relationship between HPWS and occupational safety (Zacharatos, Barling & Iverson, 2005). Other studies within HRM framework have also shown that the level of trust workers show in their management is consistently and positively correlated with employee service quality (Tzafrir & Gur, 2007), organizational performance (Gould-Williams, 2003) as well as employee wellbeing (Baptiste, 2008). Therefore, the present study argues trust in management may also mediate the relationship between HCHRM and employee service behavior.

Hypothesis 4: The relationship between HCHRM and employee service behavior is mediated by trust in management.
Hypothesis 4a: The relationship between HCHRM and employee in-role service behavior is mediated by trust in management.
Hypothesis 4b: The relationship between HCHRM and employee extra-role behavior is mediated by trust in management.

METHODOLOGY

Sample

The study is cross-sectional in nature for which data were collected in 2014 from Dhaka, Bangladesh. Out of 35 private commercial banks, 10 were selected purposively for the present study. We surveyed line managers from the different branches of these 10 PCBs located in Dhaka. Judgmental sampling technique was applied for choosing the respondents. All items were assessed using a five-point Likert scale ranging from 1= strongly disagree to 5= strongly agree. A total of 400 questionnaires were distributed and 165 questionnaires were returned. From the 165 questionnaire, fifteen (15) were deducted because of incompleteness. In total 150 questionnaires were found completed for data analysis that represents a response rate of 37.5%. In the context of Bangladesh, early researchers found 29% response rate (Rubel & Kee, 2013a, 2013b).

Measurement

HCHRM is conceptualized using five dimensions including compensation, internal career opportunity, participation, performance appraisal and training and development. All items for measuring the dimensions of HCHRM are adapted from existing measures of HRM practices. Two dimensions (performance appraisal and training and development) are adapted from Kwon et al (2010). Performance appraisal is measured by two items, whereas training and development is measured by single item taken from the same study. Compensation as a dimension of HCHRM is measured using three items taken from Tsaur and Lin (2004). Again two items are taken into consideration for measuring internal career opportunity from Wei et al. (2010). Last, for measuring employee participation three items are adapted from Allen, Shore and Griffeth (2003). For all the dimensions the alpha value is found higher than the acceptable limit.

To assess employee perception regarding trust in management 2 items are adapted from Baptiste (2008) and the alpha value is found 0.87. Further, both in-role and extra-role service behavior are measured via three items for each adapted from Tsaur and Lin (2004). In this study service behavior is measured based on the respondents' own perception (self-measured). Earlier research found self-performance rating correlates with supervisor's performance rating (Gagnon & Michael, 2004). Hence, present study also considers self-rating performance measurement. In the context of Bangladesh, early studies also use employee self-rating performance (Rubel & Kee, 2013a).

Statistical Analysis

The present study uses Partial Least Square Path Modelling (PLS-PM) to assess both the measurement and structural model. Statistical Package for Social Science (SPSS) v. 20 for windows (SPSS, Chicago, IL) is used to conduct descriptive statistical analysis. The hierarchical model of HCHRM practices is assessed estimating the parameter in the inner and outer model. PLS path modelling with a path weighted scheme for the inside approximation is applied (Wetzels, Odekerken-Schröder & Van Oppen, 2009). Then, nonparametric bootstrapping (Wetzels et al., 2009; Tenenhaus, Vinzi, Chatelin & Lauro, 2005) with 500 replications to obtain the standard of the estimates are used. To estimate the higher order latent variables, we use the approach of repeated indicator for the second order constructs (HCHRM practices). In order to ensure the best operationalization of the model, the study uses the same number of indicators both in the first order and second order construct of HCHRM practices (Chin, 2010).

RESULTS

Demographic

The average age of the respondents in this study was 34 years (SD = 6.47). Most of the respondents (57.7 %) were within the age group 35 to 40. Of the 150 respondents, 102 respondents (68%) were male whereas, 48 (32%) were female. Respondents were also asked to mention their positions in the organization. Among the 150 respondents 48% were found as the branch manager and second in-charge of the branches. Rest 52% respondents were found as officers responsible for different

operating departments of the banks. Average work experience of the respondents was found 7 years.

Measurement Model

Confirmatory factor analysis (CFA) was conducted to assess the properties (reliability, convergent validity and discriminate validity) of the measurement scale. Table 1 shows most of the items loadings are above 0.6, all Average Variance Extracted (AVEs) and composite reliability (CRs) are above the cut-off values of 0.5 and 0.7 respectively (Nunnally, 1978). In this study the lowest CR is 0.828 and AVE is 0.616 reported for extra-role service behavior. Therefore, the present measurement model (convergent validity) fulfils the criteria to be accepted (Chin, 2010). In this study the value of the reliability (alpha) of all the constructs except extra-role service behavior (0.70) were found greater than 0.70.

Table 1 Result of the measurement model

Constructs	Items	Loading	AVE	C.R	Alpha
Compensation	COM1	0.919	0.711	0.878	0.788
	COM2	0.917			
	COM3	0.670			
Extra-role Service Behavior	ERSB1	0.746	0.616	0.828	0.700
	ERSB2	0.760			
	ERSB3	0.846			
Internal Career Opportunity	ICO1	0.911	0.840	0.913	0.810
	ICO2	0.922			
In-role Service Behavior	IRSB1	0.789	0.715	0.882	0.799
	IRSB2	0.876			
	IRSB3	0.869			
Performance Appraisal	PA1	0.958	0.915	0.956	0.908
	PA2	0.956			
Participation	PART1	0.921	0.823	0.935	0.897
	PART2	0.886			
	PART3	0.924			
Training and Development	TD	1.000	1.00	1.00	1.00
Trust in Management	TM1	0.923	0.836	0.911	0.804
	TM2	0.906			

Additionally, table 2 shows the discriminant validity (the square root of AVEs) in which the values of all the diagonal numbers are found much greater than the corresponding off-diagonal ones (Chin, 2010). Thus it can be said that the measurement model fulfils its criteria to be accepted. Using the formula of Tenenhaus et al. (2005) the model has found large global fit (GoF= 0.651). According to Welzels et al. (2009) the value higher than 0.36 indicates the global fit of the model. Further, for assessing the predictive relevance the Stone-Geisser Q^2 was measured. Chin (2010) recommended that the value of commonality and redundancy in Q^2 must be greater than zero (0). This study also fulfils the criteria for

all the latent variables for instance, TM (Red: 0.102, Com: 0.445), in-role service behavior (IRSB) (Red: 0.365, Com: 0.616), and extra-role service behavior (Red: 0.248, Com: 0.616).

Table 2 Discriminant validity of the constructs

	COM	ERSB	ICO	IRSB	PA	PART	T&D	TM
COM	**0.843**							
ERSB	0.510	**0.785**						
ICO	0.654	0.455	**0.917**					
IRSB	0.501	0.600	0.496	**0.845**				
PA	0.538	0.521	0.544	0.528	**0.957**			
PART	0.519	0.574	0.471	0.590	0.658	**0.910**		
T&D	0.453	0.544	0.400	0.781	0.570	0.561	**1.000**	
TM	0.231	0.300	0.241	0.384	0.220	0.400	0.297	**0.914**
Mean	3.882	4.04	3.931	4.047	3.93	4.166	3.97	4.163
S.D.	.717	.620	.764	.616	.760	.7044	.595	.7734

The Hierarchical HCHRM Model

In assessing the higher-order latent variables, we employed the method of repeated indicators. As explained earlier, this study specifies HCHRM practices as a second order hierarchical reflective construct, which consists of five (5) first order reflective constructs (internal career opportunity 2 items, performance appraisal 2 items, training and development single (1) item, compensation 3 items and participation 3 items) representing 11 items. In assessing second order model, we calculated whether the second order construct was appropriately modeled as reflective latent constructs by examining the correlations among all the items of the five latent constructs in the first order (Hulland, 1999). This study finds all the items are correlated and statistically significant at $p< 0.01$. Therefore, the degree of explained variance of this hierarchical construct is reflective in nature, that is, internal career opportunity (58.7%) performance appraisal (69.6%), compensation (65.0%), training and development (48.6%) and participation (71.9%) (See table 3). In this model all the path coefficient from HCHRM to its components are significant at $p< 0.01$. The CR and AVE of HCHRM practices are 0.935 and 0.569 respectively, indicating above the cut off values.

Table 3 Hierarchical HCHRM practices

(CR = 0.926, AVE = 0.536)				
Internal career opportunity	Performance Appraisal	Compensation	Training and Development	Participation
R^2 = **0.587**	R^2 = **0.696**	R^2 = **0.650**	R^2 = **0.486**	R^2 = **0.719**
β = 0.760	β = 0.834	β = 0.806	β = 0.697	β = 0.847
P < 0.01	P < 0.01	P < 0.01	P < 0.01	P < 0.01

Structural Model

In order to assess the hypothetical relationship among the variables we develop a structural model in which HCHRM is modeled as exogenous latent variable influencing trust in management and employee service behavior (in role and extra-role). As shown in **Table 4** and **Figure 2**, the path from HCHRM to both in-role and extra-role service behavior prove the significant positive relationship and the values are ($\beta = 0.645$, $t = 12.720$, $p < 0.01$) and ($\beta = 0.627$, $t = 11.286$, $p < 0.01$) respectively. The path from HCHRM and trust in management indicates a significant positive relationship between them ($\beta = 0.356$, $t = 4.827$, $p < 0.01$). Further, the path from trust in management to in-role service behavior was also found positive and statistically significant ($\beta = 0.155$, $t = 2.314$, $p < 0.05$). The other path from trust in management to extra-role service behavior was found insignificant ($\beta = 0.076$, $t = 1.049$).

Table 4 Result of Partial Squares Path Analysis

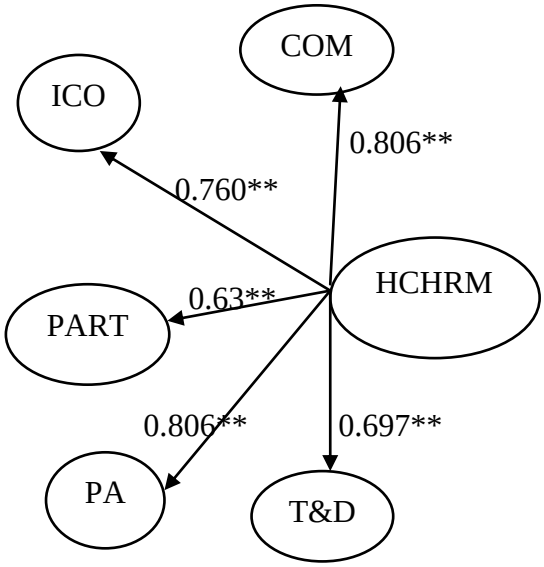
Path	β value	t-value	Decisions
HCHRM > Extra-role Service Behavior	0.627	11.286**	S
HCHRM > In-role Service Behavior	0.645	12.720**	S
HCHRM > Trust in Management	0.356	4.827**	S
Trust in Management > Extra-role Service Behavior	0.076	1.049	NS
Trust in Management > In-role Service Behavior	0.155	2.314*	S

*p< 0.05, **P< 0.01

Note: HCHRM (High commitment human resource management)

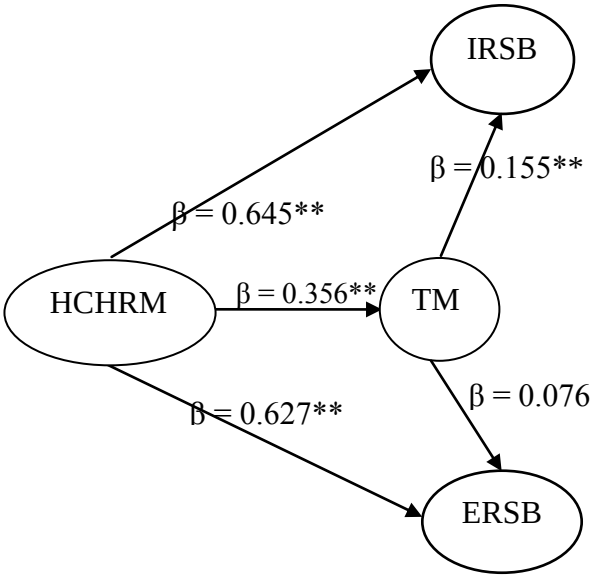
Additionally, this study considered trust in management as mediator between HCHRM and employee service behavior (in-role and extra-role). Here trust in management was found as mediator between the relationship of HCHRM and in-role service behavior and the value was found significant ($t = 2.27$, $p < 0.05$). Further, for the relationship between HCHRM and extra-role behavior, trust in management was found insignificant and the value indicated as ($t = 0.912$).

Figure 2A: Higher order constructs



Significant at **p < 0.01

Figure 2B: Main and Interection Model



Significant at **p < 0.01, *p < 0.05

Note: COM (Compensation), ICO (Internal career opportunity), PART (Participation), PA (Performance Appraisal), T&D (Training and Development), HCHRM (High commitment human resource management), TM (Trust in management), IRSB (In-role service behavior), ERSB (Extra-role service behavior).

Figure 2 Structural Model

DISCUSSION

The main aim of this study is to determine the relationship between HCHRM and employee service behavior (in-role and extra-role) with the mediating effect of trust in management among the line managers of the PCBs in Bangladesh. The result showed a significant positive relationship between the HCHRM and both in-role behavior and extra-role behavior. The results reveal that HCHRM has the positive influence on both in-role and extra-role behavior with the highest effects on in-role behavior and the beta value is 0.645. Therefore, it can be elucidated that line managers' performance will increase if they are managed through HCHRM. This study finding is supported by past research as well. For example, Arthur (1994) find HCHRM can make a link between individual goal and organizational goal and thus influences employee goal achievement for organizational achievement. Therefore, it is supported that employee perceived HCHRM has the power to make the employee more committed to achieve their in-role performance that will promote organizational performance. Moreover, the result corroborates prior findings which show observed link between HRM and employee extra-role behavior or OCB (Lee & Kim, 2010; Snape & Redman, 2010). Accordingly, when the employer is employee centered and has true interest in employee contributions and demonstrates its commitment to them through putting in place favourable HCHRM, these actions may be well interpreted by the employees. They can trust their management supportive to improve their performance beyond the specific task related responsibilities for which

they are cared and recognized by their management. The line managers of PCBs of Bangladesh also support this assumption.

The second hypothesis is also confirmed: HCHRM practices can reinforce the perception of trust in management. HCHRM is also found positively related with employee trust in management. These results are consistent with the empirical studies of (Tzafrir & Gur, 2007).HCHRM practices make management trustworthy in the eyes' of employees. It reflects employee trust management as management has the capability, interest and integrity to manage employees through commitment building HRM. On the other hand, trust in management is found positively related with overall employee performance (Gould-Williams, 2007). The present finding shows a significant relation between trust in management and line managers' in-role service behavior. But the present study finds an exceptional result that is trust in management is not significantly related with extra-role performance. However, this exception is also supported by prior research works (Tremblay et al., 2010). In the present context, it can be argued that line managers relate their trust in management more with their in-role performance than with their discretionary performance or extra-role service behavior or performance. As employees work for the organization, they are more concerned with their task related performance. If management is trustworthy, employees reciprocate by improving their specific task performance for the organizational performance. In the context of PCBs of Bangladesh, employee decisions such as reward and promotion are taken based on employee business performance (Bangladesh Bank Report, 2010). Therefore, bank line managers give more emphasis on their in-role service behaviour than on extra-role service behaviour. Based on the present study context, the insignificant relationship between trust in management and employee extra-role performance is considered acceptable.

The present study investigates HCHRM and trust in management in relation with employee in-role and extra-role service behavior. The study confirms statistically significant relationship between the HCHRM and employee in-role service behavior or task performance. Chuang and Liao (2010) argue HPHRM influences service organization performance through improved employee service performance. Consistent with this argument, HCHRM practices are found to predict line managers' service performance positively that will eventually improve the performance of banking service organizations. To date however, the overall up-take of HCHRM in the PCBs of Bangladesh is very low. If we assume that the relationship between HCHRM practices and performance is linear, then bank management should endeavour to implement consistent HCHRM practices over time. Furthermore, consistent with the "black box" conception of employee management in the organization, trust in management was found to be a significant intervening variable between HCHRM practices and individual outcomes (Macky & Boxall, 2007). The present findings confirm the relationship between trust in management and line managers' in-role behaviour or performance. Therefore, service organizations should make an effort to develop and implement HRM practices to enhance employees' sense of trust in management, which in turn should lead to desirable outcomes directed to achieve specific individual and organizational performance.

While HRM has long been studied to relate employee outcomes in organizations, the means through which it has its effect is still a subject of research (Guest, 2011). The strength of the present study is to call this issue by examining

employee response in trust in management resulting from HCHRM that is influencing employee service behavior. To our knowledge, no previous research had tested the mediating role trust in management plays between HCHRM practices and employee in-role and extra-role performance. The mediating role of trust in management has never been tested following the recommended three-step approach, for example, HCHRM and employee performance, HCHRM and trusts in management and trust in management and employee in-role and extra-role performance. According to our results, HCHRM practices contribute to employee in-role service behavior by improving trust in management. HCHRM practices are more likely to stimulate trust in management that can improve overall employee behavior with the exception of insignificant direct effect of trust in management on extra-role behavior. Though trust in management cannot significantly generate OCB or extra-role service behavior, it can improve employee in-role performance for which organizational performance is achieved. In this respect, trust in management plays a significant role in enhancing individual assigned job outcomes resulting from HCHRM. These results are consistent with the main conclusion of Baptiste (2008) regarding the mediating influence of trust in management between HCHRM and employee's job satisfaction, commitment and work life balance satisfaction as HR outcomes.

LIMITATIONS

The present focus is to examine the effect of HCHRM on employee service behavior through the mediating effect of trust in management. The present study achieves its objective admitting some limitations. The main limitation of the study is inclusion of one attitudinal response of trust in management as a mediator between HCHRM and employee service behavior outcomes. Hence, future researchers are suggested to analyse the effect of HCHRM considering the mediating effect of several other attitudinal responses such as, commitment, satisfaction, well-being and more importantly the perceived supports from the organizations for the employees on employee overall behavioral and attitudinal outcomes such as performance, retention and turnover. Another important limitation of this study is small number of samples taken from one specific geographic area the result from which cannot be generalized for the entire banking service industry. Future research may include more samples from wider geographic areas where banks are operating to get a confident result. Further, a longitudinal study is essential for identifying the process of how HCHRM influences employee service behaviour. Additionally, the present study assesses line managers' perceptions of HCHRM practices to develop their trust in management that affect their service performance. Future study may compare line managers' perceptions on HCHRM practices and HR managers' perceptions on HCHRM policies to get a full picture of how HCHRM influences employee outcomes through creating trust in management. Finally, this study considers self-rated performance measurement for assessing the employee service behavior that may be treated as an important limitation. To overcome this limitation future researchers are suggested to measure employee service behavior from multiple respondents' (employee, peer group and supervisor) point of view.

CONCLUSION

In this paper, the relationship among HCHRM, trust in management and employee service behavior is explored. The study is conducted in the banking service sector of a developing country, Bangladesh. Considering the study context, this paper contributes to existing HCHRM literatures through adding HCHRM study from service employee perspective of a developing country. The study on HCHRM on service sector is limited (Harley et al., 2007). Moreover, the effect of HCHRM on individual employee outcome is also few (Wei et al., 2010). Considering line managers' view in assessing HRM is also limited (Guest, 2011). Additionally, developing country is suggested to be brought under the HRM research paradigm (Budhwar & Debrah, 2009). The present study contributes to all these issues. The findings show a positive relation between HCHRM and employee trust in management. Moreover, employee trust in management enhances employee in-role behavior significantly as employees have more concern for assigned tasks that lead to organizational performance. Trust in management is found having insignificant relationship with extra-role service behavior that is contrary to previous findings. This specific finding may indicate that employee response to HCHRM to improve their in-role service behavior as organization needs to keep employees focused on organizational goal (Mayer & Gavin, 2005). This paper has analysed HCHRM including training and development, performance appraisal, compensation, participation and internal career opportunity. These HCHRM have most significant influence on employees' assigned service behavior with an understanding of positive employee response to HCHRM as such HCHRM enhances employee trust in management that in turn improves their in-role service behavior. Such relationship is explored in the banking service organizations of Bangladesh. In this respect, more research can be conducted to explore HCHRM-employee response–employee outcomes relationship both in other service and manufacturing organizations within and beyond Bangladesh.

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International Student Flow and R&D Spillovers: Importance of Economic Freedom

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ABSTRACT

This paper examines the mediating effect of economic freedom on the research and development (R&D) spillovers effect via the international student flow channel. The empirical results, based on generalized method-of-moment system estimator estimate on a panel of 75 developing countries, show that spillovers effects through international student flow is significant, and this channel is having greater impact than import. Meanwhile, countries with greater economic freedom level found to gain more from R&D spillovers. It provides evidence for the view that importance of human capital mobility in technology diffusion is increasing nowadays since globalization lead the mobility across border become easier.

Keywords: R&D Spillovers, Total Factor Productivity, Trade, Foreign Students, Economic Freedom

INTRODUCTION

Many economists believe that technological progress is an important determinant for long-run output growth because it is very fundamental to the economy and affects all areas of economic activities (Le, 2012). The new growth models (see for example, Romer, 1990; Grossman and Helpman, 1991; Aghion and Howitt, 1992) suggest that technological progress is not a free gift from heaven but a direct outcome of innovation process. This is in contrast with neo classical model in which treats technological progress as exogenous. Therefore, when an economy invests in innovation activities, it would enjoy technological progress, greater productivity, and leading to the expansion of economic growth.

Since the pioneering work of Coe and Helpman (1995), many studies have recognized the importance of international R&D spillovers. Due to the non-rival characteristics of technology, R&D investment would contribute to the stock of knowledge as it is publicly available to everyone. Hence, R&D of one country impacts would not only affect domestic firms but also foreign firms. This suggests

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that countries which hardly invest in R&D activities would benefit from new knowledge developed by R&D leaders. The theory suggests that the extent to which local firms can benefit from foreign knowledge depends on many factors such as trade volume (Coe and Helpman, 1995), characteristics of traded products (Coe, Helpman, and Hoffmaister, 1997), flow of foreign direct investment (van Pottelsberghe and Lichtenberg, 2001), and human capital mobility (Park, 2004).

Among the factors highlighted above, human capital mobility is a newly established channel for knowledge spillovers across borders. It is argued that some knowledge is difficult to be expressed in words or language (Koskinen, Pihlanto and Vanharanta, 2003) and therefore exchange of goods or investment for spillovers will not help its diffusion across borders (Lee, 2005). Instead, spillovers of this type of knowledge require direct communication. Therefore, international students flow is viewed as conduit for knowledge transmission because students are able to absorb foreign knowledge when they study abroad or through post schooling job experience and transfer it back to domestic country when they return (Park, 2004).

R&D via students flow has been hardly investigated. Two exceptions are Park (2004) and Le (2010). Park (2004) shows that international student flow is an important spillover channel among developed countries while Le (2010) complements the finding for spillovers from developed to developing countries. However, they found that spillover effects through import are relatively stronger than student flow. Recent literatures show that globalization has led to improved communication and mobility across border, and this therefore suggests that disembodied spillovers channel (such as international student flow) today could be at least as important as embodied channel in past decades (Filatotchev, Liu, Lu and Wright, 2011). Hence, a study on recent period could lead to different findings on the relative importance of various spillover channels.

Several recent papers suggest that knowledge spillovers are not automatic consequences of direct or indirect contact with R&D leaders. They argue that host countries must have certain quality which allows them to absorb and internalize the technology generated abroad. For instance, AzmanSaini, Baharumshah, Law (2010) show that only countries with sufficient freedom of economic activities are able to absorb and internalize new technologies associated with FDI inflow. In an economically freer environment, firm are more willing to engage in risky investment project, such as trying out news ideas and new technologies, it will motivates domestic firm to absorb the foreign technology in local market.

The aim of this paper is assess whether international student flows serve as an important channel for R&D spillovers from developed to developing countries in recent decades. It also fills the gap by exploring whether economic freedom make a difference to the way knowledge is transmitted across borders via student flows. To achieve these objectives, data from 75 developing countries over 2000-2008 period are chosen. It employs generalized method of moment (GMM) panel estimator which has several advantages over other alternatives.

The rest of the paper is structured as follows. The next section presents a brief literature review. Then, empirical framework is presented. The next section discusses the empirical results. The last section concludes.

BRIEF REVIEW OF LITERATURE

Domestic innovation has been considered as an important factor for productivity improvement. It is significant for developed countries (Coe and Helpman, 1995), newly industrialized and low income countries (Madden and Savage, 2000; Madden, Savage and Bloxham, 2001) Meanwhile, this role does not diminish along with the existence of foreign technology source countries, these countries with positive domestic R&D together with foreign technology would have positive growth rate (Howitt, 2000). Therefore, it is suggested that domestic R&D would help to absorb foreign technology: an indirect effect on technological progress (Griffith, Redding and Reenen, 2003). However, there is an optimum range of domestic R&D which determine by socio economies of each country. Boosting large R&D investment does not necessary enhance domestic productivity in the same scale, and may be less efficient when the proportion is too large (Coccia, 2009).

Nonetheless, many argue that it is not necessary to include domestic R&D in technology transfer analysis. The data is usually lack for developing countries, and in fact it is very small, if any, and can be ignored (Coe *et al*., 1997). Thus, it could be assumed that such investment is constant for developing countries (Bayoumi *et al*., 1999). Moreover, despite the social return of R&D investment is higher than expect, such investment is usually determined by private return. Underdeveloped financial market or inappropriate policy in a country could lead to limited R&D investment, which it is quite common in developing countries (Griffith, Redding and Reenen, 2004). Not to say that adopt foreign technology is more attractive due to the risk and cost during conduct own R&D. Thus, existence of foreign technology transfer would cause developing countries not to have own R&D investment (Cheung and Lin, 2004). This study decides not to include it in analysis based on these suggestions.

Since Coe and Helpman (1995), R&D spillover is considered as one of the major factors that cause productivity growth. It is not only found significant between developed countries (Coe and Helpman, 1995), and from developed countries to developing countries (Coe, Helpman and Hoffmaister, 1997). Other scholars then expand the findings by include other spillovers channels like foreign direct investment (van Pottelsberghe de la Porterie and Lichtenberg, 2001), international student flow (Park, 2004), worker migration (Le, 2008) and etc. Domestic countries will get the occasion to learn and contribute to own stock of knowledge since such interaction grant access to foreign countries' accumulated body of research and knowledge.

Meanwhile, the spillovers not only benefit the similar industry but other industry as well, both domestic and foreign (Keller, 2002b). Though there are argument on whether domestic or foreign spillovers is more important, as some found foreign spillovers is larger than domestic spillovers (Lopez-Pueyo Barcenilla-Visus and Sanau, 2008), while some found domestic spillovers are found more important (Keller, 2002), these studies all agree that spillovers would not only benefit same industry. Thus, study on this subject should not focus only on technology transfer on specific industry but the big picture would be more important.

Although many literatures focus on spillovers through trade, some knowledge could be difficult to transfer through this channel as some knowledge is difficult to express through word or language (Koskinen, Pihlanto and Vanharanta, 2003). Meanwhile, intangible knowledge does not need exchange of goods or investment to

spillovers (Lee, 2005). Many knowledge spillovers are not simply generate by the knowledge or capital good alone, but relationship and social connection between two parties are crucial condition (Almeida and Kogut, 1999). Interaction activities between two or more parties like publication, public meeting and conference, information exchange, competitor's products, patent (Cohen, Goto, Nagata, Nelson and Walsh, 2002) and telecommunication (Tang and Koveos, 2008) are all found crucial for information flow and knowledge exchange. Moreover, embodied technology diffusion has larger impact on efficiency while disembodied technology diffusion majorly affects technical change (Kim and Lee, 2004). Thus, direct communication or disembodied channel would be required.

Human capital has been considers as an important factor in determine productivity. It could captures the innovation part where R&D along is insufficient to capture such as "on the job learning" and "learning by doing" (Benhabib and Spiegel, 1994; Engelbrecht, 1997); affects a country's ability to learn foreign technology and use input more efficient (Engelbrecht, 1997; del Barrio-Castro, Lopez-Bazo and Serrano-Domingo, 2002; Kuo and Yang, 2008; Madsen *et al*., 2010); part of the determinants of productivity due to labor with better education directly improve productivity, help to attract FDI, and lead to better gain from trade partners (Coe *et al*., 1997). Though these studies provide evidence on direct and indirect impact on productivity from human capital, its role on spillovers does not attract much attention.

Knowledge is tacit and complex and embedded in individual, therefore human mobility is an effective way to transfer knowledge (Song, Almeida and Wu, 2003). Without human capital mobility, the knowledge might not spillovers to others (Zucker, Darby and Brewer, 1998; Almeida and Kogut, 1999) as human capital mobility is a significant mechanism for knowledge diffusion (Le, 2008; Filatotchev *et al*., 2011). Not only the host country benefit from worker migration, but their home country takes advantages as well. Workers usually maintain a close connection with their home country and workers would contribute to home countries' productivity with technology that they learn from host country (Le, 2008). Additional, returnees own the specific human capital and social capital, they would able to act as a bridge between developed and developing countries and accelerated the knowledge transfer (Filatotchev *et al*., 2011). This study focus on the role of international student flow in technology transfer as student study abroad would acquire external knowledge through education and post schooling job experience, and bring the knowledge back to home country when they return (Park, 2004). At the same time, student study abroad also learns the foreign country's knowledge of technology, material, production method and organizational structure (Le, 2010).

Nevertheless, existence of spillovers channel does not necessary grant technology transfer. It has been found that the effect could be varies among countries. R&D spillovers among developed countries have both positive and negative influence on productivity (Engelbrecht, 1997); increase activities of MNE lead to lower productivity in Venezuela (Aitken and Harrison, 1999); among the 40 studies on the impact of FDI, 22 report significant positive impact on growth, some report no significant impact while some report negative impact (Gorg and Greenaway, 2004). Since technology would not automatically leverage to domestic and only those with sufficient ability to learn will gain (Liu and Buck, 2007), recent studies look at the role of absorptive capacity to explain the different spillovers

effect. Country which lack of absorptive capacity will benefit less as it cause asymmetric impact on knowledge diffusion among countries (Detragiache, 1998) and determines the limit to gain from FDI (Borenztein, Gregorio and Lee, 1998).

Recent studies have mention the importance of economic freedom in many areas: greater economic freedom fosters economic growth (Haan and Sturm, 2000); it is relevance to macroeconomic stability and crucial for growth (Bengoa and Sanchez Robles, 2003); it increase banking sector's profitability and enhancing banks' performance (Sufian and Habibullah, 2010); it is necessary for FDI spillover (Azman-Saini, Baharumshah and Law, 2010); and improvement of it leads to a greater well being (Belasen and Hafer, 2012). Hence, this study examines the role of absorptive capacity in technology transfer, and focus on economic freedom as it is a key to overall things and capable to capture some aspect that institution factor cannot.

EMPIRICAL FRAMEWORK

To measure the R&D spillovers through international student flow, this paper constructs student embodied foreign R&D capital stock (Sfs_{it}) as Le (2010) suggestion:

$$Sfs_{it} = \sum (s_{ijt}/n_{jt})\, Sd_{jt}$$

where s_{ij} is the number of tertiary students originating from country i and studying at country j, n_j is the total number of tertiary students enrolled in country j. Sd_j is total domestic R&D stock in country j. The weight reflects the concept where country i benefits from country j's R&D investments depend on the degree of access by students from country i to knowledge available in country j.

At the same time, this paper also considers the spillovers through import as suggested by literature, to see whether the inclusions of other spillovers channel would alter the findings. The import embodied foreign R&D capital stock (Sfm_{it}) is construct as van Pottelsberghe de la Porterie and Lichtenberg's (2001) method:

$$Sfm_{it} = \sum (m_{ijt}/y_{jt})\, Sd_{jt}$$

where m_{ij} is the value of imported goods and services of country i from country j. It might be interpreted as embodied with R&D intensity of source country (country j), y is gross domestic product of country j, Sd_j is total domestic R&D stock in country j.

To study the R&D spillovers effect on domestic total factor productivity (TFP) and in order to address the possible role played by economic freedom (EF), this paper studies the following regression:

$$TFP = f(Sfm_{it}, Sfs_{it}, EF_i)$$

Nevertheless, TFP measurement use in this paper is different from many previous studies in this field. This paper follows suggestion by Klenow and Rodrigues Clare (1997) and Hall and Jones (1999) which using human capital augmented labor instead of only labor. Therefore, this measurement includes the consideration of labor quality. To highlight the computation of total factor productivity (A), let assume the following production function:

$$Y = AK^{\alpha} H^{1-\alpha}$$

where Y is output, K is capital stock, α is share of capital income in GDP. Capital stock computed using gross fixed capital formation following perpetual inventory method and H is augmented labor based on Mincerian's function:

$$H = \exp^{\varphi(E)} L$$

where the labor, L, is assumed as homogenous and each is trained with E years of schooling.

It shows that labor force is multiplied by efficiency, E represents years of schooling and derivative $\varphi'(E)$ is the return to education where labor force with no schooling is $\varphi(0) = 0$. Years of experience and sum of human capital with different education and experience level are found to have only little effect (Klenow and Rodriguez Clare, 1997) and therefore are not pursued in this paper. The regression is adjusted based on the suggestion in Hall and Jones (1999). First of all, the measures of output have to be adjusting for natural resource so that the countries would not be ranked as top productivity country due to the rich resource. Thus, value added in the mining industry will be subtracted from GDP. Secondly, α is set to 1/3 as standard neoclassical approach suggests[20]. Thirdly, $\varphi(E)$ is assumed as piecewise linear. Rate of return is 13.4 percent for the first four years (average of sub Saharan Africa), 10.1 percent for the next four years (average of world), and 6.8 percent for more than eight years (average of OECD). These figures come from Psacharopoulos (1994) survey on return to schooling from many countries.

The results in this paper are based on annual data series of 75 developing countries over the 2000-2008 periods. Raw data to compute TFP (GDP, gross fixed capital formation, labor force) were obtained from World Development Indicators database except human capital which uses average education year for age above 25 as reported in Barro and Lee (2012). Foreign R&D for each developing country is the domestic R&D from G7 countries which collected from OECD Main Science and Technology Indicators database. Bilateral data for import was obtained from United Nations Commodity Trade (UN Comtrade) database. GDP for the weighted purpose in spillovers through international trade is same data to construct TFP, while contribution of mining activity to total value added was obtained from United Nations Statistics Division National Accounts Main Aggregates Database. Finally, total number of students enrolled in tertiary level education and number of international students enrolled were collected from OECD Education and Training Database and economic freedom obtained from Annual Report of Economic Freedom of the World by Fraser Institute.

[20] It set as 0.33 based on careful cross country estimated by Gollin (2002) which range from 0.25 to 0.35. α and 1- α generally vary over time and such variation is relatively unimportant for estimation (Baier, Dwyer and Tamura, 2006)

EMPIRICAL FINDINGS

The main objective of this paper is to estimate the R&D spillovers through international student flow, and how economic freedom of host country could affect the spillovers effect. Meanwhile, import which considered important in spillovers also include in the analysis to see whether include of other spillovers channel will affect the conclusion draw. Estimation results are provided in Table 1. The diagnostics are satisfied across regressions. Sargan test does not reject over identification problem while absence of second order serial correlation is not rejected. Lagged dependent variable in all regressions is positive and significant. These estimations provide evidence to conclude that dynamic system GMM is appropriate estimator in this case, and the statistical inference carried out is reliable.

Regressions (1) and (2) include import and international student flow as spillovers channel separately. Import is found as significant channel as previous studies suggest, while the significance of international student flow also similar with literatures. The results suggest that foreign R&D would help to enhance domestic productivity through import or international student flow. This relationship does not changed when combine both channel together, as shown in regression (3), the sign and significance of channels remain. Therefore, the findings support the view of Le (2010): both import and international student flow would act as bridge between foreign R&D and domestic productivity.

Table 1 R&D Spillovers via Student Flow and Import

	(1)	(2)	(3)
lsfm	*0.0833***		*0.0658****
Lsfs		*0.0163****	*0.1055****
Lagged dependent	*0.1981****	*0.0431****	*0.3405****
Sargan test (p-value)	*0.327*	*0.684*	*0.921*
AR (2) test (p-value)	*0.212*	*0.725*	*0.916*
Number of observation	*600*	*600*	*600*

Notes:
1. All variables are expressed in logarithmic form.
2. *lsfm*, *lsfs* are R&D spillovers through import, R&D spillovers through international student flow respectively.
3. *** indicate statistical significance at the 1% level.

Nevertheless, result in regression (3) shows some different with previous studies: spillovers through international student flow are stronger than import. Compare with Park (2004) which includes spillovers among developed countries during 1971-1990, and Le (2010) which includes spillovers from developed into developing countries during 1998-2005; this study cover a later time period. Both Park (2004) and Le (2010) found that although international student flow is a significant channel in spillovers between developed countries and from developed to

developing countries, import is found has greater impact. Thus, the finding in regression (3) supports the view where importance of disembodied channel is increasing in recent decade since globalization makes mobility across border nowadays is easier than decades before (Filatotchev, Liu, Lu and Wright, 2011). Study on R&D spillovers without taking disembodied channel into consideration might unable to capture the whole picture, especially when study about spillovers for more recent periods. Meanwhile, policy implication draw from the results could be bias as well.

The next issue is whether economic freedom would changes the impact of R&D spillovers. The estimations are shown in Table 2. Economic freedom is included in regressions to investigate its direct effect on productivity. Then, interaction term of economic freedom and the spillovers channel is included to investigate the indirect impact. Regression (4) includes only interaction of R&D spillovers through international student flow with economic freedom. The result suggests that countries with higher economic freedom will gain more from the spillovers. Regression (5) extend regression (4) by includes together the interaction of spillovers through import with economic freedom. Although it did not alter the conclusion draw before, degree of economic freedom is found do not differentiate the spillovers effect through import. Thus, the regressions suggest that economic freedom has only impact on disembodied channel instead of embodied channel. Since disembodied channel is found has greater effect, it would be crucial for government to promote economic freedom within country before gain from the spillovers.

Table 2 Role of Economic Freedom in R&D Spillovers

	(4)	(5)
lsfm	*0.0643***	*0.0647****
lsfs	*0.0987****	*0.1088****
lef	*0.3451****	*0.3989****
Interaction		
lsfm × lef		*0.0028*
lsfs × lef	*0.5139****	*0.3436****
Lagged dependent variable	*0.4799****	*0.5063****
Sargan test (p-value)	*0.830*	*0.925*
AR (2) test (p-value)	*0.331*	*0.447*
Number of observation	*600*	*600*

Notes:
1. All variables are expressed in logarithmic form.
2. *lsfm*, *lsfs* are R&D spillovers through import, R&D spillovers through international student flow respectively.
3. *** indicate statistical significance at the 1% level.

As suggested in Azman Saini *et al*. (2010), domestic market would only gain from presence of FDI when sufficient level of economic freedom is exists in domestic market. This study provides further evidence on the role of economic freedom regarding technology diffusion: countries promote economic freedom would gain better in disembodied channel spillovers. Hence, policy makers should more concern about economic freedom within an economy; it needed for FDI spillovers, and also enhanced spillovers through human capital mobility.

CONCLUSION

This study examines whether international student flow channel spillovers of foreign R&D and contribute to the domestic productivity besides import, and whether economic freedom differentiate the spillovers effect. With different measurement of productivity is used, which consider the quality labor in computation, international trade remains an important spillovers channel, but international student flow is found to have greater spillovers effect. This is contrast to previous studies that study both channels together. Hence, although different productivity computation strategy would not alter the sign and significance level of spillovers channels, conclusion draw on the relative strength of spillovers channel would be different. This could be a reason why literatures in this subject found international trade has greater spillovers effect.

In addition, economic freedom is found able to differentiate the spillovers effect through international student flow. Thus, countries that actively promote freedom of economic activity could gain more in enhance productivity through this channel. Nevertheless, there is no enough evidence that the role is exists in international trade. These results cast doubt on the role of economic freedom in embodied channel.

In short, human capital mobility is found more important in technology diffusion and has greater impact than traditional channel such as international trade in recent decade. Government policies that encourage study abroad would help to enhance domestic productivity and enhance the economic performance. Meanwhile, countries that promote freedom of economic activity would provide better environment for domestic firm to internalize these foreign technologies.

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APPENDIX

List of countries

Albania	Fiji	Pakistan
Algeria	Gabon	Panama
Argentina	Ghana	Papua New Guinea
Bahrain	Guatemala	Paraguay
Bangladesh	Guyana	Peru
Barbados	Honduras	Philippines
Belize	Hungary	Poland
Benin	India	Romania
Bolivia	Indonesia	Russian Federation
Botswana	Iran, Islamic Rep.	Rwanda
Brazil	Jordan	Senegal
Bulgaria	Kenya	Sierra Leone
Burundi	Kuwait	South Africa
Cameroon	Latvia	Sri Lanka
Central African Rep.	Lithuania	Syrian Arab Rep.
Chile	Malawi	Thailand
Colombia	Malaysia	Togo
Congo, Rep.	Mali	Tunisia
Costa Rica	Mauritius	Turkey
Cote d'Ivoire	Mexico	Uganda
Croatia	Morocco	Ukraine
Dominican Rep.	Namibia	Uruguay
Ecuador	Nepal	Venezuela, RB
Egypt, Arab Rep.	Nicaragua	Zambia
El Salvador	Niger	Zimbabwe

The Impact of Institutions on Helth Care Expenditure and Infectious Diseases in Africa*:* A System GMM Approach

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ABSTRACT

This study assessed the role of institutions in improving health care expenditure and the spread of infectious diseases in Africa. Data from 50 African countries for the period 2002-2011 was analyzed using System GMM estimators based on the endogenous growth theory. Among the institutions, the results revealed that, government effectiveness and control of corruption are shown to have a positive significant effect on improvement in health care expenditure in Africa. On infectious diseases particularly HIV/AIDs, the study also find that political instability and conflict are potential factors that increase the spread of infectious diseases in the region. Thus, the study recommended that African governments should strengthen their institutions in terms of government effectiveness and control of corruption to improve health care expenditure, as well as ensuring political stability, absence of war and conflict so as to curb the spread of infectious diseases in the region.

Keywords: Health Care Expenditure, Infectious Diseases, Institutions, Africa

INTRODUCTION

For many years, Africa remained one of the lowest regions in terms of health care expenditure in the world despite being the worst region affected by infectious diseases (IDs) such as Human Immuno-deficiency Virus and Acquired Immunodeficiency Syndrome HIV/AIDS as well as Tuberculosis (TB). According to the Joint United Nations Programme on HIV and AIDS (UNAIDS, 2012), in 2011, Africa recorded an estimated 60 percent of the global HIV burden. A similar report by the World Health Organization (WHO, 2013) showed that Africa recorded more than double the world average of TB cases (122 per 100,000 people). On health care expenditure, WHO (2011) reports that Africa has the lowest expenditure compared with other regions. The report further shows that average health care expenditure per

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capita was $1,405 and total health care expenditure as a percentage of GDP was 5.9 percent in Africa, while in the regions of the Americas and Europe, it was more than double that in Africa ($3,534 and $2,367, respectively).

However, given the above situations, several efforts are in place to improve health care delivery in Africa. For example, in the "Abuja Declaration" of 2001, all African heads of state committed to provide the needed resources to the health sector. They pledged to allocate at least 15 percent of their annual national budgets to health and urged developed countries to redeem their pledge of allocating 0.7 percent of their GNP as official development assistance to developing countries (Sambo, Kirigia, & Orem, 2013). Other interventions in the health sector include the Millennium Development Goals (MDGs), of which three are (i) Reduce Child Mortality, (ii) Improve Maternal Health, and (iii) Combat HIV/AIDS, Malaria and other Diseases. Despite the above efforts, health care expenditure and the burden of IDs in Africa remain challenges affecting health care delivery in the region.

The low health care expenditure and high burden of HIV/AIDS in Africa could be due to poor institutions in the region. In this context, and as defined by the World Bank, institutions refer to sets of formal and informal rules governing the actions of individuals and organisations as well as the interactions of participants in the development process (Kumssa & Mbeche, 2004). More elaborately, institutions can be formal and informal. While a formal institution relates to adherence to the established rules and regulations in society, informal refers to trust and networks, which define informal rules or constraints for economic activities and self-mechanism (Ibrahim & Hook, 2014). The institutional index used in this study includes government effectiveness, control of corruption and political stability, war and conflicts. Government effectiveness is defined as the government's capability to formulate and implement sound policies that could foster social and economic interactions between people and the state. It is concerned with the perception of public service quality, government credibility, the degree of independence from political pressures, and policy implementation. Government effectiveness measures the level of bureaucracy, quality of personnel, and institutional failure (Kaufmann, Zoido-lobatón, & Aart, 1999). Political stability and the absence of violence are other institutional qualities, defined as propensity for government change in a given period of time. These measure the average number of coups and revolutions per year (Gurgul & Lach, 2013). Control of corruption is also regarded as a measure to reduce the tendency towards corrupt practices.

On the quality of institutions in Africa, World Governance Indicators (WGI) reported that African countries had very low scores on the institutional quality, examples are countries like: Cameroon, Congo Democratic Republic, Egypt and Sudan. (See table 1.1 below). On the consequences of poor institution on African economies, (Campos & Nugent 2000) argues that "poor institutions especially control of corruption could be one of the reasons for low economic growth in Africa".

Table 1.1 World Governance Indicators (WGI) 2011 for some selected African countries as a measure of quality of institution.

Country	Political Stability & No Violence	Government Effectiveness	Control of Corruption
Cameroon	6	19	16
Congo Dem	2	2	3
Cote D` Ivoire	8	13	13
Egypt	7	36	28
Kenya	13	36	18
Libya	12	2	5
Madagascar	23	15	46
Mauritius	76	76	73
Nigeria	3	14	11
Sudan	1	6	6

Source: WGI (2012), using percentile ranking all countries with ranges of 0 (lowest) to 100 (highest)

In the light of the above, the objective of this study is to examine the role of institutional quality across countries on health care expenditure and fight against IDs in Africa. Most studies conducted on health care expenditure and productivity have either focused on one country analysis such as Nigeria (Umoru & Yaqub, 2013) and Spain (Rivera & Currais, 2003), or examined a particular sector of the economy, such as Aggrey (2012). More so, there are few studies of the role of institutions on economic growth and development, such as Osman (2012), Acemoglu and Robinson (2010), and Siddiqui and Ahmed (2010). This study therefore, is an attempt to fill this gap. The paper is structured in four sections: following this background section, section (ii) reviews theoretical and empirical literature, section (iii) presents data and methodology, and estimation method. Section (iv) contained estimation result and discussion, while section (v) presents conclusion and policy implication. Followed by, references and appendix.

LITERATURE REVIEW

The Theoretical literature

Theoretical and Empirical Literature

This study heavily relies on endogenous growth theory and the human capital model. Some studies (Lucas, 1988; Romer, 1990; Barro & Sala-I-Martin, 1995) have applied the Augmented Solow Model to study the relationship between human capital and growth. The Augmented Solow growth model is an improvement on the Solow (1956) growth model. The traditional Solow model originally did not explicitly incorporate human capital, arguing that technological progression and other external factors are the main sources of productivity and economic growth. In order to incorporate human capital into the model, Mankiw, Roma, and Weil (1992) came up with the Augmented Solow (endogenous growth model), which notes that the enhancement of a nation's human capital (health care expenditure and IDs) will bring about productivity and economic growth by way of the development of new forms of technology and efficient and effective means of production.

Additionally, in endogenous growth theory, government policies are regarded as a technological change that improves growth. Government policy can affect the growth rate of aggregate output and consumption by affecting the efficiency of human capital accumulation technology (e.g. government policies that made educational systems more efficient). This might be accomplished through the implementation of better incentives for performance in the school system (Williamson., 2011). On the other hand, the human capital model is widely used in the field of health. This model was developed by Grossman in 1972, as one of the versions of the endogenous growth model. Grossman (1972) shows that his model draws heavily on the human capital theory developed by Becker (1965), Ben-Porath (1967), and Mincer (1974). The idea of health as a part of the human capital stock of the person is not new; in fact, the first health demand model was created by Grossman in 1972, which provides a framework for modeling human capital accumulation and its relationship to health (in terms of health care expenditure and IDs). Therefore, the incorporation of institutions into endogenous growth theory is one justification for adopting the theory as a basis for the assessment of the impact of institutions on health care expenditure and IDs in Africa. As such, this study relies on endogenous growth theory as well as human capital theory.

Empirical Literature

The Economic Impact of IDs

In a survey by Moatti and Ventelou (2003) in Cote d'Ivoire, 30 percent of workers infected with HIV/AIDS lost their jobs after being diagnosed as positive, of which 81 percent had no insurance coverage to alleviate the cost of treatment and the effects that result due to job loss. At the same time, the authors show that in Zambia, where another survey was carried out, in addition to making the poor poorer, relatively wealthy persons are also liable to be forced to poverty as a result of HIV/AIDS and its related consequences. The survey shows that in two-thirds of affected households,

their monthly disposable income declined by more than 80 percent due to the loss of the principal figure in the family.

Several studies have examined empirically the impact of IDs such as HIV/AIDS and TB on economic growth and development. For example, Grimard and Harling (2004), in panel data estimation using an augmented Solow growth model, found that countries with a lower burden of TB recorded faster growth than countries with a high incidence of TB. The result shows that those countries recorded between 0.2 percent and 0.4 percent lower growth for every 10 percent increase in TB incidence. In another study conducted by Asiedu, Jin, and Kanyama (2011) assessing the impact of HIV/AIDS on FDI in developing countries using panel data GMM estimators, the authors found a negative relationship between HIV/AIDS and productivity in terms of FDI, where FDI diminishes as the prevalence rate increases. The study, however, show that 1 percent increase in HIV prevalence is expected to reduce FDI by about 0.0811 and 0.111 percent in short-run and long-run periods, respectively.

The Impact of Institutions on IDs

The complementary effect of institutional quality and technological progress are the main reasons for the very low growth in productivity in Latin America; therefore, institutional quality is one of the key determinants of growth by providing incentives to invest in technology (Franko, 2007). Researchers (Siddiqui & Ahmed, 2013; Acemoglu & Robinson, 2010) have posited that the quality or effectiveness of institutions has a stronger effect on long-term growth. It was also empirically established that institutional factors have a significant influence on total factor productivity and that countries with better institutions exhibit higher productivity (Méon & Weill, 2013). Further, Hall and Jones (1999) report that institutions and government policies increase capital accumulation and productivity per worker. They find that in 127 countries a positive relationship exists between output per worker and the measure of social infrastructure. Accordingly, a change in the effectiveness of governance and social infrastructure is associated with a 5.14 percent change in output per worker. Hence, war and conflicts contribute immensely to the increase in HIV/AIDS infection. For example, a decade of ethnic war, with mass movements of refugees from conflict in Rwanda, has led to an escalating rate of HIV that has spread from cities such as Kigali to the rural parts of the country (Smallman-Raynor & Cliff, 1991). Away from Africa, Wollants et al. (1995, as cited in Smallman-Raynor & Cliff, 1991) show that the high HIV infection rates in El Salvador soldiers were attributed to high levels of risky sexual behavior by soldiers associated with the 12-year civil war and numerous prostitution centers surrounding military posts. Corruption, on the other hand, was found to affect growth and productivity; more specifically, institutions that protect property rights are crucial to economic growth and investment (Knack & Keefer, 1995).

DATA AND METHODOOGY

Variable Measurements and Data Sources

The variables used in this study include; Health Care Expenditure per Capita (HEXPC) measured at 2005 constant price. Population Growth (POPG), measured as percentage of annual growth proxy to labour supply). Gross Capital Formation (CP) measured as percentage of GDP (proxy to capital). GDP per capita (GDPC) measured as 2005 constant price. Gross Enrolment Secondary (HCP), measured as total secondary school enrollment of both sexes proxy to human capital). Other variables are; Gross National Income (GNI) measured at 2005 constant price. HIVPR, measured as total detection cases among population ages 15-49 (as infectious diseases). Trade Openness (OPN) measured as per cent of GDP [(export + import) / GDP. All data for the above variables are obtained from WDI, World Bank (2013). The study used three index of institutional quality: Govt. Effectiveness (GEFTVS), Control of Corruption (COCRP), Political instability, violence & war (PSAV. Data for the entire institutional index are soured from (*WGI* 2011).

The Econometric Model

To assess the role of institutions on Health Care Expenditure and the spread of infectious diseases, three institutional variables were considered. These variables were assumed to contribute immensely on the performance of Health Care Expenditure and the control of infectious diseases. Adapting dynamic panel approach, equation 1 and 2 below is the econometric model for the study. The models included the entire relevant variables and are specified as follows;

$$\ln HEXPC_{it} = \beta_1 \ln HEXPC_{it-j} + \beta_2 \ln GDPC_{it-j} + \beta_3 INS_{it-1} + \beta_4 \ln CP_{it-j} + \beta_5 POPG_{it-j} + \beta_6 \ln OPN_{it-j} + \beta_7 \ln GNI_{it-j} + \varepsilon_{it} \quad \text{.....(1)}$$

$$HIVPR_{it} = \beta_1 HIVPR_{it-j} + \beta_2 \ln GDPC_{it-j} + \beta_3 INS_{it-j} + \beta_4 \ln CP_{it-j} + \beta_5 \ln HCP_{it-j} + \beta_6 POPG_{it-j} + \beta_7 \ln OPN_{it-j} + \beta_8 \ln GNI_{it-j} + \varepsilon_{it} \quad \text{.....(2)}$$

Where, lnHEXPC and HIVPR are dependent variables, other variables as defined above, INS represent three institutional quality variables namely GEFTVS, CCRP and PSAV. And lnGNI is gross national income used to capture country income level. While; i and t are vectors of country and time respectively and j is a vector of all lagged variables. Accordingly; the parameters of the 2 INS variables (GEFTVS, CCRP) are expected to be positive meaning that quality of institution will improve health care expenditure positively, and also the parameters of PSAV is expected to be positive meaning political instability and war increases the spread of infectious diseases.

Estimation Method

Since the study involved a panel of 50 countries, the use of a panel data estimation technique was suitable. Specifically, we adopted the dynamic panel estimation technique applying the GMM version. GMM is superior to other panel estimation methods such as pooled OLS and fixed-effects and random-effects models, owing to its unique features of tackling the presence of both country- and time-specific effects and using lagged variables to resolve endogeniety problems in the model (Arellano & Bond, 1991). The dynamic panel regression is specified in equations 1 and 2. The models are characterised by two sources of persistence over time: (i) autocorrelation due to the presence of lagged dependent variables among the regressors and (ii) individual effects characterising the heterogeneity among individuals. GMM also applies two basic post-estimation specification tests: (a) the Sargan test for the validity of instruments used to overcome the endogeniety problem with the null hypothesis that over-identification restrictions are valid and (b) the Arellano–Bond test for residual serial correlation of both order 1 and 2 with the null hypothesis of no autocorrelation (using the one-step and two-step GMM estimators). The former assumes an independent error term and presence of heteroskedasticity across countries, while the latter applies the residuals of the first step of the estimation to make a consistent variance and co-variance matrix assuming homoscedasticity does not hold (Ibrahim & Hook, 2014).

However, the above estimation method was found to be inefficient at dealing with the endogeniety problem, as pointed out by Blundell and Bond (1998), because the first difference GMM estimator neglects vital information in the level relationship and in the relations between the level and first differences. Indeed, the variables at level are weak instruments for their first differences and are a potential source of persistency. To curb this problem, Arellano and Bover (1995) and Blundell and Bond (1998), advocate a different approach known as system (GMM). The system GMM approach estimates both the level and the first difference regression as a system, by instrumenting the level regression with the lagged level variables. They argue that the system GMM estimator provides an improvement over the first difference GMM estimator when the dependent variable is highly persistent with the autoregressive term close to unity and the number of time periods is small. In light of the above, given the nature of our study with a few time periods and relatively large number of observations, coupled with the econometric issues highlighted above, this study therefore adopted the system GMM as its estimation technique. However, the results obtained using the two-step difference GMM are also reported for comparison purposes.

RESULT AND DISCUSSION

Estimation of the Impact of Institution on Health Care Expenditure and Infectious Diseases (Difference and System GMM)

Table 1 lnHEXP and HIVPR as Dependent Variables

Variables	MODEL 1		MODEL 2		MODEL 3	
	Diff.	Sys.	Diff.	Sys	Diff.	Sys
$lnHEXPC_{t-1}$	0.700***	0.785***	0.803***	0.810***	-	-
	(6.70)	(18.86)	(8.97)	(19.24)		
$HIVPR_{t-1}$	-	-	-	-	0.961***	0.942***
					(15.26)	(183.59)
$lnGDPC_{t-2}$	0.293	0.035	0.157	0.090**	-	-
	(1.26)	(1.04)	(0.79)	(2.49)		
$lnCP_{t-2}$	0.031	0.033	0.094***	0.030	-0.042	-0.049**
	(1.02)	(1.61)	(3.08)	(1.30)	(-1.60)	(-2.07)
$lnHCP_{t-1}$	-	-	-	-	-0.005	-0.010
					(-1.30)	(-0.47)
$POPG_{t-1}$	-	-	-	-	0.042	0.020
					(1.59)	(0.91)
$lnOPN_{t-1}$	0.061	0.145***	-0.244***	0.042	0.027	0.018
	(0.75)	(4.29)	(-3.18)	(1.35)	(0.84)	(1.06)
$COCRP_{t-1}$	0.014***	0.012**	-	-	-	-
	(3.64)	(3.47)				
$GEFTVS_{t-1}$	-	-	0.018*	0.014***	-	-
			(2.74)	(3.53)		

$PSAV_{t-1}$	-	-	-	-	0.010	0.010*
					(1.52)	(2.49)
Tdum2006	-0.024*	-0.032**	-	-	-	-
	(-1.71)	(-2.37)				
Tdum2007	-0.043**	-.041**	-	-	-	-
	(-3.21)	(-3.16)				
Tdum2008	-	-	-	-	-0.015**	-0.016*
					(-2.00)	(-2.66)
Tdum2009	-	-	-	-	-	-
Tdum2010	-	-	-	-	0.047*	0.026*
					(1.92)	(1.93)
SARGAN TEST	5.164	10.222	8.832	18.539	5.878	15.118
	(0.522)	(0.746)	(0.183)	(0.183)	(0.437)	(0.370)
AR (1)	0.0002	0.0002	0.0002	0.0001	0.7024	0.6881
AR (2)	0.3306	0.5251	0.2839	0.5068	0.2110	0.2409
Observation	345	396	345	396	346	397
No. of Group	50	50	50	50	50	50
No of Instruments	13	21	11	19	14	22

****, ** and *: significant at 1 percent, 5percent & 10percent respectively, values in parenthesis are t-Statistics. And lnHEXP=Health Care Expenditure per capita, HIVPR=prevalence of HIV, lnTBR=all forms of TB detection rate, lnGDPC= per capita GDP, lnCP= Capital, lnHCP= Human Capital, POPG=Labour and lnOPN= Trade Openness, GEFTVS= index of effectiveness of govt. COCRP= index of control of corruption and PSAV= index of political instability… Time dummy for 2006 - 2010 are statistically significant*

Discussion of Result

The main objective of this study is to examine the impact of institutions on health care expenditure and IDs with specific reference to HIV/AIDS. The result obtained from model 2 in Table 1 clearly shows that the institutional variable referred to as government effectiveness is positive and statistically significant at improving the quantity and quality of per person health care expenditure in Africa. However, looking at current per capita health care expenditure, the positive nature of this relationship could be interpreted as a backward trend where the low level of health care expenditure in Africa could be due to weak institutions. However, from the result obtained, the quality of institutions will contribute meaningfully to improving health care expenditure (resulting in an upward trend relationship). According to this result, a 10 unit increase in (index) government effectiveness will lead to a $0.14 increase in HEXPC in Africa after a minimum period of a year. This finding justifies our assertion that inefficient government and inefficiency in resource allocation and utilisation mitigates the performance of health care expenditure towards the provision of population health care infrastructure in Africa. Moreover, the poor contribution of health care expenditure contributes to poor labour productivity performance in the region. This finding confirms the earlier empirical findings of Acemoglu and Robinson (2010) and Siddiqui and Ahmed (2013).

In the same vein, the coefficient of control of corruption as another institutional input presented in model 2 showed a positive and statistically significant impact of institution on HEXPC in Africa. According to the result, a 10 unit increase in the (index) of control of corruption in Africa will lead to a $0.12 increase in per capita health care expenditure. This could also be seen as another backward trend (low-level relationship) as referred to in model 2. This result confirms our conclusion that corruption is one of the factors affecting negatively the performance of health care expenditure in Africa. This revelation is in line with Knack and Keefer (1995) and Fisman and Gatti (2002). On the other hand, the study examined the role of institution not only on health care expenditure, but also on the spread of IDs. For example, the analysis of the impact of political instability, presence of war, and conflict on the HIV prevalence rate in Africa, which was presented in model 3, showed that a 10 unit increase in the (index) of political instability and war could lead to a 0.14 increase in HIV prevalence among the population aged 14–49 in Africa. Political instability has long been a common phenomenon in Africa. This situation has led to a proliferation of military bases and refugee camps across the region. The coefficient obtained in this estimation confirms that institutions contribute positively to the control of IDs such as HIV, TB and malaria in Africa. According to the dynamic analysis, the effect of political instability and war could start to manifest after a period of at least one year.

Meanwhile, the result depicted in the above tables confirms the importance of including time-specific effects in GMM analysis. The time dummy variables used are statistically significant, meaning that time is an important determinant in the variation among countries in terms of the role of IDs on labour productivity in Africa. The estimation including time dummy variables is presented in the appendix.

Robustness Checks Estimation of the Role of Institutions on Health care Expenditure and Infectious Diseases in Africa

To check the robustness of the above result, following Ibrahim and Hook (2014), another estimation was carried out, where some variables were removed (lnHCP, lnOPN, POPG) from some models, and different variables (lnGNI) were added to the equation and estimated. The result of the new estimation confirmed the earlier result in terms of both sign and significance. The results of the robustness checks are presented in Appendixes Section. The result obtained shows that country income level is statistically significant at influencing the level of health care expenditure, whereas model 3 in as in appendix shows that a 10 percent increase in country GNI will lead to a $0.18 percent increase in health care expenditure per person in Africa. However, in the other models as in appendix section, the role of GNI is insignificant for both health expenditure and IDs.

CONCLUSION AND POLICY IMPLICATION

Conclusion

This study also examined the role of institutions in improving both health care expenditure performance and the control of IDs in Africa, covering 50 panels of countries in Africa from 2002–2011. The results obtained from this study using endogenous growth theory and the system GMM estimation method showed that institutions are found to be an important instrument for achieving better health care expenditure in Africa. This was indicated by the coefficient of institutional quality index from the estimated result, where government effectiveness is positive and statistically significant at improving the quantity and quality of per person health care expenditure in Africa. At the same time, control of corruption, as another institutional input, has a positive and statistically significant impact on HEXPC in the region. However, the current situation in Africa showed a backward trend, where the low level of institutions results in a low level of impacts on health care expenditure and the spread of IDs. On the other hand, the result confirmed the impact of institutions on the spread of IDs. The coefficient obtained in this estimation confirms that institutions contribute positively to the control of IDs such as HIV, TB and malaria in Africa.

Policy Implication

Government effectiveness, control of corruption, and other institutional measures should be strengthened in Africa to improve health care resources management. Government at all levels in Africa should improve its delivery of services and formulate and implement sound policies and programmes that boost the morale of its people. Additionally, control of corruption should be made a major priority by government, as corruption affects the funding of social infrastructure such as health, which leads to the poor delivery of health care services to the population.

Political instability and conflict, on the other hand, should be minimized by governments in Africa, as the incidence of political instability, conflicts, and war can increase the spread of IDs such as HIV/AIDS and TB. During political instability and

war, people are exposed to poverty, sexual harassment from the military, malnutrition, a lack of medication, hunger, and other vices leading to the outbreak of diseases, especially malaria, HIV and TB. Therefore, to curtail this spread of IDs, African governments should avoid anything leading to political instability and war by adhering to the principles of social justice, accountability, and the rule of law.

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APPENDIX

ROBUSTNESS CHECK FOR THE ESTIMATION OF THE IMPACT OF INSTITUTION ON HEALTH CARE EXPENDITURE AND INFECTEOUS DISEASES

Variables	MODEL 1		MODEL 2		MODEL 3	
	Diff. GMM	SYS. GMM	Diff. GMM	SYS. GMM	Diff. GMM	SYS. GMM
$lnHEXPC_{t-1}$	0.708***	0.809***	0.790***	0.846***	-	-
	(6.71)	(18.00)	(8.28)	(19.96)		
$HIVPR_{t-1}$	-	-	-	-	0.957***	0.942***
					(14.71)	(183.59)
$lnGDPC_{t-2}$	0.291	0.015	0.187	0.058	-	-
	(1.26)	(0.42)	(0.91)	(1.63)		
$lnCP_{t-2}$	0.033	0.032	0.096**	0.028	-0.037*	-0.049**
	(1.15)	(1.48)	(3.26)	(1.20)	(-1.67)	(-2.07)
$lnHCP_{t-1}$	-	-	-	-	-0.005	-0.002
					(-1.28)	(0.47)
$POPG_{t-1}$	-	-	-	-	0.041	0.019
					(1.50)	(0.91)
$lnGNI_{t-1}$	0.012	0.015	-0.001	0.018*	0.002	-0.001
	(0.80)	(1.43)	(-0.09)	(1.78)	(0.29)	(-0.36)
$lnOPN_{t-1}$	0.054	0.136***	-0.259**	0.039	-	-
	(0.68)	(4.06)	(-3.16)	(1.21)		
$COCRP_{t-1}$	0.013***	0.012**	-	-	-	-
	(3.55)	(3.26)				
$GEFTVS_{t-1}$	-	-	0.017*	0.012**	-	-

			(2.64)	(2.58)		
$PSAV_{t-1}$	-	-	-	-	0.010*	0.014**
					(1.72)	(2.99)
Tdum2006	-0.026***	-0.035*	-	-	-	-
	(-1.97)	(-2.78)				
Tdum2007	-0.044***	-0.045**	-	-	-	-
	(-3.36)	(-3.37)				
Tdum2008	-	-	-	-	-0.015**	-0.016**
					-2.00)	(-2.73)
Tdum2009	-	-	-	-	-	-
Tdum2010	-	-	-	-	0.047*	0.027**
					(1.92)	(1.98)
SARGAN TEST	5.088	10.051	9.145	19.100	5.878	16.117
	(0.5326)	(0.758)	(0.166)	(0.161)	(0.437)	(0.306)
AR (1)	0.0002	0.0002	0.0002	0.0002	0.7024	0.6803
AR (2)	0.3848	0.6376	0.2522	0.6625	0.211	0.2183
Observation	345	396	345	396	346	397
No. of Group	50	50	50	50	50	50
No of Instruments	14	22	12	20	14	22

****, ** and *: significant at 1 percent, 5percent & 10percent respectively, values in parenthesis are t-Statistics. And lnHEXPC=Health Care Expenditure per capita, HIVPR=prevalence of HIV, lnTBR=all forms of TB detection rate, lnGDPC= per capita GDP, lnCP= Capital, lnHCP= Human Capital, POPG=Labour and lnOPN= Trade Openness, GEFTVS= index of effectiveness of govt. COCRP= index of control of corruption and PSAV= index of political instability… Time dummy for 2006 - 2010 are statistically significant*

The Impact of Tourism Service Quality on Satisfaction

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ABSTRACT

The purpose of this study is to examine the relationship between tourism service quality with overall satisfaction, intention to revisit and willingness to recommend to relatives and friends. This study is significant in at least two ways. First, it extends the work of Rimmington and Yuksel (1998). Second, it provides information to multiple government agencies on ways to improve satisfaction among tourists. Data was collected from foreign tourists who visited Kuala Lumpur. A total of 199 completed questionnaires were received. There are three notable findings. First, there is a significant relationship between accommodation service quality, hospitality, entertainment, transportation, taxi service quality and overall satisfaction. Second, there is significant relationship between overall satisfaction and intention to revisit Kuala Lumpur. Third, there is significant relationship between overall satisfaction and willingness to recommend Kuala Lumpur to friends and relatives.

Keywords: Tourism Service Quality, Overall Satisfaction, Intention to Revisit, Willingness to Recommend

-Requested by author not to be published as full paper-

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The Role of Oil Price and US Economy on Thai's Macroeconomy vs. Monetary Transmission Mechanism

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ABSTRACT

This article investigates the monetary transmission mechanism alongside oil price and the US industrial production, as two causes of recent crisis, during pre-and post-crisis of 2007-2009 in Thailand. Monetary transmission mechanism barely has an effect on consumer price index and industrial production while oil price strongly affects both industrial production and consumer price index and the *US* industrial production robustly influences consumer price index during pre-crisis. However, oil price and the US industrial production greatly lose their effects on consumer price index and industrial production after the crisis period, the oil price is still mostly explains the variation of the consumer price index. The stock price is the most effective on industrial production during post-crisis period.

Keywords: Monetary Transmission, External Shocks, Global Financial Crisis, Oil Price, US Economy

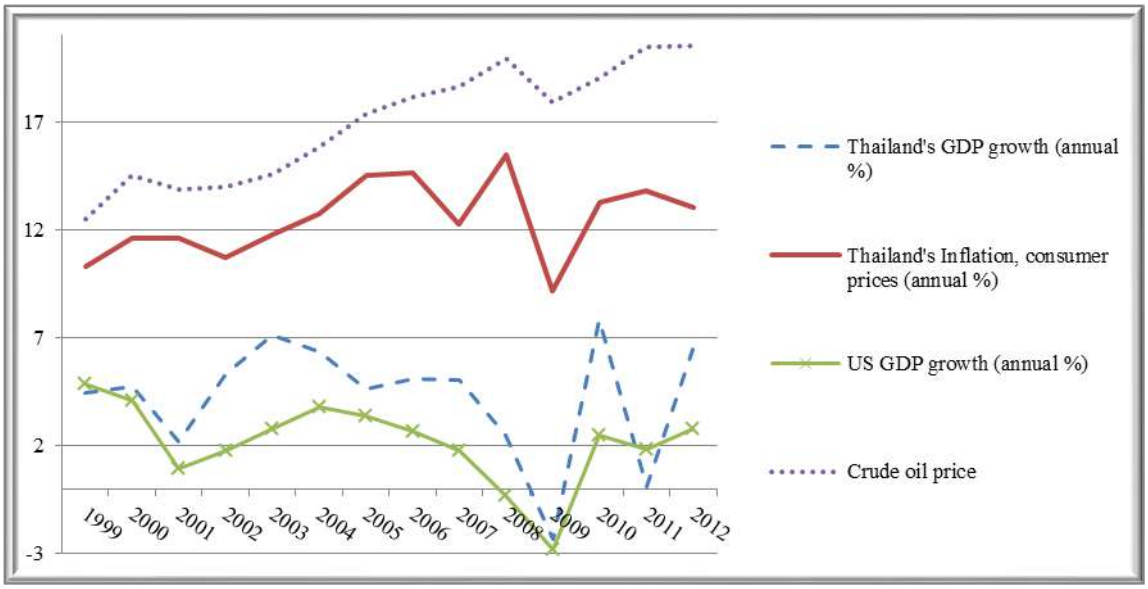
INTRODUCTION

Although many studies dedicate to evaluate the monetary transmission mechanism, a limited number of them investigate this mechanism in the face of economic crises. Effectiveness of the monetary transmission mechanism becomes more pronounced when the economy confronts with a crisis originating from external factors outside policy making decisions. In such circumstances, if the monetary transmission mechanism is in proper efficiency, it can reduce the negative effects caused by external crises and plays a more prominent and positive role against the negative role of external shocks. Global crisis of 2007-2009 that began in US and spread to other developed and emerging countries have left a deep economic recession during those years (Helbling, Huidrom, Kose, and Otrok, 2011).

This study considers the effectiveness of the channels of monetary transmission mechanism on output and prices, as measurements of monetary policy objectives of sustainable growth and price stability, in Thailand. The research seeks

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the effectiveness of this mechanism against external factors causing the crisis during pre-and post-crisis. Although investigation of the role of US economy as the source of the recent crisis is crucial, consideration of oil price, as the factor behind on most of economic fluctuations, is also valuable (Cuñado and Pérez de Gracia, 2003; Hamilton, 1983, 2011), therefore the external variables include oil price and US output as a proxy of US economy (Ruiz and Vargas-Silva, 2010, p. 176). The co-movements of GDP growth and inflation of Thailand in Figure 1 with US growth and oil price confirms the important role of oil price and US output in domestic fluctuations.



Source: The data are collected from world bank (world development indicators)

Figure 1 The Coincidence between GDP Growths, Oil Price and Inflation

This study utilizes the endogenous structural break test of Zivot and Andrews (1992) for splitting the sample into pre-and post-crisis. Zivot-Andrews test endogenously detect the most important time of the structural break on individual series so it can be determined whether the global crisis is the most important factor in a structural break of time series. Although few studies have explored the concurrency between structural break with the recession of 2007-2009 such as (Aly and Strazicich, 2011; Didier, Hevia, and Schmukler, 2012), recent studies have mostly considered a structural break during the recession of 1997-98 (Goh, Wong, and Kok, 2005; Loganathan, Yussof, and Kogid, 2012; Valadkhani and Chancharat, 2008). This study covers the gap in the literature by looking into structural break of the system variables during the global crisis of 2007-2009. The determination of the structural breaks in the different monetary and economic variables of this study provides a comprehensive assessment of the sensitivity of the economic variables to changes in global variables. This method indicates which variable is more sensitive to global changes and requires more attention.

This research investigates the monetary transmission mechanism with a new angle of view due to differences between recent crisis and other crisis, for instance this crisis was global, not regional. Evaluation of efficiency of monetary transmission mechanism before and after the crisis specifies practical points about how to deal with global economic events.

Overall, this research is different with studies conducted in the monetary transmission mechanism, especially in Southeast Asian countries, in several ways. The majority of researches in the monetary transmission mechanism in the Asian countries have focused on investigating one or two channels of the monetary transmission mechanism, i.e. (Karim, Harif, and Adziz, 2006; Wulandari, 2012) while this research investigates the efficiency of four channels of monetary transmission mechanism includes: interest rate, exchange rate; credit and asset price (stock price). The evaluation of the efficiency of the transmission mechanism of monetary policy concerning recent crisis has not been conducted in Asian countries. The consideration of the effect of the two factors causing the global crisis, oil price and US economy, in company with the transmission mechanism of monetary policy on economy demonstrates the strengths and weaknesses of the monetary transmission mechanism in the face of global crises.

This article seeks to achieve two fundamental questions. First, has the monetary transmission mechanism been able to protect the economy against fluctuations resulting from external crises before the crisis? Which channel has had the highest efficiency? Second, has it increased the role of the monetary transmission mechanism against volatility caused by external shocks after the crisis? Whether there have been any improvements in the efficiency of the monetary transmission mechanism channels. In general, to what extent is the protective power of the monetary transmission mechanism against external shocks?

LITERATURE REVIEW

Comparison between the monetary transmission mechanism before and after a specific economic event can help to employ optimal monetary policies. Evaluation of money and credit in both pre-and post-financial liberalization in Malaysia was the subject of (Azali, 2001; Azali and Matthews, 1999). Çatik & Karaçuka (2012) used TVAR methodology and monthly data from 1986 to 2010 to find the importance of the credit channel under pre-and post-inflation targeting regime in Turkey. The study statistically found the break date in inflation on 2003-M11 that was correspondent with the date of employing inflation targeting. The results showed interest rate channel and credit channel was strong in stabilizing the prices after the time of the inflation targeting; although the credit volume was not influenced by monetary shocks. Several researches considered monetary transmission mechanism before and after the Asian crisis of 1997-98 (Disyatat and Vongsinsirikul, 2003; Hesse, 2007; Raghavan & Silvapulle, 2008; Raghavan, Silvapulle and Athanasopoulos, 2012).

Cukierman (2013) using the data of USA from 1999-M1 until 2012-M3 found the possibility of the relation between high inflation with rising rate of credit in economy. He concluded that the effects of the monetary transmission mechanism to prices during time of crisis is weaker than that of the other times and it depends to the financial system status. The variables used in this article included industrial

production, consumer price index, narrow money, interbank rate, total Volume of credit, oil price, US industrial production, federal fund rate and US$/Turkish Lira exchange rate. In an attempt to find the effectiveness of the monetary transmission over time Weber, Gerke and Worms (2011) employed VAR to find the changes in monetary transmission before and after the structural break in the euro area. The study discovered the break point at 1996 by using the quarterly data from 1980-Q1 until 2006-Q4 and split the data on two periods before and after 1996-Q1. The results indicated there were no differences in monetary transmission pre-and post-structural break according to the responses of variables to interest rate shocks. The data were employed in this research include real GDP, GDP deflator, household housing wealth, interest rate, non oil commodity price, US interest rate. Laopodis (2013) discovered the relationship between federal fund rate and stock price by using the data from 1970 until 2005. The study tested the structural break and determined the relationship between interest rate and stock market by using VAR methodology and 6 variables. The study separated the data according to structural breaks in federal fund rate into in three samples; 1970-M1 until 1979-M8, 1979-M8 until 1987-M8 and 1978-M8 until 2005-M12. The purpose of dividing the data based on the interest rate was the classification according to the different monetary policy regimes. The results showed the asymmetric response of the stock market to monetary policy between two different periods.

DATA

This study covers monthly data from2002M1 to 2013M4. Vector of variables are defined as follows:

$$y_t = [int \quad m2 \quad cpi \quad ip \quad oil \quad USip \quad dc \quad eer \quad sp]$$

Where *int* represents interest rate, *m2* is broad money, *cpi* indicates consumer price index, *ip* symbolizes industrial production, *USip* is a sign of the US industrial production as a proxy of the US economy, *dc* stands for domestic credit and *sp* denotes stock price. More details about the variables are listed in Table 1. All variables except interest rate are used in logarithmic form and in level since this study is based on Kim and Roubini (2000) which built on Bayesian inference. According to Sims (1988) unit root test is not as important as it is in econometrics especially when Bayesian inference is employed. VAR in level is common in monetary policy studies, i.e. (Smets and Peersman, 2001 and Uhlig, 2005)

Table 1 Description of Variables

Label	Descriptions
int	Interest rates: money market rate
m2	Broad money
oil	World commodity prices: crude oil
USip	US industrial production - total index
ip	Manufacturing production index
cpi	Consumer price index
dc	Depository corporations survey: claims on private sector
eer	Effective exchange rate
sp	Share prices, total

Source: The data are collected by Thomas DataStream

This study divides the sample into the periods before and after the crisis by testing the structural break of each variable according to Zivot and Andrews (1992) instead of joint variables. Zivot-Andrews test endogenously detect the most important time of the structural break on individual series so it can be determined whether the global crisis has affected the variables of interest to the extent of undertaking the structural break. The study improves the performance of VAR by omitting observations with structural break during the economic crisis of 2007-2009. According to Hassani, Heravi and Zhigljavsky (2009) the existence of a structural break in the series reduces VAR performance and diminishes quality of forecasting. Several studies split the sample based on tests of structural break of each series (Baek and Koo, 2010; Bayrak and Esen, 2013; Narayan, 2004; Okunev, Wilson, and Zurbruegg, 2002; Pala, 2013). A similar process for splitting sample is carried out by Gerlach, Wilson and Zurbruegg (2006). Table 2 presents the results of three models of Zivot-Andrews test, intercept, trend and both intercept and trend (in this research the pre-crisis period ends with the first statistically significant date of structural break during 2007-2009 while post-crisis period starts with the last statistically significant date of structural break during 2007-2009). 2008:01 is the first statistically significant date of structural break and 2008:10 is the last one during 2007-2009 so the pre-crisis period starts from 2002-01 until 2007:12 and post-crisis 2008:11 until 2013:04.

Table 2 Zivot-Andrews Test

variable	Intercept	Trend	Both (intercept and trend0
op	-5.75(2008:08)***	-3.95 (2007:11)	-5.68 (2008:08)***
USip	-6.44 (2008:08)***	-2.88 (2004:11)	-6.97 (2008:08)***
ip	-5.15 (2011:10)**	-4.69 (2008:01)**	-4.70 (2007:09)
cpi	-5.13 (2008:10)**	-3.74 (2008:02)	-5.11 (2008:10)**
M2	-2.40 (2010:10)	-3.94 (2009:08)	-4.71 (2008:01)
int	-4.58 (2008:10)*	-2.82 (2005:11)	-4.42 (2008:10)
eer	-3.12 (2006:06)	-2.57 (2004:07)	-3.41 (2006:01)
dc	-5.04 (2010:10)	-4.64 (2010:05)***	-1.89 (2010:01)
sp	-2.56 (2007:08)	-3.16 (2010:02)	-5.02 (2008:06)*

Notes: ***, ** and * show the significant level at 1% and 5% and 10%, break dates are in blankets

MODEL AND IDENTIFICATION

The central part of monetary transmission research is considering the response of economic variables to monetary policy shocks so the VAR models are especially useful to find the reply of real variables to exogenous shocks. In spite of all the benefits of the VAR approach in economic research, the independence property of VAR to economic theory leads to the emergence of structural VAR approach. Once the restrictions are successfully done, the SVAR model is able to map out the systematic dynamics to shocks and identify the relationship between variables, and then it transmits the shocks of monetary policy to other variables in the system. The wide-ranged theoretical restrictions in SVAR make this model well-matched to different economic theories (Gottschalk, 2001; Keating, 1992). The SVAR models are also preferable to VAR in monetary transmission studies because the identification of Choleskey decomposition in the VAR models based on partial identification (Elbourne, 2008).

This research employs the Kim and Roubini (2000) model to achieve its objectives. Besides the suitability of SVAR of Kim and Roubini (2000) for small open economies and solving the puzzles of VAR models, the objective of considering external shocks causing the crisis alongside monetary policy transmission in this study are in agreement with the model of Kim and Roubini (2000). One goal of this study is to investigate the transmission mechanism of monetary policy before and after the crisis caused by impacting of external variables on the economy. The contemporaneous relationship between external and internal variables in structural VAR of Kim and Roubini (2000) gives the possibility to evaluate the effectiveness of monetary transmission mechanism in the face of another similar crisis. It also allows evaluating policies in times of crisis. If policies implemented in time of crisis are successful in decreasing the sensibility of the

internal variable to external shocks, the economy should not show strong reactions to shocks in exogenous variables after structural break.

Equation (1) represents the reduced form of vector autoregressive.

$$\mathcal{A}_0 X_t = \mathcal{A}(L)\, X_{t-1} + v_t$$

(1)

X_t : Vector of endogenous variables

X_{t-1} : Vector of lagged valued

v_t : Vector of error terms

values for parameters is impossible. The reduced form of VAR can be estimated as:

$$X_t = \mathcal{C}(L)\, X_{t-1} + u_t$$

(2)

$\mathcal{C}$(L) =$\mathcal{A}_0^{-1}\mathcal{A}(L)$ matrix of coefficient of lagged variables, $u_t = \mathcal{A}_0^{-1}\varepsilon_t$ vector of

residuals that are connected to the structural shocks and is observed so

$$\varepsilon_t = \mathcal{A} u_t$$

(3)

Equation (3) is employed for deriving the relationship between variance-covariance of u_t that is observed and ε_t that is not observed.

$$\Omega = \begin{bmatrix} {\sigma_1}^2 & \sigma & . & . & . & \sigma_{1n} \\ \sigma_{21} & {\sigma_2}^2 & . & . & . & \sigma_{2n} \\ \sigma_{31} & . & . & . & . & . \\ . & . & . & . & . & . \\ . & . & . & . & . & . \\ . & . & . & . & . & . \\ \sigma_{n1} & \sigma_{n2} & . & . & . & {\sigma_n}^2 \end{bmatrix}$$

(4)

Each factor of Ω can be calculated as; $\sigma_{ij} = 1/\mathrm{T}\sum_{t=1}^{T} u_{it}\,\sigma_{jt}$.The above variance-covariance contains (n^2+n)/2 distinct elements, $\mathcal{A}$ contains $n^2 - n$ unknown valus and $var\varepsilon_{ij}$ contains *n* unknown so $n^2 - n + n = n^2$ unknown and (n^2+n)/2 known therefore $n^2 - \frac{n^2+n}{2} = \frac{n^2-n}{2}$ restrictions on the system. The model of 9 variables of this research must include at least 36 restrictions to be identified.

The following matrix demonstrates the restrictions imposed on the system based on $\varepsilon_t = \mathcal{A}u_t$.

$$\begin{matrix}\varepsilon_{oil}\\ \varepsilon_{usip}\\ \varepsilon_{ip}\\ \varepsilon_{cpi}\\ \varepsilon_{m}\\ \varepsilon_{int}\\ \varepsilon_{dc}\\ \varepsilon_{eer}\\ \varepsilon_{sp}\end{matrix} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ \alpha_{21} & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ \alpha_{31} & \alpha_{32} & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ \alpha_{41} & 0 & \alpha_{43} & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & \alpha_{53} & \alpha_{54} & 1 & \alpha_{56} & 0 & 0 & 0 \\ \alpha_{61} & 0 & 0 & 0 & \alpha_{65} & 1 & 0 & 0 & 0 \\ \alpha_{71} & 0 & \alpha_{73} & 0 & 0 & \alpha_{76} & 1 & 0 & 0 \\ \alpha_{81} & \alpha_{82} & \alpha_{83} & \alpha_{84} & \alpha_{85} & \alpha_{86} & \alpha_{87} & 1 & 0 \\ \alpha_{91} & \alpha_{92} & \alpha_{93} & \alpha_{94} & \alpha_{95} & \alpha_{96} & \alpha_{97} & \alpha_{98} & 1 \end{bmatrix} \begin{bmatrix} u_{oil} \\ u_{usip} \\ u_{ip} \\ u_{cpi} \\ u_{m} \\ u_{int} \\ u_{dc} \\ u_{eer} \\ u_{sp} \end{bmatrix}$$

(5)

The first two variables, *oil* and *USip,* are exogenous variables that are included for two reasons, disconnecting the supply side shocks from monetary policy shocks and their role on global crisis. The industrial production of the US as a proxy of the US economy is included because of the high trade relationship between two countries and the role of the US economy in recent crisis of 2007-2009.

cpi and ip are supply and demand that illustrate the equilibrium in commodity markets. The production is not affected by prices due to the unavailability of monthly inflation data, but the oil price as a factor influencing on inflation expectation impact on industrial production and *CPI* within a month. Increase or decrease in production during the month affects the price. The high trade volume between Thailand's economy as small open country and the US causes the US output affect the Thailand industrial production at any point in time.

m and int indicates the money demand and money supply. Money demand is affected by short-run interest rate, inflation and output as the theory indicates. Money and oil price enter inflation targeting reaction function of Thailand instead of production and inflation because of unavailability of the information about inflation and production within a month these variables go through the monetary reaction function.

$dc,$ Domestic credit, contemporaneously reacts to the shocks of industrial production (Wulandari, 2012), inflation and policy rate. The real cost of credit (real interest rate) is an important factor for borrowers.

eer and SP are effective exchange rate and stock market index. Similar to Kim and Roubini the exchange rate is an arbitrage equation that shows the financial market equilibrium. The forward looking property of exchange rate and asset price makes them sensitive to the news so all the variables in the system affect them; however, the research assumes the one way contemporaneous effect of exchange rate on asset price. The study of Li, İşcan, and Xu (2010) is an example in which the stock price is contemporaneously affected by shocks of other variables. Wongbangpo and Sharma (2002) found the impact of exchange rate on the stock returns in ASEAN countries. Liang, Lin, and Hsu (2013) achieved the same results by reexamining the relationship between stock index and exchange rate in ASEAN-5 countries.

EMPIRICAL RESULT

Contemporaneous Relationship between Variables

Before proceeding, it should be noted that the VAR model consist of three lags for pre-crisis period and two lags for post-crisis period. These results rooted in outcomes of AIC, BIC and LR test and least serial correlation in residuals. Such a procedure is applied in studies of Buckle, Kim, Kirkham, McLellan, & Sharma (2007) and Voss (2002) for finding the lag length (refer to Appendix for more information).

The contemporaneous coefficients of the relationship between the variables of the system in Table 3 indicate the contemporaneous effect of oil price on *cpi* of pre-crisis. *m2* of pre-crisis period positively and interest rate of post-crisis period negatively impact on exchange rate that denotes the efficiency of monetary policy on exchange rate. Domestic credit of post-crisis period significantly and negatively affects this variable too. The contemporaneous correlation between variables shows the positive and significant effect of *m2*, industrial production, domestic credit and exchange rate as well as negative and significant effect of interest rate on stock price during pre-crisis period. The oil price and domestic credit significantly affect stock

price during post-crisis period. The bigger values of exchange rate for both periods show the exchange rate is an important factor affecting stock price and does not lose this property by crisis. The likelihood ratio of over-identifying restrictions (Chi-Squared) are not rejected for both periods.

Table 3 Contemporaneous coefficients in structural VAR: Thailand

Dependent variable	Independent variable	Pre-crisis	Post-crisis
int	*m2*	-16.771	25.480
		(25.735)	(19.556)
	oil	-0.117	-0.214
		(0.380)	(0.542)
m2	*int*	0.055	-0.112
		(0.050)	(0.103)
	cpi	-0.533	2.128
		(0.390)	(1.359)
	ip	0.035	-0.047
		(0.055)	(0.047)
cpi	*ip*	0.032	0.000
		(0.025)	(0.007)
	oil	0.025***	0.007
		(0.007)	(0.007)
ip	*oil*	-0.068	0.000
		(0.048)	(0.195)
	USip	-0.248	2.824
		(0.655)	(2.232)
USip	*oil*	-0.033***	0.033*
		(0.011)	(0.013)
dc	*int*	-0.000	-0.003
		(0.012)	(0.006)
	ip	0.040	0.028***
		(0.071)	(0.009)
	Oil	0.020	0.007
		(0.019)	(0.009)

eer	*int*	-0.012	-0.027*
		(0.012)	(0.017)
	m2	0.359*	0.252
		(0.211)	(0.263)
	cpi	0.177	-0.482
		(0.442)	(0.728)
	ip	-0.099	0.011
		(0.064)	(0.029)
	oil	-0.021	0.0178
		(0.024)	(0.028)
	USip	0.203	0.272
		(0.253)	(0.351)
	dc	-0.094	-1.312 ***
		(0.155)	(0.479)
sp	*int*	-0.118*	0.075
		(0.064)	(0.058)
	m2	2.082**	0.962
		(1.019)	(0.908)
	cpi	1.900	2.006
		(2.387)	(2.214)
	ip	0.623*	0.033
		(0.369)	(0.103)
	oil	0.164	0.232**
		(0.134)	(0.095)
	USip	-1.665	-1.230
		(1.272)	(1.086)
	dc	1.696**	2.308
		(0.828)	(1.722)
	eer	2.641***	1.757***
		(0.854)	(0.601)
Chi-Squared		8.166	3.702
		[0.417]	[0.882]

Notes: ***, ** and * show the significant level at 1%, 5% and 10%, break dates are in blankets

The Effects of Monetary Transmission Mechanism and External Variables on *cpi*

Figure 2 represents the responses of price index of Thailand to positive shock to each of the four variables of monetary transmission and foreign variables. Significant changes in *cpi* to positive shock in each of the four channels of monetary transmission except stock price before the crisis period is small compared to the after the crisis period. Following a positive shock in interest rate and exchange rate, the price is reduced during post-crisis period. The prices rise in response to a positive shock to credit and stock index during post-crisis. Price responses to positive shocks in exogenous variables indicates the efficiency of oil price changes on domestic prices during both periods, while the US industrial production loses its impact on prices after the crisis period. Responses of price are positive whether increase occurs in the US industrial production or in oil price.

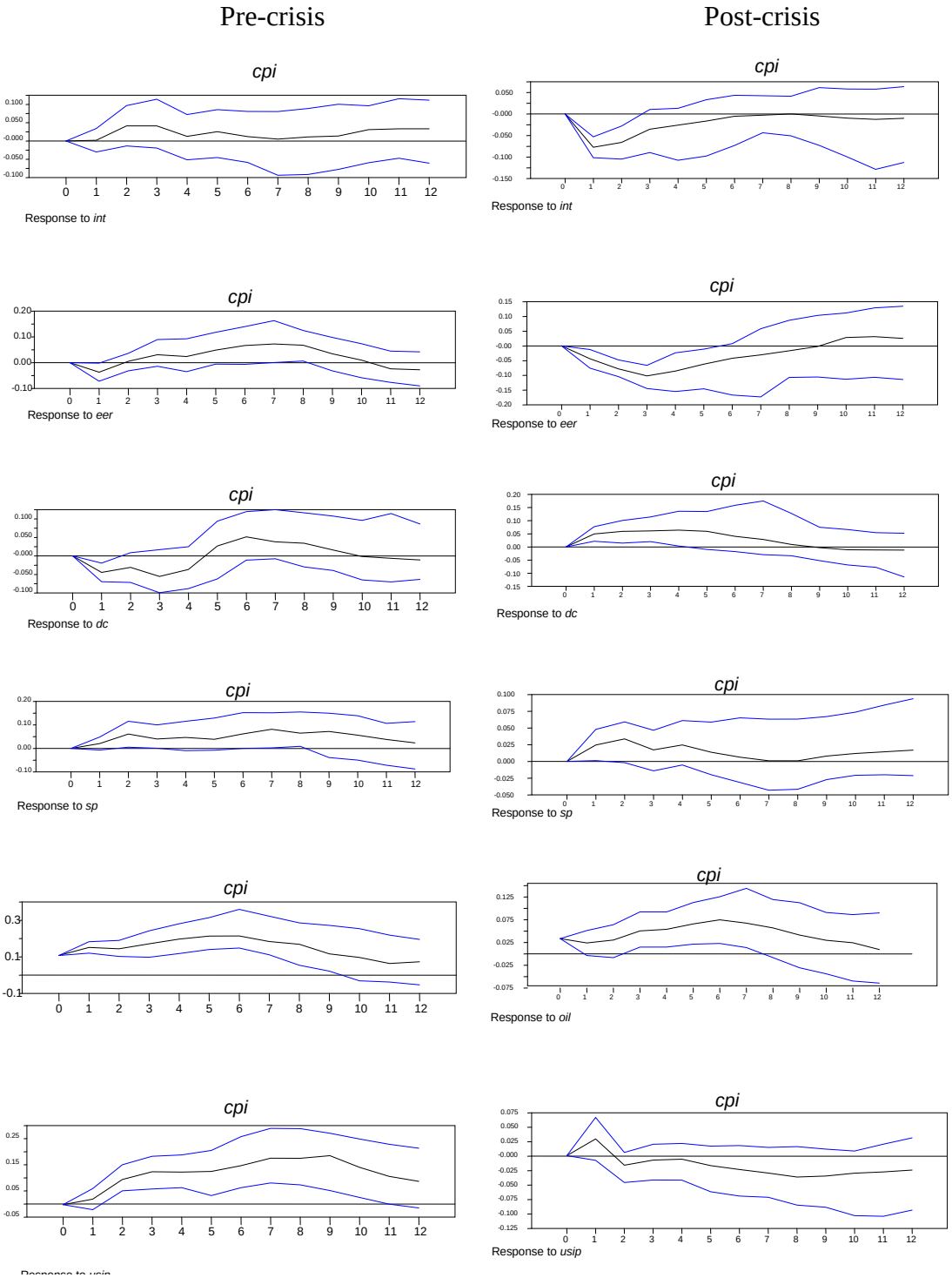


Figure 2 Responses of *cpi* to the shocks of internal and external variables

Variance decomposition in Table 4 demonstrates that before the crisis period, domestic variables did not substantially at all impact on the prices while exogenous variables explained up to 60% of the price volatility. After the crisis period, there is a significant increase in impacting of the variables of monetary transmission

mechanism except stock price on consumer price index; although a considerable reduction in the impact of exogenous variables on prices is also noticeable. However, the share of oil price in price volatility has dropped after crisis period compared to before crisis period, it is still an effective factor on domestic prices. Oil price accounts maximum 24% of price fluctuations after the crisis. Overall, the results suggest that policy maker can use the monetary transmission mechanism to restrain the prices after crisis period. Interest rate and exchange rate are the two instruments that can be effective in lowering the prices.

Table 4 Variance decomposition of *cpi*

Month	Pre-crisis						Post-crisis					
	int	*eer*	*dc*	*sp*	*oil*	*USip*	*int*	*eer*	*dc*	*sp*	*oil*	*USip*
0	0.00	0.00	0.00	0.00	21.89	0.01	0.00	0.00	0.00	0.00	3.47	0.00
1	0.00	1.05	1.54	0.33	26.72	0.27	11.58	4.39	4.01	1.05	3.44	1.47
3	1.26	0.84	2.11	2.05	29.84	8.13	15.05	17.21	11.84	2.24	6.22	0.77
6	0.95	1.92	1.96	2.30	41.04	12.12	11.91	20.43	19.93	1.78	17.37	0.87
9	0.76	3.12	1.96	3.62	40.62	18.47	12.03	18.75	20.49	1.19	23.35	1.24
12	1.13	2.90	1.81	3.59	39.95	20.92	13.52	17.89	19.68	0.97	24.05	1.91

The Effects of Monetary Transmission Mechanism and External Variables on *ip*

Industrial production in response to a positive shock to each of the domestic variables significantly increases for only one or two months during pre-crisis period in Figure 3. The fall in significant responses of industrial production to increases in interest rate and exchange rate and the rise to domestic credit and stock price happen as it is expected during post-crisis period. These results for responses to interest rate and stock price occur in initial months while to effective exchange rate and domestic credit in middle months. Both external variables influence the industrial production in the period zero; however the response to *USip* is statistically meaningless for the rest of the year. Industrial production in response to a rise in oil price, after the immediate reduction, begins to increase until the second month and thereafter declines during pre-crisis. There is a similar move after crisis; although the response is significant only for the first and third month.

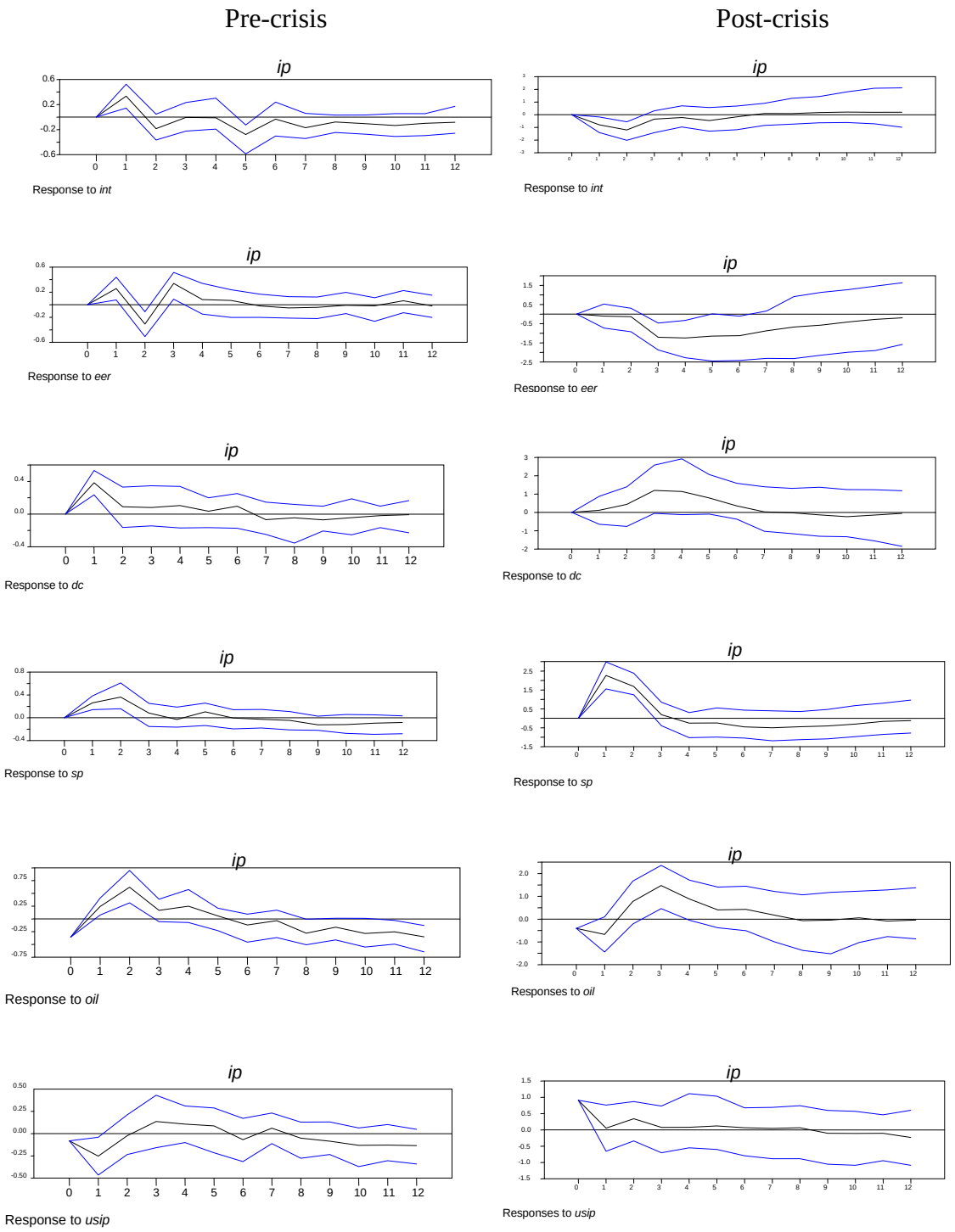


Figure 3 Responses of industrial production to the shocks of internal and external variables

The variance decompositions in Table 5 indicate the more important role for exchange rate among variables of monetary transmission in explaining *ip* fluctuations; although the values of stock price and interest rate are close to exchange rate during pre-crisis period. The maximum decomposition of variance for each of the four channels is between 6-8%, so none of them can be considerable as an effective factor among domestic variables during pre-crisis period. Oil price with accounting for maximum 24% of fluctuation in industrial production before the crisis period is foremost factor affecting production. After crisis, the stock price explains 17% of the volatility for industrial production at the peak in the third month, and is the most important factor affecting the production between all internal and external variables.

Table 5 Variance decomposition of industrial production

Month	Pre-crisis						Post-crisis					
	int	*eer*	*dc*	*sp*	*oil*	*USip*	*int*	*eer*	*dc*	*sp*	*oil*	*USip*
0	0.00	0.00	0.00	0.00	7.34	0.37	0.00	0.00	0.00	0.00	0.98	1.75
1	4.53	2.70	6.01	2.79	7.63	2.88	1.07	0.09	0.11	14.17	2.48	1.84
3	4.17	7.83	4.69	6.18	18.24	2.97	2.59	1.59	1.39	17.47	4.58	1.56
6	6.23	7.85	4.40	6.09	18.94	3.18	2.49	4.73	3.67	15.40	6.11	1.73
9	6.97	7.48	4.23	6.10	20.44	3.12	2.47	7.36	4.07	14.80	5.82	1.83
12	7.12	6.66	3.76	6.09	24.13	3.67	2.34	9.02	4.41	14.52	5.58	1.88

CONCLUSION

The purpose of this paper is to investigate the monetary transmission mechanism in Thailand with regard to the recent economic crisis of 2007-2009. This article studies the monetary transmission mechanism against oil price and the US industrial production, as the international two factor stressors, during pre-and post-crisis of 2007-2009. The comparison between the monetary transmission mechanism and external factors affecting the prices reflects the high impact of oil price and the US industrial production versus slight effect of monetary transmission mechanism on prices during pre-crisis period. After the crisis, while there is significant reduction in the effects of external variables and increase in the effect of internal variables excluding the stock price on prices, oil price is still a determining factor on price volatility. Monetary transmission mechanism via interest rates and exchange rate can impact on prices during post-crisis period. In the case of industrial production, such as the prices, oil price plays essential role in the fluctuation of industrial production while the role of transmission mechanism of monetary policy and the US industrial production is not significant before the crisis period. After the crisis, the monetary transmission mechanism is capable to affect industrial production through stock price and the impact of oil price greatly reduces.

As a general conclusion from the results of post-crisis period, monetary policy in Thailand can take advantage of stock price and exchange rate to affect production and prices. The results imply, on one hand, the stock price as effective channel on industrial production connect positively with the response of industrial production and on the other hand, exchange rate and oil price positively and contemporaneously influence stock price. The monetary authority must be aware of the positive relationship between domestic exchange rate and stock price because of the reduction in domestic currency with the aim of increasing production can be along with a negative impact on industrial production due to decrease in stock price. Since exchange rate mostly affect consumer price index with negative relationship and according to impulse response the effect of exchange rate on industrial production is not much significant, appreciation of domestic exchange rate can reduce the prices and increase the industrial production through stock price. The monetary authority of Thailand can also make the use of positive effect of domestic credit on price index. The decrease in domestic credit can be along with the decrease in price index.

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Appendix 1 VAR lag selection: pre-crisis

Thailand

AIC	SBC/BIC	HQ	LR
-2163.41	-2144.01	-2155.93	0
-3268.47*	-3103.9*	-3223.18*	1299.33
-3153.68	-2918.65	-3145.12	154.01
-2939.92	-2762.06	-3095.82	182.78*
-2520.04	-2646.44	-3087.47	223.73
-1587.24	-2600.38	-3148.69	293.30

Appendix 2 Serial correlation: multivariate portmanteau statistic for pre-crisis

lags	1	3
1	61.66478	50.09724
	(0.94594)	(0.99726)
2	145.8971	94.12192
	(0.81293)	(1.00000)
3	231.8042	163.8094
	(0.68634)	(0.99997)
4	326.3356	268.6118
	(0.45315)	(0.98891)
5	407.3605	341.5393
	(0.45771)	(0.99021)
6	527.6758	458.0678
	(0.09315)	(0.8386)
7	634.0761	538.3151
	(0.02631)	(0.80143)
8	709.2878	612.7702
	(0.04747)	(0.83604)

Appendix 3 VAR lag selection for post-crisis

lags	AIC	SBC/BIC	HQ	LR
0	-1667.82	-1651.03	-1661.68	0
1	-2456.8437*	-2330.3884*	-2436.94	996.2368
2	-2309.73	-2194.37	-2396.82	180.859655*
3	-1971.64	-2137.08	-2435.42	259.5747
4	-893.219	-2174.14	-2568.3794*	353.935

Appendix 4 Serial correlation: multivariate portmanteau statistic for post-crisis

lags	1	2	4
1	80.13744	56.82392	183.2091
	(0.50621)	(0.98107)	(6.95427e-010)
2	163.77982	130.05221	310.91886
	(0.44610)	(0.96922)	(1.85186e-011)
3	252.5975	228.27055	432.22455
	(0.32279)	(0.74271)	(9.01340e-013)
4	355.2829	323.14021	520.01328
	(0.11172)	(0.50303)	(2.66284e-011)
5	449.0272	428.36703	645.18866
	(0.06458)	(0.20353)	(2.88899e-013)
6	528.5849	510.19354	769.29891
	(0.08864)	(0.21629)	(3.84824e-015)
7	602.97940	590.32048	890.93474
	(0.14314)	(0.24104)	(8.11868e-017)
8	697.2831	669.66347	994.57958
	(0.08785)	(0.26972)	(4.32967e-017)

Crude Palm Oil Market Volatility: Malaysian Evidence

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ABSTRACT

This study aims to examine the volatility of Malaysian Crude Palm Oil (CPO) market since it is apparent that market volatility has important implication to both investors and policy makers.This study adopted GARCH(1,1) model in examining the market volatility of Malaysian CPO commodity market. The result of the finding indicated that Malaysian CPO market exhibits persistent volatility as well as volatility clustering. The persistent volatility indicates that the percentage of market volatility is closer to unity while the volatility clustering provides useful information on every event of a shock. A more informed decision may be made with adequate understanding of the degree of volatility in the Malaysian CPO market. Hence,the essence of hedging in Malaysian CPO futures market is deduced through the result of the findings. This study is different from previous studies on Malaysian CPO market as the volatility of the market is examined in detail and the half-life decay of the market volatility is also quantified.

Keywords: Crude Palm Oil, Volatility, GARCH (1, 1)

INTRODUCTION

Malaysian crude palm oil (CPO) has been Malaysian major export commodity and contributing significantly to the Malaysian economic development. Malaysian CPO price also acts as a reference price for third countries trading palm oil. Malaysian CPO futures market has shown significant changes in their trading volume and open interest over the years. CPO is an agricultural commodity product traded in a standardized exchange – Bursa Malaysia Derivative Berhad (BMDB). Commodity market is perceived to be volatile thus risk hedging is very much anticipated (Kumar, Acharya and Babu, 2009).

Trading volume and open interest signify how active the trading of futures market is. Trading volume refers to the trading volume for a particular contract in a day while open interest is the total number of outstanding long or short contracts for a given contract month. Outstanding contracts are contracts that awaiting offset.

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BMDB recorded an average of 120,000 contracts monthly and 88,000 open interest as at the end of April 2006. These have increased to 400,000 monthly with open interest of 88,000 contracts as at December 2010[21].

Trading volume of CPO futures contracts continued to increase rapidly to 9,596,896 and the open interest to 214,065 in 2012[22]. Apparently, CPO futures contacts contribute the largest proportion of BMDB's revenue among other contracts available (Obiyathulla, 2012).

Would the impressive increase in the trading volume and open interest of Malaysian CPO market over the years affect the volatility of the Malaysian CPO futures market? Would the scenario influence the hedging activities in the market? With these questions posed, the study attempts to examine the volatility of Malaysian CPO market by using GARCH model and investigate whether the volatility influences hedging activities in Malaysian CPO futures market. For this purpose, the rest of the study is organised as follows. Next is a review of past literature related to this study and followed by an outline of the methodology employed. Later is the analysis of the findings and the final section concludes the study.

RELATED LITERATURE

Previous studies on market volatility examined both the financial and commodity markets. Commodity markets are assumed to be volatile hence both producers and consumers undertake hedging strategy in the commodity market to avoid price volatility that may erode returns (Sanjay et al., 2013). Literature recorded that price volatility not only increases production, search and opportunity cost but also accelerates risk and uncertainty thus contributing to slowdown in economic activities (Zheng et al., 2008; Alom, Ward, and Hu, 2012).

Crain and Lee (1996) argue that commodity market is volatile based on their study on wheat spot and futures market using daily data. Mad Nasir and Fatimah (1992) claim volatility of commodities price as salient features, nevertheless, have significant impact on global vegetable oil pricing such as palm oil. They believe that pricing in commodity market should be efficient for utilization of economic resources.

However, Morelli (2002) in his study on the relationship between UK stock market and macroeconomic volatility using monthly data from 1967 to 1995 finds that macroeconomic variables are unable to explain stock market volatility. He explains further that the selected macroeconomic variables are exhibiting neither short-run nor long-run relationship with the UK stock market. This may be due to other uncaptured variables that model do not include but has impact on the model. In general, macroeconomic variable(s) affect economy at large.

Meneu and Torro (2003) identify the existence of market volatility on spot–futures market in Spanish stock index for the trading period of 1994 to 2001. The study also concludes that volatility is more pronounced in the spot market compared to futures market. Spot market is proven to be the source of volatility and provides

[21]Source: Bursa Malaysia Website
[22]Retrieved on 29th May 2014 from http://www.futuresindustry.org/downloads/FI-2012_Volume_Survey.pdf

spillover effects to futures market. This implies that the volatility in the Spanish stock market as at the time of study is unidirectional.

Likewise, Fu and Qing (2006) examine the Chinese spot-futures market on both price efficiency and volatility. They apply the Johansen cointegration, long-run relationship between Chinese spot and futures price and bi-directional granger causation. The direction from futures market to spot market is found to be more significant indicating futures market playing a dominant role in determining the prices. The result also confirms volatility spillover from the two markets with the spillover from futures market to spot market being more significant. This indicates that volatility in the Chinese spot-future market is bidirectional.

Adding to that, Pati and Rajib (2011) examine the volatility of NSE S&P CNX Nifty futures market using 5-min Intraday return from 2007 to 2008 with the application of GARCH (1,1) model. The study finds bi-directional volatility between spot and futures market. The study later confirms volatility spillover in both market. The result is consistent with the findings of Lee and Linn (1994), Zhong et al., (2004), Fu and Qing (2006).

Meanwhile, Alom, Ward, and Hu, (2012) study asymmetry and persistency of shocks in petroleum futures price volatility. They use a set of petroleum futures price returns such as crude oil, heating oil, gasoline, natural gas and propane with daily series over the duration of 1995 to 2010. The findings confirm diverse level of volatility persistency as well as asymmetric effect of shocks for all futures price returns. They also propose adopting policy measures that accommodate long lasting effects of the shock to the volatility.

Naziman et al., (2012) argue that hedgers may be at the advantage by hedging in Malaysian CPO futures contract and conclude that the supply condition of the CPO does have an effect on the spot price. They also confirm that the potential benefit of hedging through local CPO futures to investors is not only to minimize but also to diversify the risk. In accordance with the previous findings, Jubinski and Lipton (2013) study volatility in three commodities such as, gold, silver and oil using intraday S&P 500 Index returns 1990 to 2010. The result reveals that gold and silver futures returns appear to be less volatile than oil.

On the other hand, Patra and Mohapatra (2013) investigate the volatility of Indian futures using daily closing data. The result reveals that volatility in Indian futures market is lower relative to the spot market. The result is consistent with Nath (2004) with the conclusion that the introduction of futures markets reduces the volatility of the Indian spot markets.

In general most of the studies discussed above confirm that both financial and commodities markets are volatile, there exists spillover volatility between spot and futures market in some markets hence, the results of volatility of the markets are mixed. Some studies do not specify the direction of volatility such as Mad Nasir & Fatimah (1992), and Crain and Lee (1996); some conclude that there is spillover volatility between spot and futures market such as Fu and Qing (2006), and Pati and Rajib (2011); Morelli (2002) concludes that macro-variables are unable to explain the volatility of market; however, some also conclude that introduction of the futures market reduces spot market volatility in India (Patra and Mohapatra (2013); Nath, 2004).

DATA AND METHODOLOGY

This study used monthly returns of Malaysian CPO spot and futures market. The prices for Malaysian CPO and futures market were downloaded from Bloomberg for the period ranges from March, 1995 to March, 2014 which result in 229 observations. The monthly Malaysian CPO spot and futures prices were converted to return in which previous price is taken from current price hence, the process reduce the observation by one hence, this study used 228 obsevations.

Price Return (profit/loss) = previous price – current price

The price returns does not necessarily imply gain (profit), it may imply loss too. Only if the previous price is higher than the current price that the price returns will be profit otherwise the price return will be loss.

Moreover, the variables selected and the frequency of data used were based on theory and previous empirical studies related to commodity futures contracts pricing efficiency (Naziman et al., 2012; Alom, Ward, and Hu, 2012). The more the frequency of the series the more reliable the result, provided that the underline assumption is not overrided.

Furthermore, for this study two preliminary tests of return series were carried out such as unit root test and Autoregressive Conditional Heteroskedasticity (ARCH) effect test. Unit root test is to examine the stationariy of the series hence, the Augmented Dickey-Fuller (ADF) unit-root test was used in this study. Though the priori expectation for the unit root test is that return series should be stationary at level this implies integration of order zero, $I\sim(0)$. Examining the stationarity of the series provides detail information on the series and this information can assist in taking appropriate decision on type of analysis to be carry out. Series of I(0) can be the model for the Ordinary Least Square (OLS), otherwise other models that are capable of higher order integration should be adopted.

As mentioned earlier the ARCH effect test needs to be carry out as the second preliminary test before modelling the volatility of the market. The result of ARCH effect test will determine whether there is a need to proceed to examining the volatility of the market. The result of ARCH effect test can ether be there is ARCH effect or there is no ARCH effect. If there is ARCH effect, it indicates that the market is volatile then we will proceed with examining the volatility of the market through modelling market volatility. In other hand, if there is no ARCH effect, it indicates that the market is not volatile then we conclude that the market is not volatile hence, there will be no need for modelling volatility of the market. Modelling market volatility is the next stage after preliminary tests in case there is ARCH effect.

To meet its objective, this study adopted the Generalized Autoregressive Conditional Heteroskedasticity GARCH (1,1) approach. The GARCH model is mostly prefered to the ARCH due to the drawback in the ARCH specification. One of the ARCH criticisms was that the specification resembles moving average specification rather than autoregression hence, GARCH was developed as a modified version of ARCH by Bollerslev (1986). Bollerslev (1986) modified ARCH to GARCH by including the lagged conditional variance in to the ARCH specification. GARCH (1,1) is equivalent to higher order ARCH (Asteriou and Hall, 2011). This

implies that measuring GARCH (1,1) is equivalent to the result of higher order of ARCH like the ARCH (6,6). Measuring higher order ARCH in most cases is not adviceable as some of the coefficient of some orders may be negative which is not consistent with theory.

Since this study focuses on examining the volatility of the spot and futures market, the life expiration of the shock in the market is measured after the volatility modelling of the spot-futures market by using the half-life of decay.

Half-life decay of the market volatility is calculated using:

$$\text{Half-life of Decay} = \frac{\log([ARCH(-1) + GARCH(-1)]/2)}{Log\,([ARCH\,(-1) + GARCH\,(-1)]} \quad \text{.....(1)}$$

Half-life of decay quantifies the period that the shock in a market will take before it completely decays. By applying the Half-life of decay approach the shock in the market can be measured and market participants can decide on their investments accordingly. The outcome of the half-life of decay is interpreted in respect to the frequency of the series used. For example, if the series are monthly series then the series will be reported in the number of the months required for the shock in the market to be completely decayed.

In calculating the half-life of decay, log of coefficient of ARCH and GARCH are used. Both coefficients provide an insight on the volatility of the market. Summation of the coefficient of ARCH and GARCH could provide information on the degree of the volatility in the market. The more the summation coefficient of ARCH and GARCH is closer to 1, the more persistent is the volatility in the market. Volatility persistent implies that the shock in the market is not completely decayed before another shock hits the market making the market being continuously volatile. Coefficient of ARCH and GARCH also provide information on volatility spillover. When the volatility is said to be spillover, it indicates a transmitting effect in the market that is, a shock in one market will be transmitted to the other market. This transmiting effect can either be unidirectional or bidirectional.

FINDINGS

Preliminary test such as unit-root test and ARCH effect test is a common practice that needs to be done before proceeding with the analysing of market volatility. Therefore, we first check the unit-root and then the ARCH effect of the returns. For this, certain conditions need to be met of which returns must be stationary at level; and there should be statistical prove of ARCH effect. Volatility of the market may result in gains or losses therefore poses uncertainty on the market returns on investment. High or low volatility has implication on investment. Therefore, if price series exhibited volatility clustering, investors would be interested to know the degree of volatility of the market prices of their investment as this could provide necessary information for their decision making.

In examining the volatility of the local CPO futures market, the prices are transformed to returns as stated earlier. The stationarity of the returns series was examined at level and the returns are statistically significant at 5 percent significance

level therefore, null hypothesis of returns having unit-root is rejected. This implies that returns series are integrated of order zero, I~(0).

We then examined the descriptive statistics of returns series but at this point the returns series are transformed to percentage which is in correspondence with Alom, Ward, and Hu, (2012) approach.This approach enables us to express the statistical nature of returns series in percentage for the descriptive statistical only. The percentage returns of CPO futures prices are computed using standard continuously computed logarithm techniques and given by

$$RF_t = 100 \text{ x } \ln(\frac{Pt}{Pt-1}) \quad \ldots\ldots(2)$$

where P_t is the monthly futures prices at current time t, and P_{t-1} is futures price for the previous months. The returns series are used in modelling volatility of CPO commodity market. The descriptive statistics and unit root test of the returns series are reported in Table 1.

Descriptive Statistics and Unit Root of Returns

Descrpitive analysis result of spot market is similar to the futures market, therefore only the report on the futures market is stated in this study to avoid near repetition while graphical representation of stationary of both series are provided.

Table 1 Summary Statistics of the futures returns form 1995 – 2014

Column	1	2	3	4	5	6
Returns	1995-2014	1995 - 1996	1997 - 1998	1999 - 2006	2007 - 2008	2009 - 2014
	Total Period of Study	Before Asian Financial Crisis in 1997	During Asian Financial Crisis	After Asian Financial Crisis and Before Global Crisis	During Global Financial Crisis	After Global Crisis
Mean	0.2884	-0.5478	2.119	0.0247	-0.5267	0.6827
Median	-0.1037	1.0471	1.897	-0.8913	3.1548	0.2087
Max.	37.7056	14.1029	20.951	37.7058	21.2687	25.5895
Min.	-29.2021	-13.3320	-15.402	-29.202	-28.431	-18.7816
Std. Dev.	9.1667	7.1474	9.2881	9.8177	12.235	7.5243
Skewness	0.3205	-0.2091	0.4706	0.8311	-0.597	0.1534
Kurtosis	5.2006	2.4694	2.8934	6.302	2.7683	4.2345
J-B	49.9053	0.3993	0.8597	54.119	1.4193	4.1806
Prob.	0.0000	0.8190	0.6505	0.0000	0.4921	0.1236
Unit Root (ADF)	0.0000	0.0005	0.0103	0.0002	0.0273	0.0000
Observations	228	21	23	95	23	62

Note: Table 1 reports the characteristics of returns series based on the different periods of studies. Column 1 is the total years of study (1995-2014) while subsequent columns are grouped according to the different crisis periods. 1995-1996 represents CPO returns series before Asian crisis in 1997. 1997-1998 represents returns series during the Asian financial crisis in 1997. 1999-2006 represents CPO returns series after the Asian financial crisis and before the global financial crisis. 2007-2008 represents returns series during the global financial crisis, while 2009-2014 represents returns series after the global financial crisis. This is to provide clarity on market volatility during the different periods of study.

This study found that CPO futures return recorded the highest volatility during the global financial crisis (2007-2008; Std. Dev. = 12.235), followed by the period of after Asian financial crisis and before global crisis (1999-2006; Std. Dev. = 9.8177). Generally, standard deviation in each group is larger than their corresponding means return. This indicates high volatility in the returns of CPO commodity market. With the exception of return series before Asian financial crisis and during global financial crisis, all returns are positively skewed.

All periods exhibited positive kurtosis and the excess kurtosis. The periods of before Asian financial crisis, during Asian financial crisis and during global financial recorded kurtosis of below 3 while other periods with above 3. This indicates that the return series are not normally distributed (ρ = 0000). Hence, there is evidence that samples approximately have financial properties such as volatility clustering, leptokurtosis and long tails.

Unit root test (Augmented Dickey-Fuller) results indicated that returns are stationary at level I(0) (ρ = 0.05). J-B test rejects the null hypothesis for normality only in total period of study (1995-2014) and after Asian financial crisis and before the global financial crisis (1999-2006). Stationarity of returns (spot and futures) are graphically represented in Figure 1 and 2.

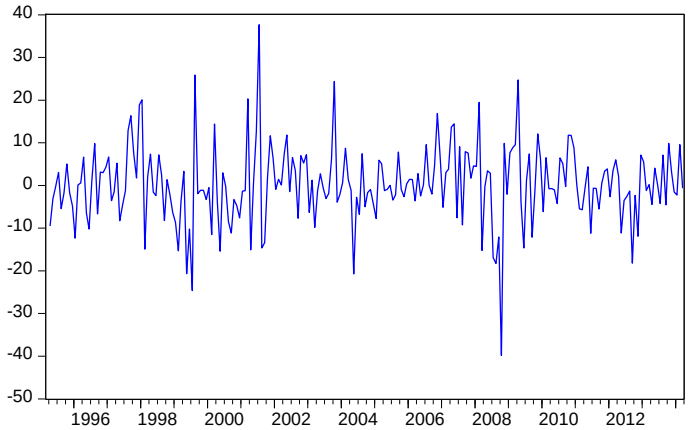


Figure 1 Spot returns integrated in order of 1, S_t~I(0)

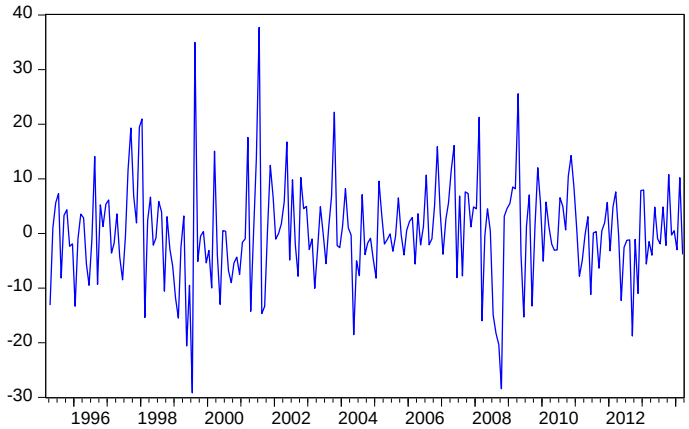


Figure 2 Futures returns integrated in order of 1, S_t~I(0)

After unit root test, we proceed with the ARCH effect test as the second preliminary test.

Estimation of ARCH Effect and GARCH Spot and Futures Returns

The analysis began with the estimation of ARCH effect test of spot and futures returns. The future-spot returns model is estimated using the OLS. Residual of each model is generated followed by square of residual. Square of residual is regressed on explanatory variable and χ^2-statistic is estimated to be 3.8410. LM-statistic for each model is calculated and the decision on ARCH effect is then concluded. Table 2 presents the report of ARCH effect for each model and the null hypothesis of 'no ARCH effect" is rejected.

Table 2 ARCH effect of Futures-spot model

	χ^2	LM = n*R^2	Decision
Futures Return	3.8410	9.7420	There is ARCH effect
Spot Return	3.8410	10.5930	There is ARCH effect

The analysis continues with the estimation of GARCH (1,1) model for spot and futures returns as it is estimated to identify the mean and variance equation. The coefficients of GARCH equation for spot and futures returns indicated positive sign of high persistence of positive conditional variance for long period in the local CPO market. The GARCH-in-Mean equations of both returns are not statistical significant. This implies there is no feedback from conditional variance to the mean. Table 3 and 4 reports the estimated GARCH for spot and futures returns.

Table 3 GARCH estimates of CPO spot market

Dependent variable: Δr_s: samples:1995M03 – 2014M03	
Parameter	
Constant	1.7688 [0.1563]
Δr_f(-1)	0.1076 [1.4625]
Variance equation	
Constant	1377.3730 [2.3519]
ARCH(1)	0.1515 [2.8950]
GARCH(1)	0.8145 [15.0635]
R^2	0.0088
S.E of Reg.	177.3422
AIC	12.9865
SC	13.0619
J-B	36.9999 (0.0000)
ARCH-LM (1)	0.7566 (0.3844)
ARCH-LM (2)	2.1269 (0.3453)

Notes: Figures in parentheses [] are t-stat and () are p-value at 5% significance level.

Table 4 GARCH estimates of CPO futures market

Dependent variable: Δr_f: samples:1995M03 – 2014M03	
Parameter	
Constant	6.6332 [0.5886]
Δr_f(-1)	0.0928 [1.2569]
Variance equation	
Constant	1483.3200 [2.2661]
ARCH(1)	0.1495 [2.7941]
GARCH(1)	0.8163 [15.2724]
R^2	0.01248
S.E of Reg.	179.5757
AIC	13.0547
SC	13.1302
J-B	43.7143 (0.0000)
ARCH-LM (1)	1.5568 (0.2121)
ARCH-LM (2)	3.2648 (0.1955)

Notes: Figures in parentheses [] are t-stat and () are p-value at 5% significance level.

In addition, the estimated coefficients on the variance equation i.e. ARCH(1) - the lagged squared residual and GARCH(1) – lagged conditional variance terms are strongly statistically significant. This is to note that the sum of the estimated coefficient of the lagged squared residual and lagged conditional variance is close to unity ($\approx$0.97) for both models. This implies that shock to the conditional variance is highly persistent. Since, the market is volatile; the half-life of decay of the shock is estimated to be 21 months[23]. It indicated that if there is a shock in either market, on average it will take 21 months to decay completely. The results of volatility of the local CPO markets indicated that the speed of adjustment for each shock is very slow therefore it will take longer time for the market to adjust in the case of any shock taken place in the market.

The volatility clustering of the Malaysian CPO markets is graphically presented in Figure 3 and 4. As shown in the graph, the market is slightly volatile from early 1995 to late 1996 then the volatility reduced slightly. The first huge volatility in the CPO futures market was detected during the Asian crises in 1997. The market volatility was unable to normalize until January 2001 at which the volatility resembles September 1996 local CPO market volatility. The event sparked by the Asian financial crisis was not completely resolved when another shock hit the market in the middle of 2001 and the shock in the Malaysian CPO commodity market took another 8 months before completely decay. In April 2007, another noticeable shock occurred which was not fully resolved until October 2010.

[23] 21 months of half-life decay is derived by adding coefficient of both ARCH(-1) and GARCH(-1) together for each of the markets and divide the summation by 2 then take the log of the value. Likewise, take the log of summation of coefficient of both ARCH(-1) and GARCH(-1). Finally, divide the latter log value by the first log value. The unit of measurement depend on the frequency of the data used. This study used monthly data; hence the unit for this study is on monthly bases.

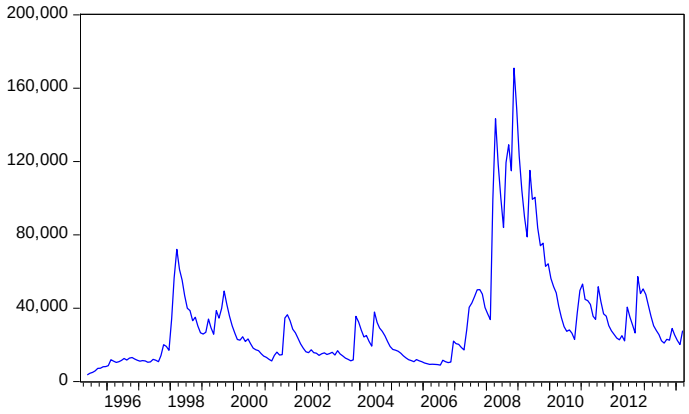


Figure 3 Spot returns GARCH

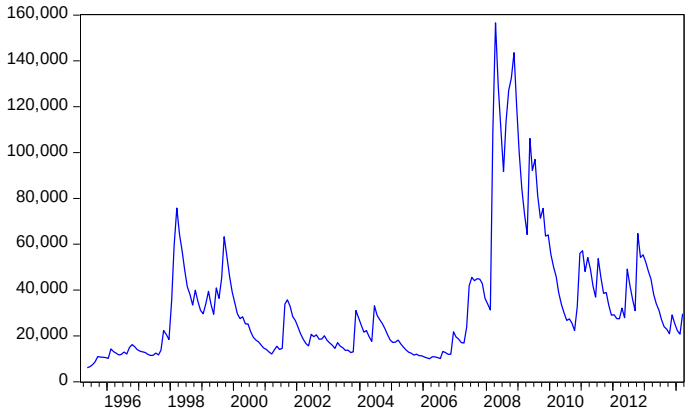


Figure 4 Futures returns GARCH

As indicated in Figure 3 and 4 local CPO commodity market is very volatile from late 2006 to late 2009 and was partly due to the global rally in commodity prices during the period as the event spilled over to Malaysian commodity markets.

We finally check the fitness of the model through correlogram of residual, the results indicated no autocorrelation (AC), no partial correlation (PAC), and Q-Statistic is statistically insignificant. Hence, ARCH-LM Test is statistically insignificant hence, null hypothesis of 'no ARCH effect' is accepted for the model. Whereas, null hypothesis of normality is rejected, as J-B is statistically significant.

DISCUSSION

This study provides evidence that the tremendous increase in the trading volumes and open interest of the Malaysian CPO market documented over the years is the first indication of market volatility. The study also reported different degree of volatility for the different periods of study. Volatility is a silent feature that can affect price discovery (Mad Nasir and Fatimah, 1992). Investors are at the advantage to hedge in the local CPO futures market given market volatility (Naziman et al., 2012).

Malaysian CPO commodity markets show persistence in volatility with the most pronounced volatility during the Asian financial crisis (1997-1998) and global financial crisis (2007-2008). In contrast to the financial crisis, local CPO futures

market is experiencing good performance rather than having adverse effect on the market.[24]

CONCLUSION

The result of the study indicates that the Malaysian CPO commodity market is volatile. The market exhibited volatility clustering and the volatility are persistent. Volatility can also be useful in comprehending market assimilation, co-movement and spillover effect. The existence of volatility spillover between the two CPO markets specifies that the volatility of returns in one market has an important effect on the volatility of returns in the other market. High volatility and business sustainability is inversely related (Kavussanos and Visvikis, 2004).

It can be inferred from the findings that shock in the Malaysian CPO market at any occasion has never completely decayed before another shock occurs. This indicates that the volatility of the local CPO markets is not only persistent but also clustered. Hence hedging in the local CPO futures market would be a good risk management strategy for investors as they may lock-in the price. It is also shown that the two most noticeable shocks (1997-1998 and 2007-2008) in the local CPO markets are traceable to financial crises but this does not mean that the market is not volatile on its own. Rather it implies that the volatility of the local CPO markets is further aggravated by the crisis.

Despite the global financial crisis emerged from the United States and hit almost all countries, according to the Malaysian Palm Oil Council (MPOC), during the global economic meltdown Malaysian CPO export was not affected, rather experiencing increase in export in most of the Malaysian CPO importing countries such as Iran, UAE, Oman, Yemen, and Saudi Arabia. Only UAE accounted for negative changes during the period[25]. The global crisis has indeed created value to the local CPO export as a positive percentage change in the export was documented. This indicates shock in the global market does not negatively affect the local CPO market, instead it provides export growth.

This study provides evidence that the Malaysian CPO futures market need some shock to show up its true nature on volatility. Volatility features is incumbent in the market but with the shock from the global or connecting market the volatility of the market can be clearly recognized. Furthermore, any significant shock in the global market may adversely hit and transmitted into the local CPO markets. Hedging therefore is a good risk management strategy as evidenced of volatility in the local CPO futures market.

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Determinants of Deforestation in Selangor: An ARDL Approach

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ABSTRACT

Malaysia is suffering the loss of its natural forests at an alarming rate. The problem has become a global concern as Malaysia is richly endowed with a mega-diversity of plant and wildlife species unique to the world. Originally with a high forest cover, by late 1980's half of Peninsular Malaysia's forests had been cleared due to the various drivers both direct and underlying. This study aims to investigate the drivers that lead to deforestation in the state of Selangor which is among the most urbanized areas of the country. Selangor has experienced rapid development over the years due to agricultural expansion as well as industrialization. Thus, it is important to study the effects of these transitions on the forest area. The variables for population, agriculture, logging, income and infrastructure were analyzed as the possible causes of deforestation. Secondary data was collected for the time period of 1980-2012 and estimated using the Autoregressive Distributed Lag (ARDL) method. Through ARDL both short run and long run effects were captured. The analysis shows that income, log price and rubber price for previous period led to deforestation in the short run. Infrastructure was not statistically significant in the short run. The income, infrastructure and logging variables showed to have a negative relationship on total forest area in the long run. However in the long run, all of the determinants were statistically significant. It implies that all of these factors do eventually have a long term impact on deforestation. Therefore, it is imperative to consider the future impact of forest loss while configuring current developmental plans.

Keywords: Deforestation, Selangor, ARDL, Income, Infrastructure, Price

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INTRODUCTION

Deforestation in Malaysia

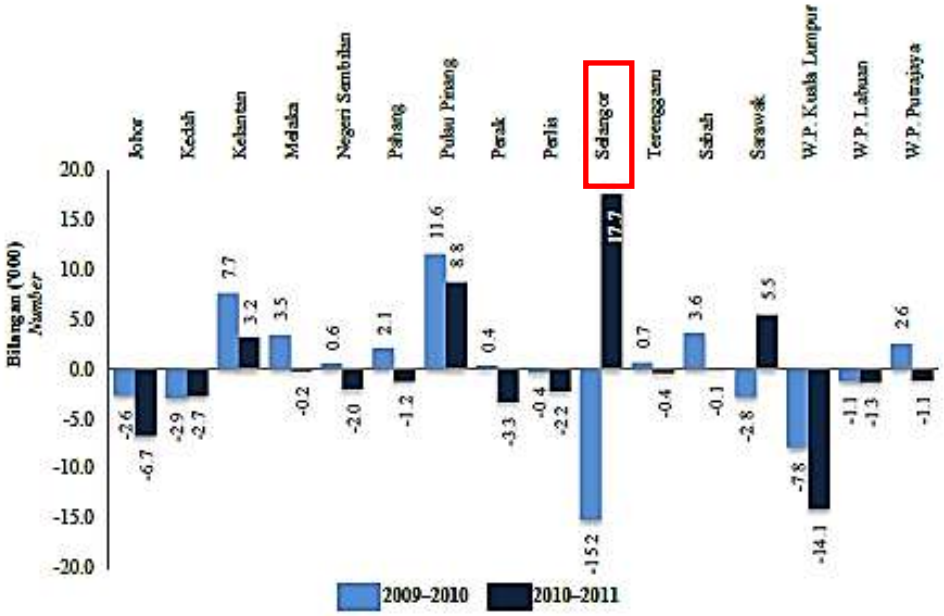
It is estimated that forest loss in Malaysia is occurring at an annual rate of approximately 1.2 % (Laurance, 2007). A study by Hansen et.al (2013) had mapped global forest loss using earth observation satellite data from 2000 to 2002. The map indicated that Malaysia was among the countries having the highest percentage of forest cover loss globally at 14.4%. Aiken & Leigh (1992) stated that human impacts on the forest have caused scores of negative implications. These vary from the alteration of forest genetic resources to the threatened survival of the forests ecosystems mainly the lowland and hill forests. The forests in Peninsular Malaysia specifically have endured decades of reckless deforestation that rose from the colonial period. Most of the forested areas were initially converted for agriculture expansion particularly rubber plantations. Apart from rubber plantations, the expansion of oil palm plantations that followed the growing palm oil industry was subsequently a major cause of deforestation (Aiken & Leigh, 1992).

The conversion of forest land in the Peninsular has also been linked to land development schemes that have been key facilitators of rural population development and modernization. Despite the socioeconomic benefits that arose out of these schemes, land development that occurred in remote or frontier areas have been one of the major causes of deforestation in Malaysia (Appanah, Krishnapillay, & Razak, 2007). The national policies existing in Malaysia have in a way provided a comfortable setting for the ongoing conversions of forested areas into other uses. Under the Malaysian Constitution, land issues are put under the authority of the state. Thus each state is not bound to standardized laws on forestry and has a higher say in how the forest land is utilized (APN, 2001). The revenue derived from the forest contributes to the income of the state. This includes revenue in the form of royalties, premiums, forest development funds and others. At the federal level, revenues in the form of export cess and income taxes are collected utilized (Forestry Department, 1995). The states thus have control over their forested areas and have the leverage to gazette, issue logging concession licenses and collect royalties from logging operators (Aiken & Leigh, 1992).

Deforestation trends in Selangor

On account of the issues surrounding the Malaysian forests, more studies have to be undertaken to examine deforestation at the various state levels (Syed, 2012). As stated by Kaimowitz and Angelson (1998), the relationship between deforestation and its determinants are unique for a particular area. State level studies would in turn, help to provide tailored solutions to the state authorities as it is important for them to see the bigger picture and secure the long term interests of all sectors (Goers, Lawson, & Garen, 2012 ; Kumari & Kavanagh, 1990). Among all the Malaysian states, Selangor currently experiences the highest GDP per state which has been greatly attributed by the development of its manufacturing and services sector (Department of Statistics, 2012). The percentage share of Malaysian GDP in 2012 was the highest at 23.5 % (Department of statistics, 2012). Moreover, Selangor is the most populous state in Malaysia with 5.46 million people. A recent survey conducted by the Department of Statistics in 2011 indicated that Selangor was the main migrant

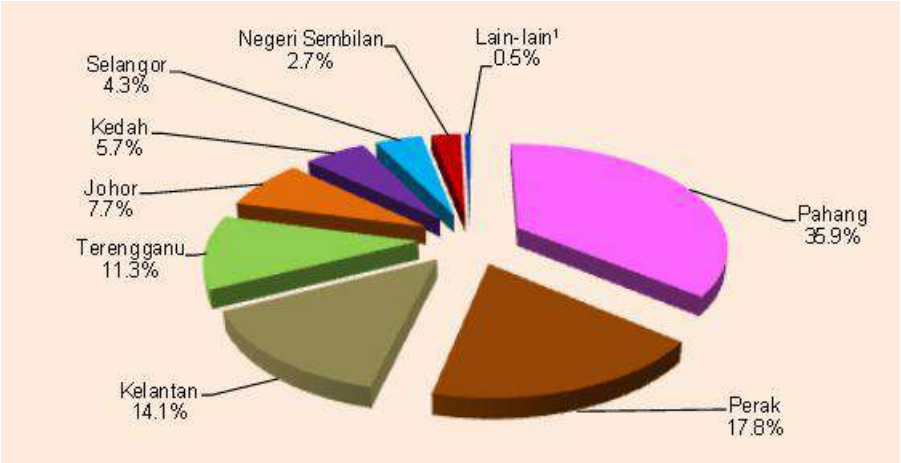
destination in the country with the highest net migrant of 17 700 people (see Figure 1.1).



(Source: Department of statistics, 2011)

Figure 1.1 Net Migration by state Malaysia 2009-2010 and 2010-2011

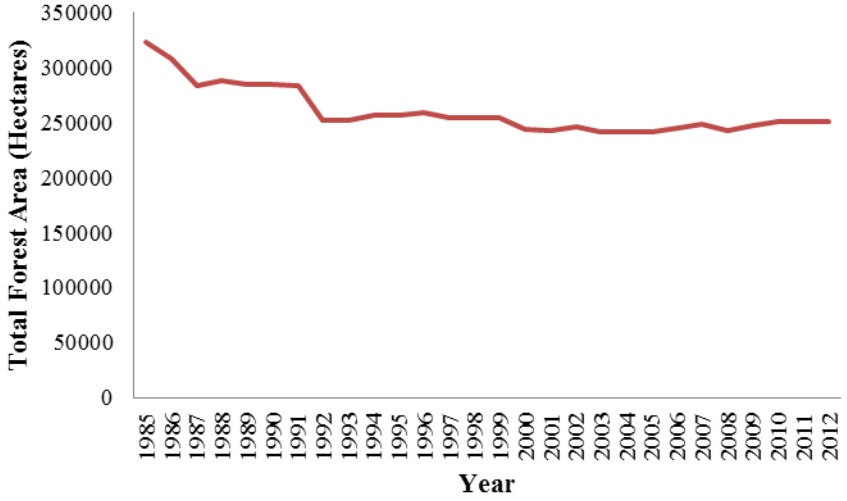
This rapid increase in industrialization and population has thus induced more urban and build up areas in the state (Abdullah & Nakagoshi, 2008). In the face of this rapid development, Selangor suffers from a lack of forested area. It currently has one of the lowest percentage distributions of forested area in the whole country, amounting to only 4.3% (see Figure 1.2).



(Source: Department of Statistics Malaysia, 2013)

Figure 1.2 Percentage distribution of forested area in Peninsular Malaysia, 2012

Environmentalist and concerned parties have reported that the problem of deforestation in Selangor is ongoing rampantly. There have been concerns over the way the land conversion is taking place albeit with the existence of policies. Some of the main concerns revolve around the lack of clauses put forth to ensure total protection of these forested lands (Singh, S.,2013; Yip, 2013; Tan,2009). Over the pass three decades, statistics has shown a reduction in the total forest area in Selangor especially from the late 1980's to early 1990's (see Figure 1.3).



(Source : Forestry Department of Peninsular Malaysia)

Figure 1.3 Total Forested Areas in Selangor from 1985 to 2012

To add to this dilemma, recent investigations conducted in Selangor have affirmed that deforestation was occurring rampantly in this region. A study using remote sensing and Geographical Information System (GIS) technologies have shown that there was a 2% loss of dipterocarp forest and 8.6% loss of peat swamp forest in Selangor within the period of 1989 to 2011. However, even more alarming was the problem of forest fragmentation that was rapidly occuring. Whithin this period itself there was a reduction in the quality of high density forest cover as a whole (Syed & Sharifah, 2012 ; Sharifah, 2012). The study by Jaafar, Syed, Sharifah and Mohd Sood (2009) indicated a serious case of deforestation occuring in watershed areas of Selangor. The Klang–Langat watershed area indicated serious forest loss. This was also inclusive of Permanent Forest Reserve (PFR). The forest maintained as PFR consists of various specific functions such as water catchment, area, sanctuaries for wildlife, virgin jungle reserves, education and research and forest for federal purposes. These areas do not merely consist of natural forests but there is an allowance of some portion for logging (Yip, 2013; Kumari, 1995). However, Jaafar et al.(2009) predicted that by the year 2020, only the northern highland forest that has been gazatted as cathcment area would remain intact unless appropriate mitigation efforts were undertaken.

Determinants of deforestation in Selangor

Sharifah (2012) identified several prominent causes of deforestation in Selangor. Population explained 55.4 % of the forest loss. Agriculture led to approximately 18% of the forest loss. Throughout the years the intensification of agriculture especially through extensive rubber and oil palm crop development has caused the conversion of forested area in the state .The recent introduction of Latex –Timber- Clone rubber plantations have also shown to cause deforestation. Yip (2013) reported that a water catchment area; the Sungai Jelok Forest Reserve in Kajang was replaced with rubber plantations in 2009. It is apparent that agriculture activities especially plantations of crops have become one of the major reasons for land conversion (Syed & Sharifah, 2012 ; Tan, 2009). Underlying factors such as societal income growth have also lead to the rise of urban areas and the clearing of land for development projects. This was an underlying cause as it is linked with publilc policy which makes up of 9.1 % of land use change in Selangor. Albeit having identified theses factors, their relationship to deforestation and the mechanics of how they work is rather complex and requires further investigation (Sharifah , 2012).

LITERATURE REVIEW

Drivers of deforestation

The drivers of deforestation can be grouped into three levels mainly the sources of deforestation, immediate causes of deforestation and underlying causes of deforestation (Kaimowitz & Angelson, 1998). Alternatively Goers, Lawson, and Garen (2012) categorized them as socioeconomic, institutional and economic factors. Numerous studies have been conducted to examine the complex nature of forest loss that is occuring globally. These studies used various methods of analysis to identify the determinant causes of deforestation in the different regions.

Esmaeli & Nasrnia (2014) conducted a study in Iran using the Autoregressive Distributed Lag (ARDL) method. They defined deforestation as a reduction in forest area. They examined the impacts of property rights, agricultural price indices, forest area, population, income and timber price on deforestation. The results indicated that there was a relationship between deforestation and property rights, forest area, agricultural price, and terms of trade. There was an indication of an inverted U shape of the Environmental Kuznets Curve. This implies that at early stages of development, deforestation increases more rapidly. However at a higher income level the deforestation rate is reduced. Their findings confirmed the relationship between income levels and deforestation. A similar method of anlysis using ARDL was conducted by Abdul Rahim & Mohd Shahwahid (2009) in Peninsular Malaysia.The results of their study indicated that log price and oil palm was a significant determinant in the short run.

Throughout various studies, population impact has been extensively stated as one of causal factors of deforestation (Mahapatra & Kant, 2005; Bhattarai & Hammig, 2001). The link between population and deforestation can be traced back to Neo-Malthusian theory in which Malthus argued that an increase in human population would exert pressure on natural resources such as land and forests. This is

driven by the increase demand for land and shelter (Mahapatra & Kant, 2005). Alternatively increase in population could have a negative or no impact on deforestation. As the population increases, agriculture becomes more labour intensive thus generating more available skills and technology as well as inducing the out migration from rural areas. In this sense a rising population would accelerate migration of rural people to urban areas subsequently reducing the pressure put on forests (Li & Reuveny, 2007; Mahapatra & Kant, 2005).

Societal income represented by economic growth is another factor that has been shown to cause deforestation. This relationship in turn extends on to the development of the Environmental Kuznets Curve theory (Li & Reuveny, 2007; Bhattarai & Hammig, 2001). The inverted U shape of the curve captures two prominent effects that is the scale effect and the income effect. Initially as the economy grows, there is an increase in production and consumption of goods and services that would in turn lead to the degradation of the environment. The income effect reflects the scenario where higher income per capita levels that were attained would then change human preferences towards protecting the environment (Li & Reuveny, 2007). According to EKC hypothesis, the income term would be positive and the quadratic income term would be negative to indicate the presence of an inverted U- shaped curve. (Bhattarai & Hammig, 2001).

The expansion of agriculture is identified as a determinant of deforestation (Kaimowitz & Angelson, 1998). Deforestation due to agriculture is related with agricultural activities that result in the clearing and conversion of forestland (Mahapatra & Kant, 2005). Higher agricultural prices have shown to stimulate forest clearing leading to the reduction of forest cover. Higher prices make agriculture more profitable and this also finances the conversion of additional land into production. The increse in prices may have a profound impact on natural resources but most studies fail to include it in the models (Kaimowitz & Angelson, 1998). In Malaysia, as most of the earlier rubber planted areas were converted to oil palm, the government has thus supported the establishment of rubber wood plantations to fuel the needs of the rubber wood industry by launching a new forest plantation program. With this the authorities targeted to establish about 375 000 hectares of hardwood plantations throughout the country within a time period of 15 years. Latex-Timber-Clone (LTC) rubber trees were among the eight species of timber trees that was recommended to be planted (Kamaruzaman & Yahy, 2008; Hammond, 1997).

Timber has been important in contributing to the income for many states in Malaysia Within the period of 1976 to 1989, approximately 10 million cubic meters of timber was harvested annually. However the diminishing resources, coupled with the increase in public awareness had led to the reduction of logging in this area. In the 1980's a ban on raw log exports was enforced in Peninsular Malaysia. In order to meet the rising demands of the wood based industry, a compensatory Forestry Plantation Project was launched in 1982 to supply industrial wood which led to the growth of forest (Chang, Jomo, & Khoo, 2004). Log prices have shown a positive link to deforestation in Malaysia (Abdul Rahim & Mohd Shahwahid, 2009).

Additionally the process of urbanization has become one of the causes of global land conversion activities. Concurrently, deforestation has displayed a positive relationship with urbanization process (Shu-Li, Chia-Tsung, & Li-Fang, 2010). Madu (2007) stated that the extent of urbanization or rural development can be measured by the amount of infratructural facilities such as hospitals, public utilities supply,

transportation and also schools. According to Kaimowitz & Angelson (1998) infrastructure is considered to be one of the immediate causes of deforestation. In Malaysia about 65% of the population resides at urban areas (Jamalunlaili, 2012). Selangor is among the highly urbanized areas in the country (Department of Statistics, 2012). Part of the developmet of the state has been attributed to land development schemes from the period of 1960s to 1980s followed by the shift to manufacturing in the 1980s and 1990s.

This study investigates forest loss in Selangor from 1980 to 2012. The general aim is to investigate the impacts of population, state income, rubber prices, log prices and infrastructure on forested area in the state. Sharifah (2012) emphasized the need for more case studies to be conducted as Selangor would provide vital ground truths to help us build up a bigger picture. This intended study would apply the Autoregressive Distributed Lag (ARDL) approach to confirm the existence of co-integration relationship between forest area and the drivers of deforestation. The long run and short run coefficients will also be estimated and the relationship between the variables within these time frames would be determined.

METHODOLOGY

Data

This study comprises of a time series analysis of state level data from the year 1980 to 2012. Secondary data was obtained from the Department of Statistics Malaysia and Forestry Department of Peninsular Malaysia.

Theoretical Framework and variables

Most research conclude that deforestation could be defined in many ways hence there is no singular variable that fits all studies (Palo, Lehto, & Uusivuori, 2000). In this study total forest area was chosen as a variable to represent the forest stock hence the reduction on total forest area represents deforestation activities. Other studies such as (Shandra, 2007), (Li & Reuveny, 2007) and (Palo, Lehto, & Uusivuori, 2000) have sucessfully used this variable in representing deforestation.

To measure the income effect, real gross domestic product at state level was used as a proxy for income (Abdul Rahim & Mohd Shahwahid, 2009). The predicted sign could either be negative or positive (Bhattarai & Hammig, 2001). Population effect was represented by the total population of the state. This too may have a positive or a negative impact on deforestation (Li & Reuveny, 2007; Mahapatra & Kant, 2005; Bhattarai & Hammig, 2001).

In measuring the relationship between agriculture and deforestation, average price S.M.R.20 f.o.rubber was selected to show the impacts of agricultural expansion on the forest stock. Similarly, in order to measure the impact of logging and timber industry in deforestation, the average domestic price of logs was selected. Kaimowitz and Angelson (1998) mentioned that price of logs are expected to be positively related to deforestation. Infrastructure was respresented by the number of government schools in the state. The number of schools can be used to capture the effect of development in infrastructure in forest areas. This variable is expected to be positively related to deforestation (Madu, 2007).

Generic model

The following generic equation (Equation 3.1) describes the relationship between forest area and the chosen variables.

$$\ln FA = \beta_0 + \beta_1 \ln POP + \beta_2 \ln GDP + \beta_3 \ln RB + \beta_4 \ln LG + \beta_6 \ln SCHL + \varepsilon \quad (3.1)$$

The definitions of variable terms are described as follows:

lnFA = Log Total forest area in Selangor (Hectares)
lnPOP = Log Total population of Selangor
lnGDP = Log Real Gross Domestic Product of Selangor(RM)
ln RB = Log Price of Rubber (Sen/kg)
ln LG = Log Average Domestic Price of Logs (RM/m^3)
ln SCHL = Log Number of Government Schools in Selangor

For the estimation a double log model was chosen based on other studies on deforestation. According to Palo, Lehto, & Uusivuori, (2000) it is in accordance with the hypotheses that deforestation process follows an S curve pattern which is a sigmoidic function.

Autoregressive Distributed Lag (ARDL)

In this study the Autoregressive Distributed Lag (ARDL) bounds testing approach recommended by Pesaran et. al (2001) was used. Other studies have also applied this method in deforestation modelling (Esmaeli & Nasrnia,2014; Abdul Rahim & Mohd Shahwahid, 2009). This method is suitable as both the long run and short run dynamics can be observed. The superiority of the ARDL method as compared to other causality tests is that the regressors can be used irrespective if they are purely I(0), purely I(1) or even mutually cointegrated. Additionally this paper will also employ the bounds test applied by Narayan (2005) which is more appropriate for smaller sample size ranging from 30-80 observations.

The ARDL model is shown in the below equation (Equation 3.2)

$$\begin{aligned}\ln \Delta FA = {} & \beta_0 + \beta_1 \ln FA_{t-1} + \beta_2 \ln POP_{t-1} + \beta_3 \ln GDP_{t-1} + \beta_4 \ln RB_{t-1} \\ & + \beta_5 \ln LG_{t-1} + \beta_6 \ln SCHL_{t-1} + \sum_{i=0}^{p} \alpha_7 \Delta \ln POP_{t-1} + \sum_{i=0}^{p} \theta_8 \Delta \ln GDP_{t-1} \\ & + \sum_{i=0}^{p} \delta_9 \Delta \ln RB_{t-1} + \sum_{i=0}^{p} \varphi_{10} \Delta \ln LG_{t-1} + \sum_{i=0}^{p} \gamma_{11} \Delta \ln SCHL_{t-1} + \varepsilon_t\end{aligned} \quad (3.2)$$

The variables lnFA, lnPOP, lnGDP, lnRB, lnLG and lnSCHL are described previously. The symbol Δ denotes the first difference operator. β_0 is the intercept and ε_t is the error term. The terms with β indicate the long run relationship. The terms with $\sum_{i=0}^{p}$ indicates short run dynamics (Abdul Rahim & Mohd Shahwahid, 2009). Four steps of analysis were employed. The first was the unit root tests to

ensure that none of the regressors were of order I(2). The second step was to determine the presence cointegration. The third and forth steps of obtaining the long run coefficients and short run coefficients were performed with the ARDL test. Prior to obtaining the coefficients, the optimum number of lags was selected and the best model was provided Microfit 4.1 software. For the analysis using ARDL method, it is important to determine that none of the variables are I(2). Hence the unit root test is still essential to determine the absence of I(2). In testing for this, the Augmented Dickey Fuller test and Phillips Perron test was applied to obtain the order of integration for the variables (Esmaeli & Nasrnia, 2014). Following that, the bounds testing approach recommended by Narayan (2005) was used to establish if there was a cointegration relationship between the variables or no cointegration. In the testing for cointegration the following hypothesis is derived (see Equation 3.3):

$$H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$$
$$H_1 = \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq 0 \quad (3.3)$$

The null hypothesis of H_0 indicates that there is no cointegration. The alternative hypothesis H_1 indicates that there is cointegration. Using Microfit 4.1 software, OLS is estimated and the F statistic is obtained. The resulting F statistic is then compared to the critical value produced in Narayan, (2005). If the F statistic is above the upper bound of the critical value then the null hypothesis can be rejected. If the F statistic value lies between the upper and lower bound critical value then the results are inconclusive. However if the F statistic is below the lower bound of the critical value then null hypothesis is failed to be rejected.

In order to select the best model, the the Schwartz Bayersian Criteria was used to obtain the optimum number of lags. This was easily obtained from Microfit 4.1 software. Prior to performing the ARDL testing, several diagnostic tests should be performed to ensure that the model is stable and does not suffer problems such as serial correlation and heteroskedasticity. Apart from these tests, the graphs of cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUM^2). These plots indicate the stability of the regression coefficients over the sample period (Pesaran, Shin, & Smith, 2001). In estimating the long run and short run effects, ARDL method was used to obtain the results. The estimation was easily done using Microfit 4.1 software. For the long run, the coefficient values with the associated probability values would be obtained. In estimating the short run impacts, the error correction representation would be obtained. From this the significance of the variables can be looked at. Moreover, it is also essential to obtain a negative value for the error correction term. The value of the error correction term would show the speed of adjustment to equilibrium after a shock (Narayan, 2005; Pesaran, Shin, & Smith, 2001).

RESULTS

Unit root test

Two tests were chosen for the unit root tests that is the Augmented Dickey Fuller (ADF) and Phillips Perron (PP) test. Table 4.1 displays the results of unit root tests

conducted on the data. From the results it is indicated that some variable were stationary at level I(0) such as lnGDP and ln SCHL. However there were variables that were not stationary at level I(0). Following that the test were conducted for stationary at I(1) stationary at first difference. From this it the results indicated that all the variables were stationary at I(1). There was however an exception for lnFA at the ADF test which was not stationary at first difference. However, based on Phillips Perron test the variable was stationary at first difference. Thus it can be concluded that the variables were not found to be stationary at second difference I(2) and beyond and suitable for ARDL testing.

Table 4.1 Results of Unit root test

Unit Root Test				
	Augmented Dickey Fuller (ADF)		**Phillips Perron (PP)**	
Level				
Variable	**Constant Without Trend**	**Constant With Trend**	**Constant Without Trend**	**Constant With Trend**
lnFA	-1.736217 (0)	-3.189767 (0)	-2.023404 [2]	-3.207114 [1]
lnPOP	0.185394 (0)	-2.057420 (0)	-0.186050 [2]	-2.057420 [0]
lnGDP	0.510311 (0)	-4.685459 *** (0)	0.510311 [0]	-4.630599 *** [3]
lnRB	-0.236256 (0)	-2.383305 (0)	-0.173592 [2]	-2.422267 [1]
lnLG	-0.538795 (0)	-2.043794 (0)	-0.522548 [5]	-2.043794 [0]
lnSCHL	-0.352704 (1)	-3.582703 *** (0)	-0.426958 ** [3]	-3.616985 ** [3]
First Difference				
lnFA	-3.747080 *** (0)	-2.923599 (8)	3.747080*** [0]	-3.781487 *** [0]
lnPOP	-5.282260 *** (0)	-5.189656 *** (0)	5.279052*** [2]	-5.185544 *** [2]
lnGDP	-7.208662 *** (0)	-6.935100 *** (0)	9.353875*** [7]	-8.742362 *** [7]
lnRB	-5.051829 *** (0)	-5.045880 *** (0)	5.004367*** [4]	-5.059923 *** [6]
lnLG	-4.781592 *** (0)	-4.699855 *** (0)	4.717343*** [7]	-4.615088 *** [7]
lnSCHL	-8.801238 *** (0)	-8.665232 *** (0)	9.910624*** [4]	-9.844538 *** [5]

Note: *** and ** denotes significant at 1%, and 5% significance level, respectively. The figure in parenthesis (…) represents optimum lag length selected based on Schwartz Bayesian Criteria (SBC). The figure in bracket […] represents the Bandwidth used in the KPSS test selected based on Newey-West Bandwidth critirion

Bounds test for cointegration

One of the aims of this study was to confirm the existence of a long run relationship between deforestation and the determinants. The results for the bounds test of cointegration are shown in Table 4.2.

Table 4.2 Results of bounds test for cointegration

Model: F(lnFA, lnPOP, lnGDP,lnRB, lnLG, lnSCHL)		
F Statistic	10.6673***	
Narayan (2005) Bounds Test Critical Value (unrestricted & no trend)	Lower Bound I(0)	Upper Bound I(1)
1%	**4.537**	**6.370**
5%	3.125	4.608
10%	2.578	3.858

Note: *** indicates significant at 1% significance level

With lnFA as the dependant variable the F- statistic calculated from the Ordinary Least Square (OLS) is 10.6673. This is greater than the upper bound critical of value of Narayan (2005) at 1% which is 6.370. Hence the null hypothesis of no cointegration is rejected at 1% significance level. It can be concluded that there does exists a cointegration relationship between all of the variables.

Long Run Estimation Using ARDL

Table 4.3 shows the results for the long run estimation of the ARDL model. The results reveal that all of the variables are statistically significant indicating a long run relationship.

Table 4.3 Long Run Estimation Results

Regressor	Coefficient	Standard Error	T Ratio [Prob]
lnPOP	0.25775**	0 .11234	2.2944[0.034]
lnGDP	-0.11498**	0.03471	- 3.3119 [0.004]
lnRB	0.15840**	0 .03860	4.1029 [0.001]
lnLG	-0.10701**	0.02727	-3.9228 [0.001]
lnSCHL	-0.35436*	0.18435	-1.9223 [0.071]
C	13.7726***	0.48948	28.1372 [0.000]

Note: *** indicates significant at 1% level, ** indicates significance at 5% level and * indicates significance at 10% level.

The results indicate that all of the variables are significant. The coefficient for lnSCHL is statistically significant at 10% level. The rest of the variables are found to be highly significant at 5% levels as shown in the table. The coefficient of lnGDP, lnLG and lnSCHL show a negative relationship with forest area. This implies that as income (GDP), log price (LG) and the number of schools (SCHL) increases, the forest area (FA) decreases. From among these, the impact of number of school on forest area was the highest at 0.35 albeit having a lower significance. Followed by income level at approximately 0.12 and log price at approximately 0.11. The other variables of population (lnPOP) and rubber price (lnRB) displayed positive sign. This means that an increase in rubber price and population does not cause deforestation.

Short Run Estimation Using ARDL

Table 4.4 Displays the Error Correction Representation Showing the Short Run Dynamics

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
Δ lnFA1	0.25581**	0.099759	2.5643[.018]
Δ lnPOP	0.19671**	0.072927	2.6974[.014]
Δ lnGDP	-0.087746**	0 .021673	-4.0487 [.001]
Δ lnSCHL	0.036857	0.076387	0.48250[.635]
Δ lnSCHL1	0.21718**	0.085102	2.5520[.019]
Δ lnRB	0.022650	0.025432	0.89060[.384]
Δ lnRB1	-0.095764**	0.024912	-3.8442[.001]
Δ lnLG	-0.081668**	0.024348	-3.3542 [.003]
Δ C	10.5110***	1.6874	6.2293[.000]
ecm(-1)	**-0.76318*** **	**0.11876**	**-6.4261[.000]**

Note: *** indicates significant at 1% level, ** indicates significance at 5% level and * indicates significance at 10% level

From the results number of school (lnSCHL) and rubber price (lnRB) were not found to be significant. The coefficients of income (lnGDP) and log price (lnLG) are negatively related to forest area (lnFA) at 5% significance level. The lag change in rubber price Δ lnRB1 also had a negative value and showed to be highly significant at 5% thus reaffirming the choice of lags chosen by SBC criteria. This also means that the effects of rubber price would not be felt instantaneously but only after a period of time. A decrease in forest area (lnFA) denotes the occurrence of deforestation. Therefore in the short run, increase in income (lnGDP), rubber price of a previous period (lnRB1) and log price (lnLG) causes deforestation. Previous year forest loss was related to the current amount of forested areas as shown by the significant coefficient of (lnFA1). Population (lnPOP) showed a positive sign with 5% significance level indicating that it did have an impact on the forested area however not a negative one. This was also the same for number of school in the previous year (lnSCHL1).This means that the effect of school would not be seen instantaneously but after a certain period. The error correction term is indicated as ecm(-1). This term is highly significant at 1% level with a negative sign. With the coefficient of ecm equivalent to -0.76318, implies that a deviation from long run equilibrium level of forest area is corrected by 76% in the next year. This indicates a high speed of adjustment.

Model Lag Selection

The optimum number of lags was selected based on Schwartz Bayersian criteria. The maximum number of lags *p* was set at 2. Based on the output of Microfit 4.1 the chosen model was (2,0,0,2,2,0) with two lags for forest area (lnFA), number of schools (lnSCHL) and rubber price (ln RB)

Diagnostic tests

The results of the diagnostic checks are displayed in Table 4.5:

Table 4.5 Results of diagnostic checks

Test Statistics	LM version	F Version
Serial Correlation	CHSQ(1)=1.2744[.259]	F(1,17)=0.75419[.397]
Normality	CHSQ(2)=1.1097[.574]	Not applicable
Heteroscedasticity	CHSQ(1)=0.11676[.733]	F(1,28)=0.10940[.743]

The results indicate that the model has passed the standard diagnostic tests of serial correlation, heteroskedasticity and normality. Furthermore the plots of cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals ($CUSUM^2$) was obtained. Figure 4.1 shows the results of cumulative sum of recursive residuals (CUSUM) and Figure 4.2 shows the results of cumulative sum of squares of recursive residuals ($CUSUM^2$). From these graphs it is indicated that the model is structurally stable.

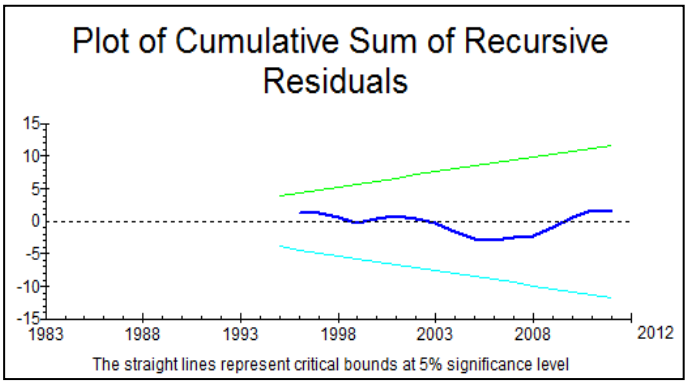


Figure 4.1 Plot of cumulative sum of recursive residuals (CUSUM)

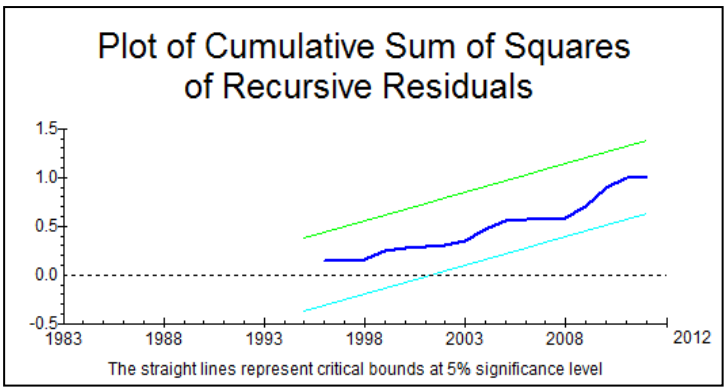


Figure 4.2 Plot of cumulative sum of squares of recursive residuals ($CUSUM^2$)

DISCUSSION

The results indicate that total population increase would most likely put less pressure on forested areas in the society due to the shift away from reliance on forestry sector (Li & Reuveny, 2007; Mahapatra & Kant, 2005). The positive sign indicates that the increasing population does not directly infringe on the forested area. The significance of population variable can be applied to Selangor as there is high net migration caused by the urbanization process. The increased development led to a shift away from agriculture and an increased focus on manufacturing and services (Hashim & Shuib, 2012). This induced the migration of people into urbanized and suburban areas in Selangor away from rural areas. Hence there is less reliance of the population to directly convert the forest land unlike the society of earlier decades as mentioned by Syed & Sharifah (2012). However income (GDP) displayed a negative relationship with forest area in both the short run and long run. The coefficient for GDP was significant indicating that income level in the state has a significant impact on deforestation. There has been an increase in the wage levels due to the growth in the economy (Hashim & Shuib, 2012). As the societies income level raises there is an increase in production and consumption of goods and services. This therefore puts more pressure on the conversion of forest area for other uses (Li & Reuveny, 2007).

Rubber price was significant and had a positive sign in the long run. However in the short run, only the lagged variable was significant and showed a negative sign. The coefficient sign for the short run was the opposite of what was predicted. It can be concluded that in the long run rubber did not cause deforestation but it did impact deforestation in the short run. The long run result was in line with Kaimowitz & Angelson (1998) whereby higher agricultural prices may help in the transition to more industrialization thus over time reducing the reliance on agriculture. Alternatively, this long run trend could be explained by the increasing predominance of oil palm crop that has managed to take over rubber in the agriculture sector (Abdullah & Nakagoshi, 2008). Despite this, the significance and negative relationship of rubber prices in the short run indicates that expansion of this crop could have an increased influence on deforestation in the near future. This also reinforces the observation of recent emergence of rubber plantations specifically the growth of Latex-Timber-Clone (LTC) rubber trees (Tan, 2009; Selangor State Government, 2010). The results also indicate that increase in log prices does cause increase in deforestation in both long term and short term. Kaimowitz and Angelson (1998) stated that higher log prices would promote deforestation by making logging more profitable. Although the export of timber has been low in recent years, the effect of log prices can be explained by the setting up of forests plantations to support the various wood based industries (Chang, Jomo, & Khoo, 2004).

As for infrastructure variable, it showed that schools built in Selangor had an impact on forest loss over the long term but in the short run it did not cause forest loss. This means that the impacts brought about from the building of schools would take time to show its effect on the forest. Although the state is highly urbanized at the moment, there is an indication of lack in social facilities. According to Hashim & Shuib (2012), increased migration into Selangor has led to the increased demands for social facilities and infrastructure. In the education sector, the number of pupils have greatly exceeded the number of teachers.Currently there exists a lack of social welfare in the state. This shows that the current infrastructure of schools are not too

high as to effect forested areas in the short term. However in the future there will be increased built up of infrastructures such as schools to hold the ever urbanized and affluent society (Hashim & Shuib,2012; Madu ,2007). Hence in the long run, due to the increasing demand such infrastructure would be likely to increase causing pressure on the forested areas to build them (Hasshim & Shuib, 2012).

CONCLUSION AND RECOMMENDATIONS

Based on the ARDL analysis, all of the parameters had a long run impact on forest area. Income (GDP), log price (LG) and the number of schools (SCHL) displayed a negative sign indicating that they contribute to deforestation. In the short run, only number of schools (SCHL) and rubber prices (RB) were not statistically significant. However, the difference of lagged values for rubber (lnRB1) was significant. The error correction term ecm(-1) was highly significant at 1% with a negative sign. The value of the error correction term indicated that a deviation of forest area level from long run equilibrium is corrected by 76% in the next year. Although Selangor has attained high economic growth and urbanization, there are still determinants that can cause deforestation in the near future and in the long run. As Selangor currently has low levels of forest cover (Department of Statistics Malaysia, 2013), it is essential that these areas be preserved for the future generations. It is also important to implement innovative urban and land use planning to minimize the resource demands of cities thus leading to lesser pressure on the ecosystem. This could also include collaboration with the local community (Shu-Li, Chia-Tsung, & Li-Fang, 2010). Policymakers should take note of these determinants in coming up with future development plans.

The state of Selangor has in recent years showed progress towards this by coming up with various forms of sustainable development blueprints such as Strategy for Sustainable Development of Selangor, and Agenda 21 Selangor (Hasshim & Shuib, 2012). In line with this the Selangor government has shown some efforts in sustainable management of the forestry sector. These include a 25 year moratorium on logging in forest reserves and increasing transparency. Currently public consultation is allowed in any process of conversion or de-gazettement of forested land. Moreover, there have been efforts of forest rehabilitation of Raja Musa Forest Reserve and coastal mangrove forests in collaboration with the local community (Selangor State Government, 2010). However, results from this study has also indicated that there still exists a threat of forest loss especially from the expansion of agriculture, logging and the various income generating sectors. This further reinforces the reports by environmentalists and by the media (Singh, S., 2013; Yip, 2013; Tan, 2009) that claim the deforestation problem is in fact rampantly occuring in Selangor despite the existance of forest protective policies. As Malaysia heads towards a more sustainable management of forest, there is certainly a need for more collaborative efforts at both the federal and state level (Hammond, 1997). Although there exists protective policies with regards to the harvesting and usage of forested areas, policies should emphasize more towards conserving the natural resources (Chang et al., 2004). This study provides a deeper look at the complex nature of deforestation at the state level and the findings could provide insights to encourage further investigations of the same sort for other regions in Malaysia (Yip, 2013). The

results indicate that deforestation in Selangor has to be taken seriously to avoid the negative consequences that can impact the environment in the future.

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Perception on Intention to Use Mobile Tourist Guidebook: Comparison of Self-managed Tour and Package Tour

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ABSTRACT

This study aims to reveal the level of international tourists' intention to use mobile tourist guidebook and investigates the perception on intention to use mobile tourist guidebook. The proposed model is developed based on technology acceptance model and extended model with perceived compatibility, perceived trialability, and perceived mobility. The study employs convenience sampling technique to collect data from international tourists using questionnaire at Suvarnabhumi Airport in Thailand. The SmartPLS software is employed to analyze the proposed model in terms of validity, reliability, and path coefficients. The results reveal the high level of international intention to use mobile tourist guidebook. In addition, the results reports perceived ease-of-use, perceived compatibility and perceived mobility are the factors of international tourists' intention to use mobile tourist guidebook in both self-managed tour group and package tour group. The perception of trialability does not influence on international tourists' intention in both manage-tour groups. The findings of this study extend the body of knowledge in the context of mobile application and contribute the tourism industries to understand the international tourists' perception on mobile application.

Keywords: Intention, Mobile, Perception, Technology Acceptance Model, Tourism.

INTRODUCTION

A large number of studies have identified the contribution of users' intention to the body of knowledge on technological adoption (Vlachos & Vrechopoulos, 2008; Lowenthal, 2010; Almatari et al., 2013; Jambulingam, 2013; Thakur & Srivastava, 2013). However, there are limited studies in mobile tourist guidebook (MTG) for international tourists in particular of perceptions and intention to use. The MTG refers to the mobile application which is provided general tour information for

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international tourists such as general information, attractive places, maps, culture, how to go there, accommodations, transportations, do and don't in Thailand, weather and seasons, Thai food, Thai fruit, simple Thai dialogs for international tourist, currency exchanged rate. According to Mallenius et al. (2007), the unknown and new things tend to create anxiety. With the new technology, users might feel that they are not able to control the technology and this can lead to serve frustration and even fear. Furthermore, users maybe resist mobile adoption in other various reasons such as the incompatibility of innovation with existing task and the inaccurate information comparing with existing alternatives (Kuisma et al., 2007; Kleijnen et al., 2009).

With the popularity of ubiquitous mobile applications and mobile devices, international tourists can access tour information via MTG on the move. In general, international tourists need much more tour information for their travel, especially for tour planning before travel and getting information during their trip. Even though several researches have studied mobile application in the other contexts, it is necessary to study the users' intention in the context of MTG. Due to the users' intention to use technology is different depended on user groups, technologies, and perceptions (Hsu et al., 2007; Dai & Palvi, 2009; Gerpott, 2011), the level of international tourists' intention to use MTG may be different from the other mobile application contexts. In addition, there is a lack of research which studies the perception of international tourists' intention use MTG and compares the different tour-managed types of international tourists: self-managed tour and package tour. Therefore, this study aims to reveal the level of intention to use MTG and perceptions of international tourists' intention to use MTG. Furthermore, this study provides the understanding in terms of the various users' perception between self-managed tour and package tour. The contributions of this research are theoretical model for intention to use MTG and a guideline of MTG implementation for tourism organizations.

LITERATURE REVIEW AND HYPOTHESIS

Technology Acceptance Model (TAM) was originally adapted from the theory of reasoned action (Fishbein and Ajzen, 1975) . It has been successfully used to explain intention to use IT and mobile IT. According to TAM (Davis, 1989), two perceptions which impact on users' intention to use technology were perceived usefulness and perceived ease-of-use as presented in Figure 1. In order to better explain users' intention to use technology, the attitude construct has been excluded from later conceptualizations of TAM (TAM2, TAM3) because attitude was difficult for measurement and previous studies found the behavioral intention can represent user's attitude towards using (Van Der Heijden, 2000; Chen & Tan, 2004; Parreño et al., 2013). Furthermore, the prior researches which studied users' intention to use new technology or technological prototype did not include actual usage in their conceptual model. Therefore, attitude construct and actual use construct were excluded from the research model in this study.

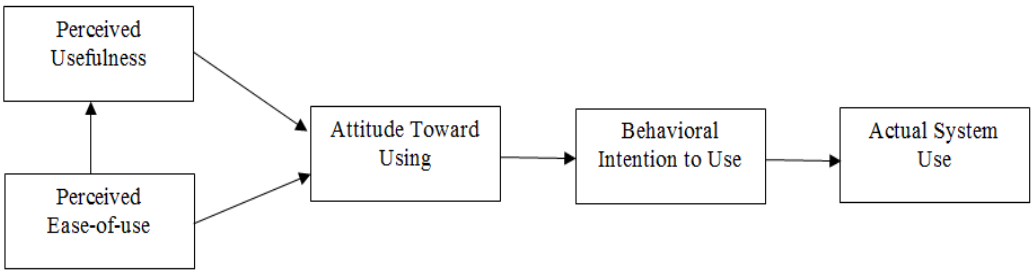


Figure 1 Technology acceptance model

Most empirical studies highlighted that perceived usefulness and perceived ease-of-use are the factors of users' intention to use technology (Lai & Chang, 2011; Xue et al., 2012). Therefore, this study considered perceived usefulness and perceived ease-of-use to be the factors of international tourists' intention to use MTG. However, there are the other perceptions related to users' intention to use mobile such as perceived compatibility, perceived trialability, and perceived mobility. The perceived compatibility is believed to lead to users' intention to use in several mobile IT contexts (Lai & Chang, 2011; Lu et al., 2011; Xue et al., 2012). Meanwhile, the perceived trialability has been suggested as a factor of users' intention in the contexts of IT and new technology on mobile devices (De Marez et al., 2007; Gerpott, 2011; Jung et al., 2012). Likewise, mobility is expected by mobile users during their usage because mobility is a basic feature of mobile devices. Therefore, this study proposed three additional perceptions which possibly impact on international tourists' intention to use MTG and proposed six hypotheses in order to study the relationship between five perceptions and intention to use MTG as presented in Figure 2.

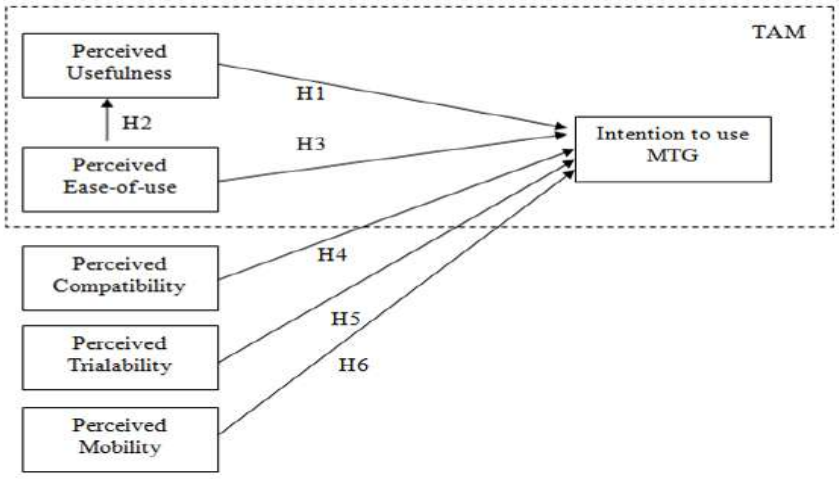


Figure 2 Research model

Perceived usefulness is defined as the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). In the mobile-based context, most empirical studies reported the significant role of perceived usefulness on users' intention to use technology. For example, Wu et al.

(2007) found perceived usefulness significantly impacted on behavioural intent to use mobile healthcare system, Phuangthong and Malisuwan (2008) reported the usefulness is a factor on behavioural intention in the context of multimedia mobile internet, and Kim et al. (2008) found the higher perceived usefulness will increase the attitude to use mobile technology and indirectly increase users' intention to use mobile technology. However, Hsu et al. (2007) found that perceived usefulness did not influence on intention to use multimedia message service in laggards group. Therefore, this study purposes the hypothesis in order to evidence the relationship between perceived usefulness and international tourists' intention in the context of MTG as the following:

H1: Perceived usefulness has a positive impact on intention to use MTG.

Many studies over the past decade have pointed to evidence regarding the critical effect of perceived ease-of-use on users' intention. Perceived ease-of-use defined as the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). According to Eriksson and Strandvik (2009), ease-of-use aspect must be highlighted by product developers as mobile tourism services. In the other mobile-based contexts, Jayasingh and Eze (2009) identified perceived ease-of-use had a positive influence the behaviour and intention of consumers in using m-coupons. Similarly, Kim et al. (2008) found perceived ease-of-use has a role toward attitude and indirectly effect on intention to use mobile technologies among traveller. In addition, most prior mobile studies found the positive relationship between perceived ease-of-use and perceived usefulness (Kim et al., 2010; Wu et al., 2011; Xue et al., 2012). Therefore, the higher levels of perceieved ease-of-use possibly increases users' intention to use IT and perceived ease-of-use possibly relates to perceived usefulness in the context of MTG. However, Song et al. (2008) reported the perceived ease-of-use was not the determinant of behavioral intention to use mobile commerce in Korea. For the inconsistent findings of previous studies, this study proposed the hypothesis in order to investigate this relationship in the context of MTG as the following:

H2: Perceived ease-of-use has a positive impact on perceived usefulness.
H3: Perceived ease-of-use has a positive impact on intention to use MTG.

The users' lifestyle plays an important role on their intention to use new technology and continue intention today (Ahmad et al., 2010). Dahlberg and Oorni (2007) and Lu and Su (2009) found that the compatibility have an impact on behavioural intentions. Commonly, higher level of compatibility is associated with increasing intention to use IT (Wang et al., 2011). In the context of mobile IT and mobile services, users' lifestyle will strongly affect their decision to use the mobile technology (Putzer & Park, 2010; Lu et al., 2011). Because mobile IT is an extension of existing information media and services, people who frequently use mobile applications or mobile services may have less resistance to accepting the mobile version. Mallat et al. (2008) found the compatibility had a positive influence on users' intention in their empirical investigation of mobile ticketing service adoption in public transportation. In order to confirm the relationship between perceived

compatibility and intention to use MTG among international tourists, the hypothesis is formulated as the following:

H4: Perceived compatibility has a positive impact on intention to use MTG.

According to Rogers (2003), the trialability is about how easily an innovation may be experimented with as it is being adopted. If a user has a hard time using and trying an innovation, the individual will be less likely to adopt it. It means that trialability is positively correlated with the rate of adoption. Consistent with Cheng and Cho (2011), the perceived trialability of new ICT is a major factor users attitude toward it. Several previous studies have been reported the significant relationship between trialability and users' intention to use IT and mobile IT (Kawal Kapoor et al., 2013; Kawaljeet Kapoor et al., 2013). In particular of the new technology, Wang (2014) suggested that the trialability has more of an effect on users' intention, and it has a direct influence on intent to use new technology. Likewise, Tobbin and Kuwornu (2011) reported that trialability is a determinants of behavioural intention to use mobile money transfer in Ghana. However, Hsu et al. (2007) and Phuangthong and Malisuwan (2008) reported in their mobile internet study that trialability is not the predictor of users' intention. Similarly, Hsu et al. (2013) found the trialability did not influence on users' intention toward the use of mobile electronic medical records. Hence, it needs to clear the relationship between trialability and international tourists' intention and impact's direction of perceived trialability on international toruists' intention to use in the context of MTG. The hypothesis is proposed as the following:

H5: Perceived trialability has a positive impact on intention to use MTG.

Today mobile IT and mobile services are trendy usage among mobile subscribers, as a result of a principal characteristic of mobile phone which is mobility (Cook et al., 2011). Therefore, the mobility is expected by mobile user and has an impact on users' intention to use mobile technology in several contexts. Perceived mobility refers to the degree of prospective benefits which are provided by mobile technologies. Benefits are about the information access and services anytime and anywhere (Kim et al., 2010). The previous studies considered the mobility in both direct and indirect impact on users' intention to use mobile services and IT. Mallat et al. (2009) identified the mobility had an indirect effect on users' intention to use mobile ticket. Similarly, several studies reported an indirect impact of mobility on users' intention through perceived usefulness such as mobile payment in study of Kim et al. (2010), mobile works in study of Vuolle and Käpylä (2010) and mobile financial services in study of Dass and Sujoy (2011). Additionally, Schierz et al. (2010) indicated that mobility had both a direct and indirect effect on users' intention to use mobile payment. Even though most previous studies point to the perceived mobility has impact on users' intention to use mobile IT, only a few studies indicated the perceived mobility directly impact on users' intention. Therefore, this study proposes the hypothesis to investigate the direct role of perceived mobility on international tourists' intention to use MTG as the following:

H6: Perceived mobility has a positive impact on intention to use MTG.

RESEARCH METHODOLOGY

This empirical study employed quantitative approach using self-administered questionnaire. The questionnaire consists of three main sections. Section A captured the individual profile of the respondents such as gender, age, continent and type of managed-tour. Section B was measured five perceptions and intention to use MTG. The perceptions in this section included perceived usefulness, perceived ease-of-use, perceived compatibility, perceived trialability, and perceived mobility. All measures in Section B were adapted from good reliable items which Cronbach's alpha value exceed value of 0.70 (Hair et al., 2010). The adapted sources of items were presented in Table 1. All items in questionnaire were anchored on a 7-point Likert scale which ranged from 1=strongly disagree to 7=strongly agree. Section C captured the travel style of the respondents such as total number of staying day in Thailand, total number of co-traveller, list name of visited places, other needful contents, and type of preferred data. In order to ensure the effective of questionnaire, the pilot test using convenience sampling technique was used before data collection. In pilot test stage, thirty questionnaires were distributed to international tourists at Suvarnabhumi Airport in Thailand. All comments and suggestions which obtained from voluntary international tourists were used to improve the questionnaire.

Table 1 Sources of measurement in this study

Construct	Item	Source
Perceived usefulness (PU)	The MTG will make it easier to get travel information. The MTG will save my time for travel planning. The MTG will enhance my effectiveness on travel.	Gu et al. (2009)
Perceived ease-of-use (PEU)	Learning to use the MTG is easy for me. The MTG is easy to use. The MTG does not require a lot of effort.	Kim et al. (2010), Tsai (2010)
Perceived compatibility (PC)	Using the MTG will be fit into my travel. Using the MTG fits into my travel style. I believe the MTG fits well with the way I like to travel.	Lu et al. (2011)
Perceived trialability (PT)	Before deciding to use MTG, I would like to see its features first. Before deciding to use MTG, I would like to properly try it out. I would like to have the usage permission on a trial application long enough to see what it can do.	Hsu et al. (2007), Tanakinjal et al. (2010)
Perceived mobility (PM)	I would like to use the MTG anytime during my travelling. My tour information requires a high level of mobility that suits to use MTG. My tour information has to be mobile all the time to meet my travel.	Kim et al. (2010), Haustein and Hunecke (2007)
Intention to use MTG (INU)	If I have the MTG, I will use it for planning my trip If I have the MTG, I will use it during my trip If I have the MTG, I will use it for the next trip	Kim (2008), Ayeh et al. (2013)

In the data collection stage, this study employed convenience sampling technique to collect data from international tourists at the International Departure Hall in Suvarnabhumi Airports of Thailand. Before filling out the questionnaires, the respondents were explained the proposes of survey questionnaire. Next, the

respondents were asked to be the voluntary participation. If they were willing to be participants, then they were given the demonstration of MTG usage and MTG features. Afterwards, they had a chance to try out the MTG in a few minutes and then were distributed the questionnaire. Finally, the questionnaires were collected back from respondents and checked the completeness by researcher. The total number of completed questionnaires was 417 that Sekaran and Bougie (2010) stated that it is enough for hypothesis testing with population more than one million. Therefore, the data of this study is proper for analysis and testing in terms of reliability, validity, and path coefficient. The demographic data of respondents was presented in Table 2. As reported in the table, 54.7% of the respondents were male and 45.3% of respondents were female. In terms of age, most respondents (74.1%) were between 21 and 40 years old. In a grouping based on continent, 40.8% of international tourists were Asian while 59.2% were not Asian. The percentages of both managed-tour groups were slightly different.

Table 2 The demographic data of respondents (N=417)

Profile		**Frequency**	**Percentage**
Gender	Male	228	54.7
	Female	189	45.3
Age	Below than 21 years	18	4.3
	21-25 years	93	22.3
	26-30 years	110	26.4
	31-40 years	106	25.4
	41-50 years	40	9.6
	Above than 50 years	50	12.0
Continent	Asia	170	40.8
	Europe	115	27.5
	America	32	7.7
	Oceania	76	18.2
	Africa	12	2.9
	Middle East	12	2.9
Type of managed-tour	Self-manage tour	219	52.52
	Package tour	198	47.48

DATA ANALYSIS AND FINDINGS

A confirmatory factor analysis using SmartPLS 2.0 was employed to assess reliability, convergent validity and discriminant validity. As shown in Table 3, the factor loadings of all items also are higher than 0.60 which consider to be acceptable measurement for the construct (Hair et al., 2010). The average variance extracted (AVE) of each construct is above 0.50, thus the convergent validity of this study is adequate, while the composite reliability (CR) of all items exceed 0.70 cut-off values (Chin, 1998). Thus, the reliability and convergent validity of this study were adequate.

Table 3 Reliability and validity of study

Construct	Item	Loading	AVE[a]	CR[b]
Perceived usefulness	PU1	0.88	0.77	0.91
	PU2	0.92		
	PU3	0.83		
Perceived ease-of-use	PEU1	0.91	0.81	0.93
	PEU2	0.92		
	PEU3	0,87		
Perceived compatibility	PC1	0.91	0.74	0.90
	PC2	0.92		
	PC3	0.76		
Perceived trialability	PT1	0.72	0.66	0.86
	PT2	0.86		
	PT3	0.86		
Perceived mobility	PM1	0.89	0.80	0.92
	PM2	0.92		
	PM3	0.87		
Intention to use MTG	INU1	0.88	0.68	0.90
	INU2	0.87		
	INU3	0.89		

The mean value of international tourists' intention to use MTG is very high (6.47). It indicates that the level of international tourists' intention to use MTG is very high, then international tourists will intent to the MTG when they have a chance to use it. Discriminant validity is a test of correlations between constructs. To test the discriminant validity, the diagonal elements were computed using square root of AVE. As shown in Table 4, all correlation of constructs are significant ($p < 0.01$), and all diagonal elements were larger than their corresponding correlation coefficients. Therefore, the discriminant validity of this study was acceptable (Fornell & Larcker, 1981). In addition, the results reported all variance inflation factors (VIF) values were less than the acceptable cut-off values 5.0 (Hair et al., 2010). Thus, this study did not suffer from multicollinearity problems.

Table 4 Descriptive statistics and correlation analysis

	Mean	S.D.	VIF	PU	PEU	PC	PT	PM	INU
PU	6.36	0.70	2.12	**0.88**					
PEU	6.58	0.58	1.64	0.65**	**0.93**				
PC	6.23	0.78	1.80	0.68**	0.51**	**0.88**			
PT	5.94	0.98	1.29	0.60**	0.56**	0.64**	**0.90**		
PM	6.34	0.71	1.92	0.65**	0.62**	0.69**	0.75**	**0.91**	
INU	6.47	0.65		0.64**	0.70**	0.68**	0.64**	0.61**	**0.61**

** $p < 0.01$

To understand international tourists' intention in each type of managed-tour, this study examined the research model for international tourists in each type of managed-tour. This study classified type of managed-tour of international touristis to

two types: self-managed tour and package tour. *Self-managed tour* refers to the international tourist who manages his/her travel with himself/herself such as travel planning, reserving hotel, booking flight. *Package tour* refers to the international tourist who travels by arrangement of tour agencies such as vehicle, tour guide, admission fee, meal, hotel, and activities. For the self-managed tour, the research model accounted for 59.3% of the variance in intention to use MTG as presented in Figure 3. The path coefficents for PU-PEOF, PEOF-INU, PC-INU and PM-INU links in model were all significant. Nevertheless, the path coffeicients for the PU-INU and PT-INU links were not significant. Similarly, for the package tour group, the proposed model explained 52.4% of the variance in intention to use MTG. Most path coefficient of package tour group in model were significant, excepting the path coffeicient for PT-INU link was not significant.

The findings of this study reveal several intersting issues in terms of perceptions and intention to use MTG. First, perceived usefulness does not impact on international tourists' to use MTG in both managed-tour types. The perceived usefulness of international tourists in self-managed tour type does not relate to intention to use MTG, whereas perceived usefulenss has the influence on intention to use MTG in package tour type. Second, perceived ease-of-use, perceived compatibility, and perceive mobility are the factors of intention to use MTG in all types of managed-tour. Third, perceived trialability is not the factor of international torusits' intention to use MTG in both self-managed tour group and package tour group. Fourth, the perceived ease-of-use strongly impact on perceived usefulness in both of groups. Finally, perceived compatibility is the most important factor of intention to use MTG in both types of managed-tour.

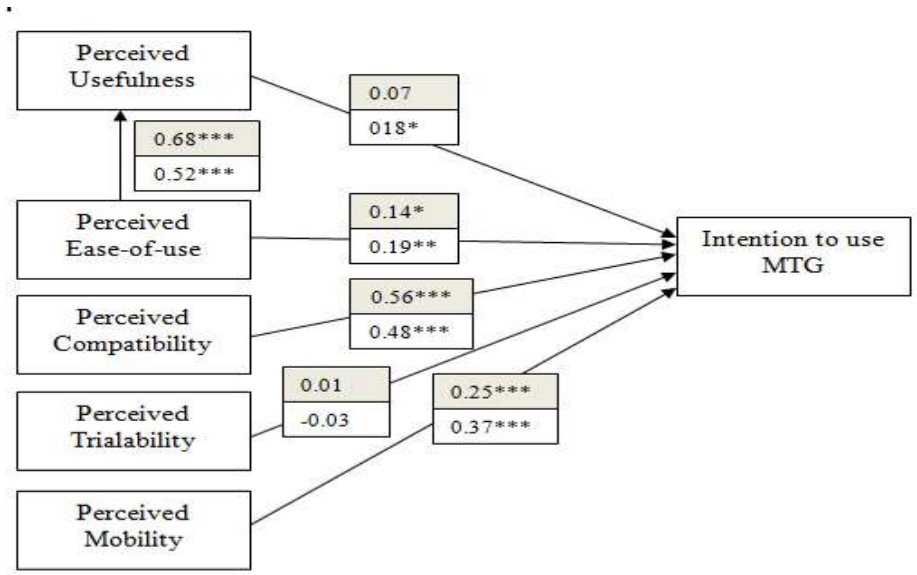


Figure 3 Standardised path coefficient for self-manged tour and package tour

DISCUSSION

The findings support that users' lifestyle will strongly affect their decision to use the mobile applications and mobile services (Mallat et al., 2008; Putzer & Park, 2010; Lu et al., 2011; Wang et al., 2011) and they expect the mobility during their usage (Kim et al., 2010; Schierz et al., 2010; Vuolle and Käpylä, 2010, Dass & Sujoy, 2011). Furthermore, the finding reveal the level of international tourists' intention to use MTG. The findings increasingly clear that users do not intent use MTG based only on criteria of perceived usefulness and perceived ease-of-use. The perceived compatibility and perceived mobility also have the important role on international tourists' intention, especially international tourists who manage their tour with themselve. Their perception in usefulness are not a factor of their intention to use MTG. This finding contrast with the suggestion in TAM which highlights the important role of perceived usefulness in technology acceptance. However, this study confirms TAM (Davis, 1989) and most previous mobile studies in terms of the relationship between perceived ease-of-use and intention usefulness (Jayasingh & Eze, 2009), and the relationship between perceived ease-of-use and perceived usefulness (Kim et al., 2010; Wu et al., 2011; Xue et al., 2012). In terms of perceived trialability, the results report that international tourists in both group do not want to have experiment and get any MTG demonstration before their decision to use MTG, due to m-book is not a new technology today and the MTG is very easy to learn and use that international tourists can percieve it very high as presentd in Table 3. These findings are consistent with Cheng and Cho (2011) that perceived trialability is a factor of attitude toward to use new tecnology. Likewise, the findings are support by Hsu et al. (2007) and Phuangthong and Malisuwan (2008) who reported that trialability is not a preditor of users' intention to use.

LIMITATIONS AND FUTURE RESEARCH

The future studies can use the proposed intention model in the other mobile IT contexts of tourism industry, althoght the finding of this study focuses on the specific domain of the MTG. We suggest the future researches to study based on our research model when they want to preditct international tourists' intention to use mobile IT such as m-brocure and m-health. However, the percentages of international tourists in this study were collected based on the actual percentages of international tourist arrivals to Thailand between 2006 and 2010. In order to ensure the predictions of tourists' intention, the future researches should re-examine the proposed model with their dataset in terms of reliability, validity, correlation, and path analysis. Especially, the future research which focuses on African tourists or Middle Eastern tourists.

IMPLICATIONS AND CONCLUSION

Overall, the findings of this study further enhance the understanding of international tourists' intention to use MTG. The results contain several implications for researchers and practitioners as well as for mobile IT adoption in tourism industry. In theoretical contribution, this study provides the basic of the future model in the

context of mobile IT in tourism industry. This exploratory study establishes and reinforces the significant roles of perceived compatibility and perceived mobility in predicing the usage intention of MTG. Therefore, the future researchers who study based on TAM in context of mobile IT for international tourists should extend TAM with perceived compatibility and perceived mobility. Futhermore, the findings reveal that percevied traialbity is not a factor of international tourists' intention to use MTG in both managed-tour groups. Therefore, the future works should not consider perceived trialability as a factor of international tourists' intention to use mobile IT in tourism context.

In practical contribution, this study provides the guideline that how to increase international tourists' intention to use MTG in terms of development and implementation. As the resutls of the data analysis shown, the traialabiltiy is not a factor of international tourists' intention to use MTG in both groups of mananged-tour (self-managed tour and package tour). Therefore, MTG developers and MTG providers do not need to provide the MTG trial version for international tourists. Also, these results will help the MTG providers and tourism businesses to save their budget in terms of MTG demonstrated employee at exhibition booth, fee of trial version uploading to mboile application strores (e.g., Google Play, Apple Store and BlackBerry World), and advertisment of MTG trail version (Google Ads, Apple Ads, and Blackbery Ads). Furthermore, the MTG providers and tourism businesses can save time to launch their MTG to international tourists. Due to it is not necessary to provide trial phase for international tourists, then MTG providers and tourism businesses can skip the MTG trial phase to actual usage phase.

Addtionally, MTG developers and MTG providers should consider the important role of compatibility due to it has the most impact on international tourists' intention to use MTG in both groups of managed-tour. In general, international tourists will travel aboard more than three days and more than one attractive place. In Thailand, most international tourists also prefer to travel more than one city in Thailand. For example, they plan to visit Doi Suthep National Park in Chiang Mai (Northern city) and travel around Chiang Mai, then travel to Patong Beach in Phuket (Southern city), and shopping around Bangkok to buy Thai products and souvenirs before they go back to their countries. During their travel, they always use tour contents and maps to find restuarants, public transportations, accommodations, and nearby attractive places. Thus, the tour contents which are provided in MTG should be compatible these international tourists' behaviour. Furthermore, the MTG should provide most tour data in form of photo because international tourists prefer to see photo than text and the other data types. The photos of attractive places can motivate international tourists to travel. These photos also can help international tourists to communicate with local people who cannot speak english. In addition, the tour photos of transportation also can help international tourists easily to find the local transportation in each city such as Tuk Tuk in Bangkok, Phuket and Hadyai; and red van in Chiangmai.

ACKNOWLEDGEMENTS

This work was supported in part by a grant from Faculty of Science and Prince of Songkla University. We are thankful to Airports of Thailand Public Co.,Ltd. who allowed us to collect data from international tourist at the International Departure Hall in Suvarnabhumi Airport.

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Bonus Share: Test with Event-Induced Variance

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ABSTRACT

Even though many researchers have found the problem of event-induced variance in event studies, they tended (OPTED) to neglect these hazards by using conventional event-study method, such as Patell test. This test tends to reject the null hypothesis of zero average abnormal return too often as it is true, (higher type-I error). In this study, we implemented a more advanced event-study method, Boehmer, Mucumeci, and Poulsen (BMP) test, to remedy the issue of event-induced variance. We found that the BMP test generates equally powerful tests as the null is false as well as suitable rejection rates as it is true. In addition, there has the impact of bonus share event on the Malaysia stock market returns. To our knowledge, our study offers the only empirical evidence of the ability of BMP test particularly within the bonus share event.

Keywords: Abnormal Return, Event-Induced Variance, Bonus Share, Malaysia Stock Market, Patell Test, BMP Test

INTRODUCTION

The study of Fama *et al.* (1969) on the stock splits has set up a new milestone in event studies. More specifically, they inspect the effects of particular events on the distribution of stock returns. Brown and Warner (1980, 1985) claim that conventional test statistics perform well in the case when a particular event has the same effect on all companies. In addition, they warn that the variance of returns will increase and conventional test statistics might not work well while an event has differing effects on the companies (1985, pp. 22-25). Notwithstanding that many researchers have also found that the variance of returns does in fact increase at the time of significant events (Boehmer, Masumeci, and Poulsen, 1991), some researchers still take the risks to ignore the problems.

One of the conventional test statistics used in event-study is Patell test or standardised residual test (Patell, 1976) where the significance of abnormal returns will be examined. Patell test assumes that stock residuals are uncorrelated; hence the event-induced variance is insignificant. Patell test shows that when a particular event

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leads to even a slight increase in variance, the conventional method will reject the null hypothesis of zero average abnormal return too frequently when it is, in fact, true. In other words, Patell test tends to produce high type I error.

On the other hand, Boehmer, Masumeci, and Poulsen (1991) propose a simple modification to the cross-sectional method resulting in equally powerful tests as the null is false as well as appropriate rejection rates as it is true. Both the power and the size of the modified test are unchanged when applied to portfolios subject to event-date clustering. This standardised cross-sectional test is also known as Boehmer, Mucumeci, and Poulsen (BMP) test. In fact, the BMP test is a hybrid of Patell test and the ordinary cross-sectional method.

Numerous events lead to the changes in both risk as well as return for individual securities. Brown, Harlow, and Tinic (1988, 1989) show that a temporary increase in the variance of the abnormal returns tend to associate with the shift in the mean.

This paper intends to compare the performance of the BMP test over the conventional event test statistic (Patell test) in the case of an event increases the variance of the returns (event-induced variance). In addition, we will provide empirical evidence on the impact/effect of bonus share event on the stock returns.

In the following section, we review the literature on the issue of event-induced variance in event-study methodology and summarise remedies suggested by researchers. We also introduce the advance test statistics in Section 3. We illustrate how this advanced test can be used in the event-study, especially bonus share event on the Malaysia stock market returns. Section 4, we use 20 large market capitalisation listed firms in Malaysia Stock Market to compare the performance of this test statistic to a conventional test statistic. Section 5 provides summary and concluding comments.

LITERATURE REVIEW

Woolridge (1983a) compares the theoretical opening price to that of actual opening price on the ex-dividend date and the result obtained supports the retained earnings hypothesis. In his another study, by restricting the study's sample to those non-cash dividend paying companies, Woolridge (1983b) notices that the dividend is interpreted by investors as signal from managers and the size of bonus share has impact on the abnormal return within event period.

Brown and Warner (1980, 1985) conclude that commonly, the event-study tests are well specified as well as reasonably powerful but they observe the potential testing problems made by an event-induced increase in variance (1985, pp. 22-25). They point out that even when the average abnormal performance is zero the test statistic will tend to over rejecting null hypothesis due to the variance is underestimated. This is because they are earlier researchers advocate using daily data in 1985's paper instead of using monthly data in 1980's paper. In 1985, they are pioneer researchers using simulations to verify their findings. In addition, the variance of returns amplifies significantly when particular events happens has been found out by few researchers like Beaver (1968), Patell and Wolfson (1979), Dann (1981), Christie (1983), Kalay and Loewenstein (1985), Rosenstein and Wyatt (1990). For instance, the event-period standard deviation to be more than 3.5 times bigger than that of the estimation period through Dann's study in stock repurchases.

Some papers, use the remedy of ignoring estimation-period information on the variance of residuals with state an assumption the variance is invariant throughout the whole study. They instead use the cross-sectional variance in the event period to develop the test statistic. Boehmer, Masumeci, and Poulsen (1991) show 8 event studies that applied the cross-sectional method and documented both the estimation period as well as event-period cross-sectional standard deviations. These studies was based on the works of the Charest (1978), Dann (1981), Mikkelson (1981), Penman (1982)and Rosenstein Wyatt (1990) and several of the papers contained more than one event study. In these study the standard deviation in the event period was greater than in the estimation period.

Higgins and Peterson (1998) keenly argue that an increase in cross-sectional variance induced by all events. They urge the researchers and academicians every tests applied to evaluate the statistical significance of the event-study abnormal returns should take event-induced variance into account for estimation as well as adjustments. A variety of remedies to tackle the problem of event-induced variance has been documented in the event-study literature. Christie (1983) proposals if multiple events are examined for each company, event-induced variance may be estimated. Although Christie successfully recognises the hazards of neglecting event-induced variance, researchers generally do not use their suggestions for dealing with event-induced variance because of data limitations. Besides that, Ball and Torous (1988) simulate an event that increases the stock returns mean as well as variance by using the maximum likelihood estimation (MLE) method to stock return data. They simultaneously estimate event-period returns, the variance of these returns, as well as the probability of the event's occurrence for any provided day during the event window. When the presence of abnormal return, their simulations indicate the MLE technique rejects the null hypothesis more frequently than the conventional method, while it does not reject the null too frequently as it is true.

This paper suggests BMP test that performs well during the presence of event-induced variance. This BMP test is easy to apply and is a combination of Patell's (1976) standardised residual approach and the ordinary cross-sectional methodology proposed by Penman (1982). A t-test by dividing the mean event-period residual by its contemporaneous cross-sectional standard deviation is known as ordinary cross-sectional method. According to Boehmer, Masumeci, and Poulsen (1991), the ordinary cross-sectional method varies from the Patell test in that it does not involve event-induced variance to be insignificant. The drawback for this test is that if the event-period residuals for vary companies are drawn from different distributions, it will be misspecified (Boehmer, Masumeci, and Poulsen, 1991).

The ordinary cross-sectional method overlooks estimation-period estimates of variance and applies the event-day cross-sectional standard deviation for its t-test. The ordinary cross-sectional test is shown as follows:

$$\frac{\frac{1}{N}\sum_{i=1}^{N} A_{iE}}{\sqrt{\frac{1}{N(N-1)}\sum_{i=1}^{N}\left(A_{iE} - \sum_{i=1}^{N}\frac{A_{iE}}{N}\right)^2}}$$

Where N = number of firms in the sample,
A_{iE} = stock *i*'s abnormal return on the event day

The BMP test integrates variance information from both the estimation as well as the event periods (Boehmer, Masumeci, and Poulsen, 1991). The new methodology of Boehmer, Masumeci, and Poulsen (1991) is very much related to the unique study of Ball and Torous' (1988) estimator in which there is no event-day uncertainty. Boehmer, Masumeci, and Poulsen (1991) simulate the occurrence of an event with stochastic effects on security returns in order to examine the robustness of their method compared to a few conventional methods. Unlike the generally used methods that neglects changes in variables, their test produces appropriate rejection rate as the null is true and yet is equally powerful as the null is false. Thus, this study proposes to use BMP test in examine abnormal return of bonus share in Malaysia listed companies. In Malaysia context, stock dividend more frequently known as bonus share.

DATA AND METHODOLOGY

Event-Study

The event-study is an important tool in economics and finance analyses. The event-study is aimed to measure the impact of a financial event on the firm value. In other words, it is an analysis of whether there is a statistically significant reaction in financial markets to occurrences of a given type of event.

The bonus share event does not frequently occur in Malaysia and Turkey stock markets. Following the study of the Batchelor and Orakcioglu (2003), 24 sample events of 20 large market capitalisation listed firms in Malaysia Stock Market (Bursa Malaysia, formerly known as Kuala Lumpur Stock Exchange) on June 2012 is obtained in this paper. To stay in a sample, each company ought to have at least 20 daily returns in the estimation period (-30 through -11) and no absent of returns in the 41 days surrounding the event date (-10 through +30). The daily data covers 62600 observations from January 1996 to December 2012 in view of the data availability on the Bursa Malaysia website has been used throughout this study. All the daily data of the FTSE Bursa Malaysia Composite Index and individual company share price are collected via Data Stream. The ex-date of bonus share is obtained from the Bursa Malaysia website.

The each price series *i* daily percentage log-return, R_{it} is calculated as follows:

$$R_{it} = 100.\ln(P_{it}/P_{it-1})$$

Where P_{it} and P_{it-1} are the (adjusted) closing prices of company *i* on days *t* and *t-1* respectively.

The changes in the market value are well captured in stock return. To operationalise the notion that the bonus share effect is readily impounded into prices, the concept of the abnormal returns serves as the central key of event study methods. The market model with the risk adjusted approach has been applied to compute the abnormal return. This approach takes into consideration of the both market-wide factors and the systematic risk of an individual share (Annuar and Shamsher, 1993). This model is estimated by comparing the daily stock return, or

raw return (RR) with the market return, $R_{m,t}$. The difference between these returns is known as unexpected, abnormal returns or abnormal profits. Here, the FTSE Bursa Malaysia Composite Index is used as a reference for average market returns. This index included a minor basket of thirty stocks. By running the five years rolling window Ordinary Least Square (OLS) on the individual share and market daily log return series, the abnormal return, $AR_{i,t}$ will be estimated as below

$$AR_{i,t} = RR_{i,t} - (\alpha_i + \beta_i R_{m,t})$$

Where $AR_{i,t}$ = Abnormal return for stock *i* on day *t*;
$R_{m,t}$= Market return on day *t* estimated from the FTSE Bursa Malaysia Composite Index (CI)
$= 100.\ln(CI_t/CI_{t-1})$

Day '0" is referred as ex-date (event date) of a bonus share event for a given stock. For every sample of bonus share event, a maximum of 61 daily abnormal return observations is being implied throughout this study. This is for the time around its event samples with beginning at -30 day and ending at -11 day relative to the event. The estimation period is defined from the first 20 days (-30 through -11), and subsequent 41 days (-10 through 30) is the event period. The terminology related to event window periods are expressed in the figure below.

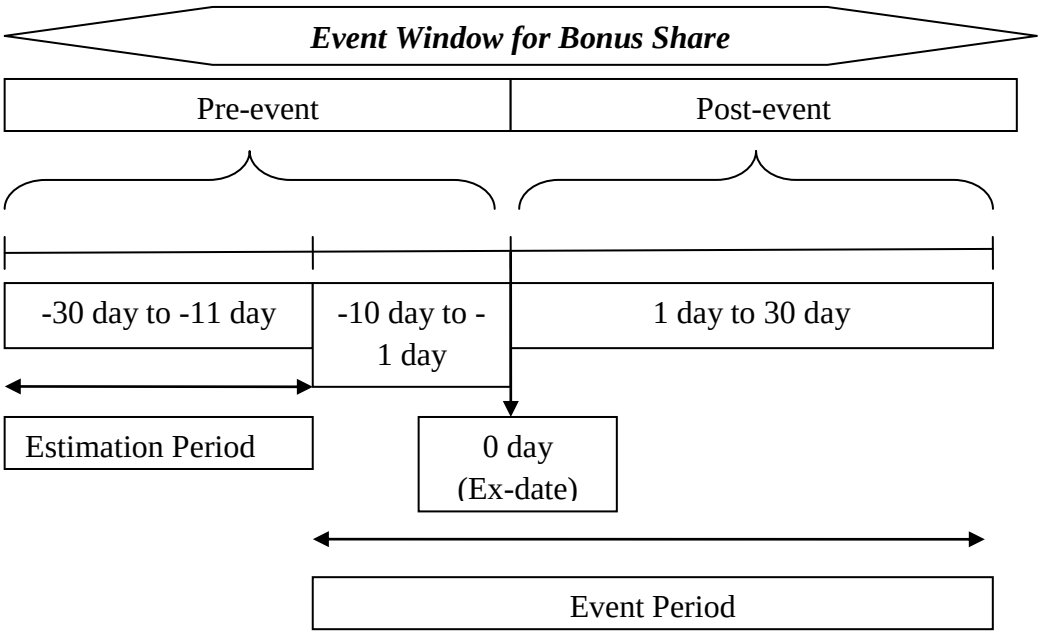


Figure 1 Experimental design of Event Window for bonus share

Type I Error and Type II Error

According to Black (2011), two types of errors can be made in testing hypothesis that are Type I error and Type II error. The Type I error is committed by rejecting a true

null hypothesis. With a Type I error, the null hypothesis is true, but the researcher decides that is not. For example, suppose a financial event is zero averaging of abnormal return. Suppose also that a researcher selects thirty samples of particular financial event, and computes sample daily average abnormal returns. It is possible, by chance; these daily average abnormal returns are in extreme values (mostly high positive or low negative) due to the event-induced variance issue. This causes in a mean that falls in the rejection region. The decision is to reject the null hypothesis even though the average abnormal return is zero. In this case, the researcher has committed a Type I error.

In Figure 2 below, the rejection regions represent the possibility of committing a Type I error. Means that fall beyond the critical values will be considered so extreme that researcher chooses to reject the null hypothesis. However, if the null hypothesis is true, any mean that falls in a rejection region will result in a decision that produces a Type I error. The alpha (α) or level of significance is the probability of committing a Type I error.

		State of nature	
		Null True	**Null False**
Action	**Fail to reject null**	Correct decision	Type II error (β)
	Reject null	Type I error (α)	Correct decision (power)

Figure 2 The relationship between the two types of error

Test statistics

Two different test statistics have been used in this paper to test for abnormal returns. First, Patell test (Patell, 1976) is one of conventional test statistics in event-study. Second, BMP test (Boehmer, Masumeci, and Poulsen, 1991) is an advance test statistic to tackle the event-induced variance problem. Each test statistic is explained and formally defined as below.

The Conventional Test

Patell test standardises the residuals before forming portfolios.

Like the conventional method, Patell test assumes that stock residuals are uncorrelated so event-induced variance is insignificant. Patell test standardise the residuals before forming portfolios. There have two objectives in this standardisation. First, the standardisation adjusts for the fact that the event-period residual is an out-of-sample forecasting, so it have a higher standard deviation than estimation-period residuals [see, for example, Judge *et al.* (1988), p. 170]. Second, it permits for heteroskedastic event-day residuals as well as avoid stock with huge

variances from dominating the test. The standardised residual equals the event-period residual divided by the standard deviation of the estimation-period residuals. This adjustment is to reflect the prediction error. An approximately unit normal is achieved through this standardised residual. Then, the appropriate t-statistic is the total of the standardised residuals divided by approximately the square root of the number of event samples. The actual denominator is $\sqrt{\sum_{i=1}^{N}(T_i-2)/(T_i-4)}$, where T_i is the number of days in stock *i*'s estimation period and N is the number of events in the sample. In the case for the majority companies with a great number of days in the estimation period, $\sum_{i=1}^{N}(T_i-2)/(T_i-4)\approx N$. Brown and Warner (1985) apply the approximate test statistic in their hypothesis tests and assume that cross-sectional independence.

Before forming portfolios, the residuals have been normalised through the Patell test. The formula of Patell test, t_p is calculated as below:

$$t_p = \frac{\sum_{i=1}^{N} SR_{iE}}{\sqrt{\sum_{i=1}^{N}\frac{T_i-2}{T_i-4}}}$$

Where N = number of events in the sample

T_i = number of days in stock *i*'s estimation period (the subscript *i* is omitted as there is no potential confusion)

SR_{iE} = stock *i*'s standardised residual on the event day

$$= \frac{A_{iE}}{\hat{s}_i\sqrt{1+\frac{1}{T_i}+\frac{(R_{mE}-\bar{R}_m)^2}{\sum_{t=1}^{T_i}(R_{mt}-\bar{R}_m)^2}}}$$

Where A_{iE} = stock *i*'s abnormal return in the event day

$\hat{s}_i$ = stock *i*'s estimated standard deviation of abnormal returns in the estimation period

R_{mE} = market return in the event day

$\bar{R}_m$ = mean market return in the estimation period

R_{mt} = market return on day t

The BMP Test

Boehmer, Masumeci, and Poulsen (1991) documented that there are two solutions for the event-induced variance which are an ordinary cross-sectional test and a sign test in conjunction with a parametric test.

The BMP test is a hybrid of Patell test and the ordinary cross-sectional method. The misspecification issue of the ordinary cross-sectional test has been well addressed by BMP test (Boehmer, Masumeci, and Poulsen, 1991). The BMP test is

analogous to the test statistic developed by Ball and Torous (1988) though Boehmer, Masumeci, and Poulsen (1991) consider a few different studies of event-induced variance and evaluate their estimator to most of the standard methodologies. The test statistic of the Ball and Torous (1988) is very common in that it permits for option specifications of the return-generating method, and event-date uncertainty. The standardised returns in the model of Ball and Torous (1988) are normal independent, and identically distributed under the condition of the market model generates returns such that the event happens with probability one on a certain day as well as any event-induced variance is proportional to the individual stock's estimation time variance. Thus, the MLE synchronises with OLS.

There have two important steps in the BMP test. The first step is standardises the residuals by the estimation-period standard deviation also known as adjusted for the forecast error. The second step, in order to standardise residuals, the ordinary cross-sectional method is used. Similar to the ordinary cross-sectional test, this test tolerates event-induced variance changing. Furthermore, this method integrates information from the estimation period. This may contribute to improve its power and efficiency. This test obliges the stock residuals be cross-sectionally uncorrelated.

The BMP test, first the standardised residuals are calculated as Patell performed. Next, the ordinary cross-sectional approach described being implemented. The BMP test t_{bmp} is shown as follow,

$$t_{bmp} = \frac{\frac{1}{N}\sum_{i=1}^{N} SR_{iE}}{\sqrt{\frac{1}{N(N-1)}\sum_{i=1}^{N}\left(SR_{iE} - \sum_{i=1}^{N}\frac{SR_{iE}}{N}\right)^2}}$$

DATA ANALYSIS AND FINDINGS

Table 1 reports the average abnormal returns, accumulative average abnormal returns, analysis result of Patell test and BMP test. The number of bonus share event samples is 24. At 10%, 5% and 1% significant levels, the critical values of both Patell and BMP test statistics are ±1.71, ±2.07, and ±2.81 respectively.

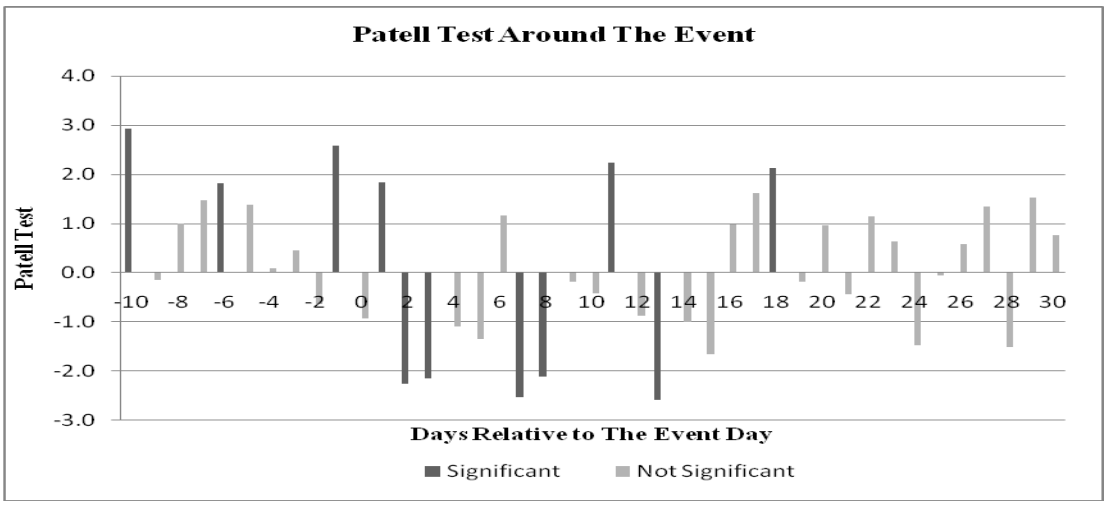


Figure 3 The Patell test around the event

Table 1 Patell test and BMP test for abnormal returns around bonus share event

Days relative to event day (0)	Average Abnormal Return	Average Cumulative Abnormal Return	Patell Test		BMP Test	
-10	0.34	0.34	2.93	***	2.56	**
-9	0.13	0.48	-0.14		-0.06	
-8	0.21	0.68	1.00		0.76	
-7	0.30	0.98	1.48		2.04	*
-6	0.36	1.34	1.81	*	2.39	**
-5	0.39	1.73	1.38		0.61	
-4	-0.01	1.72	0.09		0.26	
-3	-0.20	1.52	0.45		-0.19	
-2	-0.10	1.42	-0.64		-1.02	
-1	0.46	1.88	2.58	**	1.35	
0	-0.03	1.85	-0.93		-0.67	
1	0.23	2.08	1.83	*	0.19	
2	-0.14	1.94	-2.26	**	-0.98	
3	-0.66	1.28	-2.15	**	-1.92	*
4	0.00	1.28	-1.09		-0.64	
5	-0.42	0.86	-1.34		-0.43	
6	0.32	1.18	1.16		0.37	
7	-0.51	0.67	-2.53	**	-2.33	**
8	-0.33	0.34	-2.11	**	-0.89	
9	-0.02	0.32	-0.17		-0.22	
10	-0.02	0.30	-0.42		-1.12	
11	0.30	0.59	2.23	**	2.00	*
12	-0.06	0.53	-0.87		-0.93	
13	-0.42	0.11	-2.58	**	-1.13	
14	0.07	0.18	-1.00		-0.33	
15	-0.09	0.09	-1.65		-0.87	
16	0.15	0.24	0.99		0.33	
17	0.37	0.62	1.61		0.46	
18	0.20	0.82	2.12	**	0.99	
19	0.19	1.01	-0.18		0.24	
20	0.11	1.12	0.97		0.64	
21	-0.09	1.03	-0.44		0.22	
22	0.20	1.22	1.14		0.92	
23	0.01	1.23	0.64		0.69	
24	-0.24	0.99	-1.47		-1.22	
25	0.06	1.05	-0.06		-0.07	
26	-0.03	1.02	0.58		-0.40	
27	0.10	1.12	1.35		1.55	
28	-0.46	0.66	-1.51		-1.01	
29	0.06	0.72	1.52		0.86	
30	-0.03	0.69	0.76		0.30	

From the results of Patell test in Table 1, we can see that the average abnormal return before the bonus share event day, days -10, -6 and -1 are 0.34%, 0.36% and 0.46% and their respective values of Patell test statistic are 2.93, 1.81 and 2.58 which are significantly different from zero average abnormal return at 1%, 10% and 5% levels, respectively. By looking at the average abnormal returns after the bonus share event day, days 1, 11 and 18 are 0.23%, 0.30% and 0.20%. Their respective values of Patell test statistics are 1.83, 2.22, and 2.12 which are significant at 10% and 5% levels respectively. However, there are also negative average abnormal returns on days 2, 3, 7, 8, and 13 with their respective values -0.14%, -0.66%, -0.51%, -0.33% and -0.42%. Their respective Patell test statistics are 2.26, -2.15, -2.53, -2.11 and -2.58 which are all significant at 5% level. Figure 3 shows the Patell test around the event, it summaries the information in this paragraph.

According to the BMP test results in Table 1, the average abnormal returns before the bonus share event day, days -10, -7 and -6 are 0.34%, 0.30% and 0.36% and their respective values of the BMP test statistic are 2.56, 2.04 and 2.39 which are significantly different from zero average abnormal return at 5%, 10% and 5% levels, respectively. By looking at the average abnormal returns after the bonus share event day, only one day, which is day 11 with 0.30% positive return. Its respective value of BMP test statistics is 2.00 which is significant at 10% level. However, we also found negative average abnormal returns on days 3 and 7 with their respective values -0.66 and -0.51%. Their respective BMP test statistics are -1.92 and -2.33 which are significant at 5% and 10% levels, respectively. Figure 4 summaries the information in this paragraph that shown the BMP test around the event.

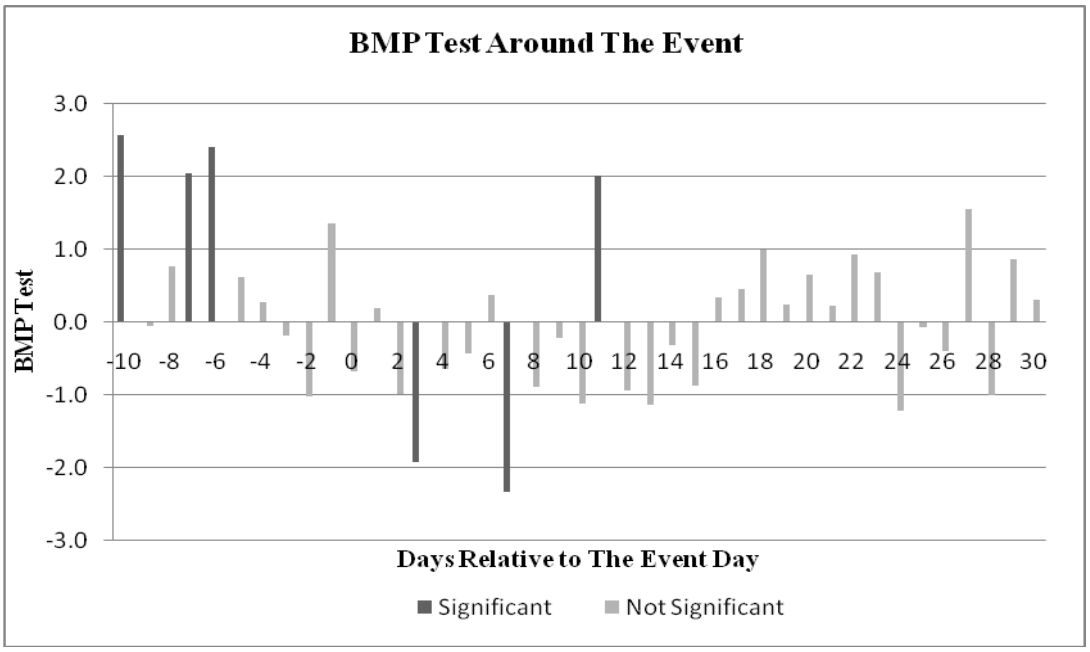


Figure 4 The BMP test around the event

Note that before the bonus share event day, the Patell test and BMP test have the similar number of 3 significant abnormal return days. On day -10, the reducing in t-values from Patell test, 2.93 at 1% significance level to BMP test 2.56 at 5% significance level. We also found that there is a change of t-values in Patell test, 2.58 at 5% significance level to 1.35 which is insignificant in BMP test on day -1. On the

other hand, on day -7, the insignificant value of 1.48 of Patell test has changed to significant value of 2.04 in the BMP test at 5% level. Similarly, on day -6, the value of 1.81 in Patell test with 10% significance level has changed to 2.39 in BMP test which is significant at 5% significance level.

On the other hand, after the event day, we note that the numbers of significant abnormal return days in the Patell test has reduced from 8 to 3 in the BMP test. Only on day 7, both Patell and BMP tests show an abnormal return significantly different from zero at 5% level, with t-values changing from -2.53 to -2.33. On days 3 and 11, the level of significance changes from 5% in Patell test to 10% in BMP test with t-values changing from -2.53 to -1.92 with the negative abnormal return and t-values changing from 2.23 to 2.00 with positive abnormal return, respectively. We also found that the significant values of Patell test on days 1, 2, 8, 13, and 18 at 10% and 5% significance level respectively have become insignificant under the BMP test.

Based on the results from Table 1, generally, the number of significant abnormal returns has decreased from 11 in the Patell test to 6 in the BMP test. In generally, we also found that the level of significance for test values has increased from 1-5% in the Patell test to 5-10% in the BMP test. This finding is consistent with the simulation result from Boehmer, Masumeci, and Poulsen (1991) where they claimed that the underestimation of event-period variance led to the null hypothesis to be rejected too often as there was no average abnormal return. The BMP test offers an appropriate rejection rate as the null is true and yet is equally powerful as the null is false. Hence, the BMP test successfully solves tend to over rejecting the null hypothesis in the conventional methods. To our knowledge, our study provides the only empirical evidence of the ability of the BMP test to overcome the event-induced variance problems, especially within the bonus share event.

From the BMP test, we also found that that there is an impact of bonus share event on the average abnormal return. In other words, the null hypothesis of zero average abnormal return is rejected. This finding is consistent with the study of Woolridge (1983b).

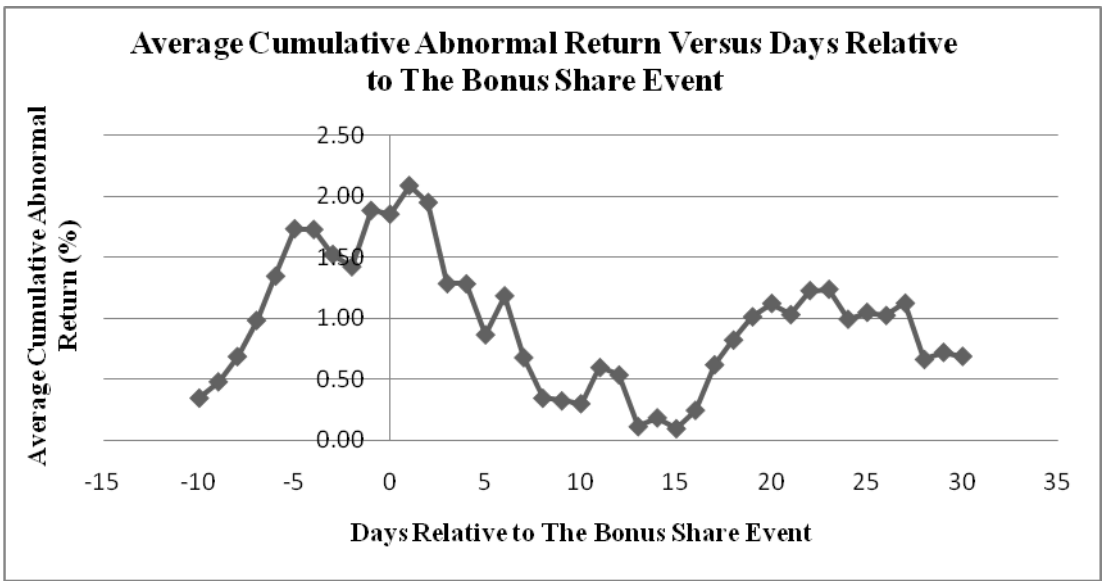


Figure 5 Average cumulative abnormal return versus days relative to the bonus share event

According to the Table 1 and Figure 5, the optimum average cumulative abnormal return of the bonus share event is on day 1, 2.08. Based on this result, in general, if an investor buys a particular stock on day -10 of the bonus share event, that investor earns the maximum abnormal returns by holding that particular stock and sell on day 1 with 2.08%. The graph pattern in Figure 5 is similar to the study of Batchelor and Orakcioglu (2003).This is an empirical evidence for all retails and institutions investors, fund managers, corporate finance policy makers, top-level managers of listed companies and others to consider in their strategic planning and decision making.

Overall, this section covered the findings of Patell test and BMP test. We also discussed the comparison between the Patell test and BMP test in terms of the average abnormal return. The BMP test outperformed the Patell test. Hence, we propose that under the uncertainty of the existence of event-induced variance, the better choice is to employ the BMP test so that the investors will not OVER-react due to the over-rejection in the conventional statistical tests, such as Patell test.

CONCLUSION

It is well known that many events increase the variance of the event-period returns (event-induced variance), especially for individual stocks as we discussed in the introduction. A temporary increase in the variance tends to associate with the shift in the mean of the abnormal returns. Conventional event-study test statistics, such as Patell test (1976), do not take into account the event-induced variance in event studies. More specifically, these test statistics reject the null hypothesis of zero mean abnormal return too often when it is true. In other words, higher type-I error will be resulted by using these methods (Boehmer, Masumeci, and Poulsen (1991).

In the literature review, we mentioned that In order to remedy the issue of event-induced variance, Boehmer, Masumeci, and Poulsen (1991) propose a more advanced event-study test statistics, BMP test, which is a hybrid of Patell test and the ordinary cross-sectional method. Via a simulation study, Boehmer, Masumeci, and Poulsen (1991) found that BMP results in equally-powerful test as the null is false as well as appropriate rejection rates as it is true. Both the power and the size of BMP are unchanged when applied to portfolios subject to event-date clustering.

In this paper, we used the daily stock prices from 20 listed firms (with the largest market capitalisation on June 2012) in the Malaysia Stock Market. These data series span 17 years from January 1996 to December 2012 as we presented in the data and methodology.

According to the BMP test, there is an impact of the bonus share event on the average abnormal return as we pointed out in the data analysis and findings. We compared the performance of the BMP test against the conventional Patell test. From the empirical results, we found that the number of rejections in null hypotheses is lesser in BMP test compared to the number of rejections in Patell test. This reduction in rejection rate of null hypotheses might be due to the existing of event-induced variance. In other words, the BMP test is better than conventional event-study method, Patell test, because BMP will not too often reject the null hypotheses as in the case of Patell test. Hence, under the condition that we do not know if there has exists any event-induced variance in the stock returns, we would like to propose the

use of BMP test. This empirical evidence is similar to the simulation results of Boehmer, Masumeci, and Poulsen (1991). To our knowledge, our study provides the only empirical evidence of the ability of BMP test to overcome the event-induced variance issues on the impact of bonus share event on the Malaysia stock market returns.

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Internet Financial Reporting and Firm Value: Evidence from Gulf Co-Operation Council Countries

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ABSTRACT

This study examines the economic consequences of Internet financial reporting (IFR) disclosure on firm value of 152 listed financial companies in Gulf Cooperation Council (GCC) countries. A disclosure index that consists of 35 items is constructed to measure the level of IFR disclosure for each firm in the sample. Based on the agency and signalling theories, we posit that a higher level of IFR disclosure enhances firm value. Contrary to the expectation, after controlling for firms' characteristics and country of origin, the results of multiple regression analysis indicate that IFR disclosure does not create value for GCC listed financial companies.

Keywords: Internet Financial Reporting (IFR) Disclosure, Firm Value, Economic Consequences, GCC.

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The Influence of Communication, Empowerment and Trust on Organization's Ethical Climate

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ABSTRACT

While the Malaysian economy is rapidly increasing, delegated and goal-oriented organizations are increasing as well. As a result, this phenomena caused employees more frequently faced to make decisions that involve ethical issues. In this study, communication, empowerment and trust were studied to determine its influence on an organization's ethical climate. 150 surveys were analysed by the researcher from employees in Klang Valley that currently holding an executive or above position in their organization to examine how communication, empowerment and trust affect organizational ethical climate. The analysis results showed that empowerment was positively related to benevolent-local climate (β=0.194, $p<0.05$ level) whereas trust was positively related to benevolent-local climate (β=0.248, $p<0.05$ level) and principled-local climate (β=0.243, $p<0.05$ level). The study results implied that promoting empowerment and trust are able to elicit different type of ethical climate.

Keywords: Communication, Empowerment, Trust, Egoism-Local Climate, Benevolent-Local Climate, Principled-Local Climate

-Requested by author not to be published as full paper-

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The Retention of Student Employees in Kuala Lumpur Travel Agencies

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ABSTRACT

This paper aims to answer some questions about perception and factors for retention of student employees of travel agencies in Kuala Lumpur. It investigates the reason for quitting jobs by students studying in private or public Malaysian universities who are working in travel agencies as part time workers and the factors have influence in their retention. Overcoming human resource turnover intention is essential for HR managers. Problems in the areas can be seen due of labor shortage, student's perceptions, the use of temporary workers and competitiveness, developing new skills, job security, wages and compensation, payment or processing and supervisor support or many other factors. This paper explores how student employees in travel agencies in Kuala Lumpur in Malaysia perceive tourism as a graduate career and found out the reason for choosing jobs by students who are working in travel agencies and effecting factors for their retention. To the exploratory nature of this study, a qualitative research method is conducted. Although the results of the study cannot be widely generalized, it help a deeper understanding of the factors preventing student employees for continuing their job, Interviews will be conducted to identify the parameters and problems for retaining student employees in travel agencies in Kuala Lumpur.

Keywords: Student Employee, Retention, Hospitality and Tourism Industry, Travel Agencies

INTRODUCTION

The tourism and hospitality industry, particularly in Malaysia, is not held in high regard as being able to offer a long-standing and prosperous career (Chellen & Nunkoo, 2010). As a global industry it is characterized by a vast range of perceptions which include low wages, poor working conditions, and unsocial working hours, low skill base, seasonality and high levels of staff turnover. With the retention and turnover issues still in existence today and many quantitative research in this area

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(Richardson, 2009b; Roney & Öztin, 2007; Alonso and Neill, 2009; Deery , 2008; Robinson & Barron, Poulston, 2008; 2007; Chiang & Birtch, 2008; Kim et al., 2010; Tsai et al., 2009; Karatepe & Uludag, 2012; Dickerson, 2009 and Moncarz et al., 2009) , this paper try to conduct qualitative research to understand how education in tourism/hospitality impacts upon students perceptions. As current students are the next group of employees to enter the tourism and hospitality industry it can be anticipated that perception of students may be different to those who currently work in the industry. This paper explores students' perceptions and motivation factors for working in this industry in order to provide an insight into their perceptions of the industry and the likelihood of entering and remain in the industry

BACKGROUND OF RESEARCH

The Tourism and Hospitality Industry (World/Malaysia)

There is a massive growth in the global tourism industry; UNWTO forecast prepared in January 2012 show a growth of 3% to 4% of international tourist arrivals for the year 2012. According to tourism in 2030, UNWTO showed long-term prospects; the number of international arrivals worldwide is expected to increase by 3.3% per year on average from 2010 to 2030. It's nearly 43 million international tourist arrivals in each year by a total of 1.8 billion till to 2030 and one of the most popular tourist destinations in the world, is Malaysia with ranking ninth for tourism arrival, ranking fourteenth in tourism receipts (WTO, 2012).

The tourism industry is the seventh largest contributor to the Malaysian economy with the total GNI of RM37.4 billion in 2011 and is on the verge of growth. In 2020, the tourism industry in Malaysia is expected to contribute further RM66.7 billion in GNI. In January 2011, Malaysian Prime Minister Dato 'Sri Najib Tun Razak announced nine initiatives under six of the EPP that have a total investment of RM16 billion private provision of a GNI contribution about RM6.5 billion Euros and 37,900 jobs by 2020 are created by tourism (ETP 2011).

The tourism and hospitality industry worldwide has been noted to be economically important. It is one of the largest global industries and employers in the world (Chellen & Nunkoo, 2010; Podoska-Filipowicz & Michalski, 2008). For many countries, tourism and hospitality are significant resource of employment and is the one of global of economic most important employer, the world in which employment in the tourism and hospitality industry is generated about 98.0315 million jobs in 2012. (3.3% of total employment) and this is forecast to grow by 2.3% in 2012 to 100,292,000 (3.4% of total employment). By 2022, Travel & Tourism is forecast to support 327,922,000 jobs (9.8% of total employment), an increase of 2.3% pa over the period (WTTC, 2012).

Regarding the information, tourism and hospitality is very significant as a job supplier in more countries, mainly those at the developing phase such as Malaysia and is the most important source of employment, making this industry an imperative income originator, tourism will require better and more labor and have more challenges in magnetizing talented , inspired employees than other segments in the economy (WTTC, 2012). The Malaysian tourism industry in 2010 provided 1.8 million jobs, 15.9%, share of employment in tourism to total employment (ETP, 2011).

Background of the Problem

With lacking valuable employees, tourism and hospitality industry have problem producing profits, grow and income that make turnover of employees one of the vital intention for any organization (Mitchell, 2009; Scroggins, 2008).Employee turnover is a costly and expensive especially small organizations such as travel agencies have more difficulties in retaining qualified staff than larger organizations and are more vulnerable. (Cory et al., 2007; Chikwe, 2009) . In 2012 the voluntary employee turnover rate in Malaysia was 32% in hospitality industry (3rd industry regarding the high staff turnover) (Star 2012). The costs for companies caused by employee turnover are high, considering advertising, recruitment, selection, hiring and training. Besides the costs there is also a loss of productivity and valuable knowledge. Also in hospitality industry when employees leave the organization make the bad reputation for the organization (Cory et al., 2007; Chikwe, 2009; Mitchell, 2009; Scroggins, 2008). " Companies around the world are dealing with the high cost of turnover for Gen-Y employees. 70 % of them leave their first job within two years of joining" (reports Experience.com)

In the other hand, studying is necessary to upgrade individuals' knowledge. It is also important to have income to apply for study. Part time working has long been a part of the university student experience, specially part time students. This could be due to family, limitation of financial and time, etc. (Rafidah, Azizah, & Noraini, 2009; Kumar & Jejurkar, 2005). Also Given the increasing cost of higher education, student searching for part time jobs are not unreasonable. Furthermore many students are working in hospitality organization through school internship programs , and after finishing the program some of them continue working with the organization as part time employees. The advantages of experiencing the world of work could be acknowledged and curricula should be sufficiently flexible to provide students who work part time with credit for their experience (Rafidah, Azizah, & Noraini, 2009; Kumar & Jejurkar, 2005;Brigham Young University 2012).

In return for increasingly necessary financial reward, students provide employers with a flexible and intelligent workforce, and those studying hospitality and tourism management also bring with them a range of skills and knowledge which employers find important and useful. As a result, it can be seen that many private or public institution offer continuing educational programs that can be taken either full time or part time maybe during late afternoon or early evening or weekends to accommodate students who work during the day (Noraini, 2009; Kumar & Jejurkar, 2005).

As a result of heavily employing students, the hospitality businesses in a university town faced high turnover rates. There are many public and private universities in Malaysia. Students are working in many of hospitality organizations such as travel agencies, hotels, restaurant after gradation or even during graduation as part time workers. Many student employees leave soon after training. Student positions are characteristically temporary but since the costs of turnover in the general workforce is very high, increases in the retention of student employees reduce costs and increase both productivity and morale (Brigham Young University 2012).

One reason students may leave a position is to find a more satisfying job elsewhere. Like fulltime employees, students want to feel they add value to their job and are more likely to stay in jobs where they have that opportunity. A lack of training and support is another reason students leave (Kandasamy et.al 2009; Choudhury and McIntosh 2012). Not providing sufficient support or proper training can make students feel inadequate and unimportant. Sometimes a heavy school load prevents students from being able to maintain their normal workload. If employers are not flexible, students will be likely to look for a more flexible job. Other reasons students leave jobs are poor pay scales, lack of purpose, no recognition and, environments that inhibit fun. Because there are a variety of reasons student employees could leave their jobs, it is important for organizations to find any issues that could be a cause of high turnover. (Kandasamy et.al 2009; Choudhury and McIntosh 2012).

Many Researches have been done about students' perceptions towards tourism and hospitality industry jobs and the reason for leaving the organizations. But still this problem is the issue for many hospitality organizations (Choudhury and McIntosh 2012; Chevalier and Mayzlin, 2006; Busby and Gibson 2010; Kwoka et.al, 2012; Karani, 2011; ,2009; Cho et al., 2009; Barron, 2009; Davis , 2009) .

For instance students choose a tourism/hospitality course but there is little research that requests why students make this decision and where they want to work upon graduation. Unfortunately hospitality and tourism industry in most parts of the world is often plagued by negative characteristics (Richardson, 2009b; Roney & Öztin, 2007; Alonso and Neill, 2009; Deery , 2008; Robinson & Barron, Poulston, 2008; 2007). The circumstances will have an important impact on industry plans, as the number and level of expertise of the students entering the field reduces (Chiang & Birtch, 2008; Kim et al., 2010; Tsai et al., 2009; Karatepe & Uludag, 2012; Dickerson, 2009 and Moncarz et al., 2009).

Studies by Kusluvan and Kusluvan (1999) showed students chose the hospitality and tourism with the lack of sufficient knowledge about the employment conditions. Thus, when entered into real working conditions with unprepared mind, the students projects negative attitudes towards the work and leave the industry. In effect, the turnover becomes a wastage for all parties involved including the , government that has invested money in education, the students whom spent years studying tourism courses, the organization for high turnover cost and bad reputation, the tourists for receiving the services from the employee, and finally the domestic economy from receiving any revenue from the tourists.

Considering these facts students' interest should be capitalized by industry, in order to make them pursue careers and remain in their jobs. Moreover Management should become alert of the reasons why people are less interested in hospitality occupations. The causes can be studied with intend of improvement. If the paramount students can be enticed and retained in the hospitality organization, it can be valuable for the organization as well as for the industry. Research of this sort can therefore, improve perceptions of students. It is also significant to verify the needs of the hospitality industry and then estimate how well the students or the future managers give the impression to be equipped to assemble these needs (Singh et.Al 2007; Karani, 2011; Alonso and O'Neill).

Problem Statement

Considering the data in background of the problem there is a dire need for some investigation regarding tourism and hospitality industry career among Malaysian students, and conducting the study to find out factors that influence a student's choice to enter the hospitality industry, also understanding the factors for their motivations to stay in their jobs and provide information for HR managers to reduce the gap between students perception of work and their reality of works .

Research Questions

This study conducted interview with students in hospitality and tourism program at public and private Universities in Malaysia who were working in travel agencies in Kuala Lumpur, for determining their perceptions toward working factors in travel agencies and finding out the motivation factors for their retention. The Research questions are:

-What are the Kuala Lumpur tourism students' perceptions of tourism as their future career ?

-What are the students perception about working in the travel agencies in Kuala Lumpur?

-What are the reasons make the students work or quit the travel agencies in Kuala Lumpur ?

-What are the important features that travel agencies should have , based on students view ?

-What are the future factors that provide better motivation for students to remain in their jobs as travel agencies employee in Kuala Lumpur ?

Research Objectives

This paper aims to answer issues related to student workforce in the hospitality industry (Travel Agencies in Kuala Lumpur). One of the objectives of the study begins by trying to understand, why students choose tourism and hospitality industry and what are their perception of working in hospitality industry with the purpose of helping them become extra efficient and maintaining them in the industry.

Also Researcher is going to provide the reasons why student employees in travel agencies in Kuala Lumpur easily quit the agency for another organization and provide the investigation about student workforce in Kuala Lumpur travel agencies and propose new ideas for student employees retention by identifying the important factors that motivate students to remain in their job.

Significance of study

Mostly research done in this area are quantitative and not many of them in the past performed for managers to solve the problem of shortage and turnover of student employees in travel agencies in Malaysia. Travel Agencies in Kuala- Lumpur have many student employees but have difficulties in retaining them as the assessment and success of their organizations. These organizations have dilemmas concerning resolving factors minimize talented employees. This study is qualitative and the interesting part of conducting this study was, most of the students working in the travel agencies, rejected to be interviewed ,ONLY seven students employee from different travel agencies (after researcher went to about 6 travel agencies in Kuala Lumpur, that in some of them the numbers of student employees were even around

12) accepted personal interviews conducted by the researcher. Interestingly all of these students mentioned that they want to leave the travel agency in near future. Although the sample size in this study is small, , findings of the research provided important qualitative insights since it collected from the student employees who really had intention to leave. Therefore outcome of result hope to find out motivational keys, keeping the most impact on turnover to promote clear information and to add to the existing scientific literature on retention particularly in the context of hospitality and tourism in Malaysia.

Practically this study expect to determine a valuable retention guidelines and make results of this study available to travel agencies owners to maintain and retain their employee's student for a long time and know their expectation from their employers to keep them happy and loyal. This will benefit hospitality and tourism organizations in Kuala Lumpur. when more qualified students attract and, the retention rate of present student employees increase , instead of the cost caused by the high turnover more money generated can be available for retaining and providing new excellence and more training programs can be provided for students .This results for student satisfaction and make the gap between students' attitudes to their work and the reality of their work in this industry reduce eventually.

METHODOLOGY

The primary aim of this research is to understand the perceptions of student employees about working in travel agencies. For the exploratory nature of this research into the under-examined topic of student employees retention in small travel agencies in Kuala Lumpur, a qualitative research approach is deemed appropriate. Qualitative research is important for primarily descriptive and exploratory model. Qualitative research is to develop an initial understanding of research. Also the results of the study cannot be generalized but by providing better understanding different perceptions and expectations of students can help managers of these travel agencies to attract a new idea for students for maintaining them in work. After so many quantitative studies in hospitality industry around the world, a qualitative method used in this research and the interviews were chosen as the main tool for data collection. (Malhotra & Birks 2003).

Research Design

This research used qualitative approached. The qualitative approach is done by conducting semi-structured interviews with the employee students working in travel agencies in Kuala Lumpur in Malaysia.

Data Collection

The method of data collection for this research was semi-structured interviews with prepared questions on topics . Research expected, respondents answer challenging and surprising as ONLY seven Student employees (in about 6 travel agencies, that in some of them the numbers of student employee were even around 12) accepted personal interviews conducted by the researcher. Interestingly all of these students mentioned that they want to leave the travel agency in near future. Although the sample size in this study is small, with only 7 students from different travel agencies,

findings of the research provided important qualitative insights into the retention of students as employees working in travel agencies in Kuala Lumpur (Qu and Dumay 2011).

Interview Questions

The interview questions designed prior to the interviews takes place, The questions were designed in a common form and so that they can be corrected to the personality of th business of the informants (Bryman & Bell, 2003). the questions grouped into four sections, the first section is about interviewees background information, their university, work experience and work tasks, and their perception of tourism as their major.; the second section is about perception and expectation of students about travel agencies ; the third section focuses on the reason made make student work in travel agencies or quit their jobs , and finally the fourth part focus on future improvement what are the features they suggest that travel agencies should have, and what make them motivate to remain in travel agencies. The interviews were done through emails included open ended question, after the researcher went to travel agencies and talked to individuals about the purpose of the research and ask them for their email based on confidential consideration.11 interview questions were designed in four section to address the research questions. All participants were asked to answer the same questions in the same order and in the same way (Creswell 2008).

Questions :

Section A

1. Can you tell me about your university (private or public) and what are the reasons you choose tourism as a major for study ?
2. Can you tell me shortly about your position , your work tasks or your work background in travel agency?

Section B

3. What make you come and work to travel agency?
4. What was your perception of travel agency before you start your work?
5. What do you expect about working situation in travel agency?

Section C

6. What are the reasons make you remain in travel agency or quit the travel agency?
7. based on your experience, what are the main human resources problems students faced by working in travel agencies?

Section D

8. What characteristics (features) should travel agencies have?
9. What kind of motivations you think is useful enough to make /made you remain in travel agency?
10. Which one is more important, or do you think they are all important, and why?
11. How do you think current tourism program in travel agencies can be improved?

Population ,Sampling and Participants

As the population of interest in the present research is travel agency student employees, studying and working in travel agencies in Kuala Lumpur. The study

only includes small travel agencies with 10–15 employees in Kuala Lumpur. Only few samples from travel agencies populations joined to participate in the study. for the interviews, a purposive sampling method was used, by selecting specific persons who can provide the information needed by this study , based on their characteristic .The sampling strategy was non-random sampling called purposive sampling (Creswell 2008; Kvale, 2007).

Researcher tried to find students who study and works in travel agencies in Kuala Lumpur . Following the research objectives, open ended questions for interview were confirmed using the following criteria: (1) working or recently quitting the travel agency in Kuala Lumpur in Malaysia, (2) being student in one of public or private universities in Malaysia (3) studying in the field of hospitality and tourism major in University.

All of the participants voluntarily gave their email to researcher to familiarize themselves with the questions to have more time and think better about the questions and then reply appropriately. All the interviews result were then e-mailed as document attachments to all interviewees for their comments. No objections were received from the interviewees on the interview transcripts.

Data analysis

In qualitative research human perform as a tool for the collection and analysis them. Qualitative researchers begin analyzing at the beginning of collecting data, which means that data collection and analysis overlap (Gibbs, 2007). The transcribed interviews were carefully examined common themes that will allow a better understanding of the problem studied. After collecting data from interviews, thematic analysis was used to encrypt the data and generate various topics.

After initial coding, the data categorized into five themes which emerged from the data. The themes formed were: students perception of tourism major (A), student perception for working in travel agencies (B), student reasons to stay in travel agencies (C), reasons for better student's motivation (D), important characteristic for travel agencies based on students view (E) .These themes are presented and discussed below in relation to the research objectives of the study.

Coding and Analysis Strategy

The reported explanations for retention generated about 12 pages of single-spaced qualitative Data, with individual perceptions and reasons for motivation. researcher creates categories, assign keywords to those categories. It is significant that the categories and keywords selected are delegate, comprehensive, and truthful, and many steps should be taken to ensure the reliability and validity of the coding process used in the study. The Retention and motivation literature provided as a guide to the selection of categories and was discussed to clarify keyword assignments when necessary.

Reliability and Validity of Coding Process

Concerning a check on the reliability and accuracy of category generation, After the coding process is completed, a final check on coding accuracy conducted by expert in qualitative data . author reviewed the collection of coded responses within each category by reading respondents' statements in their sum to ensure that the coding decisions accurately represented the respondents' intended meaning. Researcher

reported frequencies for each of the perception and motivation measurements listed and brought the brief of each interviewee quote in front of each dimensions. Finally, the results of this analysis provided the foundation for testing the research questions presented in Table 1.

Table 1 Finalized Categorized Data coding based on Interviews

Participant		**1**	**2**	**3**	**4**	**5**	**6**	**7**	
Gender	Male/Female	M	F	F	M	F	M	M	
University	Private/Public	PRI	PUB	PRI	PRI	PUB	PRI	PRI	
Job position	TL: Tour leader	TL	TL	TL	TL	TL	TL	TL	
Student's perception for choosing tourism as major									**%**
	Job Opportunity	√			√	√	√		57%
	Experience development	√		√	√	√		√	71%
	Practical activity	√						√	29%
	Malaysia pioneer in tourism	√							14%
	Intercultural exchange		√	√				√	43%
	Interest in tourism		√	√		√		√	57%
	Lack of opportunity in country of origin			√		√			29%
	Promote tourism country of origin					√			14%
Student perception for working in travel agencies									**%**
	Interest in traveling	√			√				29%
	Job opportunity			√	√	√			43%
	Job condition	√			√	√	√	√	71%
	Experience development		√		√	√		√	57%
	work environment		√						14%
	Employee relations		√						14%
	Intercultural exchange		√	√	√	√	√		71%
	Training			√	√	√			43%
	Payment			√	√	√	√	√	71%
	Job Position	√		√	√	√	√		71%
	Compensation			√	√				29%
	Working time			√	√	√		√	57%
Student reasons to stay or quit travel agencies									**0%**
	Compensation					√		√	29%
	Payment	√		√	√	√	√	√	86%
	Managers behavior		√	√	√	√	√	√	71%
	Work environment		√		√		√		86%
	Communication skill	√		√	√		√		57%
	Working time	√	√	√	√	√			71%
	Job security	√		√	√	√			57%
	Training			√	√				29%
	Recognition and appreciation			√					14%

Important characteristic for travel agencies based on students view									%
	Tangible assets	√							14%
	Managers	√							29%
	Marketing	√			√				14%
	Innovation	√	√		√	√			57%
	Service quality		√		√			√	43%
	Variety of activity	√		√	√				43%
	Trust			√	√	√	√		57%
	Supportive fun ideas			√		√			29%
	Customer satisfaction		√		√		√	√	57%
	Security				√				14%
	Successful employee					√			14%
	Consulting experience					√	√	√	43%
Factors for better student's motivation (less turn over)									**%**
	Payment	√	√		√	√	√	√	86%
	Compensation	√		√		√	√		57%
	Promotion (title)	√		√					29%
	Mangers behavior	√						√	29%
	Work environment		√	√	√	√			57%
	Job description			√					14%
	Training			√	√	√			43%
	Appreciation and recognition			√	√	√			43%
	Communication Skills			√	√	√			43%
	Employee involvement			√		√			29%
	Job security				√	√			29%

RESULTS OF THE STUDY

Analysis and findings

Student's perception for choosing tourism major

Through the interview sessions, majority of the respondents emphasized their preference for 'gaining experiences', 'work opportunity' and their 'interest in tourism'. The open-ended questions, showed students' perception for choosing tourism as major for study, This outcome is reflected in the response from students who were studying in a public or private universities in Malaysia in the field of hospitality and tourism.

According to previous research: In Malaysia student numbers are increasing, graduates should be able to apply their knowledge and skills to gain employment but even if there are too many graduates there is still a shortage of labor in this industry, because the industry does not value a degree and the students have a negative perception of the industry that recommend the industry would prefer, or does not need, employees with any formal qualifications which target a specific area . Industry should provide the negative and positive perceptions that balance each other out so that the industry is not known in a negative way (Barron, et al., 2007; Chellen

& Nunkoo, 2010; Richardson, 2011; Roney & Öztin, 2007; Harkison, et al., 2011; Costley, 2011).

Student perception for working in travel agencies

Throughout the interview sessions, majority of the respondents highlighted their preference for 'interact with different', 'job positions as advisor or consultant' and 'earning money'. The open-ended questions, explained that students' perception for working in travel agencies is, that the respondents felt that it is an easy job to earn money with flexible time , that provide the opportunity for them to meet different people with different cultures .Also they are consulting them and play advisor role for better satisfaction that result good reward while is A joyful job. This outcome is reflected in the response from students who were working in a small travel agencies in Kuala Lumpur in Malaysia .

According to previous research: Perception of students about the industry is having poor wages, low stability, and poor working hours and working conditions still some students are not aware of the low pay and unsociable working hours and provide positive feedback for attracting employees into the industry however, after starting working in these people will be exposed to these characteristics which can lead to them quitting the industry. Industry should provide the negative and positive perceptions that balance each other out so that the industry is not known in a negative way (Barron, et al., 2007; Chellen & Nunkoo, 2010; Richardson, 2011; Roney & Öztin, 2007).

Student reasons to stay or quit travel agencies

Adequate payment. most of the respondents viewed salary as a major concern in the travel agency. This seemed to worry the potential employees concerning a career in this industry. A number of respondents affirmed that , majority of reason for remaining in travel agencies or quitting their job is due to 'payment', 'Manager's behavior' and 'flexible time'. Also the factors such as 'communication skill', 'job security' and 'work environment' were great concern to them. they were ready to work for longer hours, but they need manage their time for study, Moreover, low pay make students remain dissatisfied when they perceive that their efforts are not acknowledged and rewarded.

The employees desire to remain in the organization and continue to work is depend on the manner in which the company drives and communicates their remuneration policies and the reward system and recognition, that all of these factors affect the performance of the employee and job satisfaction. Many studies have shown the possibilities for growth of the job satisfaction of workers based on payment and income and find it important criteria for the retention of employees (Lobburi, 2012, Roberto, 2007; SAS, 2011; Roya et. al, 2011; Aric, 2008; Shahzad et al., 2008; Lobburi, 2012; SAS, 2011; Roya et al. 2011; Aric, 2008).

One of important reason for turnover is the lack of job security. In the hospitality sector, there is always the uncertainty about loss of jobs due to low salaries it result to high turnover rate. In the current economic environment, employees are less committed to their organization, because it is not able to guarantee the stability or security of employment (Van Selm & Jankowski, 2006; Cory et al., 2007; Gberevbie, 2008). Furthermore many studies have shown that the training and development of employees is straightforwardly linked to employee

turnover purposes(Chee et al., 2007; Abdullah et. al, 2012; William et al., 2007; Connie& David, 2009; Thwala et. al, 2012).

Important characteristic for travel agencies based on students view

The responses captured, characteristic of travel agencies, that the respondent was motivated to connect and work were: 'innovation ', 'making trust', 'provide customer satisfaction', respondents would like to work for an organization that is growing and reveal new methods or maybe new packages to be exception .

Based on many researches company with good politics make generous profits by providing proper level of privacy and organize sound levels in a work area, which promote long-term commitment to the organization, managers needs to focus on how to make employees to do and better job and keep them more, by providing better work environment for them (Zeytinoglu & Denton, 2005; Hytter, 2008; William& Albert, 2007).

Factors for better student's motivation (less turn over)

voted by most of the students and they seemed eager to be paid and rewarded. There are many researches shows the payment and compensation are very important factors for employee motivation to remain in the industry (Lobburi, 2012, Roberto, 2007; SAS, 2011; Roya et. al, 2011; Aric, 2008; Shahzad et al., 2008; Lobburi, 2012; SAS, 2011; Roya et al. 2011; Aric, 2008).Also Organizations can control turnover through the management and a good working relationship between supervisors and employees and enhance motivation of employees and the achieving the goals of the organization (Rebecca, 2012; Thwala et al., 2012; Foong, 2008; Borstorff & Marker, 2007; Freyermuth, 2007; Cook, 2008).

DISCUSSION AND CONCLUSIONS

Making notes of the Interviews consideration in choosing the 7 student employees in travel agencies in Kuala Lumpur and their perception and expectation of working,this study was to answer the research questions.This study explored the expected characteristics that were analytical for better understanding student employees perception about tourism and working in the industry and the reasons for persevering them in the organization. Consequently, it was observed that in spite of the very high turnover in this industry the findings display , most of the respondents were willing to work for flexible times if the working environment is forthcoming enough and there is a good communication between employees and managers, particularly in high seasons and availability of good rewards.

Conversely, very low payment (that was the very important object for almost all the respondent) , lack of appreciation and lack of job security make most of them to think about better opportunity when they occur. Moreover some students felt that the undervalued manners towards the travel agency employees hurt them expressively as their perception was the travel agency as consultant or advisor not only the person who translate or lead the tours.some severe shortage indicated by the respondents was the lack of a clear career training and the deficiency of an appraisal system in this industry. Majority of the student respondent viewed working in travel agencies as influential in enhancing the untimely steps of the work life and have

plan to disseminate themselves with a work environment for better job opportunity in future. The participants of this study reported their enthusiasm to be placed in a better position and advance their qualification by training.

It also appeared that respondents were happy and motivated to stay and serve a travel agency that is growing with innovation packages and has a reputation in the industry based on trust with customers. Further, students expected an innovation designed packages and variety of activities in travel agencies as developing their efficiency and work life. Respondents expected better rewards and better work environment, with less stress which motivated them to remain with the organization. There was an emphasis on friendly, supportive atmosphere with recreation facilities to make them relax, it is vital for them to endure prolonged work hours.

Although the students were aware of the unfriendly times in the hospitality industry, they extremely desired for a flexible time. Subsequently, the student consented that appreciation from the managers or supervisors increase their spirit even though tiring work hours. Also students define, the communication with managers has very important impact on travel agency work environment as a the service provider, it is well documented that when students perceive their work positively, they are more satisfied with their jobs, highly motivated at work, and less likely to leave the organization. Employers must recognize the nature and way of renovation in employee expectations, in order to deal with the future workplace policies.

Finally the findings of this study would assist the managers in understanding student employees expectations and moderate the turnover intention among the students employees .According to this study the suggested model for student employees retention in travel agencies in Malaysia showed in figure 1:

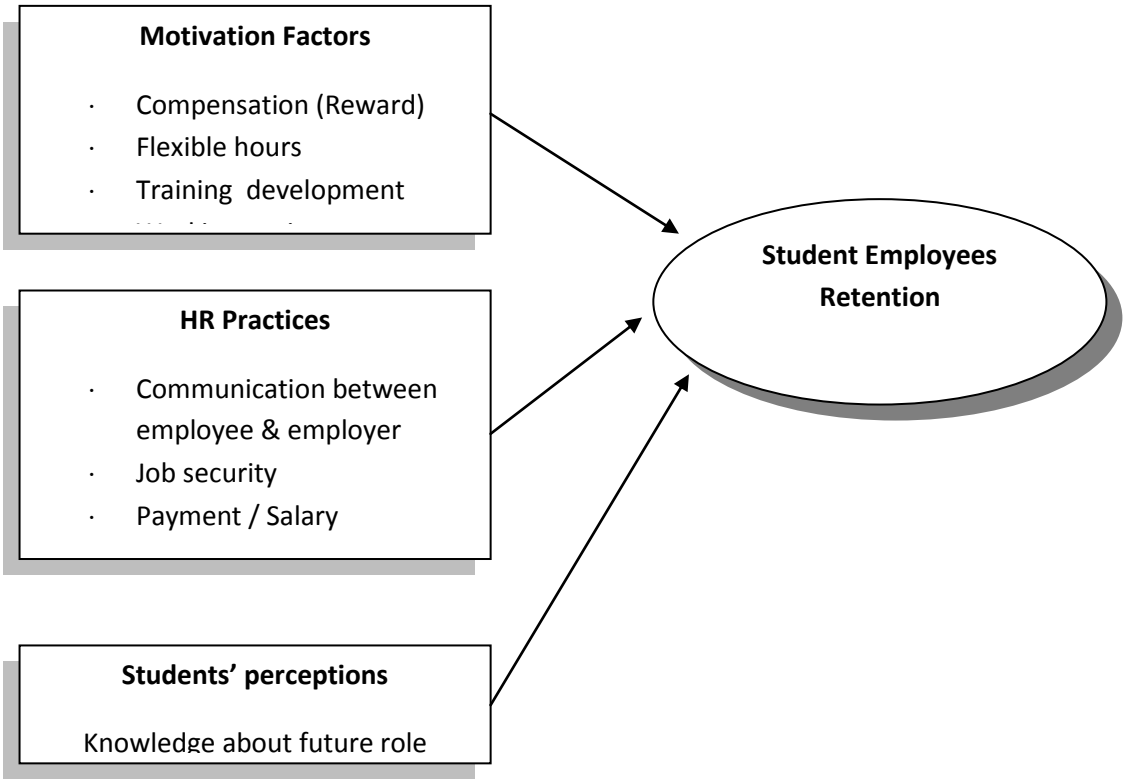


Figure 1 Proposed Framework Model

Limitations and suggestions for future research

Although this study contributes to our knowledge base, it has limitations and practical prospects for further research. This study has a number of limitations that may affect validity and generalization.

First, participants in this study were only 7 students drawn from six travel agencies located in Kuala Lumpur city in Malaysia. This may limit generalizations. Substantial research needs to be carried out in order to fully develop a complete understanding of this important construct. Further, studies conducted in other settings in the same industry could improve the generalization of the results.

Second, qualitative data such as emerged from this study need to be examined and conducted with more interviewer during longer time, in different hospitality organizations such as hotels and in different cities.

Third , some students were reluctant to reveal their real perception and expectation of work situation also. Although the information will continue to be confidential, some respondents were hesitant , it was quite difficult to identify accessible individuals and convince them to Participate to interview. Maybe because of much competency and lack of job security in this industry ,almost non of students accept to participate in video/voice records and all of them ask researcher to send interview question to their emails to provide more time to think about questions.

Future studies could explore the possibility of including more industry players from other sectors that are related to tourism. Future research could also investigate perceptions of each tourism employer rather than students which may provide a wider range of perspectives. Apart from that, the selection of only tourism management students ignores the students in other tourism related programs that are also likely to enter the tourism labor market after graduation. Future studies could examine students across different academic programs who wish to pursue tourism as a career. Research could also expand the scope of the study to hotels, cruise, resorts or other hospitality organizations in Malaysia.

Implication and Recommendation

This paper has provided some insights about the retention of student employees in travel agencies, this research showed that the difficulty in maintaining employee is still an unresolved issue mostly because of the low wages. This is a really important issue that travel agencies need to be aware of and address immediately. quality of students did not meet their expectations but they prefer to work for employers who recognize their qualifications. well-mannered pay attracts quality job students who can add value to organization.

This study adds to the literature by investigating the perception of students about the tourism career and working in travel agencies. With today's competitive workforce , employers must recognize the nature of student employees perception and decrease the space between employee expectations and the certainty of the work place aspects.

Additionally, There are few suggestions on how the findings in this study can be utilized. Since employee retention is extremely essential for the growth of a tourism organization such as travel agencies, managers and supervisors need to know how to motivate their employees. This paper explained the basic steps a manager or a supervisor can take to keep students employees motivated for a long time by many factors such as setting up the right environment, where employees can motivate and

empower themselves, professional managerial behavior, when manager or a supervisor trying to understand what motivates employees by asking, listening and observing them and making safety job environment and using motivational arrangements such as establishing compensation systems and evaluating performance systems.

It is also appropriate if travel agencies make some innovating changes in organizational policies such as different packages and different adventure activities , and delegating responsibility and authority to students employees by providing more training and using their interesting ideas that will get the intuition to employees that managers desire them to take stronger roles in their jobs and perceive their careers positively when understand their qualifications are recognized by the employers.

Individual Perceptions and Compliance Behaviour under the Prevailing Tax Climate in Malaysia

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ABSTRACT

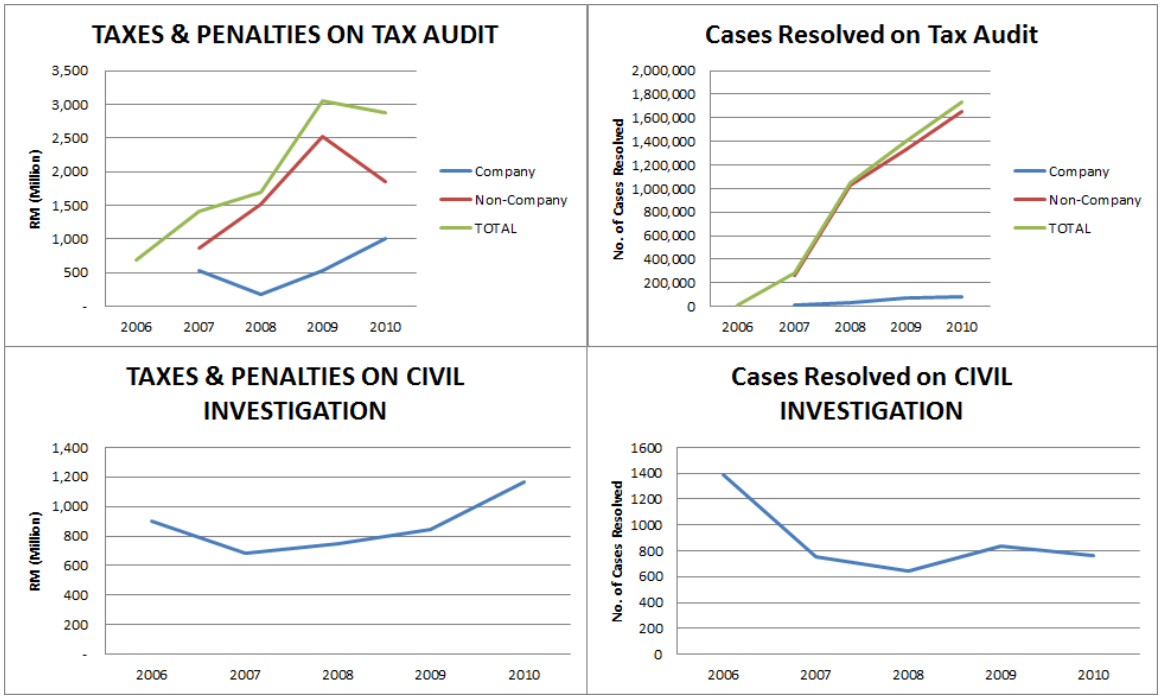
While some scholars advocate that majority are indeed honest in paying taxes, tax gap unfortunately remains as an alarming issue to be rectified throughout the world including Malaysia. Debates pertinent to cutting a clear border in between evasion and avoidance seem to be crucial, yet compliance outcome is fundamentally affected by behavioural intentions. It is interesting to uncover if there are any differences in perceptions and tax compliance behaviour among reference groups of gender, marriage status, quota groups, age, and ethnicity. Survey questionnaires were distributed to Malaysian citizens with quota sampling design in three sub-groups: Self-employed, employed and university students. With 340 usable responses, univariate analysis was conducted and it was found that, respondents generally perceive power of tax authorities and enforced compliance behaviour in similar ways. On the other hand, males, married persons and Bumiputra are more aware on tax matters and express more trust in tax authorities; whereas married persons and older age group perceive higher tax morale. Interestingly, students trust more in government than employed group, followed by self-employed group, but they are with highest conditional cooperation behaviour and lowest tax awareness. Results imply that self-employed or business owners are aware of the consequences of non-compliance and are more sensible in fulfilling their own tax obligations, even though they may not trust the government is allocating tax collections in the right way they perceive. Conversely, students would have fulfilled their obligations conditionally according to their peers' actions, perhaps due to the lack of awareness of tax consequences. It is therefore important for the authorities to inculcate tax awareness among the younger group especially university students who are the potential taxpayers in near future.

Keywords: Tax Perceptions, Tax Compliance, Demographic Profile

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INTRODUCTION

Tax collection relies heavily on voluntary compliance particularly with the implementation of the self-assessment system (SAS). Inland Revenue Board of Malaysia (IRBM, also known as Lembaga Hasil Dalam Negeri, LHDN) holds and regards enforcement strategies as an appropriate compliance process to achieve voluntary compliance (Loo, Evans, & Mckerchar, 2010). Travel restriction has been imposed since 2008 to ban taxpayers with tax arrears from leaving Malaysia. Further action was taken where the Risk Management Division was established in 2010 to excel the enforcement program. Tax system seems to be efficient thereafter with increasing number of cases successfully being resolved (as depicted in figure 1.1). In spite of that, it was doubtful if voluntary compliance has been enhanced with surging trend in respect with taxes and penalties on tax audit and civil investigation over the years. The preliminary observations suggested that the likelihood of antagonistic climate persists with growing enforced compliance, that is, the more forceful the implementation of enforcements taxpayers generally perceive, the more negative reactions to challenge or defect the tax system in return.



Source: IRB Annual Report, 2006-2010

Figure 1.1 Taxes and penalties and cases resolved

Bringing the contemporary issues back to literature, tax compliance researches in Malaysia linking theoretical models mostly from the West into local context in fact are growing since the mid 1990's (Loo et al., 2010), predominantly focusing on employed individuals rather than self-employed and companies with mostly survey and some experimental methods. Most researches in Malaysia concluded that individual taxpayers are with high voluntary compliance quality (Loo

et al., 2010; Ho, Loo, & Lim, 2006), which is mismatched from the data in terms of penalties and the above as discussed.

Past researchers and studies vastly recognise that the socio-psychological factors should be brought in explaining tax compliance behaviour and there is a crucial need continuously to be explored instead of the mere economic deterrence factors (Kirchler, 2007). In Malaysia, more studies are conducted with independent variables such as education, moral, tax knowledge, tax perception, tax penalties, tax competencies, gender and ethnicity (Rizal, 2010; Kamaluddin, & Madi, 2005; Ho et al., 2006; Kasipillai, 2006); but very limited in identifying the dynamic effects of trust and power between citizens (taxpayers and non-taxpayers) and regulator (tax authorities); neither the direct effect of conditional cooperation on compliance behaviour, taking into account that some strong standing citizens may take lead to influence their peers to behave in the way they behave.

Noted that tax perceptions are vital in explaining tax compliance behaviour, this study narrows its scope with the attempt to examine whether these perceptions and compliances vary significantly across different groups. With this objective in mind, the following research questions are structured:

1. Is there a difference between male and female in:
   (a) Compliance quality
   (b) Power of authorities
   (c) Trust in authorities
   (d) Tax morale
   (e) Conditional cooperation
   (f) Tax awareness
2. Is there a difference between single and married in (a) – (f)
3. Is there a difference among employed, self-employed, and university students in (a) – (f)
4. Is there a difference among age groups in (a) – (f)
5. Is there a difference among ethnicity groups in (a) – (f)

This paper is outlined as follows: Section two reviews prior literatures and past empirical studies, followed by a list of hypotheses, section three presents methodology, before discussions of results in section four. Section five concludes the paper with limitation and recommendations.

LITERATURE REVIEW

The classic A-S Model (Allingham, & Sandmo, 1972) explains tax behaviour with economics factors include probability of detection, fines and tax rates, of which the results and implications have been regarded as narrow and inconclusive as social interactions generate multiple equilibria with social multiplier effect, and have proven to be significant in examining tax compliance behaviour (Shelling, 1978; Akerlof, 1980; Glaeser, Scheinkman, & Sacerdote, 2003). Ever since it is inappropriate to infer individual-level parameters by simply referring to the statistical work on aggregates, tax behaviour studies move towards the direction of non-economic factors such as education, income source, fairness and tax morale

(Richardson, 2006). As discussed, tax knowledge is explored and is found to increase tax compliance, with the same inference goes to the further extension of citizens' participation in tax decision making process (Clotfeter, 1983; Kirchler, & Maciejovsky, 2001).

In fact, social and psychological factors have been incorporated by Weigel, Hessing and Elffers back in 1987, such as attitudes and moral beliefs, as the predecessors of tax compliance. Attitude towards behaviour is a set of beliefs about the consequences of performing the behaviour (Fishbein, & Ajzen, 1975; Ajzen, 1991). For instance, positive attitude in tax evasion likely reflects higher probability of non-tax compliance. Besides attitude, Fishbein and Ajzen (1975) claim that norm is another factor determining behavioural intention at individual level, social level and national level respectively. Individual norms define internal behaviours overlapping with moral beliefs and tax ethics, resulting positive impact on voluntary compliance (Jackson, & Milliron, 1986). Social norms define group behaviours where people tend to follow the trend of non-compliance behaviour if such behaviour is seen to be common among the reference group with which they identify to ascribe (Wenzel, 2004). Lastly, national norms relates to law and political power. Torgler (2005) suggests that positive national norms lead to trust in authorities and in return voluntary tax compliance.

This study is contributing to the tax literature in understanding how significant citizens from developing countries like Malaysia perceive tax matters and their own compliance behaviour across different demographic profiles. It adapts the "Slippery Slope Framework" (Kirchler, 2007; Kirchler, Hoelzl, & Wahl 2008) which explains voluntary compliance and enforced compliance by fostering 'trust in authorities' and 'power of authorities. Additional explanatory constructs which are believed to be the main determinants of tax compliance are included, namely tax morale, conditional cooperation, and tax awareness. Multi-dimensions of trust and morale are explored. Firstly, trust in this study specifically refers to generalised trust, a commonly shared value not limited to people with direct interaction (Bjørnskov, 2006). Therefore, another dimension of trust construct, namely trust in government, is conceptualised in the framework in addition to trust in tax authorities, as government plays a critical part in citizens' compliance (Daude, Gutiérrez, & Melguizo, 2012). Secondly, tax morale is explored into the dimensions of self-tax morale and others' tax morale. According to the 'actor-observer bias' literature and attribution theory, it is common that taxpayers assume others under declare or evade their taxes (Kaplan, Reckers, & Roark, 1988). Though behaving morale or amoral could be influenced by trust (Nooteboom, 2006), or interchanges depending on different situational setting (Greenberg, 1984), perception of one's own morale could be substantially varied as compared to other peers' morale due to individual's inner bias, holding the perceptions of trust and power constant. Thirdly, besides the possibility of the individual norms or personal characteristics being 'morale' or 'amoral' affecting compliance behaviour, social norms and interaction is as well vital to be investigated. Taxpayers may have the tendency of being cooperative and abiding the law with adequate tax payments if they expect other to be cooperative, not limited to their trust on authorities and perceived power of authorities. Similarly, taxpayers may trust the authorities and perceive their legitimate power if they expect others perceive in such way (Frey, & Torgler, 2007). Fourthly, tax knowledge and tax awareness is one of the main determinants in tax compliance studies, but so far

most studies do not differentiate between the two (Loo et al., 2010; Devos, 2008). It is argued that a person who is well aware and convinced the purposes of tax contributions and the consequences of tax obligations would enhance voluntary compliance; whereas a person who is well equipped with tax knowledge may only enhance enforced compliance depending on other factors such as morale, trust and power. As this is a behavioural research mainly focusing on citizens' perceptions, tax law, technicalities or alike are not accessed, hence tax knowledge is not included in the framework.

Supported by the review of prior literatures, five differences hypotheses are postulated (H1-H5) in alternate form in order to answer the research questions in section one:

H1: There is a difference between male and female in:
- (a) Compliance quality
- (b) Power of authorities
- (c) Trust in authorities
- (d) Tax morale
- (e) Conditional cooperation
- (f) Tax awareness

H2: There is a difference between single and married in (a) – (f).
H3: There is a difference among employed, self-employed, and university students in (a) – (f).
H4: There is a difference among age groups in (a) – (f).
H5: There is a difference among ethnicity groups in (a) – (f).

METHOD

This is a cross sectional, quantitative research using non-experimental method by employing survey instrument mainly adapted from Wahl et al. (2010) and Rizal (2011). Quota sampling was applied into three groups: employed, self-employed and university students. 1,200 copies of questionnaires were distributed personally by hand or via email throughout Malaysia, in return of 314 usable responses to proceed with data analysis.

Descriptive statistics was conducted before the test of differences hypotheses. Independent samples t-test was then carried out to compare mean values between male and female, also between single and married, followed by the two-tailed p-values to examine if there were any significant differences in the means for each two groups in the respective variables.

Followed by the independent samples t-test, an analysis of variance (ANOVA) was conducted to examine if there were any significant mean differences among three or more groups in the respective variables with F distribution. Then, Tukey or Post-hoc tests was used to determine significant difference between groups, with attempt to control the experimentwise error rate (usually alpha = 0.05) in the same manner that the one-way ANOVA is used, instead of multiple *t*-tests.

RESULTS AND DISCUSSION

Descriptive statistics and normality

Table 4.1 shows the respective statistics as the measures of dispersion and normality mainly include mean, standard deviation, skewness and kurtosis. As for intervals and ratios, the most common descriptive statistics are mean and standard deviation (Sekaran, & Bougie, 2013). Mean is the average indicating the central tendency of data, where standard deviation indexes the spread of data distribution. From the results, the mean of trust in government (near to 11-point) was lower than median (12-point), indicating that on average, respondents slightly disagree on having trustworthy government. Conversely, the means of trust in LHDN, another dimension in the other end of trust, as well as power of LHDN were more or less 17-point, indicating respondents slightly agree on having trustworthy tax authorities with higher perception of authorities' power, to be specific. In terms of compliance, interestingly respondents believe themselves to be more voluntary compliance and less enforced compliance. In addition, they perceive others' tax morale is lower than their own tax morale, and express average conditional cooperation in tax compliance, with relatively high tax awareness (i.e., mean of 15 on 20-point). These interpretations are consistent with skewness, where negative skewness is left-skewed, indicating the tendency of agreement on respective statement, and vice versa.

In spite of the discussion based on means, standard deviations were rather high, suggesting high variability of data as responses were not close to the means and dispersed over a large range of value, particularly for voluntary compliance, trust in LHDN and conditional cooperation for which standard deviation achieved four and above. Having said that, the sample size and sampling design of this study were representative and appropriate with both skewness and kurtosis between 1 to -1, indicating the normal distribution of data even though nonprobability quota sampling which is not generalizable was employed.

Table 4.1 Descriptive statistics of variables

	Mean	Std. Deviation	Skew-ness	Kurtosis	Min.	Max.	Median
Trust_ Government	10.997	3.994	0.165	-0.639	4	20	12
Trust_LHDN	16.771	4.235	-0.111	-0.136	5	25	15
Power	17.441	3.691	-0.224	0.363	5	25	15
Voluntary Compliance	19.576	4.447	-0.720	0.277	5	25	15
Enforced Compliance	15.838	3.829	-0.061	-0.043	5	25	15
Morale_Others	8.538	2.770	0.313	0.055	3	15	9
Morale_Self	9.506	3.353	-0.149	-0.560	3	15	9
Conditional Cooperation	15.056	4.230	-0.248	-0.007	5	25	15
Awareness	15.238	3.272	-0.558	0.361	4	20	12

The concept of 'actor-observer bias' (Kaplan, Reckers, & Roark, 1988) is supported where individuals use to deem others are lack of compliance to the law than them. This could be evidenced by the contradictory results between perceiving others' tax morale to be low in general and self-rating tax morale to be high. It could also possibly be the reason of high voluntary compliance and tax awareness, given individuals would rather rate themselves positively, as a result of self-observe bias. To further investigate such self-observe bias, each items for the both dimensions of morale construct are listed with frequencies, mean, standard deviation, skewness and kurtosis for comparison in table 4.2. The same goes to conditional cooperation construct, as it is believed that more genuine reflections could be attracted by posting hypothetical questions, thus it would be interesting to observe the responses for this particular construct. As for others' tax morale, questions pertinent to amoral behaviour were asked and reversed as 'Others' tax morale' items. It could be analysed in two angles: Firstly, respondents were asked to think why others evade taxes. Secondly, respondents were led to a position reflecting their own tax morale in the position of others. On the other hand, direct questions were asked in D1bR-D1dR, CC1-CC3, respondents tend to think more negatively on others' behavioural outcome and eventually reflecting their perceptions more truthfully in an indirect way. In figure 4.1, three items for 'others' morale' construct in the bold box are more right skewed than the other three items below the bold box for 'self-morale' construct. Responses were slight towards disagreement on others' tax morale particularly for the first statement where respondents believed that people evade taxes to look after their own interest, just like everyone else does. They perceived most people evade tax in certain extent, thus self-interest must be taken care of just like everyone else practices. Strangely, provided the beliefs that most people do not comply completely, they expressed neutral responses or agreed that they do not exclude or manipulate their tax payments. In figure 4.2, the hypothetical question lead to respondents' decisions to under report their income, since everyone seems

does not comply completely, and their peers who do not fully comply have yet to be penalised. From the preliminary analysis, conditional cooperation should be appropriately represented, while others' tax morale may reflect tax morale better than self-tax morale.

Table 4.2 Descriptive statistics on exploratory dimensions and constructs

Measures	Code	Frequencies (Reverse Code)					Mean	Std. Deviation	Skew -ness	Kurtosis
		Strongly Agree	*Agree*	*Neutral*	*Disagree*	*Strongly Disagree*				
Morale_Others										
People evade tax for different reasons. Put yourself into such position, what would be the main reason for doing so?										
(b) To look after my own interests first, as everyone else does. (reverse coding)	D1bR	34	129	107	48	22	2.691	1.043	.457	-.297
		10%	38%	32%	14%	7%				
(c) It is a strategic 'game' and I would get away with it. (reverse coding)	D1cR	28	85	132	67	28	2.947	1.052	.106	-.450
		8%	25%	39%	20%	8%				
(d) It is logic to get the most out of any situation. (reverse coding)	D1dR	29	91	134	57	29	2.900	1.054	.201	-.387
		9%	27%	39%	17%	9%				

Measures	Code	Frequencies					Mean	Std. Deviation	Skew -ness	Kurtosis
		Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*				
Morale_Self										
I ***never*** retain part of my tax by:										
(a) Excluding my cash income.	D2a	38	53	113	82	54	3.179	1.205	-.186	-.760
		11%	16%	33%	24%	16%				
(b) Manipulating the amount in my tax return.	D2b	41	54	122	72	51	3.112	1.202	-.114	-.738
		12%	16%	36%	21%	15%				
(c) Excluding small amount of income.	D2c	34	47	123	84	52	3.215	1.164	-.222	-.605
		10%	14%	36%	25%	15%				

Measures	Code	Frequencies					Mean	Std. Deviation	Skew -ness	Kurtosis
		Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*				
Conditional Cooperation (Hypothetical question)...Position yourself as Miss Carol:										
I will under report my income	CC1	63 19%	62 18%	109 32%	81 24%	25 7%	2.832	1.197	-.068	-.915
Everyone seems do not comply completely.	CC2	19 6%	51 15%	105 31%	121 36%	44 13%	3.353	1.061	-.370	-.421
My friends and relatives who do not fully comply have not been penalised.	CC3	31 9%	50 15%	135 40%	97 29%	27 8%	3.115	1.051	-.292	-.326
My friends and relatives keep persuading me not to fully comply.	CC4	58 17%	67 20%	132 39%	65 19%	18 5%	2.759	1.108	-.035	-.664
Before filing my individual tax return, I also collect receipts which are deductible as many as possible from friends who are not claiming them in order to minimise my tax payment.	CC5	55 16%	62 18%	94 28%	87 26%	42 12%	2.997	1.259	-.111	-.992

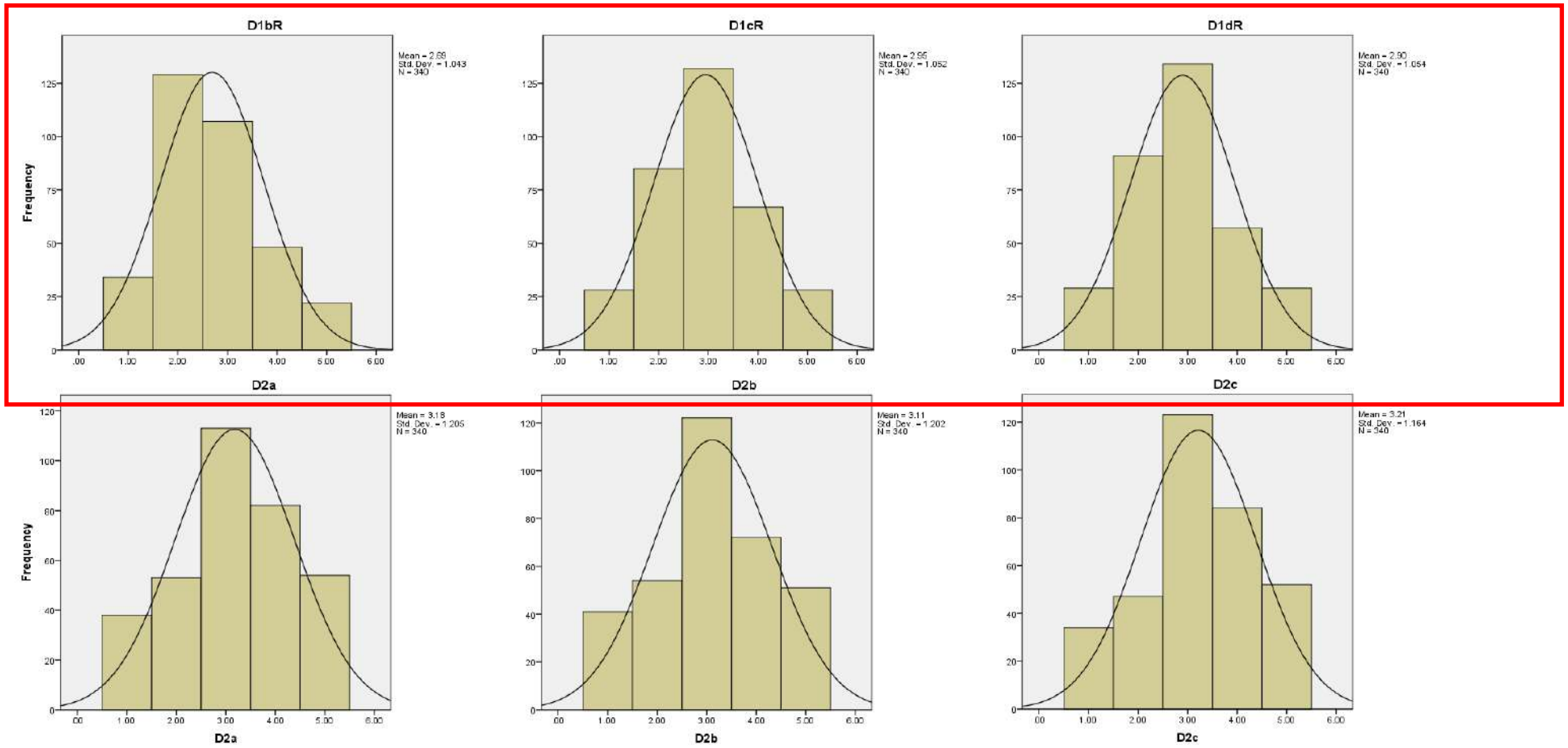


Figure 4.2 Normality of exploratory dimensions in tax morale (Histogram)

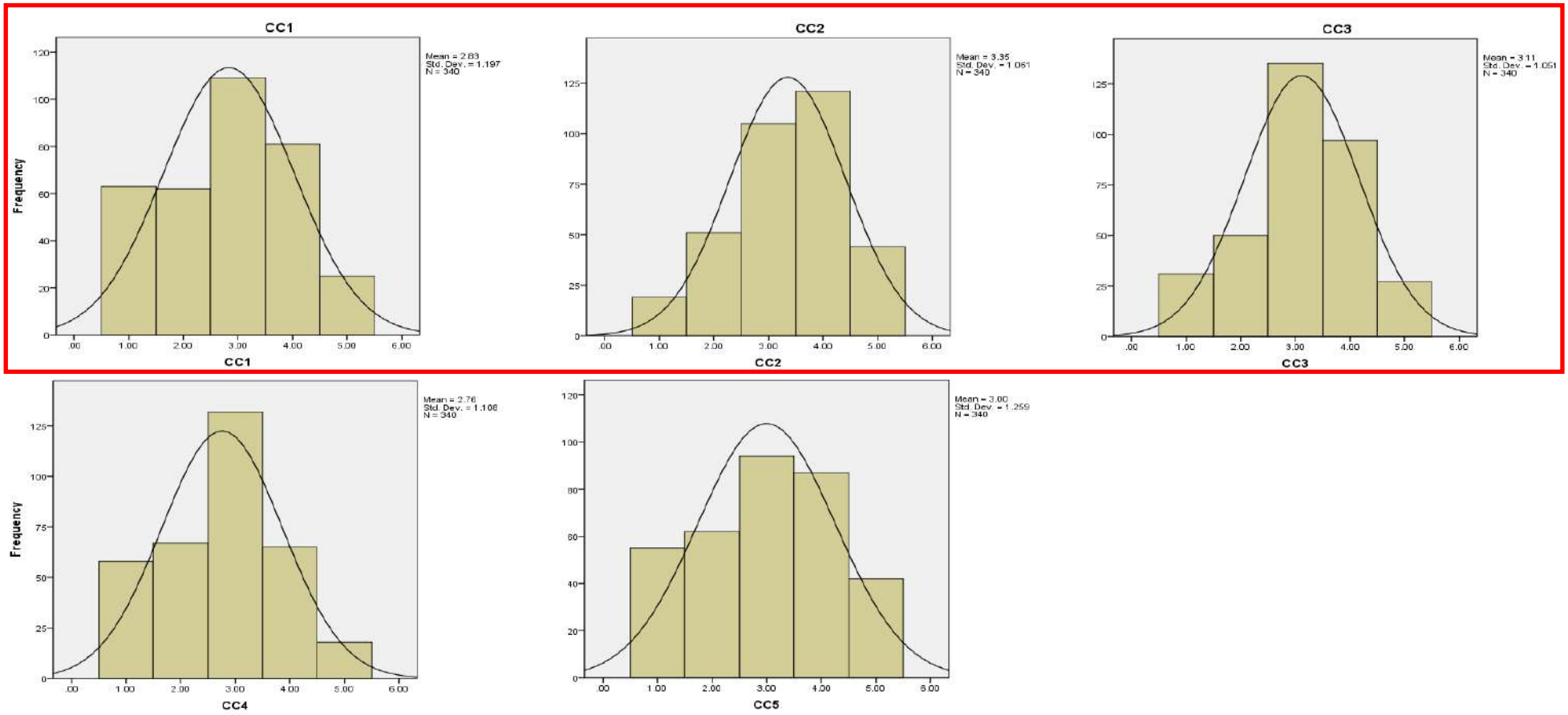


Figure 4.3 Normality of exploratory dimensions in conditional cooperation (Histogram)

Test of independence

Independent samples *t*-test was conducted for hypotheses one and two listed in section two. *H1 states that there is a difference between male and female in all constructs and dimensions*. According to table 4.3, H1 was supported only for 'trust in LHDN' at ten percent significance level and for 'awareness' at five percent significance level. Furthermore, the mean value suggested that males perceive more trust in tax authorities and with higher tax awareness than female.

Table 4.3 Independent Samples *T*-Test on Gender

	t-test for Equality of Means						
						95% C.I. Differ.	
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Trust Gov.	0.304	270	0.762	0.137	0.453	-0.754	1.028
Trust LHDN	1.747	272	0.082	0.833 *	0.477	-0.106	1.772
Power	-0.537	338	0.592	-0.153	0.285	-0.713	0.407
V.Com	-0.064	338	0.949	-0.031	0.488	-0.992	0.929
E.Com	0.815	338	0.416	0.342	0.420	-0.484	1.168
Morale Others	-1.445	279	0.150	-0.613	0.424	-1.449	0.222
Morale Self	-1.552	338	0.122	-0.569	0.367	-1.291	0.152
Coco	-0.521	338	0.603	-0.242	0.464	-1.155	0.672
Aware-ness	2.462	334	0.014	1.043 **	0.424	0.210	1.876

Significance level: ****p<0.01, **p<0.05, *p<0.10*

Secondly, H2 suggests that there is *a difference between single and married in all constructs and dimensions*. From the *t*-test analysis revealed in table 4.4, H2 was supported for: 'awareness' at one percent significance level; for 'trust in LHDN' and 'voluntary compliance' at five percent significance level; and for both dimensions of tax morale at ten percent significance level. Mean difference further elaborated that married persons are generally more voluntarily complied with higher tax awareness and higher trust in tax authorities. Interestingly, married persons perceive higher tax morale on others, yet single persons perceive high tax morale on themselves, with higher conditional cooperation behaviour.

Table 4.4 Independent Samples *T*-Test on Marital Status

	t-test for Equality of Means						
						95% C.I. Differ.	
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Trust Gov.	0.543	225	0.587	0.257	0.473	-0.674	1.188
Trust LHDN	-2.205	227	0.028	-1.094 **	0.496	-2.071	-0.116
Power	0.326	231	0.744	0.141	0.433	-0.712	0.995
V.Com	-2.172	338	0.031	-1.072 **	0.494	-2.043	-0.101
E.Com	-0.931	221	0.353	-0.424	0.455	-1.320	0.473
Morale Others	-1.955	338	0.051	-0.822 *	0.421	-1.649	0.005
Morale Self	1.881	236	0.061	0.732 *	0.389	-0.035	1.498
Coco	2.479	338	0.014	1.162 **	0.469	0.240	2.083
Aware-ness	-4.913	338	0.000	-2.119 ***	0.431	-2.968	-1.271

Significance level: ****p<0.01*, ***p<0.05*, **p<0.10*

ANOVA and Tukey's test

Subsequent to *t*-test, ANOVA and Tukey's test were conducted for hypotheses three to five listed in section two. *H3 tests if there is a difference among employed, self-employed, and university students in all constructs and dimensions*. From the results shown in table 4.5, H3 was only supported for 'trust in government', 'conditional cooperation' and 'awareness' at one percent significance level. Tukey's test (P<0.05) showed that student group perceives more trust in government than employed group, followed by self-employed group. The same results go to conditional cooperation behaviour. On the contrary, business owners' tax awareness was significantly the highest, followed by employed group, then students. In other words, business owners or self-employed persons are well aware the existence of tax and its obligations and consequences of non-compliance, therefore they might be more sensible on tax matters rather than making decisions to pay or not to pay depending on others' tax decisions, even though they are unlikely trust the government to disseminate tax revenue in an appropriate manner. Conversely, university students who are yet to gain more practical experiences especially on tax matters, are lacking in terms of tax awareness, and will take peers' tax decisions into considerations to form their tax behaviour, even though they generally believe the government is trustworthy.

Table 4.5 ANOVA And Tukey's Test on Employed, Self-Employed and Students

Tukey Variable	(I) Employment Level	(J) Employment Level	Mean Difference (I-J)	Std. Error	Sig.	ANOVA F	ANOVA Sig.
Trust Gov	Business Owner	Employed	-1.740	0.515	0.002	10.190	0.000
		Student	-2.286	0.529	0.000		
Coco	Student	Business Owner	1.397	0.566	0.037	6.938	0.001
		Employed	1.992	0.545	0.001		
Aware-ness	Student	Business Owner	-2.264	0.531	0.000	9.327	0.000
		Employed	-1.410	0.511	0.017		

H4 reveals that there is a difference among the age groups in all constructs and dimensions. Results in table 4.6 identifies that age groups varied among themselves significantly in 'conditional cooperation' and 'awareness' at one percent significance level, and others' morale at five percent significance level. Tukey's test ($P<0.05$) analysed that 41 to 50-year-old age group perceived higher tax morale and with lower conditional cooperation behaviour than 18 to 30-year-old age group. Besides that, tax awareness was in line with the sequence of age group: The highest in the oldest age group and lowest in the youngest age group. Overall, the oldest category is more sensible with higher tax awareness and tax morale, and with lower conditional cooperation behaviour than the youngest category.

Table 4.6 ANOVA and Tukey's Test on Age Group

Tukey Variable	(I) Employment Level	(J) Employment Level	Mean Difference (I-J)	Std. Error	Sig.	ANOVA F	ANOVA Sig.
Morale Others	18 to 30 years old	41 to 50 years old	-1.629	0.618	0.043	3.262	0.022
Coco	18 to 30 years old	41 to 50 years old	2.562	0.684	0.001	5.543	0.001
Aware-ness	18 to 30 years old	31 to 40 years old	-1.447	0.523	0.030	11.198	0.000
		41 to 50 years old	-2.924	0.631	0.000		
		51 years old and above	-3.271	0.860	0.001		

Lastly, *H5 infers that there is a difference among the ethnicity groups in all constructs and dimensions*. This was supported for both dimensions of trust at one percent significance level, and for self-assessed morale and tax awareness at five percent significance level. From Tukey's test ($P<0.05$), Bumiputra perceive the highest trust in government, followed by Indian and Chinese, whilst Bumiputra perceive higher trust in tax authorities than Chinese significantly. Furthermore, Bumiputra have higher tax awareness than Indian, and interestingly, Chinese perceive themselves with tax morale more than Bumiputra. As mentioned in section 4.1, items to operationalise 'self-tax morale' construct is responded and formed likely due to self-observed bias, there is a possibility of committing type II error when the hypothesis was supported that Chinese perceive higher self-tax morale than Bumiputra.

Table 4.7 ANOVA and Tukey's Test on Ethnicity

Tukey Variable	(I) Employment Level	(J) Employment Level	Mean Difference (I-J)	Std. Error	Sig.	ANOVA F	ANOVA Sig.
Trust Gov	Bumiputra	Chinese	4.109	0.423	0.000	47.294	0.000
		Indian	1.633	0.565	0.011		
	Chinese	Indian	-2.475	0.592	0.000		
Trust LHDN	Bumiputra	Chinese	1.622	0.499	0.004	5.436	0.005
Morale Self	Bumiputra	Chinese	-1.086	0.397	0.018	3.845	0.022
Aware-ness	Bumiputra	Indian	1.546	0.635	0.041	3.043	0.049

CONCLUSION

This study aims to investigate the existence of differences in tax perceptions and tax compliance behaviour. Quota sampling was employed in three sub-groups, which are self-employed, employed and university students. *T*-test, ANOVA and Tukey test were applied for data analysis. It seems that citizens who shoulder heavier responsibilities (such as males relative to females; married persons relative to single persons; self-employed persons relative to employed workers and students; older age relative to younger age etc.) are more aware on tax obligations and consequences on non-compliance, and most of the time, are more sensible to make their own tax decisions without referring to their reference groups. Interestingly, single persons and Chinese perceive themselves with higher tax morale than others, while married persons and older persons perceive others with high tax morale. As Chinese ethnicity has the least trustworthy belief in government and tax authorities, the prevailing tax climate they perceive could have been the antagonistic climate. As this research is at its preliminary stage, it would be more beneficial to develop relationship hypotheses and infer the significant impact on these relationships via regressions or other multivariate analysis. Up to this stage, policy makers should aware that perceptions

of power of LHDN are among the highest, followed by trust in LHDN and lower trust in government. Responses are highly dispersed as for voluntary compliance, trust in LHDN and conditional cooperation. Based on observations, Malaysia citizens are rather conservative and perceive expressing tax concerns and behaviours to be rather sensitive, this could be evidenced self-rated voluntary compliance than enforced compliance; as well as perceiving self-tax morale and low tax morale in others.

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Economic Valuation of Urban Green Space in Kuala Lumpur: A Preliminary Study

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ABSTRACT

This paper analyzes 372 units of houses in Kuala Lumpur city to estimate the economic value of urban green space based on hedonic price model (HPM) aid by Geographical Information System (GIS). This model use price of house as a proxy to quantify economic value of urban green space. The study consists of 10 residential areas and 14 urban green spaces around Kuala Lumpur city. Two models mainly based on hedonic price model are employed in this study. Model 1 represents the relationship between house structures and house prices. While, model 2 represents the relationship between house structures together with environmental characteristic (distance between residential areas and urban green spaces) and house prices. All the data related to house prices and house structures are collected from Valuation and Property Department of Malaysia. While, GIS is used in determining the attribute of environmental characteristic which is the distance between residential areas and urban green spaces. As expected, the results proved that urban green space have economic value especially in Bukit Nanas area. Results confirmed the urban green spaces characteristics have positive impact on house prices. It was found that the reduction of 60 meters (m) of distance from residential areas to nearest green space (Bukit Nanas) will increase the price of houses by RM39, 560. This suggests that Kuala Lumpur residents demand green space in their life. In addition, these findings have implications for real estate developers and policy-makers involve in urban planning.

Keywords: Hedonic Pricing Model, GIS, Economic Valuation of Urban Green Space, Kuala Lumpur

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INTRODUCTION

Environmental quality is one of the key factors in the sustainable development of any economy. Of the various environmental problems, urban green space is focused on. According to Saphores and Li (2012), the importance of urban green space in cities is increasing worldwide because of the expansion of urban land fueled by urbanization. Urban green space offer the connection between urban and nature. As mentioned by Pietsch (2012), a term of urban green space broadly as the range of urban vegetation including such as street trees, open spaces, parks, residential gardens and in fact any vegetation found in the urban environment. The public today demands environmentally friendly development especially in cities as green awareness and interest in healthy living increase. Areas of the city which is full with green scene are aesthetically pleasing and definitely have high potential to attract both residents and investors hence giving extra values to the city.

Nowadays, natural disasters such as landslide, flood, and any kind of pollutions often occurred and caused great damage to city. This phenomenon happen because a lot of areas are dominated by mass of concrete which express the green areas at the city are in small area. The process of rapid urbanization created an unnatural environment (Pietsch, 2012). Urban green spaces have turn into the essential elements of ecological, aesthetic, recreational as well as economic value.

Based on Yusof (2012), since 1950, the metropolitan area of Kuala Lumpur has almost tripled in area and now it was covered by 243 square km. Despite this expansion, Yaakup (2005) estimated that Kuala Lumpur has lost approximately about 50% of its green spaces, mainly for residential development to provide for the population increase together with some industrial development since year 1958 until 2012. In addition, people who stay around Kuala Lumpur expressed a high level of dissatisfaction with regards to this situation. According to Tyrvainen (2001), activity of industrial development could reduce the amenity values of green area. Implementation of urban design policies was limited by the lack of follow-up instrument such as local plan as well as urban design plans and development activities.

Based on the Kuala Lumpur City Plan 2020 in The Star Online (2008), the city expressed a vision of a network of high quality, accessible parks and economic generation, assisting Kuala Lumpur to be more attractive city in which to live and work. Greening the city may lead to an increase livability which is by creating a more comfortable living environment and providing space for healthy recreational activities. The beautification of Kuala Lumpur was one of the factors that attracted significant foreign investments that boost rapid economic growth in Malaysia. In the ninth Malaysia Plan, sustainable development and conservation of biological resources are emphasized. Development plans are directed towards creating a healthy and balanced quality of life. In line with the objective, big cities like KL are creating more urban green space for their dwellers, geared primarily towards education, recreational activities, and mobilizing the local community to participate as guardians of the environment.

In term of economic sense, urban green spaces have their own value. By treating the property prices as a proxy for economic value, value of urban green spaces can be measured. Property price such as housing price not only affected by attributes of house but it also may be influenced by environmental characteristics such as green spaces. Based on previous research outside Malaysia, it reveals that the

percentage of green space in people's living environment has a positive association with the perceived general health of residents. Green space appears to be more than just a luxury and it is important to improve the quality of life of urban dwellers especially in metropolitan cities. A bulk numbers of literature points that urban green area aiding many crucial aspects of social and environmental sustainability, however, the challenge is to urban planners responsive and make decision-makers, including the economic value of such 'indirect' benefits and also to assist the Government to achieve policy objectives in the best possible way. Hence, the objective of the study is to examine the determinants of the economic value of urban green space. At the same time, this study attempts to support and provide policy recommendation for enhancing the development of urban green space. In order to achieve the objectives, Hedonic Pricing Method (HPM) and Geographical Information System (GIS) are employed. It is expected that the obtained results expose that urban green space in KL city might have high value that will lead to economic benefits.

LITERATURE REVIEW

Values of Urban Green Space

The importance of green space in towns and cities has been recognized in various degrees since the nineteenth century. Based on Gibbons, Mourato and Resenda (2014), living around to wanted natural areas and environmental resources including river, coastal or woodland habitats, gardens and urban parks, and managed and protected areas are thought to give a positive welfare impacts to the public. These include not only numerous opportunities for recreation, leisure, wildlife viewing, act as a functions of landslide prevention, fire control, flood control and disaster reduction but also the possibility of improved physical health through green exercise, visual amenity, improved mental or psychological well-being, artistic inspiration, and ecological education. Choumert and Cormier (2010) also agreed and reported green spaces come up with various amenities ranging from ecological services to recreational benefits. The Millennium Ecosystem Assessment (2005) refers to these types of amenity benefits as the 'cultural services' supplied by ecosystem, while the UK National Ecosystem Assessment (2011) categorizes them as the 'cultural goods or benefits' provided by environmental setting and wild species diversity. In economic sense, both of these may contribute to positive impact such as high in property price.

According to Tyvrvaiinen (1999), urban green spaces have different types of values or benefits such as social values, aesthetic and architectural values, climatic and physical values, ecological values and as well as economic values. Economic values including energy saving, urban parks and water management and property price (Sadeghian and Vardanyan, 2013). Most of the studies from outside such as China, Finland, Netherlands, Spain and United Stated indicate that the residents willing to pay to use or to enjoy urban green space (Brunson and Reiter, 1996, Tyrvainen and Vaananen, 1998, Jim and Chen, 2006, and Saz-Salazar and Rausell-Koster, 2008) based on various factors. From their study, it reviews that urban green space have their own value which influence a property price supported by (Tyrvainen, 2001, Luttik, 2000, Morancho, 2003 and Tajima, 2003) in their previous research.

Distance between Residential Area and Urban Green Space

Numerous studies revealed that evaluated property values of houses that are near to open spaces and parks are typically about 8 percent to 20 percent more than comparable properties elsewhere. In a study done by Crompton (2001), the real estate market consistently indicates that peoples are willing to pay a larger amount for a property price located near to open spaces and parks areas compared to a house that does not offer this service. Tajima (2003) have measured the value of urban green space in Boston by estimating the demand for urban green space in term of property value in its area. Tajima (2003) confirmed that property prices will increase as a distance from property areas to urban green areas is decrease. While, the property price will decrease as a distance from property area to highways is decrease. It means that the property prices are increase and have high value when it located near to urban green spaces. The study implies that a highway is an undesirable environmental public good while a park is a desirable good. As a policy implication, the demand for a property reputedly raises with the creation of a new park nearby. At the same time, Tajima (2003) also stated that it may affect a low-income minority groups who live in rental housing units in the neighborhoods with negative impact. However, it may help the owner of the properties in the form of capital gains and by attracting a comfortable population.

As reported in previous study by Mahan, Polasky, and Adams (2000), the reduction of distance to the nearest wetland by 1000 feet will increase a house price by $436. Mansfield *et al*. (2005) measured the value of urban forest in housing market in their study. As a results, the sale price of the house will increase as a location to either a private or institutional forest decrease. It means proximity to either type of forest provide positive impact on house price. The findings were also supported by Cho, Poudyal, and Roberts (2008). They have studied on the influence of forest on property price in Knoxville City, USA and the result also realized a positive impact on property price caused by proximity of green space. As stated by Gibbon, Mourato and Resende (2013), increasing distance to natural amenities such as rivers, National Trust and National Parks sites is unambiguously associated with a reduction in house prices.

Other than that, Morancho (2003), Cho, Bowker and Park (2006) and Conway *et al*. (2010) also consider the distance in their study which is about the relation between housing price and urban green area endowments. Conway *et al*. (2010) provide the same result in their study about the spatially explicit analyses of the green space to residential property values based on hedonic price model. They found that neighborhood green space at the immediate region of houses has a significant impact on sales price of houses. Cho, Bowker and Park (2006) have estimated the influence of proximity to green space and water body's amenities on residential housing values in Knox Country, Tennessee. Evaluates of the effect of green spaces and water body's on the value of nearby property would be of use in evaluating the cost of such initiatives and emphasizing of land parcels to be conserved as open spaces. Based on Morancho (2003), result also showed there are an inverse relationship between the distance from dwelling to the green urban areas and the selling price of the dwelling.

Hedonic Price Model

Estimation by using hedonic pricing model is employed in order to analyze the economic value of urban green space. While, Geographical Information System is employed to measure environmental characteristics. Numerous studies applied hedonic pricing method for evaluating the value of urban green space including (Irwin and Bockstael, 2001, Ridker and Henning, 1967, Freeman, 1979, Cho, Bowker and Park, 2006, Shultz and King, 2001, Cho, Poudyal and Roberts, 2008, Anderson and West, 2006, Gibbon, Mourato and Resenda, 2013, Kong, Yin and Nakagoshi, 2007, Paterson and Boyler, 2002 and Bastian et.al., 2002). Ridker and Henning (1967) assigned as the pioneers who applied the hedonic price approach in residential properties. In their study, the relationship between air quality and property values is examined, but it was Freeman (1979) who was noted for giving the first theoretical justification for the application of this method to housing. Specifically, Freeman employed the hedonic price equation to compute the marginal implicit prices and the willingness to pay for housing characteristics, such as environmental quality.

Hedonic price models for deciding marginal implicit prices of open-space amenities and non-residential land use were determined using housing data which are gathered from the census. In order to evaluate the effects of aggregating land-use data by alternative levels of census geography as well as the use of different sample sizes of census blocks, alternative model specifications were compared. It was dictated that used land is best aggregated at the block group level and that entire population or very large sample sizes of census blocks should be employed with hedonic model (Shultz and King, 2001). In the study done by Cho, Bowker and Park (2006), a standard ordinary least squares (OLS) model is used to estimate the values of proximity to water bodies and green space. Then, a locally weighted regression model is applied to analyze spatial non-stationary and generate local evaluates for individual source of each amenity. The local model reveals some crucial local differences in the consequences of proximity to water bodies and green space areas on sales price of house.

Cho, Poudyal and Roberts, (2008) were determine the spatial variation in amenity values for both quantity and quality of green open space in the housing market by using hedonic pricing method. Variables such as spatial composition, size and species composition of open space and as well as proximity are often used in the local and global models in a hedonic price structure. Based on empirical evidence in their study, it reveals that amenities of different features of open space are differ based on the degree of urbanization. They summarized that evergreen trees, a diverse landscape with fragmented forest patches, and natural forest edges in Rural–Urban interfaces are more highly valued. In contrast, deciduous and mixed forests, larger forest blocks, and smoothly trimmed and man-made forest patch boundaries are more highly valued in purely urban areas. The need for site-specific land use management to fit the local characteristics is acknowledged as spatial variation in amenity values varies across a metropolitan area.

Anderson and West (2006) employed hedonic approach of home transaction data from the Minneapolis–St. Paul metropolitan area to study the effects of proximity to open space on house price. They allow the effects of proximity to vary with demographic and location-specific characteristics and include fixed effects to control for observed and unobserved neighborhood characteristics. From their study,

the results depict that the value of proximity to open space is higher in neighborhoods that are dense, near the central business district, home to many children, high-income, or high-crime.

Geographical Information System

Based on previous study, housing price based on hedonic pricing method not only affected by attributes of house but it also influenced by environmental characteristics. In recent years, the use of geographical information systems (GIS) and the availability of GIS data on environmental characteristics have increased the detail and flexibility with which these attributes can be linked to house locations, allowing for improved accuracy in the consideration of proximity to natural features, designated natural areas, and the amount and topography of the local environmental amenities (Gibbon, Mourato and Resenda, 2013). Combination of hedonic pricing method and GIS were employed and supported in another studies conducted by Kong, Yin and Nakagoshi (2007), Paterson and Boyle (2002) and (Bastian *et al*., 2002).

Based on Kong, Yin and Nakagoshi (2007), hedonic models which employ such properties as proxies, can often be used to quantify environmental amenities. In China, residential housing reform in place has terminated the traditional residential welfare system, and made it possible to quantify the monetary value of green space amenities based on hedonic pricing models since 1998. This study was upgrade the previous studies which is about the valuation of urban green space amenities in mainland China by using hedonic price model. In deciding hedonic price model variables, GIS and landscape metrics were used. By using this approach in their study, the results confirmed that the hedonic pricing model performed well and accordingly it was further improved.

Paterson and Boyle (2002) used GIS data to develop variables representing the physical extent and visibility of surrounding land use/cover features in a hedonic model of a rural residential housing market. Three equations are estimated to determine if views affect property prices and, further, if omission of visibility variables leads to omitted variable biases. First-order spatial autoregressive models are estimated to improve efficiency. Results indicate that the visibility measures are important determinants of prices and that their exclusion may lead to incorrect conclusions regarding the significance and signs of other environmental variables.

Remote agricultural lands, which include wildlife habitat, angling opportunities and scenic vistas, command higher prices per hectare in Wyoming than those whose landscape is dominated by agricultural production (Bastian et. al., 2002). In their study, GIS data are used to measure recreational and scenic amenities associated with rural land. Combination of hedonic price model and GIS is used to estimate the impact of amenity and agricultural production land characteristics on price per acre for a sample of Wyoming agricultural parcels. Results depict that the specification performed well across several functional forms. The sampled land prices are explained by the level of both environmental amenities as well as production attributes. Statistically significant amenity variables included elk habitat, sport fishery productivity scenic view, and distance to town. This analysis permits a better estimation of environmental amenity values based on hedonic techniques. By using agricultural conservation easements and land use conflict resolution, improved estimation of amenity values is vital for policies aimed at open space preservation.

METHODOLOGY

Placing accurate economic values on urban green space is not an easy task and is becoming more important to support the case for sustainable development of any economy especially in the city of Kuala Lumpur. Hence, the main objective of the study is to examine the determinants of the economic value of urban green space by investigate the relationship between the urban green space characteristics (distance between residential area and urban green spaces) and house price. This research will use cross sectional data of 372 housing units. The houses are located across 10 residential areas which are Mont Kiara Pines, Mont Kiara the Residents, Bandar Manjalara, Kepong Baru, Taman Bukit Maluri, Jinjang Selatan, Jinjang Utara, Kepong Garden, Segambut Garden, and Desa Park City. While 14 urban green spaces consists of Bukit Nanas, Batu Caves, Bukit Lagong, Dataran Merdeka, Desa Park City, Forest Research Institute Malaysia (FRIM), Kuala Lumpur City Centre (KLCC), Taman Tasik Permaisuri, Pudu Ulu, Rimba Bukit Kiara, Taman Tasik Perdana, Taman Tasik Titiwangsa, Taman Sains Rimba and University Malaya Forest (UM) are included in this study. Data included is divided into two parts; housing structures and environmental characteristics. Housing structures are consists of number of rooms, area of ancillary (m^2) area of building lot (m^2) and area of lot (m^2). While, distance between residential area and urban green space (km) represents an environmental characteristic. House price for 372 housing units which represent a dependent variable are also used in the study. The data of housing structures and environmental characteristic are gathered from Valuation and Property Service Department and GIS Software respectively. According to Brasington and Hite (2005), the development of GIS has gradually made hedonic pricing model a powerful tool in recent decades.

A hedonic pricing model is employed to estimate the economic value of urban green space that directly affects housing market prices. A housing price is used as a proxy to measure the economic value of urban green space. Two models mainly based on hedonic pricing model are employed in this study. Model 1 represent the relationship between housing structure and housing price and model 2 represent the relationship between housing structure together with distance between residential area and urban green space and housing price.

The traditional hedonic pricing model takes the following form:

$$P = f\left(x_1, x_2, \cdots, x_n, E_i\right) \tag{1}$$

where P is the market price of house, $x_1, x_2, \cdots, x_n$ are housing structures and E_i is environmental characteristics variables. The model is adopted and modified based on study conducted by Kong, Yin and Nakagoshi (2007).

Based on equation (1), the appropriate equation for hedonic price regression specification can be formulated as:

$$P = \alpha + a_1 x_1 + a_2 x_2 + \cdots + a_n x_n + b_i E_i + \varepsilon_i \tag{2}$$

However, logarithmic specification is formulated in this study because of the ease in interpretation. Thus, equation 2 can be form as:

$$\ln P = \alpha + a_1 \ln x_1 + a_2 \ln x_2 + \cdots a_n \ln x_n + b_i \ln E_i + \varepsilon_i \tag{3}$$

Hence two models involve in this study can be written as following:

Model 1:

$$\ln P_i = \alpha + a_1 \ln x_{1i} + a_2 \ln x_{2i} + a_3 \ln x_{3i} + a_4 \ln x_{4i} + \varepsilon_i \quad (4)$$

where
i = number of home
x_{1i} = area of building lot (m^2) at ith home.
x_{2i} = area of lot (m^2) at ith home.
x_{3i} = area of ancillary (m^2) at ith home.
x_{4i} = number of room at ith home.

Model 2:

$$\ln P_i = \alpha + a_1 \ln x_{1i} + a_2 \ln x_{2i} + a_3 \ln x_{3i} + a_4 \ln x_{4i} + a_5 \ln DBC_i + a_6 \ln DBL_i + a_7 \ln DBN_i + a_8 \ln DDM_i + a_9 \ln DDPC_i + a_{10} \ln DFRIM_i + a_{11} \ln DKLCC_i + a_{12} \ln DTTP_i + a_{13} \ln DPU_i + a_{14} \ln DRBK_i + a_{15} \ln DTP_i + a_{16} \ln DTTT_i + a_{17} \ln DTSR_i + a_{18} \ln DUMF_i + \varepsilon_i \quad (5)$$

where
i = number of home
x_{1i} = area of building lot (m^2) at ith home.
x_{2i} = area of lot (m^2) at ith home.
x_{3i} = area of ancillary (m^2) at ith home.
x_{4i} = number of room at ith home.
DBC_i = distance between Batu Caves and residential area (km)
DBL_i = distance between Bukit Lagong and residential area (km)
DBN_i = distance between Bukit Nanas and residential area (km)
DDM_i = distance between Dataran Merdeka and residential area (km)
$DDPC_i$ = distance between Desa Park City and residential area (km)
$DFRIM_i$ = distance between FRIM and residential area (km)
$DKLCC_i$ = distance between KLCC and residential area (km)
$DTTP_i$ = distance between Taman Tasik Permaisuri and residential area (km)
DPU_i = distance between Pudu Ulu and residential area (km)
$DRBK_i$ = distance between Rimba Bukit Kiara and residential area (km)
DTP_i = distance between Taman Tasik Perdana and residential area (km)
$DTTT_i$ = distance between Taman Tasik Titiwangsa and residential area (km)
$DTSR_i$ = distance between Taman Sains Rimba and residential area (km)
$DUMF_i$ = distance between UM Forests and residential area (km)

The analysis for all models are performed using Ordinary Least Square (OLS) regression and examined the adjusted R^2. By referred to appendices, Table 1 shows summary statistics for the variables considered.

Table 1 Model Variables and Basic Statistics

Variable	Mean	Std. Dev.	Min	Max
Dependent Variable				
Housing Price (RM)	13.16	0.66	10.37	15.86
Housing Structure Variables				
Area of Building Lot (m^2)	4.85	0.41	2.20	6.39
Area of Lot (m^2)	5.07	0.43	4.38	6.80
Area of Ancillary (m^2)	3.06	0.74	1.10	4.13
Number of Room	1.21	0.19	0.00	2.08
Environmental Characteristic Variable				
Distance Between residential area to Urban Green Space in Kuala Lumpur (km)				
1. Batu Caves	11.08	1.65	5.9	13.3
2. Bukit Lagong	10.52	2.78	7.2	16.2
3. Bukit Nanas	12.81	2.03	5.9	16
4. Dataran Merdeka	12.08	2.02	5	15.4
5. Desa Park City	4.70	2.90	0.2	11.2
6. FRIM	9.35	2.71	5	15
7. KLCC	15.20	2.05	7.5	19.2
8. Taman Tasik Permaisuri	21.03	2.16	14.9	24.2
9. Pudu Ulu	19.79	2.42	12.7	23.8
10. Rimba Bukit Kiara	10.11	2.16	7.5	14.9
11. Taman Tasik Perdana	12.69	2.25	6.6	15.8
12. Taman Tasik Titiwangsa	12.47	2.20	4.9	16
13. Taman Sains Rimba	5.68	2.83	1.5	12.2
14. UM Forest	14.74	2.59	9.4	19

Notes: These statistics are for 372 observations of housing unit in the city of Kuala Lumpur

RESULT AND DISCUSSION

Table 2 in appendix indicates the result of regression for all variables that affect housing market price. The results are presented in two columns according to the model.

Table 2 Detailed Estimation Result

Housing Price (RM)		
	Model 1	Model 2
Constant	10.3040 (0.0000)***	25.8696 (0.0059)***
Area of Building Lot(m^2)	0.6462 (0.0000)***	0.3537 (0.0000)***
Area of Lot(m^2)	0.1677 (0.0133)***	0.3740 (0.0000)***
Area of Ancillary(m^2)	0.3927 (0.0000)***	0.0250 (0.7340)
Number of Room	0.0619 (0.6567)	0.0196 (0.8822)
Distance Between residential area to urban green spaces (km)		
1.Batu Caves		2.0211 (0.0584)*
2.Bukit Lagong		3.1673 (0.0569)*
3.Bukit Nanas		-9.2264 (0.0151)**
4.Dataran Merdeka		7.0630 (0.0072)***
5.Desa Park City		-0.5502 (0.0909)*
6.FRIM		-4.5864 (0.0203)**
7.KLCC		-0.1328 (0.7996)
8.Taman Tasik Permaisuri		-0.2650 (0.0030)***
9.Pudu Ulu		1.3856 (0.1665)
10.Rimba Bukit Kiara		0.4687 (0.2078)
11.Taman Tasik Perdana		-0.1905 (0.7012)
12.Taman Tasik Titiwangsa		0.4589 (0.6450)
13.Taman Sains Rimba		0.5180 (0.2689)
14.UM Forest		-1.33 (0.0552)*
Adjusted R-Squared	0.60	0.70
F-Statistics	135.5286 (0.0000)***	(49.4756) 0.0000***
Number of Observation	372	372

Note: ***, ** and * denote significance at 1% level, 5% level and 10% significance level respectively.

Based on model 1, overall of the coefficients of housing structure are statistically significant with positive sign. All the variables that affect housing price were at the level of 1%. Except for only one variable does not affect the housing house was number of room. However, as expected, the coefficient of number of room is positive but it was insignificant. From the model 1, results show that the housing price grows by 0.6462% for every unit percentage increase in area of building lot, 0.1677% for every unit percentage increase in area of lot and 0.3927% for every unit percentage increase in area of ancillary.

Model 2 shows that the area of ancillary was no longer statistically significant when distance between residential area and urban green space is considered in the model. While, the area of building lot and area of lot remain statistically significant with positive sign and number of room remain not statistically significant. Almost half of the distance between residential area and urban green space variable are significant. Among of them, only five of urban green spaces provide negative sign as expected. They were the distance between residential area and Bukit Nanas, Desa Park City, FRIM, Taman Tasik Permaisuri and UM Forest. Bukit Nanas is the most urban green space area that provide the highest increase of house price. According to model 2, it was found that the reduction of 60 meters of distance from residential area to nearest urban green space (Bukit Nanas) will increase the price of house by RM39,560, the reduction of 50 meters of distance from residential area to nearest urban green space (FRIM) will increase the price of house by RM16,275, the reduction of 95 meters of distance from residential area to nearest urban green space (UM Forest) will increase the price of house by RM7,435, the reduction of 150 meters of distance from residential area to nearest urban green space (Desa Park City) will increase the price of house by RM2,365 and the reduction of 2 meters of distance from residential area to nearest urban green space (Taman Tasik Permaisuri) will increase the price of house by RM4,725. At the same time, distance between residential area and Batu Caves, Bukit Lagong and Dataran Merdeka were also statically significant but with positive sign. Increased of house price due to distance may depend on location of urban green spaces. Based on study, conducted by Saphores and Li (2012), this opposite effect is reflected due to landscaping taste. In addition, areas close to KLCC and Taman Tasik Perdana would increase the value of housing price however, these coefficients are statistically insignificant. Distance between residential area and Pudu Ulu, Rimba Bukit Kiara, Taman Tasik Titiwangsa and Taman Sains Rimba are also statistically insignificant.

Generally, the results obtained show that the economic values of urban green spaces on the property depends on the distance between residential areas and some of urban green spaces. Green spaces in an urban environment have a potential to create more economic benefit in various sectors or groups included government, real estate developers and residents or prospective buyers. Clearly, urban green spaces are able to provide fiscal benefits for municipal government. Real estate developers can gain the benefit through higher house prices, quicker sales and improved marketing chances. This in turn increases property values In other point of view, greener areas have a nice view and attract more visitors, bringing with them leisure and retail appending and offering job and rental opportunities As mentioned, investment in urban green space can result to an increase in demand for prices of houses and definitely may provide higher returns for the property sector.. Despite of urban green spaces provide benefits for government and real estate developer, it does not mean it may disadvantage residents or prospective buyers due to price of house increase. In

term of quality of life, visual amenity and landscape of urban green space can improve the better views from residents on journeys to and from work or else thereby lead to a higher quality of life. In addition, urban green spaces are able to avoid some natural disasters such as air pollution, flood, landslide, forest fires and haze which not only cause considerable damages to property and loss of lives but an economic damages also involved. Moreover, they were free from pollutions and traffic jam compared to those who lived or stayed at purely urban environment.

In overall, the performances of the models are satisfactory as reflected by the adjusted R^2 and significance of F-statistics in Table 2.

CONCLUSION AND RECOMMENDATIONS

This paper provides the economic valuation of urban green space capitalized in the housing market conducted through analyzing the impact of housing structures and distance between residential area and urban green spaces on the housing market price in the city of Kuala Lumpur. Two models which are based on hedonic pricing method were estimated and model two is the best model since it carries the highest value of R^2. The main results of this study is focused on the impact of distance between residential area and urban green spaces on the housing price. The result suggests that the distance between residential area and urban green space not influence the housing price at all. Only 5 out of 14 urban green spaces suggest that the housing market prices are effected by the distance between residential areas and urban green spaces. These urban green space are Bukit Nanas, Desa Park City, FRIM, Taman Tasik Permaisuri and UM Forest. Based on results obtained, urban green space at Bukit Nanas provides the highest increasing of house price in city of Kuala Lumpur. The residents seem like more interested to urban green space. They are willing to pay an extra cost to live there. Hence, this study provides information about where real estate developer would gain benefit by targeting the best place to build the house or residential areas. In overall, the benefits might be gained by various sectors such as government, real estate developer and as well as prospective buyers or residents. In the same time, the results suggest and support the planner or policy makers to protect green space in urban environment and designing zoning and land-use regulation policies.

LIMITATION AND FUTURE RESEARCH

The study still has its limitation in term of variables involved. This study only included area of lot, area of building lot, area of ancillary building and number of rooms for house structure variables. The study could benefit more if age of house is included in this study since age of house is known as main factor for increasing house price. In addition, size of urban green space, neighborhood variables and interaction between environmental characteristics variable is also needed to be included in this study. Therefore, if these addition variables are taking into account for future study, it is good and better approach to identify determinants that play an important role in enhancing economic benefits.

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Stylized Facts and Impact of Oil Price Shocks on International Shariah Stock Markets

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ABSTRACT

In recent years, understanding the stylized facts as well as the interaction between oil price shocks and stock market performance have become the attention of investors and market analysts. Though, there are still lack of studies looking into the stylized facts and impact of oil price shocks on Islamic financial markets as most of the empirical literature focused on either conventional or sectoral stock markets. Hence, this paper is undertaken to study the stylized facts of three international Shariah stock markets (i.e., FTSE China Shariah, FTSE Bursa Malaysia Emas Shariah and S&P Pan Asia Shariah) and its response to the oil price shocks. Results denote the presence of volatility clustering and long memory volatility in the three international Shariah stock markets examined. Besides that, FTSE China Shariah and S&P Pan Asia Shariah stock markets illustrate the existence of leverage effects whereby bad news influences the volatility greatly as compared to good news. In contrast, there is no leverage effects captured in the FTSE Bursa Malaysia Emas Shariah stock market. On the other hand, the effect of shocks to the conditional volatility displays a hyperbolic rather than an exponential decaying rate. In terms of impact of oil price shocks to the three international Shariah stock markets examined, Brent and WTI crude oil returns demonstrate significant responsive to the three international Shariah stock returns investigated. However, return volatility of Brent and WTI crude oil show insignificant responsive to three international Shariah stock returns and its volatility. Last but not least, the risk-return tradeoff parameter in overall is statistically insignificant for the three international Shariah stock markets examined.

Keywords: Stylized Facts, Oil Prices Shocks, Shariah Stock Markets

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INTRODUCTION

The past few years have seen a surge into research pertaining to stylized facts as well as the interaction of oil price shocks and stock market performance. These issues have become the attention of investors and market analysts due to the fact that oil commodities play an important character in the global economy. Stylized facts are defined as some consistent observations that have been made in many contexts; from a widespread of mechanisms to various financial segments and time spans. Generally, stylized facts are widely understood to be empirical true, to which theories must fit. (Cont, 2001; 2008, Mukherjee, et. al. 2011). Some common stylized facts in the studies of asset returns are volatility clustering, leverage effects, long memory volatility and risk-return tradeoff.

Coolen (2004), Ding et al., (1993) and Mukherjee, et al., (2011) indicated that stylized facts tend to be quantitative. Since stylized facts are universal regularities, they therefore can be thought to have some common origin. However, stylized facts are not accurate enough to argue among different parametric models due to its generality. A numbers of recent researches concerning about stylized facts are Creti et al., (2012), Dellate and Lopez (2012), and He and Zheng (2008). Though, none of the studies investigated the returns and volatility movements of Shariah stock markets or Islamic stock markets.Shariah stock markets are recognized as a platform for investors to evade the inflation threats, besides acting as an indicator to enhance the economic development (Mohd Hussin and Borhan, 2009). In the middle of 1990s, the international financial market had seen a drastic growth of Islamic funds globally as Islamic funds play a crucial character in promoting investment in equity shares, create liquidity, reduce frauds, manipulations, insider trading, short-selling and under arbitrage in the markets. Ideally, Islamic funds are traded based on the Shariah principle, in which interests (Riba) are prohibited and profit and loss sharing basis are mainly concerned. Besides that, any stock trading transactions dealing with gambling, pork, liquor, pornography and other unlawful matters (Haram) are also forbidden according to the Islamic transaction (Muamalat).

Due to the importance of oil in the worldwide economy, an upsurge in oil prices may affect the economy in different ways, especially the rise in the production cost for goods and services, which will indirectly affect the inflation rate, consumer confidence and particularly, the financial markets. Hence, studies have been conducted to investigate the impact of oil price shocks on stock market performance, such as Ratti and Hasan (2013), Yang et al. (2013), Babatunde et al. (2012) and Kilian and Park (2009). In United States, journalists and stock market commentators believed that oil price shocks will have direct effect on stock markets. In fact, the effect might be depends on the historical crude oil price behaviour; which suggested that the relationship between oil price shocks and stock returns might be nonlinear (Alsalman and Herrera, 2013). However, as compared to the extensive literature on the impact of oil price shocks on the conventional stock markets, the Shariah stock market impact and its related issues have remained largely unexplored (Mohd Hussin et al., 2012) due to many have claimed that Islamic stock markets tend to be relatively safer market, particularly during the financial turmoil.

This paper aims to identify the stylized facts of international Shariah stock markets and thereafter filling the gap by exploring the relation between oil price shocks and international Shariah stock markets performance. It is worth the authors' effort to study the impact of oil prices shocks on Shariah stock markets as the study will facilitate the portfolio managers and investors in deciding their investments in the Shariah stock markets. The paper continues as follows. Section 2 states the data and methodology applied in order to determine the behavioural market movements and investigate the interaction between oil price shocks and international Shariah stock returns, volatility, and return volatility. Section 3 interprets and discusses the results obtained from the analysis. Last but not least, concluding remarks and recommendations are provided in Section 4.

METHODOLOGY

Sample Data

Table 1 Sample Data

Crude Oil	International Shariah Stock
1. Brent 2. West Texas Intermediate (WTI)	1. FTSE Shariah China 2. FTSE Bursa Malaysia Emas Shariah 3. S&P Pan Asia Shariah

Sample data for this study consists of crude oil markets and international Shariah stock markets. In this study, the authors consider the Brent and WTI crude oil as oil plays a vital character in the global economy and thus become the key driven for modernization and industrialization. In terms of stock indices, three international Shariah stock markets from the seven major international stock markets in East Asia studied by Saiti and Masih (2014) are considered as these are the only three Shariah stock markets among the seven major international stock markets in East Asia. The spot prices of crude oil markets and international Shariah stock markets are gathered from the Energy Information Administration (EIA) webpage and Datastream database respectively.

In fact, Kabir, Bacha and Masih (2013) found that both the returns and volatility in Islamic equity markets are affected by the financial turmoil (i.e., volatility of Islamic equity indices decrease dramatically). Therefore, the sample period for this study is from 01 January 2010 to 31 March 2014 to avoid any possible effect from the 2008 global financial crisis that had erupted on the 15 September of year 2008, the day whereby Chapter 11 protection was filed by Lehman Brothers (Wen et al., 2012).

The return series that have been applied regularly in the conditional mean are well-determined as

$$r_t = 100 \text{ x } \ln (P_{t,close} / P_{t-1,close}) \quad (1)$$

whereby $P_{t,close}$ and r_t in the above specification are refer to the close-to-close prices and the returns for $t = 1,2,.....T$ respectively.

Generalized Autoregressive Conditional Heteroscedasticity (GARCH) Model

Generalized Autoregressive Conditional Heteroscedasticity (GARCH) model was first introduced by Bollerslev (1986). This model is then implemented by Elyasiani (2011) and Sadorsky (2006) with the objective of estimating the conditional variance; which can be used to approximate the oil return volatility. The estimated oil return volatility via GARCH (1,1) was realized to be well fitted in exploring the impact of oil price shocks on stock returns (Ratti and Hasan, 2013; Sardosky, 1999). Mathematically, the GARCH (1,1) specification is represented by

$$r_{o,t} = \gamma_0 + \sum_{i=1}^{i=p} \gamma_i r_{o,t-1} + \varepsilon_i \,, \quad (2)$$

$$\varepsilon_i | I_{t-1} \sim N(0, \sigma_{o,t}^2), \; t = 1,2,.....T$$

whereby ε_i is the error term, a random variable. The mean and variance of the error term are 0 and $\sigma_{o,t}^2$ respectively. Besides that, the variance term, $\sigma_{o,t}^2$ is depends on the information set of I_{t-1}.

Besides that, the conditional volatility of oil returns at time period, t is the specification of the autoregressive term and squared of past residuals. The specification is therefore denoted as

$$\sigma_{o,t}^2 = \omega_0 + \omega_1 \varepsilon_{t-1}^2 + \omega_2 \sigma_{o,t-1}^2 \quad (3)$$

whereby $\sigma_{o,t}^2$ is the conditional oil return volatility at the time span of t-1 and ε_{t-1}^2 is the squared of past residuals

Fractionally Integrated Asymmetric Power Autoregressive Conditional Heteroscedasticity (FIAGARCH) Model

The Fractionally Integrated Asymmetric Power Autoregressive Conditional Heteroscedasticity (FIAPARCH) model is introduced by Tse (1999). This model is able to increase the flexibility of conditional volatility specifications via allowing for long memory volatility, asymmetric response of volatility to both the positive and/or negative shocks as well as the power of returns. For FIAPARCH model, the predictable structure in the volatility pattern is the strongest (Conrad et al., 2008). Besides that, FIAPARCH model is also considered the stable model under special cases, whereby it able to nest the formulation without power effects. The specification for FIAPARCH (1,*d*,1) model is specified as:

$$\sigma_t^{\delta} = \omega(1-\beta)^{-1} + \left[1-(1-\beta L)^{-1}(1-\phi L)(1-L)^{d}\right]\left(|\varepsilon_t| - \gamma\varepsilon_t\right)^{\delta} \qquad (4)$$

restricted to $\omega > 0$, $\phi < 1$, $\delta > 0$, $\beta < 1$, $-1 < \gamma < 1$ and $0 \le d \le 1$. The process of FIAPARCH will reduce to FIGARCH 1 as when $\gamma = 0$ and $\delta = 2$,

Stock Return Model

GARCH-M model by Ratti and Hasan (2013) is implemented in this study to formulate the returns as well as the conditional volatility of international Shariah stock markets. Essentially, GARCH-M model estimates the conditional return volatility as in the variance specification and concurrently, it lets the volatility to influence the stock returns in the mean specification. In other words, GARCM-M model has the capability to determine the impact of oil price returns to the international Shariah stock returns and its return volatility concurrently.

The function for GARCH-M model is represented as

$$r_{i,t} = c_i + \delta_{i1} r_{i,t-1} + \delta_{i2} r_{0,t-1} + \delta_{i3}\sigma_{o,t}^2 + \lambda \ln\left(h_{i,t}^2\right) + \varepsilon_{i,t} \qquad (5)$$

$$\varepsilon_{i,t} | \psi_{t-1} \sim N(o, h_{i,t}^2), i = 1,2.....,J$$

where

$r_{i,t}$ is the excess returns of international Shariah stock market at time span of *t*

$r_{i,t-1}$ is the excess returns of international Shariah stock market at time span of *t* -1

$r_{0,t-1}$ is the oil price returns at time span of *t*-1

$\sigma_{o,t}^2$ is the conditional oil return volatility at times pan of *t*-1

$h_{i,t}^2$ is the conditional variance

$\varepsilon_{i,t}$ is the residuals term

Meanwhile, the volatility of international Shariah stock returns at the time *t* is defined by

$$h_{i,t}^2 = \omega + \alpha_i \varepsilon_{i,t-1}^2 + \beta h_{i,t-1}^2 + \rho_i \sigma_{o,t}^2 \qquad (6)$$

where

$h_{i,t}^2$ is the conditional variance of international Shariah stock markets

$\varepsilon_{i,t-1}^2$ is the past residuals

$h_{i,t-1}^2$ is the autoregressive term

$\sigma_{o,t}^2$ is the conditional oil return volatility at time span of *t*-1

restricted to $\alpha > 0$, $\beta \geq 0$ and $(\alpha_i + \beta_i) < 1$, $i = 1,2.....,J$. $\varepsilon_{i,t}$ is a random variable. The mean of the error term, $\varepsilon_{i,t}$ is 0. Besides that, both the $\varepsilon_{i,t}$ and $h_{i,t}^2$ is dependent to the information set of ψ_{t-1}.

The parameter of $r_{0,t-1}$, δ_2 in the Equation (5) detects the influence of oil price returns to the international Shariah stock markets. Meanwhile, the parameter δ_3 in the Equation (5) and parameter ρ in the Equation (6) respectively explain the impact of oil price return volatility to the international Shariah stock returns and return volatility.

DATA ANALYSIS AND FINDINGS

Descriptive Statistics

Table 2 Descriptive Statistics of International Shariah Stock Markets Return Series from 01 January 2010 to 31 March 2014.

	FTSE China Shariah	FTSE Bursa Malaysia Emas Shariah	S&P Pan Asia Shariah
Mean	-0.0087356	0.03929	0.02677
Std. Dev.	1.4667	0.58656	1.0868
Minimum	-6.481	-2.9242	-5.6377
Maximum	6.3621	3.2472	4.5295
Skewness	-0.20013 **	-0.46689 **	-0.24633 **
Excess Kurtosis	1.6813 **	2.2961 **	1.7578 **
Jarque-Bera	137.78 **	541.33 **	153.71 **
No. of Obs.	1107	1107	1107

Note: ** denotes 1% level of significance

Table 2 illustrates the descriptive statistics of the three international Shariah stock markets return series examined over the time span from 01 January 2010 to 31 March 2014. Sample mean of the three international Shariah stock markets examined show a mixture of positive and negative coefficient and the value are close to zero. Comparatively, sample mean of FTSE China Shariah is relatively smaller than the sample mean of FTSE Bursa Malaysia Emas Shariah and S&P Pan Asia Shariah. Besides that, the standard deviation of FTSE China Shariah and S&P Pan Asia Shariah denote a higher value as compared to FTSE Bursa Malaysia Emas Shariah, implying that prices for FTSE China Shariah and S&P Pan Asia Shariah are more volatile than the prices of FTSE Bursa Malaysia Emas Shariah. Meanwhile, FTSE Bursa Malaysia Emas Shariah signifies higher kurtosis and heavier tails as compared to the FTSE China Shariah and S&P Pan Asia Shariah. Finally, Jarque-Bera statistic

of the three international Shariah stock markets examined suggests that the hypothesis for normality is to be rejected at 1% significance level.

Stylized Facts

The result of estimation process for the three international Shariah stock markets in East Asia from 01 January 2010 to 31 March 2014 using GARCH model and FIAPARCH model respectively are illustrated in Table 3 and Table 4. From the result obtained, some common stylized facts are detected.

All the three international Shariah stock markets investigated display a positively insignificant of first-order of autocorrelation AR (1), which might be considered a specific form of "persistent" but uncorrelated. According to Cont (2005), even though the returns were uncorrelated, its absolute returns or return squares displayed a persistent, positively significant as well as slowly decayed of autocorrelation function, which was a main sign for presence of volatility clustering.

Besides, the GARCH and FIAPARCH model with generalized error distribution (GED) also show heavy-tail, which is represented by the degree of freedom, *v*. The three international Shariah stock markets examined exhibit positively significant degree of freedom; which vary from 1.10876 to 1.61411 and 1.151016 to 1.747233 for the GARCH model and FIAPARCH model respectively.

The responses of market volatility to price movements are captured by the asymmetric news impact parameter, γ. From Table 4, FTSE China Shariah and S&P Pan Asia Shariah denote a positive of γ at 1% significance level, implying that there is a leverage effects in FTSE China Shariah and S&P Pan Asia Shariah stock markets whereby bad news influences the volatility greatly than the good news. Meanwhile, FTSE Bursa Malaysia Emas Shariah demonstrates insignificant asymmetric news impact parameter, γ, which suggests no presence of leverage effects in the FTSE Bursa Malaysia Emas Shariah stock market.

The parameter of δ, the power transformation for FTSE China Shariah and S&P Pan Asia Shariah stock markets as indicated in Table 4 are significantly vary from either unity (Taylors or Schwert model) or two (Bollerslev GARCH model) at 1% level of significance. However, power parameter for FTSE Bursa Malaysia Emas Shariah is insignificantly different from unity. Based on the test of $\left(\frac{\delta-1}{SE}\right)$ and $\left(\frac{\delta-2}{SE}\right)$, FTSE China Shariah and S&P Pan Asia Shariah stock markets are more favourable to conditional variance rather than conditional standard deviation. In contrast, for FTSE Bursa Malaysia Emas Shariah, it cannot be determined between neither the Taylor's nor the Bollerslev's representation.

In addition, the estimated fractional difference coefficeint, *d*, as established in Table 4 in overall are statistically significant at 1% or 5% level of significance. The coefficient of *d* signifies that the effect of shocks to the conditional volatility displays a hyperbolic rather than an exponential decaying rate. Moreover, the result also suggested that long memory will directly affect the markets which are informationally efficient. This will pose a critical challenge on the proponents of random walk behaviour in the stock markets (Bhattacharya and Bhattacharya, 2012).

The second part of Table 3 and Table 4 demonstrates the outcome of diagnostic test and residual test. The parameters such as Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC) and LogLikelihood (Log(L)) are focused in order to determine the fitted model. Generally, the coefficient of AIC and SIC as stated in Table 3 and Table 4 are very close to each other; which is parallel to the results reported in the study of Wei, Wang and Huang (2010). Nevertheless, models with GED distributed are preferred in this study rather than the with normally and student-t distributed as models with GED distributed tend to provide a better results (i.e., minimum values of AIC, SIC and Log(L)). More specifically, ARCH-class models with GED distribution are fitted well than the ARCH-class models with normal or student-t distribution.

Nevertheless, Ljung-Box Q ARCH test demonstrates mixed outcome. Generally, the Ljung-Box test designates no presence of autocorrelation in the standardized residuals and squared standardized residuals for all the three international Shariah stock markets examined. However, squared standardized residuals with tenth lag for FTSE China Shariah stock market suggests that there is still presence of conditional volatility for 5% level of significance. Lastly, the three international Shariah stock markets investigated show no ARCH effects under the lagged of tenth.

Impact of Oil Price Shocks

Table 5 and Table 6 illustrate the results of GARCH-M estimation for international Shariah stock markets from 01 January 2010 to 31 March 2014. From the analysis, the parameter of oil price returns (δ_2) for Brent and WTI crude oil indicate significant response on the stock returns. This infers that a rise in the Brent and WTI crude oil will increase the stock returns for the three international Shariah stock markets examined.

Meanwhile, the impact of oil price returns volatility to the international Shariah stock returns is captured by the parameter of δ_3. As shown in Table 5 and Table 6, δ_3 in general is statistically insignificant to the returns of international Shariah stock markets. In other words, return volatility of Brent crude oil and WTI crude oil are not responsive to the three international Shariah stock returns examined.

The influence of oil return volatility to the international Shariah stock markets return volatility can be detected via the coefficient of ρ in the variance equation of the GARCH-M model. In overall, the parameter of ρ is statistically insignificant, which signifies that return volatility of Brent and WTI crude oil does not significantly influence the return volatility of three international Shariah stock markets investigated.

In terms of risk premium, the coefficient of λ, as displayed in Table 5 and Table 6 demonstrates positively insignificant result. The positive but insignificant of risk premium suggests that that risk averse investors are satisfied with the fairly lower yields due to the investment had relatively lower expected risk (Suliman Abdalla, 2012).

CONCLUDING REMARKS

This study intends to: *first*, study the stylized facts of three international Shariah stock markets and *second*, identify whether oil price shocks influence the three international Shariah stock markets examined.

In this study, stylized facts of three international Shariah stock markets namely FTSE China Shariah, FTSE Bursa Malaysia Emas Shariah and S&P Pan Asia Shariah are examined via applying the ARCH-class models. The first-order of autocorrelation, AR (1) for the three Shariah stock markets examined establishes a positively insignificant of which might be considered a specific form of "persistent" but uncorrelated. Although the returns are uncorrelated, the absolute returns or return squares illustrate a persistent, positively significant together with slowly decay of autocorrelation function, which is a sign for presence of volatility clustering. Besides, leverage effects are captured in the FTSE China Shariah and S&P Pan Asia Shariah stock markets in which bad information influence the volatility greatly than the good information. Furthermore, the effect of shocks on the conditional volatility demonstrates a hyperbolic rather than an exponential decaying rate.

In terms of response of the three international Shariah stock markets examined to the oil price shocks, returns of Brent and WTI crude oil illustrate significant responsive to the three international Shariah stock returns investigated. Meanwhile, return volatility of Brent and WTI crude oil show insignificant responsive to the three international Shariah stock returns and its volatility. Finally, the risk return tradeoff parameter in overall is statistically insignificant for the three international Shariah stock markets examined.

This study delivers significant implications especially to the decision making process of investment and portfolio management in the sense that it enables the investors, portfolio managers and traders to adjust or rebalance their stock portfolios after determining the responsive of international Shariah stock markets to the oil price shocks, particularly within the durations of oil price shocks or changing of the environment for oil price. This study can be further extended via adding in the conventional stock markets for the comparison purposes. This future study is expected to provide a clear picture on whether the oil price shocks influences the Shariah and conventional stock markets similarly or differently.

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Impact of External and Domestic Shocks on Malaysia's Electronic and Electrical (E&E) Export

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ABSRACT

Electrical and Electronic (E&E) share in Malaysia's exports declined from 61.7% in 2000 to 32.4% in 2012. Accordingly, an effort to strengthen the E&E sector has been formulated and it has been one of the National Key Economic Areas (NKEAs) in the Economic Transformation Programme (ETP). However, to what extent the policy can be implemented to achieve the targeted goals has raised a question. This is due to the uncertainty in global trade market and E&E sector is also relatively dependent on global economic circumstances. This paper aims to analyse the impact of foreign shock as well domestic shock on Malaysia's total E&E export. The foreign factors consist of world oil prices index, income and the policy rate for three main trading partner countries of Malaysia namely United States, Japan and Singapore. The domestic factors consist of national income, inflation, interest rates and the real effective exchange rate. The data used are monthly data spanning from January 2000 until December 2012. Using the Structural Vector Auto Regressive (SVAR) model with non-recursive identification structure, the result indicate that the foreign factors is an important and dominant variable in explaining the variability of the aggregate exports of E&E in medium term horizon. Impulse Response Function (IRF) and Variance Decomposition (VDC) show that the contribution of the foreign shocks dominates, accounting for around 50% of the forecast error variance at 1 years onward. The results also indicate that Singapore is an important foreign factor compared to US and Japan.

Keywords: Foreign Shocks, Domestic Shocks, E&E Export, SVAR

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INTRODUCTION

Malaysia is a small open economy that depends highly on export sector. According to the World Competitiveness Yearbook 2011 by the Institute for Management Development (IMD), Malaysia is ranked among top 5 in terms of international trade after Singapore and Hong Kong. From historical perspective, the bulk composition of Malaysia's exports in early 1960s were agriculture products namely rubber and tin. However, due to the instability of the prices of the agricultural commodities, the government has shifted its focus towards industrial program as an engine of economic growth.

The manufacturing sector in the early 1960s focused on the activities of import substitution for the domestic market. However, because of small market demand from the import substitution activities, Malaysia has shifted its emphasis towards export promotion strategy. In 1970s, Malaysia's electronics industry started to promote Malaysia's industrial development. Malaysian Government has established an attractive investment climate by establishing the special 10- year pioneer status for the electronics industry, offering a huge pool of low-cost trainable labour, the establishment of free trade zones (FTZs) and also licensed manufacturing warehouse facilities.

By the end of 1990, exports of the manufacturing sector covered for more than 80% of the total exports of the country and as to date still remains the largest component of the country's exports. The electrical and electronic (E&E) covers most of the exports of manufactured goods in Malaysia and was the largest contributor to the economic growth since the 1980s. However, electrical and electronic (E&E) share in Malaysia's exports declined from 61.7% in 2000 to 32.4% in 2012.

To address the issue of the slump in E&E performance, an effort to strengthen the E&E sector has been one of the National Key Economic Areas (NKEAs) in the Malaysia's Economic Transformation Programme (ETP). However, to what extent the steps taken has helped the E&E sector achieve the targeted goals has raised a question. This is due to the fact that the E&E sector is highly dependent on global economic circumstances and there is also uncertainty in global trade market.

Most previous studies on E&E industry in Malaysia mainly focus on the issues of performance and competitiveness of the E&E exports, see Fatimah and Alias (1997); Wen Chan (2000) and Nik Maheran & Haslina (2008). Though they are important aspects to be investigated, the studies are not really capable of examining factors that directly affect the performance and competitiveness. Shocks coming from domestic and foreign sources can also be important factors that affect the industry performance. Nevertheless, studies on this area are still lacking.

Thus, this study investigates the role of external as well as domestic shocks in affecting the performance of E&E industry in Malaysia. Specifically the study, first, looks into the effect of output and monetary policy shocks of foreign countries on the Malaysia's E&E exports. Secondly, the study examines the relative importance of domestic shocks as compared to that of foreign ones in influencing the E&E exports. Third, the study compares which one of the foreign countries under study contributes significantly to the E&E export performance.

The contribution of this study is twofold. First, unlike previous studies, the study contributes to the literature by examining the relevance of external as well as internal shocks, influencing the E&E export performance of Malaysia. Second, the study takes into account the relative importance of trading partners countries in explaining the change in the E&E export performance. For this reasons, The USA, Japan and Singapore are selected to represent the foreign countries in the model as they are Malaysia's most important trading partners countries. Knowing which foreign countries affect the most help policy makers in formulating appropriate policy to mitigate any adverse effect coming from that particular country.

The rest of the paper is structured as follows. Next section briefly reviews the previous literature that considers the E&E export performance. Section 3 explains the data and the estimation procedures, which include a small-open economy SVAR model. Section 4 presents the main empirical results and finally, section 5 summarizes and concludes.

LITERATURE REVIEW

Studies on E&E industry in Malaysia largely focus on the performance and competitive issues. Fatimah and Alias (1997) for example evaluate the export competitiveness of the five selected E&E products. Shift-share analysis results show that market opportunities for Malaysian E&E products is highest in the United States market, United Kingdom, Germany, Japan and Korea.

Nik Maheran and Haslina (2008) also see the export competitiveness of the five E&E products selected by SITC in Malaysia compared to China, Indonesia and Thailand using the Constant Market Share (CMS) and Revealed Comparative Advantage (RCA) framework. The study found that Malaysian E&E products only dominate the United States market for almost all SITC studied.

Wen Chen (2000) investigated the export competition between Thailand, Malaysia and China in the US market to narrowly defined product categories of electrical and electronic (E&E) between 1995-1999.The finding reveals that China enjoyed a competitive advantage for the E&E products in the US market compared to the reference economy. However it was found that China has an unfavourable export structure relative to Malaysia and Thailand although these two nations suffered competitive disadvantage.

There are studies which use Structural VAR on export in general: see Liu (2013) for China; Castro and Garrote (2012) for Euro Area; Shioji and Uchino (2012) for Japan; Dias and Dias (2013) for Brazil; and Ozcelebi and Yildirim (2011) for Turkey. Liu analyse how important the domestic supply and foreign demand on China's export and the dynamic effects of various shocks on export. The results of the study shows that the influence of domestic supply on export is more important than foreign demand. The results also show that foreign income shock can cause the lasting growth of export while exchange rate shock will have a negative impact on export.

Castro and Garrote (2012) analyse the impact of government spending shocks on the real effective exchange rate and net exports in the Euro Area. Based on their

finding, higher government spending leads to positive responses of real exchange rate appreciation and a fall of net exports. Likewise, as the increase in public spending leads simultaneously to a deterioration of the trade balance and a reduction of primary budget surpluses, Their results are consistent with the "twin deficits" hypothesis.

Shioji and Uchino (2012) look at the impact of external shocks on the automobile industry in Japan by analyzing the response of exports of automobiles, automobile manufacturing and industrial production to four types of external shocks which are oil prices, exchange rates, total imports of the United States, and total imports Union Europe. They used the estimation method of time varying parameters VAR. Variance decomposition results show external shocks is important for Japan.

Ozcelebi & Yildirim (2011) investigates the effects of variations in nominal exchange rate on output difference, bilateral real exchange rate and nominal exchange rate for both Turkey and Germany and Turkey and Russia. Findings shown that nominal exchange rates shocks have temporary effects on industrial production differences. As consequence of the positive shocks in the nominal bilateral exchange rates indicating the appreciation of the exchange rate of Turkey against German and Rusia in nominal terms. Accordingly, it implied that exports of Turkey to Germany and Russia are promoted.

Dias and Dias (2013) investigate the effects of US shocks on the Brazil economy. They found that permanent fiscal policy shocks, considering Brazil and US, reduce Brazilian household consumption in the long run. Increase in fiscal expenditure in US causes increases in global aggregate demand and as a result, the prices of imported goods rise for Brazilian residents, increasing the level of domestic prices. The increase in relative prices induces domestic demand for consumption and creates an incentive to export more. Though the exports rise for the domestic economy, the overall result for economic activity is negative because of the share of household consumption in the Brazilian GDP is greater than the export share. Thus, export increase is not enough to cover the consumption downfall.

Most empirical studies for Malaysia's case that use the model of SVAR small open economy is to test the effects of relative price responses to monetary policy shocks. For example, study by Zaidi and Karim (2012); and Zaidi and Fisher (2010) in which the results of their study found that foreign variables more important than domestic variables in explaining the variability of output and inflation in Malaysia. This is in line with the findings of a small open economy SVAR model for other countries such as Sims & Zha, (1995); Kim & Roubini (2000) and Dungey & Pagan, (2000) which they have entered foreign variables in the model and found that the role of foreign factors are more important than domestic factors.

Ibrahim and Amin (2005) tested the effect of the dynamics of the exchange rate shocks and monetary policy on manufacturing output in Malaysia using a closed economy SVAR model. The study found shocks of the policy rate and the exchange rate have a significant effect on the output of the manufacturing sector in magnitude greater than the output of other sectors.

Approach used by Zaidi and Karim (2012) is very similar to this study. Their analysis is primarily based on the relative importance of foreign shocks of the three most important major trading partners countries (United States, Japan and

Singapore) on domestic macroeconomic variable. In accordance with these theoretical and empirical considerations, this study attempts to contribute to the existing literature using SVAR by analysed the responses of Malaysia's E&E exports to foreign shocks. However, because of Singapore is a small open economy and neighboring countries of Malaysia. Therefore, constraints of block exogeneity assumption imposed for Singapore are not same as United States and Japan.

METHODOLOGY

Data

This section describes the estimation procedures and the variables used in the SVAR model for Malaysia. The model takes into account the trade weighted variables of Singapore, US and Japanese variables as representing the foreign sector. The data used in this study are monthly time series data spanning from January 2000 to December 2012 (156 observations). The data used are taken from a various publications of monthly bulletin of Bank Negara Malaysia(BNM), External Trade Monthly Report, and Malaysia Department of Statistics. All data used is based on the year 2005 (2005 = 100) and the change in logarithmic form except for the inflation rate, foreign interest rate and the domestic interest rate. The variables used for the statue of the global financial crisis (sub-prime crisis), which represents the value of one for the time period 2007:09 and 2008:09, while the rest is given a value of zero.

The variables are divided into two blocks; the foreign and domestic blocks.The foreign blocks includes the world oil price (LOIL), foreign income (LYF), and a foreign monetary policy measure (IRF). The domestic block includes domestic income (LYD), interest rates (IRD), inflation (INF) , the real effective exchange rate (REER) and finally the targeted variables which are total E&E export (LTE). All variables are transformed into natural logs except for domestic inflation and both foreign and domestic policy interest rates.

The real foreign aggregate output (LYF) is a trade-weighted industrial production index of Singapore, the US and Japan. For foreign interest rate, a similar trade-weighted approach is employed. Foreign interest rates (IRF) are measured by the three month interbank rate for Singapore, the Federal Funds rate for the US and the call money rate for Japan[26]. While for domestic block, the variables (LYD) are Malaysia's monthly industrial production index, monthly-on-monthly percentage change in CPI for inflation (INF), the interbank overnight money rate for the interest rate (IRD), the real effective exchange rate of Malaysia, Singapore, US and Japan for the exchange rate variable (REER).

SVAR models

It is assumed that a small-open economy like Malaysia is described by a structural form representation. The dynamic relationship of the system of equation in the structural model can be written as follows;

[26] Singapore uses the exchange rate as its monetary policy variable. The inclusion of the interest rate as monetary policy variable for Singapore is for comparison purpose.

$$BY_t = \Gamma_0 D_0 + (\Gamma_1 L + \Gamma_2 L^2 + \ldots\ldots + \Gamma_k L^k) Y_t + \varepsilon_t \quad (1)$$

Where, B is an invertible square matrix of coefficients relating to the structural contemporaneous interaction between the variables in the system, Y_t is a (n x 1) matrix that is the vector of system variables or (LOIL, LYF, FIR, LYD, INF, DIR, LTE, LREER); $\Gamma_0 D_0$ is a vector of deterministic variables (constant and dummy variable); $\Gamma_1 L$ is a k'th order matrix polynomial in the lag operator L; $\varepsilon_t$is the structural innovation which satisfies the conditions that $E(\varepsilon_t) = 0$, $E(\varepsilon_t, \varepsilon_s) = \sum_\varepsilon = I$ for all $t = s$ and $E(\varepsilon_t \varepsilon_s') = 0$ otherwise.

Pre-multiplying equation [1] with B^{-1}, yields a reduced form VAR equation

$$Y_t = B^{-1}\Gamma_0 D_0 + B^{-1}(\Gamma_1 L + \Gamma_2 L^2 + \ldots\ldots + \Gamma_k L^k) Y_t + B^{-1}\varepsilon_t \quad (2)$$

Where $e^t = B^{-1}\varepsilon_t$ is a reduced form VAR residual which satisfies the conditions that $E(e_t) = 0$. $E(e_t e_s') = \Sigma_e$ for all $t = s$ and $E(\varepsilon_t \varepsilon_s') = 0$ otherwise. Σ_e is a (nxn) symmetric, positive definite matrix which can be estimated from the data. The relationship between the variance-covariance matrix of the estimated residuals, Σ_e and the variance-covariance matrix of the structural innovations, Σ_ε is such that

$$\Sigma_\varepsilon = E(\varepsilon_t \varepsilon_t')$$

$$= E(Be_t e_t' B') = BE(Be_t e_t')B'$$

$$= B\Sigma_e B'$$

In order for the system to be identified, sufficient restrictions must be imposed as to recover all structural innovations from the reduced form VAR residuals, e_t. Thus for (nxn) symmetric matrix Σ_e, there are $\frac{n^2+n}{2}$ unknowns and hence $\frac{n^2-n}{2}$ additional restrictions need to be imposed to exactly identify the system.

The relationship between the structural innovations ε_t and the reduced-form residuals e_t is given by $Be_t = \varepsilon_t$. In a purely recursive SVAR model, the elements in B above the diagonal of the matrix are all set equal to zero. Equation [3] indicates the set of restrictions that are imposed on the contemporaneous parameters of the first SVAR model for the Malaysian economy. The coefficient B_{ij} indicates how variable j affects variable i, contemporaneously (monthly for this case). The coefficients on the diagonal are normalized to unity, while the number of zero restrictions on the coefficients is 35, so the model is over identified.

$$BY_t = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ b_{21} & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ b_{31} & b_{32} & 1 & 0 & 0 & 0 & 0 & 0 \\ b_{41} & 0 & 0 & 1 & 0 & 0 & b_{47} & 0 \\ b_{51} & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ b_{61} & 0 & b_{63} & 0 & b_{65} & 1 & 0 & b_{68} \\ b_{71} & b_{72} & 0 & 0 & b_{75} & 0 & 1 & b_{78} \\ b_{81} & b_{82} & b_{83} & b_{84} & b_{85} & b_{86} & b_{87} & 1 \end{bmatrix} \begin{bmatrix} LOIL_t \\ LYF_t \\ IRF_t \\ LYMY_t \\ INF_t \\ IRD_t \\ LTE_t \\ LREER_t \end{bmatrix} \quad (3)$$

The international block is assumed to be block-exogenous to each of the domestic macroeconomic variable; see Cushman and Zha (1997) and Zha (1999). In other words, there are no contemporaneous or lagged effects from the domestic variables to the international variables.

Block-exogenous constraints for the United States, Japan, and Singapore described as equations 4 and 5 on the lags coefficients metric $\Gamma(L)$, with the same sequence of the variables as equation (3). Fixing the zero on the coefficients γ_1, γ_2 dan γ_3 on the fourth to the eighth column in equation (4) matrix shows that domestic variables will not affect foreign variables. It is reasonable because Malaysia is a small open economy and may give little or no impact on world oil prices and also to the United States and Japan economy performance.

a) United States and Japan

$$\Gamma(L) = \begin{bmatrix} 1 & \gamma_{12} & \gamma_{13} & 0 & 0 & 0 & 0 & 0 \\ \gamma_{21} & 1 & \gamma_{23} & 0 & 0 & 0 & 0 & 0 \\ \gamma_{31} & \gamma_{32} & 1 & 0 & 0 & 0 & 0 & 0 \\ \gamma_{41} & \gamma_{42} & \gamma_{43} & 1 & \gamma_{45} & \gamma_{46} & \gamma_{47} & \gamma_{48} \\ \gamma_{51} & \gamma_{52} & \gamma_{53} & \gamma_{54} & 1 & \gamma_{56} & \gamma_{57} & \gamma_{58} \\ \gamma_{61} & \gamma_{62} & \gamma_{63} & \gamma_{64} & \gamma_{65} & 1 & \gamma_{67} & \gamma_{68} \\ \gamma_{71} & \gamma_{72} & \gamma_{73} & \gamma_{74} & \gamma_{75} & \gamma_{76} & 1 & \gamma_{78} \\ \gamma_{81} & \gamma_{82} & \gamma_{83} & \gamma_{84} & \gamma_{85} & \gamma_{86} & \gamma_{87} & 1 \end{bmatrix} \begin{bmatrix} LOIL_t \\ LYUS_t@LYJPN_t \\ IRUS_t@IRJPN_t \\ LYMY_t \\ INF_t \\ IRD_t \\ LTE_t \\ LREER_t \end{bmatrix} \quad (4)$$

Fixing the zero value on the δ_1 coefficients in the second to eighth in the metric equation (5) indicates that Singapore and Malaysia variable have no impact on world oil prices. Parameters from the second row to the eighth row is not zero as Singapore and Malaysia is the trading partners and neighboring countries, so it is assumed that economic structure of Singapore and Malaysia will affect the country's macroeconomic for each other.

b) Singapore

$$\Gamma(L) = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ \delta_{21} & 1 & \delta_{23} & \delta_{24} & \delta_{25} & \delta_{26} & \delta_{27} & \delta_{28} \\ \delta_{31} & \delta_{32} & 1 & \delta_{34} & \delta_{35} & \delta_{36} & \delta_{37} & \delta_{38} \\ \delta_{41} & \delta_{42} & \delta_{43} & 1 & \delta_{45} & \delta_{46} & \delta_{47} & \delta_{48} \\ \delta_{51} & \delta_{52} & \delta_{53} & \delta_{54} & 1 & \delta_{56} & \delta_{57} & \delta_{58} \\ \delta_{61} & \delta_{62} & \delta_{63} & \delta_{64} & \delta_{65} & 1 & \delta_{67} & \delta_{68} \\ \delta_{71} & \delta_{72} & \delta_{73} & \delta_{74} & \delta_{75} & \delta_{76} & 1 & \delta_{78} \\ \delta_{81} & \delta_{82} & \delta_{83} & \delta_{84} & \delta_{85} & \delta_{86} & \delta_{87} & 1 \end{bmatrix} \begin{bmatrix} LOIL_t \\ LYSING_t \\ IRSING_t \\ LYMY_t \\ INF_t \\ IRD_t \\ LTE_t \\ LREER_t \end{bmatrix} \quad (5)$$

Block exogeneity of Singapore model is different from United States and Japan model because Singapore is a small open economy and is assumed not to influence world oil prices. United States and Japan can be considered as the world's largest consumer of crude oil. In addition, Singapore is not only a country's trading partners but also a neighboring country to Malaysia, it is assumed that Singapore and Malaysia macroeconomic conditions may affect each other.

Since the domestic and foreign sectors are block-exogenous, not all equations in the reduced-form VAR have identical right-hand side variables. Thus seemingly unrelated regression (SUR) is used to estimate equation [1] and Σ_e. According to Enders (2003), using the SUR in this situation will increase the efficiency of estimation. Maximum likelihood estimation is used to estimate the structural parameters in B. The log likelihood function is

$$-\frac{T}{2} ln|B^{-1}\Sigma_\varepsilon B'^{-1}| - \frac{1}{2}\sum_{t=1}^{T}\left(\hat{e}'_t B'\Sigma_\varepsilon^{-1} B\hat{e}_t\right) \quad (6)$$

If there are more than $(n^2 - n)/2$ additional restrictions, the system is over-identified. In this case the X^2test statistic:

$$X^2 = |\Sigma_e^R||\Sigma_e| \quad (7)$$

with R (number of restrictions exceeding $(n^2 - n)/2$) degrees of freedom can be used to test the restricted system. Σ_e^R is the restricted variance-covariance matrix while Σ_e is the unrestricted variance-covariance matrix.

This study also test for the robustness of Singapore block exogenous where we allow change in Singapore economic affect to oil price and does not receive any impact on any changes in the structure of the Malaysian economy even with lags or in other words have the same block-exogenous with the model of United States and Japan (equation 4). From the estimated SVAR model variance decomposition and impulse response functions are generated.

Estimation Issues

The first issue concerns the estimation of the reduced-form VAR. The system is estimated by Seemingly Unrelated Regression (SUR) since the VAR's regressors are not identical due to the block exogeneity restrictions. Another issue is whether to estimate the SVAR in levels, first- differences or with error-correction terms (if diagnostic tests suggest cointegration exists).

Sims, Stock and Watson (1990) recommend estimating the VAR in levels. They argue that differencing discards information about the inter- relationships among the variables. Moreover, the parameter estimates are not commonly focused on in VARs since they are usually over-parameterized. Nonetheless, the parameter estimates are consistent with standard asymptotic distributions while the impulse response functions in VARs with non-stationary and possibly cointegrated variables are consistent estimates of the true functions in short- and medium-term horizons.

Ramaswamy and Slok (1998) discuss the trade-off between the loss of efficiency (when the VAR is estimated in levels, but without imposing any cointegrating relationships) and the loss of information (when the VAR is estimated in first-differences). In essence, they recommend that in cases where there is no prior economic theory that can suggest either the number of long-run relationships or how they should be interpreted, it is reasonable not to impose cointegration restrictions on the VAR model. Their recommendation is followed in this paper; the SVAR model is specified in levels.

Impulse response function is obtained to identify the response of interest variable to one *standard deviation* shock to structure innovation and generated from the SVAR model formed. In other words, IRF reflects the direction of the response of variable to be studied (Malaysia's total E & E exports for this case study) to external shocks (eg. world oil price index). Confidence bands for the impulse response can be obtained through the bootstrap[27] technique and subsequently draw IRF reduced form that has been formed.

In short, the response function may be shown by the equation (8) and (9) as below.

$$Y_{1t} = b_{11}Y_{1t-1} + b_{12}Y_{2t-1} + \varepsilon_{1t} \quad (8)$$

$$Y_{2t} = b_{21}Y_{1t-1} + b_{22}Y_{2t-1} + \varepsilon_{2t} \quad (9)$$

At time t, the shock ε_{1t} has a direct impact to Y_{1t} but did not have an influence on Y_{2t} while on period t+1, shocks on Y_{1t} will affect variables $Y_{1,t+1}$ by the equation (8) and influencing variables $Y_{2,t+1}$ in equation (9). Effect from ε_{1t} shock will continue in period t+2, t+3, t+...t+n... and will then formed a chain reaction throughout the period for all variables used. This chain reaction is known as the impulse response function[28].

[27] Bootstrap is a re-sampling technique which are used to obtain the summaries of estimated statistical.
[28] See Enders 2003.

Analysis of variance decomposition can determine the percentage of variability in one variable caused by the each one of variables in the system. Therefore, this method can provide information on the importance of one variable to another variable in the system (Karim & Mokhtar, 2005). The error of variance decomposition provides information on the importance of each change of variables in the non-recursive SVAR model which has been developed. In general, the decomposition of the variance means that what percentage of each designed variable in the model contribute to the other variables in the same model when there is a shock occurred.

To summarize, The variance decomposition computes how much of the forecast error variance of each variable in the system can be explained by exogenous shocks to the other variables. Impulse response functions, on the other hand describe how a variable reacts to a shock to other variables in the system. The econometric analysis in this paper is undertaken with the software program WinRATS Pro Version 7.0

RESULT

This section discusses the key findings from the SVAR model especially the variance decompositions and impulse response functions. Diagnostic test results indicate that the optimal lag length is two when using the Akaike Information Criterian (AIC) and one when using the Schwarz Bayesian Criterion (SBC) for the basic model. However, lags two are too short for monthly data. Portmenteau test is performed to test the serial correlation. The test results showed that only two variables that have serial correlation at lags four and lags seven at 95% confidence level, while others lags length showed more than two variables have serial correlation. Therefore, lags four is chosen for the model and it is enough to describe the dynamics of the model. Furthermore the study used monthly data and the selection of four lags does not involve to many degrees of freedom losses.

There are seven over identifying restrictions on the structural model. The test statistic of the over identifying restrictions is distributed as a chi-squared with seven degrees of freedom. We obtained the value of 9.7853 for the test statistic which has the p-value of 0.201. Thus the over identifying restrictions cannot be rejected even at the 10% significance level (Zaidi & Fisher, 2010). The stability tests indicate the model with four lags is stable which all the eigenvalues are less than one (in absolute value). Robustness test were carried out using different lags length and the results show a similar trend to the model with lags four.

Table 1 shows the estimation of the coefficients of B in equation (3) are estimated using the method of seemingly unrelated regressions (SUR). For total exports of E&E (LTE), coefficients on foreign income $(-b_{72})$ and real effective exchange rate $(-b_{78})$ is significant at 1% level, while coefficients on domestic inflation $(-b_{75})$ are significant at 5% level. However, coefficients on the world oil price index $(-b_{71})$ are not significant even at 10% level.

Overall, foreign country factors are more dominant in explaining the response of total E&E exports. Figure 1 and 2 shows the responses of the domestic

variables to a positive one standard error shock in each domestic variable. The black line represents the estimated response while the two blue color lines represent the confidence bands. These were calculated by taking the estimated coefficients in the structural model to form the data generating process which was then bootstrapped 2500 times. Response of each variable in a period of 36 months (using four lags) are shown with 95% confidence interval.

Based on the figures 1, inflation responds negatively to a positive shock in domestic interest rate. Therefore, there is no price puzzle and these findings are in line as obtained by Zaidi and Fisher (2010). Meanwhile response of Real Effective Exchange Rate (LREER) to positive shocks in the domestic interest rate is too small or close to zero and not significant. Therefore, it may not determine whether there is a "exchange rate" puzzle or vice versa, and the reaction may also be neglected. This show the non-recursive SVAR model developed are more robust.

Total exports of E&E (LTE) response negatively to a positive shock in the real effective exchange rate, it shows that total exports of E&E (LTE) initially falls when there is unexpected appreciation of the domestic currency. Within a period of about six months, total exports of E&E began to return to its original origin. This is in line with theories, when appreciation of the domestic currency have occurred, the price of domestic goods become more expensive relatively, and the country will become less competitive.

Figure 2 shows the responses of the domestic variables to a positive one standard error shock in each of the foreign variables together with the one standard error band around each response. The shock of world oil prices causes total exports of E&E rise initially and back to the origin after a period of 10 months. Justification for this is because the function of oil price index as expected price. When the oil price index rose, consumers would predict higher prices in the future and encouraged them to spend more in current for future use.

Total E&E export also responded positively to a positive shock in foreign income, but their reactions are not stable (fluctuations response) until the period of month-15, total E&E exports began to return to the original origin. This is in line with the theory of income effect that state when income for trading partners increases, the purchasing power will increase and it will increase the demand for imports. This in turn contributed to an increase in domestic exports.

Finally, total exports of E&E response positively to foreign policy rate over all horizon. In a flexible exchange rate regime, when world interest rates rise, the domestic policy rate is relatively low caused capital outflows and thus the value of the domestic currency will fall (depreciation). This may cause the price of goods in the domestic country relatively lower and the domestic country will become more competitive and finally may increase net E&E exports. This justification are in line with the theory of Mundell- Fleming.

Table 2 presents the relative contributions of the variables to the forecast error variance in E&E total exports (LTE) variables over short and medium term monthly horizons. The second last column of the table which are denoted as FC shows the sum of the contributions of the foreign variables (LOIL, LFY, and FIR) to the forecast error variance in a total export E&E (LTE). While the last column which are denoted as DC shows the sum of the contributions of the domestic variables

(LYD, INF, DIR and LREER) to the forecast error variance in total export E&E (LTE).

While the table which are denoted as DC corresponds to a domestic contribution and is the sum of the proportions of forecast error variance of the total E&E total export by the four domestic variables (LYD, INF, DIR and LREER). The contribution of the domestic shocks to the forecast error variance is almost 80% at the one monthly horizon whereas the contribution of the foreign shocks is about 15%. Among the domestic variables, the real effective exchange rate (LREER) is most important accounting for about 50%. At longer horizons, the contribution of the foreign shocks dominates, accounting for around 50% of the forecast error variance at 1 years onward.

However, as a small open economy with a flexible exchange rate regime, real effective exchange rate (LREER) can also be considered as a foreign variable. If the variable of LREER is not taken into account as domestic variables, the foreign variables (FC) is a more dominant factor in the variability for LTE accounting for around 75% of the forecast error variance start from horizon six onward.

Figure 3 shows the responses of Malaysia total E&E export variables to foreign output shock while figure 4 depicts the responses to foreign monetary policy shock. As shown, the Singapore effect is more dominant compared to the other impulse responses which represent other foreign factors. The responses of domestic variables to foreign variables shock when Singapore is taken as the foreign factor are relatively large.

A shock to foreign output, as in figure 3, results in relatively high response of Malaysia total E&E export when the Singapore effect is considered. Similar patterns can also be observed in the responses of Malaysia total E&E export to foreign monetary policy shock (figure 4). Although, it is not very clear, the US factor can be considered as the second most influential factors while the Japanese factor is the least influential.

CONCLUSION

The main objective of this study was to identify the relative response of Malaysia's total E&E export against external shocks. The external sector in this study is divided into world oil price index and the combination of income and policy rate for the Malaysia's main trading partners (US, Japan and Singapore) which calculated via trade-weighted formula. From the results obtained for the total exports of E&E, the foreign factors is an important and dominant variable in explaining the variability of E&E export in medium term horizon.

The difference contribution of foreign and domestic factors to variability of total E&E exports is very small. However, as a small open economy with a flexible exchange rate regime, real effective exchange rate (LREER) can also be considered as a foreign variable. If the variable of LREER is not taken into account as domestic variables, the foreign variables (FC) is a more dominant factor in the variability for total E&E export.

The results also indicate that Singapore is an important foreign factor compared to US and Japan. Factor of Singapore economic policy should be taken

into account in modelling the effect of foreign factors on Malaysian economy. This is important as Singapore is not only one of Malaysia's major trading partners, but it is also the Malaysia's closest neighbour at border.

More open of an economy making it difficult for the policy makers to predict the implications of government policy and the impact of macroeconomic shocks on the E&E sector because it is intertwined with many factors from foreign country. To achieve the government's aim to increase value-added activities in the E&E sector, Malaysia needs to shift competitiveness of providing cheap goods to the provision of high value added items.

In addition, efforts to expand trade in the E & E products to new markets is also a good move to reduce exposure to negative shocks from foreign economies. This paper also suggest Malaysia's to increase their market share for E&E product not only with high income economy but also to middle income so that it variability of E&E export can be reduce.

ACKNOWLEDGEMENTS

The authors thankfully acknowledge financial support from the UKM research grant: UKM-GGPM-PLW-016-2011.

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Appendices

Table 1 Estimated of coefficients matrix for E&E total export (LTE)

Variables	Coefficient	Standard error	P-value
$-b_{71}$	-0.24	-1.44	0.1496
$-b_{72}$	-1.37	-3.67	0.0002
$-b_{75}$	0.12	2.17	0.0295
$-b_{78}$	14.04	2.75	0.0057

Table 2 Forecast Error Variance Decomposition for Series LTE

Step	LOIL	LYF	IRF	LYMY	INF	IRD	LTE	LREER	FC	DC
1	0.25	11.07	3.24	29.43	0.00	2.64	7.16	46.20	14.56	**78.28**
6	17.06	10.88	18.15	20.69	1.01	1.59	4.00	26.63	46.08	**49.92**
12	18.22	10.24	20.62	20.68	0.88	1.59	3.36	24.41	**49.09**	47.56
18	17.01	9.63	22.73	20.29	0.86	1.95	3.16	24.35	**49.38**	47.46
24	16.42	9.29	23.50	20.65	0.90	2.16	3.14	23.94	**49.21**	47.65
30	16.16	9.10	24.08	20.77	0.95	2.26	3.13	23.55	**49.34**	47.53
36	16.32	9.07	24.47	20.66	0.99	2.29	3.11	23.09	**49.86**	47.03

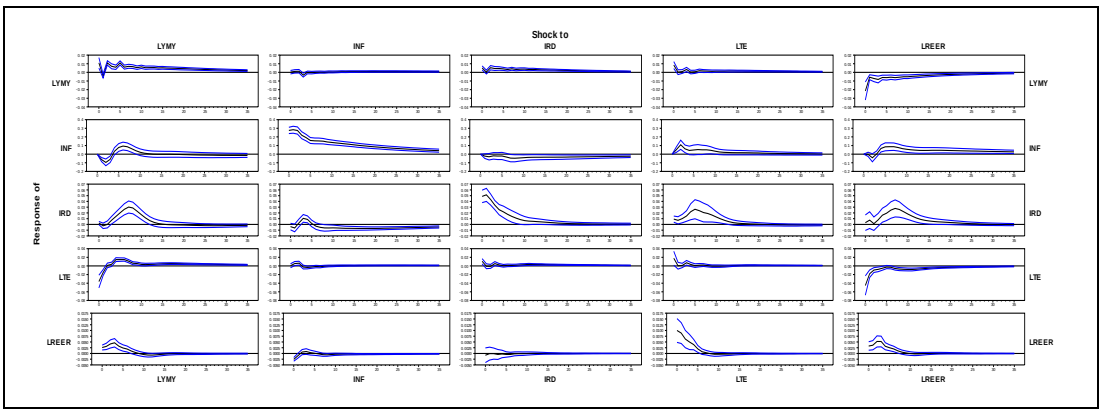


Figure 1 Responses of Domestic Variables to Domestic Shocks

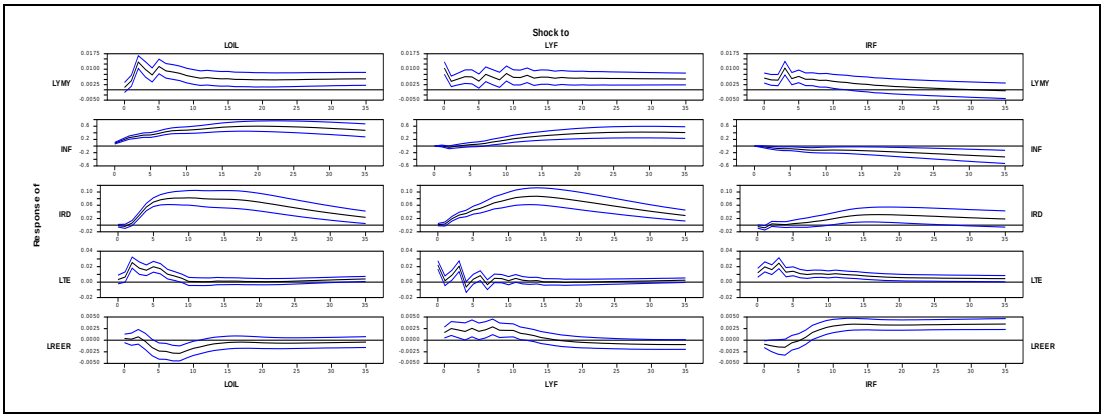


Figure 2 Responses of Domestic Variables to Foreign Shocks

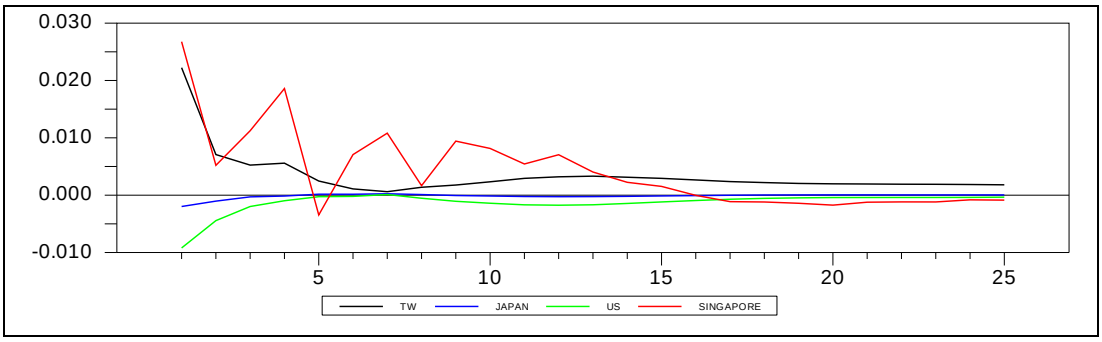


Figure 3 Responses of Malaysia total E&E export to foreign output shock

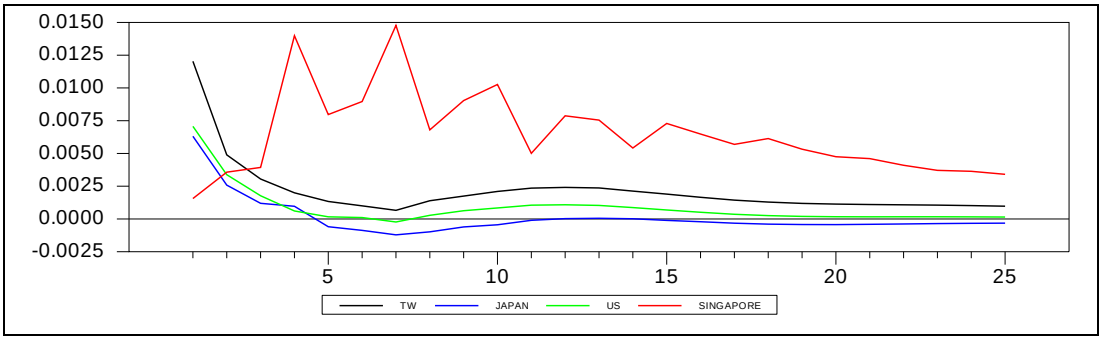


Figure 4 Responses of Malaysia total E&E export to foreign monetary policy shock

Factors Influencing Corporate Social Responsibility Initiatives by Malaysian Hotels: A Managerial Perspective

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ABSTRACT

As a key partner to the tourism industry, the hotel sector is seen to have a significant impact on the very social and cultural fabrics as well as environment, especially since they consume vast amounts of local resources such as water, energy etc. Undoubtedly, in the last decade, many hospitality businesses around the world have responded to the growing calls from the responsible business movement to move on to a more environmentally-friendly and also socially responsible approach to their respective operations. Compared to locally-owned hotels who remain laggard, international chain hotels in Malaysia have been proactively participated in the movement. Therefore, this study aims to make a contribution by exploring the area of focus of local hotels' corporate social responsibility (CSR) initiatives, the underlying motives, existing barriers as well as drivers to adopt corporate social responsibility (CSR) initiatives. Due to the distinctive nature of CSR, a qualitative approach was adopted for the purposes of this study. Specifically, semi-structured interviews are conducted with the general managers of 10 local Malaysian hotel chains. Our findings have implications on the factors influencing the adoption of CSR in developing countries, insights into the specific kinds of CSR initiatives undertaken as well as corresponding barrier and drivers.

Keywords: Corporate Social Responsibility (CSR), Motivation, Barriers and Drivers, Hotel Managers, Malaysian Hotels, Qualitative

INTRODUCTION

Nowadays, tourism is one of the largest industries which contribute significantly to the global economy. Being an industry that offers predominantly resource-based activities, its success is inextricably tied to, reliant upon and/or largely derives from the varied environments and societies where it operates. In this regard, it has been widely acknowledged that while there are obvious economic benefits arising from

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tourism, there are also considerable negative effects both environmentally and socially (Kasim, 2006; Kirk, 1995; Pigram & Wahab, 1997). It is unsurprising, therefore, that the tourism industry has often been pressed to play a leading role in making the transition towards more sustainable forms of development (Hawkins & Bohdanowicz, 2012).

In the last decade, many hospitality businesses around the world have responded to the growing calls from the responsible business movement to move on to a more environmentally-friendly and also socially responsible approach to their respective operations. This is partly due to the realization that the sustainability and long-term survival of the sector hinges upon clean natural surroundings, vibrant and culturally-distinctive communities, and stable societies.

Sustainability of the hotel industry also highlights the significance of Corporate Social Responsibility (CSR). Commission of the European Communities (2001) defines CSR as "a concept by which companies integrate social and environmental concerns in their operations and in their interaction with stakeholders on a voluntary basis. Academically, despite the increasing significance of CSR, relevant research investigating the preferred kinds of CSR initiatives as well as the barriers to the adoption of such practices by hotels in developing countries are sorely lacking.

In relation to this, researchers have shown that only certain hotel chains in Malaysia have proactively adopted some environmentally- and socially-responsible practices (Kasim, 2005, 2007a; Kasimu, Zaiton, & Hassan, 2012). Therefore, this study aims to make a contribution by exploring the area of focus of hotels' corporate social responsibility (CSR) initiatives in developing country setting. Our study focuses on the identification of motivation, underlying barriers and drivers of local hotel chains for engaging in CSR initiatives.

LITERATURE REVIEW

Definition of CSR

Over the past few decades, the on-going debate regarding the proper relationship between business and society has largely revolved around the concept of corporate social responsibility (Schwartz & Carroll, 2003). CSR is not new or recent (Friedman, 1970); rather it has a varied and long history. In its broadest sense, CSR takes as its premise that companies ought to justify their existence in terms of service to the community rather than mere profit (Bohdanowicz & Zientara, 2008). Hence, companies are expected to behave ethically and to act as good corporate citizens. On the one hand, dealing fairly with employees, suppliers and customers are emphasized, and on the other, supporting charitable causes (corporate philanthropy) and promoting environmental sustainability are focused.

Both in the academic and also corporate world, there is an abundance of often-conflicting definitions as to how CSR should be defined. Conceptually, CSR can be understood as 'a business's intention, beyond its legal and economic obligations, to do the right things and act in ways that are good for society (Robbins

& Coulter, 2005). Some researchers such as Van Marrewijk (2003) and Dahlsrud (2008) have attempted to provide more well-rounded definitions. For instance, after analyzing 37 definitions, Dahlsrud (2008) identified five distinctive dimensions for the concept of CSR that have often been mentioned. The dimensions are social, voluntariness, stakeholders, economics, and environmental. One of the most popular and commonly used definitions is provided by the Commission of the European Communities (2001) who defines CSR as "a concept by which companies integrate social and environmental concerns in their operations and in their interaction with stakeholders on a voluntary basis". Alternatively, the World Business Council for Sustainable Development (WBCSD) (1999) defines CSR as the business commitment for contributing to sustainable economic development, employees, their families, the local community and society to improve their quality of life.

Theoretical Foundation of CSR

Based on the definitions above, it is apparent that the prominent stakeholder theory (Freeman (1984) offer the most fitting perspective for the holistic conceptualization of CSR. One of the key arguments of stakeholder theory is that managers should work for the benefits of numerous constituents rather than just their respective shareholders (McWilliams, Siegel, & Wright, 2006). According to Freeman (1984, p. 55), a stakeholder is "any group or individual who can affect or is affected by the achievement of an organization's objectives (p. 55). Accordingly, stakeholders, include shareholders, management, employees, customers, the natural environment, the community, and suppliers. Therefore, the essence of CSR is that a company should consider the interests of various stakeholders when making business decisions.

Implications of CSR for the Hotel Industry

Undoubtedly, business accountability towards sustainability of natural and social environments is directly applicable to companies operating in the tourism and hospitality industry. It is important to note that many hospitality organizations, especially international hotel chains, were the pioneers in carrying out CSR initiatives and policies (Kasim, 2004; Kasim, 2007a, 2007b). While major hotel chains predominantly focused on developing their own sustainability programs in the beginning stages, they began to take on the wider issues of social responsibility in the 1990s (Kay, 1997). Consequently, the last two decades have seen the implementation of various CSR programs alongside the provision of extensive disclosures on their commitment, initiatives as well as achievements. Well-known CSR initiatives within the hotel sector is inclusive of the "Spirit to Serve Our Communities" at Marriot International Hotel (1999); "Enhance, Enrich, Embrace" Sustainability Program at Shangri-La Hotels (2010); "LightStay" and "Travel with Purpose" by Hilton Worldwide (2012). Others provide some disclosures relating to the numerous charities and organizations that they support such as Delta Hotels, InterContinental Hotels Group (Brønn & Vidaver-Cohen, 2009). Taken as a whole, such initiatives and/or disclosures show the important role that CSR can play toward

such 'stakeholders' as workers, consumers, the broader society or even future generations.

Motivations, Barriers and Drivers to Adopt CSR

The role of business in addressing environmental and social issues has been a topic of discussion for over one hundred years (Sydnor, Day, & Adler, 2014). As a strong proponent of the classical business perspective, Milton Friedman (1970) strongly opposed the notion of integrating CSR into core business. He believes that the commitment to CSR activities serves as an unnecessary distraction for business executives and is also a form of misuse of the funds of the company by declaring that the social responsibility of business is to increase profit. In recent years, it has become more common to describe business responses to social issues by having a socio-economic view. This view includes corporate responsiveness, in which corporations respond to environmental and social issues based on stakeholder pressure.

Today, an extensive body of literature have proposed and scrutinized a range of reasons for businesses to incorporate CSR into their respective operations. Within the content of our study, Raviv, Becken, and Hughey (2013) state that the antecedents of implementing responsible tourism can be classified into two categories. First category is endogenous factors, or organizational drivers, which motivate the business internally to engage in responsible practices. Second category is made up of exogenous pressures, or drivers of change, which lead businesses to take responsibility, even when they do not see an intrinsic need to do so. Porter and Kramer (2006) note that CSR is often justified in terms of enlightened self-interest, moral appeal, license to operate, and rotation enhancement and propose that CSR can contribute to strategic competitive advantage. Carroll and Shabana (2010) propose that the business case for CSR incorporates cost and risk reduction, reputation and legitimacy, and synergic value creation. Sydnor et al. (2014) state that stimuli for involvement in the community by hospitality firms' managers were owners' personal relationships and values, community needs and expectations. Similarly, benefits of incorporating CSR would also encourage managers to engage more in environmental and social responsibility. For instance, Abaeian, Yeoh, and Khong (2014) provide a conceptual model of these benefits in hotel industry by illustrating them into three different categories which are benefits for the company, benefits for the workforce and community as well as benefits for the Society. While past studies show different motivational factors due to their business objectives varied across sectors, regions and countries, the need to explore further about hotel-specific motives and perceived benefits in a developing economy is logical.

Raviv et al. (2013) state that the barriers and facilitators to responsible tourism (RT) in a structured way can occur at three levels: (a) The intrapersonal level, which is an outcome of the individual psychological states and attributes), which interact with the behavioural preferences (e.g., their environmental commitment); (b) The interpersonal level, which is an outcome of the interaction between self and others (e.g., governmental policy and public demand); (c) The structural level, which is an outcome of the intervening factors between the

behavioural preferences and participation (e.g., the costs associated with incorporating RT practices and the broader organizational context).

Legislation is also found as one of the most important drivers for the implementation of sustainable practices (Elmualim, Valle, & Kwawu, 2012). In the tourism and hospitality context, low level of environmental awareness has been known as a major barrier. Furthermore, in a study of hotels in Hong Kong , Chan (2008) found that lack of professional advice as well as lack of knowledge were key barriers. The findings of the research by Sampaio, Thomas, and Font (2012) suggest that varying levels of environmental engagement may be explained by differences in worldviews of the owner managers of tourism small firms as well as their self-efficacy beliefs, context beliefs and goal orientation. The paucity of knowledge on the barriers to engage in CSR remains in the case of local hotels and it is even more pronounced in non-Western societies such as Malaysia.

METHODOLOGY

Due to the exploratory nature of the inquiry, our study utilizes a qualitative methodology, mainly through the use of semi-structured in-depth interviews. Semi-structured interview is a widely accepted method due to its flexibility, fairly balanced structure as well as the quality of the data obtained. Based on the objectives of this study, a purposive sampling strategy was employed. Patton (1990) suggests that purposeful sampling is appropriate for garnering in-depth information (i.e. rich context) where one expects to learn a great deal about issues that are of central importance to the purposes of the chosen research (p. 169). Our main sample consists of the general managers of four- and five-star local Malaysian chain hotels in the Klang Valley area. More importantly, these managers are involved in the decision-making for all major CSR initiatives within their respective organizations. Targeting four and five star hotel was for following reasons. Firstly, McGehee, Wattanakamolchai, Perdue, and Calvert (2009) asserted that the larger and more luxurious hotels tend to make more contributions to CSR activities. Moreover, properties located in urban and resort settings tend to contribute more than those elsewhere. Secondly, according to Zoweil and Montasser (2012) the concept of CSR is essential to luxury hotels if they aim to have a long term competitive advantage since CSR can turn threats into opportunities.

All interviews were carried out between November 2013 and January 2014 by the principal researcher. The interviewees were selected based on certain established criteria. For instance, interviewees have to be the general manager, with at least 10 years of experience in the industry and at least 5 years of experience in the aforementioned management position. A total of 10 interviews, each lasted from 45 to 90 minutes, were conducted. An inductive approach was adopted when analysing the interview data. The interview transcripts were read multiple times for clarity. Major themes and sub-themes were identified using open coding and axial coding. In this regard, the actual coding procedure was guided by the objectives of the study as well as interview protocols. The final report includes the voices of participants, the

reflexivity of the researcher, and a complex description and an interpretation of the problem (Creswell, 2013).

FINDINGS AND DISCUSSION

CSR Initiatives

The first objective of this study was to elicit the environmental and social initiatives that the hotels practice. These activities are summarized in Table 1.

Table 1 Organizational CSR Initiatives

Types of Social Initiative	Types of Environmental Initiative
❖ Donating small trees for planting ❖ Orphanage house clean-ups & maintenance ❖ Adopting families with no jobs ❖ Inviting from less fortunate/old folks homes during festive seasons ❖ Providing opportunities for guests to donate to/volunteer with community ❖ Organizing charity events at hotel ❖ Donating food, clothing items, used furniture, etc. to orphanage house ❖ Participating/contributing in international natural disasters ❖ Participating in Blood donation events ❖ Contributing to institutions such as schools ❖ Investing in training employees ❖ Organizing activities for improving staff well-being (e.g. sport activities)	❖ **Environmentally-friendly Product & Material:** - Using recycled material and products - Using green chemical products - Providing non-smoking areas & rooms ❖ **Waste Reduction Management:** - Recycling cooking oil - Providing newspaper for guest in room (upon request) - Recycling bins ❖ **Energy Saving Management:** - Evaluating the environmental impact of the business (e.g. meter for minimizing carbon usage) - Reducing energy consumption by installing energy-efficient appliances (e.g. LED lighting) - Participation in worldwide

❖ Implementing employee-friendly policies for safe, healthy/fair work conditions ❖ Providing employees with sufficient in-house training and education ❖ Providing opportunities for employees to share in decision making	movement for the planet (such as Earth Hour, Earth Day) ❖ **Water Management & Conservation:** - Implementing linen and towel re-use programs - Low flow toilets and shower heads - Collaboration with/participation in local community activities (e.g. Clean-up, tree plantation, etc) - Donation for natural disasters and saving wildlife - Collaboration with WWF by adopting animals in the danger of distinction

The hotel managers indicated that the hotel participates in various acts to contribute in improving the quality of life of community as well as to the well-being of their employees. It seems like donation of their money, time and skill as well as organizing charity events were preferred social initiatives which relate to CSR categories of community relations/philanthropic suggested by previous researchers (Levy & Park, 2011). Besides, conducting workforce program and training were emphasized which relate to employee rights and health concerns (Gu, Ryan, Bin, & Wei, 2013).

As respondents were interviewed, it seemed like recycling and reusing in addition to energy saving initiatives were more preferred among the five categories of environmental-related CSR practices. Within the energy saving category, installation of energy efficient appliances such as LED lightings were desired. Previous researchers mention that one of the most influential benefits of incorporating environmental commitment in tourism accommodations is cost saving (Brown, 1996; Graci & Dodds, 2008). For many hotels, economic benefits provide the incentive to implement and carry on environmental initiatives. Regardless of the start-up costs and the probable lengthy return on investment related to several initiatives, the economic benefits usually outweigh the cost of implementation. Kasim (2007a) states that, in hotels, waste management activities, such as recycling, have been relatively successful because they can bring profit and other activities,

such as water saving, can reduce operating costs. Similarly, Lee and Park (2009) and Kang, Lee, and Huh (2010) supported the existence of a significant relationship between CSR and firm performance in hospitality industry. Findings of Lee and Park (2009) suggest that hotel companies can confidently and strategically increase CSR investment to enhance both short-term (profitability) and long-term performance (firm value).

Motivation & Perceived Benefits of Engaging in CSR Initiatives

To some managers, the type of social initiatives the hotel undertakes (for instance, staff donation of their time and skills by helping in orphanage house clean-ups, maintenance, etc or old folks homes) is a move of their company for both educating and raising the awareness of their staff.

Table 2 Motivations for CSR Initiatives

Social Motive	Exemplary Quotes
(1) Employee Awareness	***R1:*** *"It's like a wakeup call for them [staff]. Saying that these people are still around and you need to help these people … you know… now, the generation are forgetting all these…"* ***R4:*** *"You see…why we choose the old folks home is because we want our employees to understand…to see that they are also like our parents. Employees have old people in their house. You know that is actually a way of educating our staff and also to giving back to the people who have raised us. And it is like giving them a reminder … you know…like 'I should not abandon my parents, I should always make sure they are taken care of'. What we wanted to do is not only giving but also educating the people who are giving."*
(2) Employee Attachment	***R2:*** *"This is our commitment to show that we care for the community, obviously we also benefit from the community so we need to give it back to our community. The second part of it is obviously to our own committee team because it give them a sense of pride, that as a business we give back to the community that obviously supports us … to make them proud of where they work, as an organization…We always find that the team that are involved also gets a lot of sense of satisfaction."* ***R8:*** *"My first philosophy in CSR is to make our associates happy. I let them take the ownership in organizing CSR initiatives. There was once a chef working for the hotel for 8 years. After an event being organized in an old folks home which I let him organize with his team and cook for them, he*

	came back to me and said: 'Boss… thank you, I feel so honoured because of giving me the opportunity to plan something on my own… I feel so proud of myself to being able to give to the old folks, I feel as if they are my parent'… If the associates are happy, then they will communicate this message better with our guest, then the guest will come back again and pay to stay with us…So if we don't have happy associates, we wouldn't have happy guest then we don't have good profits."
(3) Improving Quality of Life	***R1:*** *"We started by giving food to the people who have no house and stayed on streets, then we get to know them. And even when we find someone who is potential, we employed him! There was once we hire one of these people to work in the laundry. So, he started and he became a supervisor, and then after some years of working and participating in training, he became operator supervisor … We had few of them."*
(4) Improved Customer Relationship and Engagement	***R3:*** *"When we have a charity event and the press comes and wants to interview with me, I never accept… don't like to be appearing in newspaper. If you want to do that to welcome people to contribute, only for that purpose, they can put the name of our hotel, but not for publicity. And even the bonding between the customers and the staff has become more."*
(5) Manager's Personal Values	***R2:*** *"There are some things that we do that are designed as not to raise awareness exercise…And I think sometimes there is a greater sense of accomplishment in doing what is right thing to do and not make noise about it."*

	R10: *"At the end of the day … you will see the glowing faces of satisfaction and happiness to the people that you have brought to and that itself is a level of satisfaction that you experience … which that small amount of money doesn't really matters to a lot of us but it matters to people who need those."*

Environmental Motive	Exemplary Quotes
(1) Cost Savings	***R7:*** *"What we do is for the environment, we don't continuously buy new decorations. We reuse it and we enhance it… how we also save money in that process. So we find that it is good for the environment too."* ***R10:*** *"I've recently initiated not to deliver newspaper unless requested by guests. Some guests do not really need newspapers, printed newspaper...then we can cut down [cost]. And that particular initiative … helps to save 200 pieces of paper every day. That is good and also we no longer use those plastic newspaper bags, you know … those plastic ones, we are using the recycled bag containers and we hang on the door. So that we can recycle on the bags and not create more loading on the environment."*
(2) Save Environment	***R7:*** *"You as an individual, you as a human being, you must do your part to save the environment. What you do… it is for your children, it is for your future generation."* ***R4:*** *[Keeping] this environment, we don't think of us now, we are getting older… It is for our generation to come, it is for them to enjoy. Otherwise they only see shopping complex and apartment and condo and they wouldn't know that this green environment exists.*

(3) Image Enhancement	***R4**: It is always the interest of the hotel to take care of the environment. So you can at any time, there is no question about it. We can't even, you know there is no need to find the reason, it always goes hand in hand. This hotel can be like the vigil jungle. So we always have to take care of the environment, you know the environment that we have is always an experience. It is a marketing experience which we are actually marketing to the world, to the customers.*
(4) Societal Norm	***R4**: "Recycling and reusing have become very normal and automatic to us Every hotel does that."* ***R3**: "Now it is a norm, a standard, that every hotel does have this, this CSR or environmental initiatives."*

CSR activities seem to assist the hotels in terms of employee retention (i.e. by making their staff feel better at their working environment, fostering the feeling of doing something worthwhile and, foster a sense of inclusiveness as well as loyalty to the organization). In addition, such initiatives also enhance long term profitability. Another theme that emerged was strategic motive as improved company's image as well as providing legitimacy for the organization. Interestingly, Suchman (1995) suggested that legitimacy affects not only how people act toward organization, but also how they understand them. Babiak and Trendafilova (2011) suggests that attaining legitimacy may garner stakeholder approval, especially in times of organizational crises.

The empirical findings are mostly consistent with past studies that suggest that CSR activities have positive effect on the employees' job satisfaction, morale, commitment, identification with the company and retention (Aminudin, 2013; Bauman & Skitka, 2012; Bevan, Isles, Emery, & Hoskins, 2004; Bhattacharya, Sen, & Korschun, 2008; Lee, Park, & Lee, 2013). Raub and Blunschi (2014) suggest that employees' awareness of CSR activities is positively related to job satisfaction, engagement in helping and voice behaviour, and personal initiative, and CSR awareness is negatively related to emotional exhaustion. Similarly, Bevan et al. (2004) believe that stronger commitment and a more positive attitude from employees could bring higher profitability and work productivity, and enhance

capacity for innovation. According to Lee et al. (2013) perceived cultural fit and CSR capability significantly affect CSR perception and, consequently, employee attachment and performance.

Furthermore, Bohdanowicz and Zientara (2009) believed that the considerable effect of CSR-driven initiatives undertaken by companies in the hospitality industry on a host community's socioeconomic situation with whom they share resources would also improve the quality of life. Moreover the managers' personal values have also been an important factor influencing CSR integrations. Overall, internal/endogenous motivations emerged from the interviews were altruistic, legitimacy and competitiveness and external/exogenous motivations were economic advantage and profitability as well as strategic.

Barriers and Drivers to CSR Adoption

This study was also designed to examine the challenges that managers faced as well as the drivers to enhance CSR involvement. Several themes were developed from the responses which are shown in Table 3. Following Raviv et al. (2013) the barriers and drivers are categorized based on endogenous and exogenous themes.

Table 3 Barrier and Drivers of CSR Adoption

Endogenous Barriers	***Endogenous Drivers***
High initial cost	Education & raising awareness Staff attitude and peer communication
Low level of environmental awareness	CSR committee
Lack of urgency	Constant staff training and monitoring
Lack of knowledge and skill	
Lack of organizational policy	
Time consumption	
Exogenous Barriers	***Exogenous Drivers***
Lack of pressure/competition in the business environment	Public environmental understanding
Lack of governmental tax incentives	Government CSR policy and enforcement
Lack of clear understanding of the ROI in market	Special payment scheme from vendors / suppliers
Less variety of green products/equipment	Stakeholder pressure

The analysis of the interviews indicated that the hotel managers responsible for decision making regarding environmental responsibility faced multiple organizational barriers, primary high initial cost involved in the implementation of measurements and equipment. This is consistent with the results of the Babiak and Trendafilova (2011) who indicated that inadequate financial and human resources prevent executives from implementing any sustainable programs. Besides, being a manger and not the owner of the property, respondents mentioned that they need to provide clear justification of these investments to the owner of the hotel. Not all the owners have the environmental attitude towards the return on their investment (Frey & George, 2010). However, almost all the managers indicated that for the community involvement projects, they have not faced any difficulties or disapproval from the owners; rather they are very supportive for the social initiatives. Furthermore, lack of variety in green supplies as well as equipment provides monopoly for the few suppliers available in the market which makes it difficult to negotiate in terms of payment scheme.

Further analysis of the interview data showed that the hotel managers placed a greater emphasis on the role of the government in providing CSR policy, enforcement and tax incentives. In addition, continuous training and monitoring the staff was also mentioned during interviews as facilitator to the CSR adoption and implementation. Employees are one of the primary internal stakeholders for each company whose productivity can also be improved as a result of CSR practices in hotels (Kucukusta, Mak, & Chan, 2013). A company's decision to implement CSR could be rewarded by the existing workforce. Employees, just like guests, are increasingly sophisticated to current thinking of going green in society and far more likely to identify with an employer whose principles and practices are in tune with current trends (Graci & Dodds, 2008). Thus, it can be argued that in the context of developing country, where environmental awareness and education in the business community is not lacking, the inhibiting factors summarized in Table 3, both endogenous and exogenous, keep the Malaysian hotels from being more proactively engaged with CSR.

CONCLUSION & LIMITATIONS

This study explored the preferred environmental and social initiatives, motivations as well as the barriers and drivers to engage in such activities by the hotel sector. Our chosen focus was four- and five-star hotels in the Klang valley area in Kuala Lumpur, Malaysia. Findings of this study would contribute to the extant literature, industry and society as a whole. For instance, identification of hotels' barriers to engage in environmental initiatives can benefit managers, policy makers, scholars and stakeholder groups in terms of developing more effective strategies for encouraging businesses to implement an environmental agenda. In relation to the managers' motivation to participate in CSR activities, the results indicate that most of managers engaged in these acts due to both endogenous and exogenous motives. Similar to the observation made by Njite, Hancer, and Slevitch (2011), we conclude that what is perceived as social responsibility in one sector may not necessarily apply

to another sector. Since the majority of literature in the area of CSR addresses the consequences of such activities (Cheruiyot, Maru, & Muganda, 2012; Lee et al., 2013; Martínez & Rodríguez del Bosque, 2013), this qualitative study adds to existing body of knowledge regarding factors affecting CSR which can make a particularly useful contribution to the literature.

Several limitations stems from exploratory nature of this study. For instance, the sample does not reflect the whole Malaysian hotel sector. Besides, a need to have further exploratory studies on small- and medium-sized Malaysia hotels would provide a deeper insight into the barriers of CSR initiatives in a developing country setting. Furthermore, empirical studies need to be conducted to generalize the findings to have a better picture of the hotel sector. A larger sample of managers from different regions is required to further refine and develop the major themes uncovered by our study that would better reflect the entire hospitality sector.

ACKNOWLEDGEMENTS

The work on which this paper is based was funded by Taylor's University PhD Fellowship Program (Scheme 1).

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Trade Effect of EAC Customs Union on Tanzanian Industrial Sector: An RCA Approach

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ABSTRACT

Economic integrations are seen as a means to connect trade in Africa and also help towards industrialization. The East African Community (EAC) is considered performing better than other integrations in Africa in terms of increases in intra-regional trade. General success of any integration depends on how it can create trade for its member countries and this depends on complementarity and competition between member states. This study looked at this issue using Revealed Comparative Advantage (RCA) in the Tanzanian industrial sector. It was found that Tanzania has been able to gain advantage in new industries that complement with other EAC member states. At the same time, the study identified that industries facing competition have also increased. For instance, goods with trade complementarity remained at 14 with changes in composition, while those competing increased from 20 to 24 products. Therefore, EAC member states need to diversify further and use a value chain approach amongst them to better improve the welfare of the entire region.

Keywords: Customs Union, East African Community, Revealed Comparative Advantage, Trade Complementarity

INTRODUCTION

Despite the world coming together as global village through value chains and trade in general, African countries are still further apart from each other (World Bank, 2014). Regional integration is seen to be ways in which these countries can tap internal advantages (UNCTAD, 2011). Since most African countries are almost at the same level of development and to some extent similarly endowed with natural resources and producing, importing and exporting similar goods[29], the existence of regional integrations has not boosted intra-regional trade enough yet. For example, only 13% of East African Community (EAC) trade is within member states and only

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[29] Geda and Kebret, 2007.

6% for the Southern African Development Community (SADC) (UN Comtrade, 2012).

Industrialization has long been considered as a road towards sustainable development, and experience shows that more developed nations are characterized by a large sophisticated industrial sector. In this regard, Tanzania aims at to inducing an economic transformation ing itself into toward a modern and industrialized economy nation that can sustainably generate sufficient outputs to satisfy both its domestic and export markets. Policymakers believe that this can be achieved through resource based industrialization and a competitive and market oriented manufacturing sector. The top priority sectors, according to the Tanzanian industrial policy of 1996-2020, are the agroprocessing-based industries in the first phase, iron and steel-related industries in the second phase, and to gain a comparative advantage in all capital goods in the final phase.

Tanzania's industrial sector is falling behind as it has a low level of industrialization with less than USD $50 manufacturing value added (MVA) per capita, compared to the regional MVA per capita of $100. In addition, Tanzania's industrial sector has a recorded growth level of 4.8% on average between 1990 and 2010 (UNCTAD and UNIDO, 2011). In 2009, 68% of the MVA was resource based manufacturing, 26% was medium and high tech good manufacturing (of which 25% were chemical products) and 6% were low tech goods. Growth in the low-tech goods sector has also been an important stepping stone for other developing countries well performing integrations such as the Association of Southeast Asian Nations (ASEAN).

Tanzania and the East African Community

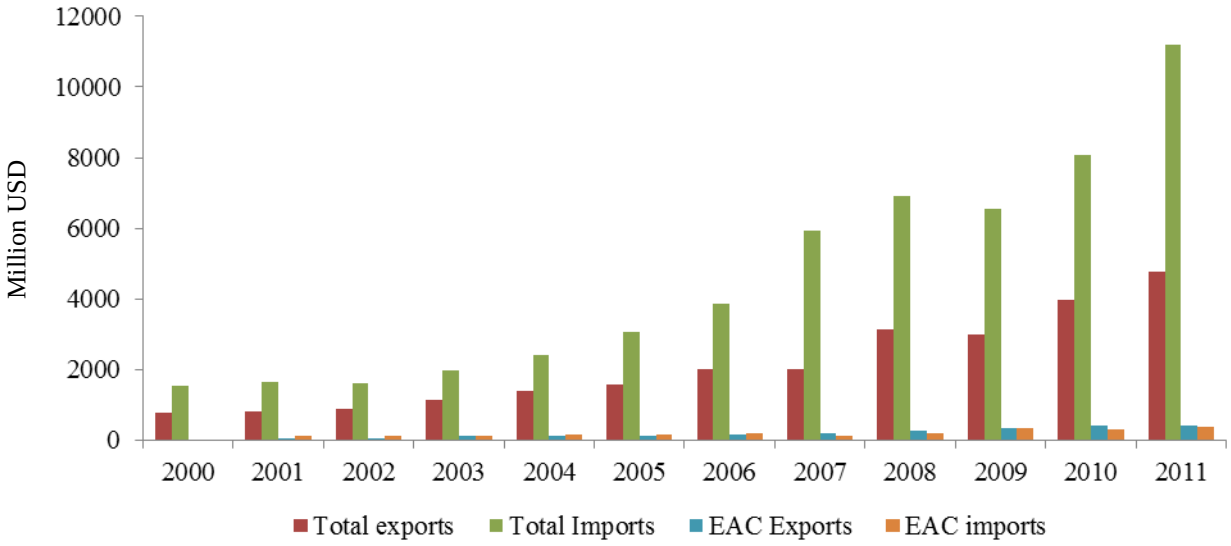
The EAC was established in 1993 through the East African Tripartite Commission. Since then, the EAC has evolved into a five-nation common market of 133.5 million people (2009) with an estimated USD $74.5 billion in gross domestic product (GDP). The average GDP per capita in 2009 was USD $558 (EAC Secretariat, 2010). Between 2005 and 2010, the EAC implemented a Customs Union, which focused on a Common External Tariff (CET) on imports from third world countries. The implementation of CET was as follows: tariff on raw materials (0%), intermediate products (10%) and at a maximum of 25% on finished goods. In addition, there is duty-free trade and common customs procedures between the partner states. Nevertheless, the non-tariff barriers (NTBs) between member countries are still a major challenge to the liberalization of goods and services across the region.

Tanzania signed an agreement with the rest of the EAC member countries on a customs union in 2005. This made the EAC a free trade area. Consequently, Tanzanian's exports increased from USD $1,571.28 million in 2005 to USD $3,976.79 million in 2010[30]. In addition, the trade balance between Tanzania and the EAC improved from a deficit of USD $31.6 million to a trade surplus of USD $98.8 million (Figure 1).

[30] EAC Facts and Figures, 2012.

Tanzanian EAC region export earnings represent less than 20% of the total export earnings.[31] In the meanwhile, the share of manufacturing exports increased from 5.3% to 16.6% in the same time period. Meanwhile, the percentage of exports and imports to and from EAC declined from 11% before 2005 to 9% in 2008 and from 6% to 4% in 2008 respectively[32]. This shows that Tanzania is benefiting from other trading partners, particularly European countries. Therefore, it is important to know how much Tanzania benefits from the EAC and how Tanzania can fully maximize its benefits and impacts.

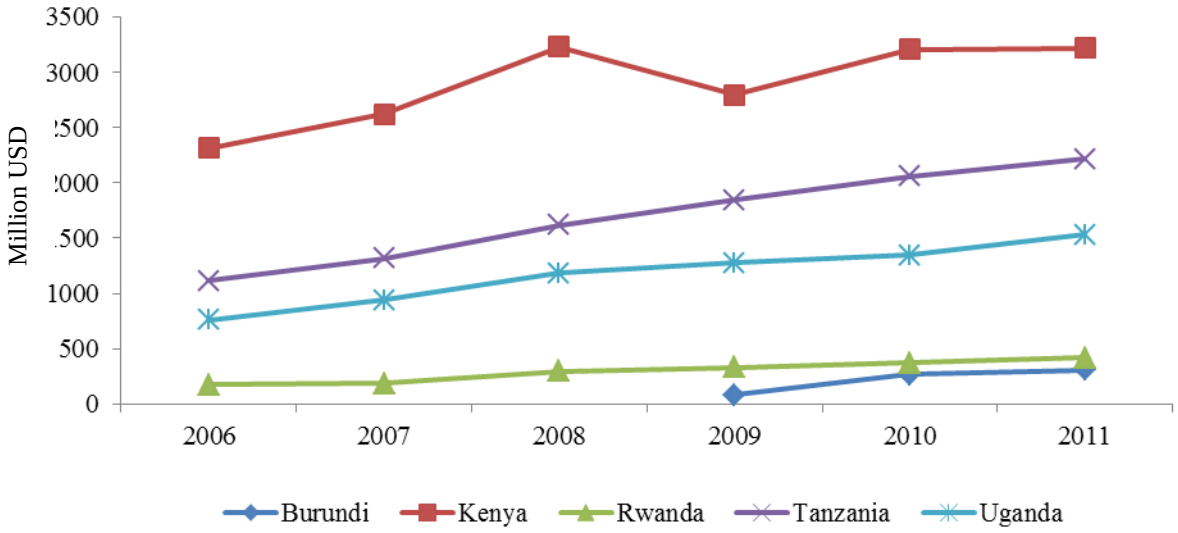
The manufacturing sector in Tanzania includes agroprocessing, iron and steel processing, fertilizers and agro-chemical, pharmaceutical and other mineral processing. The primary challenge that the Tanzanian manufacturing industry faces is infrastructural problems which is highly contributed by insufficient and high cost electricity. The other reason is the government's strict regulations; hence, many manufacturing firms continue to operate informally. Consequently, the contribution of the manufacturing industry to Tanzanian GDP has been growing slowly, from 8%in 2006 to 9.3% in 2011(BOT, March, 2013). However, the Tanzanian manufacturing industry is performing better as compared to other EAC member countries, excluding Kenya.



Source: EAC Facts and Figures – 2012

Figure 3 Tanzanian Trade Performance Before And After The EAC

[31] Financial stability report by Bank of Tanzania (BOT), 2013
[32] An Evaluation of the Implementation and Impact of the East African Community Customs Union, 2009



Source: EAC Facts and Figures – 2012

Figure 2 Performance of Manufacturing Firms In EAC

Complementarity in exports and imports is crucial for success of any economic integration (Firdaus et al., 2014). However, EAC member states are similarly endowed and throughout the time of customs union, the complementarity index has increased very slowly and is still below 25% between Tanzania and other member states (as in Table 1). This means less than 25% of Tanzanian exports are demanded as imports in EAC. As compared to one of the successful free trade areas in southeast Asia (AFTA), complementarity between the member states is above 30% and even up to 50% for the founding members (Firdaus et al., 2014) . The trend of complementarity creates doubt about the EAC customs union success. This study aims to explore the possibility of trade creation outweighing trade diversion by employing RCA approach.

Table 2 Changes in complementary index between Tanzania and other partner states

Importer	2004	2010
RWANDA	0.181255	0.2348017
BURUNDI	0.164358	0.2026400
UGANDA	0.172057	0.1887347
KENYA	0.176036	0.2106316
EAC	0.185166	0.2108656

Source: UNCTAD statistics, 2014

The EAC signed to move to the new protocol of a common market in 2010; however, Tanzania is still in the process of implementation. Hence, we feel that it is

the right time to analyze the benefits of the customs union. Even though the intra-region trade surplus and productivity in the manufacturing industry has increased in absolute values over time, total exports and imports have decreased in terms of percentage.

It was argued in Viner (1950), Meade (1955) and Johnson (1965) among others, this kind of customs union is most likely to result in trade diversion rather than trade creation. However as suggested by the World Bank (2012), the south-south integration can be a source of export diversification in developing nations, increasing complementarities and trade creation. As seen in Table 1, complementarity between these countries is very low and Tanzanian's trade with EAC is only marginally affected. This study also aimed to study the implications of EAC on the basis of trade creation, from the perspective of the Tanzania's industrial sectors before the customs union and 5 years after. Specifically, it aimed to find out the possibility of increasing export performance in the Tanzanian manufacturing sector through EAC customs union.

Many studies, including those from ASEAN countries, have shown that there is a positive relationship between trade liberalization through an export promotion strategy and industrial growth (Ariff and Hill, 1985; Urata, 1994). However, Dijkstra (2000) studying Latin America illustrated the opposite results. In addition, Ratnaike (2012) found that there was no relationship between trade policy and export performance. Hence, Dijkstra (2000) and Ratnaike (2012) drew the conclusion that the effect of trade policy on export performance depended on the industrial base.

LITERATURE REVIEW

"The theory of customs unions may be defined as that branch of tariff theory which deals with the effects of geographically discriminatory changes in trade barriers" (Lipsey, 1960). The pros and cons of a customs union have long been debated by protectionists and liberalists on the basis of regionalism vs. multilateralism since the 1950s (Bhagwati & Panagariya, 1996; Lipsey, 1960).

Theoretical Review

Until the 1950s, customs union theories were based on the premise that free trade will maximize national as well as global welfare. Since a customs union reduces tariffs, this implies moving towards world free trade. This proposition was argued by Jacob Viner (1950), who came up with the issues of trade creation and trade diversion. Viner suggested that a customs union can be welfare increasing when it creates trade more than diverting and welfare decreasing otherwise. According to him, trade creation is realized when production of inefficient domestic firms is replaced with more efficient firms within member countries. Trade diversion is when imports from more efficient firms outside the union are replaced with imports from inefficient firms inside the union. Therefore, the welfare effect of a customs union will depend on the relative strengths of the forces causing trade creation and trade diversion, which also depend on the degree of overlap between the classes of commodities produced under tariff protection.

Lutz and Wanacott (1989) and Summers (1991) among others, suggested that trade creation can outweigh trade diversion if the union is made between natural trading partners. Makower and Morton (1953) stated that the welfare effect will depend on the difference between the costs at which the same commodity is produced in the member countries. Trade diversion may be a motive for countries to form a custom union (Lipsey, 1957; Helpaman, 1995; Krishna, 1995). In line with this, the study of Lipsey (1957) put forward that a trade diversion will affect the economy in two positive ways: 1) a production effect where the economy gets to specialize and export more of what it can produce; and 2) a consumption effect where the consumers are facing free trade prices so that they can move to a higher indifference curve.

Baldwin (1997) made clear that any Regional Trade Agreements (RTAs) will neither harm the move towards global free trade nor global welfare. Therefore the main concern now is how these RTAs will foster trade among member countries. It is worth knowing that customs union also results in a substitution effect when the relative changes in prices result in a change in the volume of the existing trade, with domestic expensive goods being replaced by cheaper goods from a partner state. Hence, it increases the volume of imports from the partner states and decreases imports from the non-partner states, leading to more goods being produced locally. It also changes the location of the production (Meade, 1957; Gehrels, 1956-57; Lipsey, 1957). Therefore, preferential integration is likely to affect the terms of trade (Mundell, 1964; Gasiorek, 1994).

Relating to the industrialization process, Cooper and Massel (1965), Johnson (1965) and Bhagwati (1968) proposed that developing countries could reduce the cost of industrialization when they liberalize among themselves. This proposition was supported by Krugman (1991) and Jeffrey (1996) by considering the reduction of transportation cost between neighboring countries. However, Bhagwati and Panagariya (1996) suggested that distant trade agreements are better than with nearby countries**.**

Empirical Review

Empirically, preferential trade agreements have resulted into more trade creation than trade diversion. For instance, Winters (2001) studied trade flows of non-fuels of 58 countries from 1980-1996 and found that members of RTAs in Latin America increased their import intensity after signing RTAs, which was a sign of no trade diversion. Also Magee (2008) found that RTAs resulted in trade creation 7 times larger than trade diversion in trade flows from 1980 – 1998 between 133 countries. In addition after the customs union, firms from countries outside the union try to set the price after a tariff equal to the price set by those firms within the union. These results were found by Winters & Chang (2000) with the European Union (EU) customs union, by Schiff & Chang (2003) in Brazil and by Yang Hwang (2001) in South Korea. In other words, when a union maintains low CET like EAC, there is less possibility of trade diversion.

Increasing trade within RTAs has been a main focus in recent literature since it is also among the primary objectives of RTAs. Magee (2008) studied the effect of

RTAs using a gravity model while controlling for country pair, importer-year and exporter-year fixed effects and found that RTAs were expected to increase intra-region trade by 48% and customs unions resulted in increasing trade for longer periods than free trade agreements (FTAs). Vicard (2011) added to these results by giving empirical evidence from the Andean Community, MERCOSUR, AFTA, EC and NAFTA from 1955 – 2000, finding that evidence of bilateral trade increases depends on the size and distribution of GDP among member countries. The author concluded that intra-trade could increase when two countries in the RTA were large and symmetric while others were small and asymmetric.

The significance of RTAs in increasing intra-regional trade has been argued based on the empirical approach used. Soloaga & Winters (2001) studied the trade flows of 58 countries from 1980 to 1986 using non-fuel data; they modified the basic gravity equation to include the effects of RTA. However, their results suggested that there is a significant increase in imports and export propensities, especially in Latin America except for MERCOSUR members; they found no significant increase in intra-block trade. It is worth noting that for MERCOSUR member countries, imports increased while exports decreased. The authors suggested that members' trade performance was mostly affected by their competitiveness rather than trade policy. Similar results of no significant increase in intra-region trade due to formation of RTAs were found by Ghosh & Yamarik (2004) in 12 RTAs using extreme bound analysis with gravity equations. They concluded that increasing trade can be due to other reasons omitted in normally used gravity equations. . For instance, availability of reliable infrastructure plays important role in increasing trade between member countries (Geda and Kebret, 2007)

Regarding the relationship between trade liberalization and export performance, Ratnaike (2012) studied the empirical link between those two variables and found that trade policy had no significant effect on the export performance of Organization for Economic Cooperation and Development (OECD) countries. Similar results were found in Mexico where the export performance improved in the sectors in which Mexico had a comparative advantage (Prina, 2013; Ramirez, 2003). Prina (2013) also found that small producers in Mexico were benefiting more from NAFTA than from large producers. These results also agreed with those in the manufacturing sector of Turkey (Erzan and Filiztekin, 1997). Hence, this made comparative advantage crucial in determining export performance after the trade agreement.

Maule (1996) used an RCA approach to study the likely gains from trade that were to be expected after signing of AFTA from Thailand's perspective. He compared the number of commodities where Thailand had export advantage with import advantage from other ASEAN members and main trading partners to determine the possibility of trade creation. Then he compared commodities where all ASEAN had export advantage (including Thailand) to find the possibility of trade diversion. The comparisons were for 1991 and 1992, which was a very short period to notice the effect of a trade agreement (Magee, 2008). He found that AFTA was more likely to result into a trade diversion as Thailand's trade was more towards non-ASEAN than ASEAN countries because they had similar RCAs. The RCA approach was also used by Khatibi (2008) to examine Kazakhstan's competitiveness

and intra-EU exports from 1999-2006 by studying the trend in comparative advantage. He found RCA in energy and manufactured goods but it was declining over time.

Other methods that were used to examine export performance after signing of trade agreements are price competitiveness, similarity and complementarity indices (Leebouapao, Insisienmay and Nolintha, 2012; Sinaga, Firdaus and Walujadi, 2014). Both of these studies were used to examine the effect of ASEAN signing FTAs with China (CAFTA) in Laos and Indonesia respectively. They found that there existed huge similarities in exports and that Laos and Indonesia needed to focus on quality development to compete with China.This is due to the fact that China is highly price competitive than both Lao and Indonesia . As a remark, this study followed the methodological approach of Maule (1996) using a longer time comparison to allow structural changes in the country to take place.

METHODOLOGY

Recent literature on the effects of RTAs has mostly focused on increasing trade within member countries. They have used gravity models to do so, keeping the existence of RTAs between countries as dummy variables. The model faced some criticism of having biased results since it lacked some important information, and the literature has shown that trade performance is not always influenced by trade policy but a country's comparative advantage also plays an important role.

Success of an economic integration depends on complementarity and similarity among member countries. Since this study aimed to investigate the trade effect from the Tanzanian industrial sector, it was important to use the RCA approach. This was because comparative advantage is more important to export performance than trade policies (Dijkstra, 2000; Prina, 2013; Ratnaike, 2012). This study followed the approach used by Maule (1996) to study the implications of AFTA on Thailand using the RCA model. The primary concept of RCA originated from the work of Balassa (1965). Balassa's index was then extended and used in trade measures by the World Bank. The index has faced critiques as it does not have a proper theoretical background and may not show the actual comparative advantage. It uses post-trade data for its calculations, which are normally distorted by government interventions (Maule, 1996; Hiziroglu, 2012; Yeats, 1985). However, Yeats (1985) and Lall (1987) have been able to illustrate consistency in the Balassa index with the factor proportion theory of international trade. In addition to that RCA index was selected to study complementarity and similarity due its robustness when products are highly disaggregated[33]. More-over as the study also aims at policy implications in industrial sector, RCA has the ability to show prospects of particular industry's exports; hence efforts can be channelled in proper direction.

Hence this study used the Balassa index of export advantage (eq. 1) and slightly modified it to study import advantage as in equation 2.

[33] www.worldbank.org (Export trends and trade structure indices)

$$RCAX = \left(\frac{X_a^i}{X_t^i}\right) \div \left(\frac{X_a^w}{X_t^w}\right) \longrightarrow \quad \text{eq (1)}$$

$$RCAM = \left(\frac{M_a^i}{M_t^i}\right) \div \left(\frac{M_a^w}{M_t^w}\right) \longrightarrow \quad \text{eq (2)}$$

where: RCAX: Revealed Export Advantage
RCAM: Revealed Import Advantage
X: Exports
M: Imports
a, i, t and w: Particular industry, particular country, total and world respectively.

RCA was calculated for all manufactured goods in Tanzania. Then those found with RCAX in either 2004, 2010 or both were compared with the rest of the EAC members. For those commodities, RCAX and RCAM were calculated for other partner states and then the values were compared. Tanzania's RCAX was compared with other members' RCAM to determine complementarity and RCAXs were compared to examine competition between them. If there existed more competition then complementarity, then trade diversion was expected and trade creation otherwise. In this context, trade creation meant the possibility of member countries increasing imports from Tanzania.

Data Sources and Choice of Selected Sample

The study used the SITC 3-digit classification for exports and imports. It used all manufactured products in Groups 6 – 8, plus the agro-processing products in Groups 00-4, excluding 001, 012, 02, 036, 041-045, 054, 072, 081, 121, 21, 223, 231, 24-29, 3, 41 and 42. The selected data for exports and imports were taken from 2004 and 2010. This period was chosen because in 2005, the nation agreed to enter into a customs union and was declared fully fledged in 2010. All data required for the calculations of the RCAX and RCAM were obtained from the UNCTAD database.

FINDINGS

The results of this study can be divided into two categories; 1) complementarity of Tanzania's exports with individual members of the EAC and the EAC as whole before and after the customs union (Tables 2 and 3); and 2) competition between Tanzania's exports and the EAC with its individual members (Tables 4 and 5).
The number of products where Tanzania had RCAX and matched with EAC import needs was not changed before and after the union, remaining at 14 products. However the composition of goods was different as Tanzania gained new export advantage and lost some of them. These results prove Viner's prediction of trade creation. Commodities where Tanzania gained export advantage over EAC imports after the accession were [581] tubes, pipes and hoses of plastics; [642] paper and paperboard, cut to shape or size and articles; and [775] household type equipment, electrical or not. Complementarity was lost in [653] fabrics, woven of man-made fabrics and [657] special yarn, special textile fabrics and related.

As in Tables 2 and 3, Tanzania also gained complementarity with individual countries in [651] textile yarn and [661] lime, cement and fabricated construction materials with Kenya; [035] fish, dried, salted or in brine; smoked fish; and [075] spices with Rwanda and Burundi. Tanzania also lost in Ugandan markets for [046] meal and flour of wheat and flour of meslin[034] fish, fresh (live or dead), chilled or frozen and [075] Tea and mate. As a matter of fact Uganda has changed from market to competitor in 046 and 074.

These complements results implied that Tanzania gained complementarity in higher value products compared to those lost; hence, better trade was created. Using UNCTAD (2011) classification; Tanzania has gained complementarity four medium tech (MT) goods, two low tech (LT) goods and one resource based (RB) product. At the same time lost complementarity only on RB products. The results accord with (Lall, Khanna, & Alikhani, 1987) that trade between developing countries do promote technology intensive industries.

On the other hand, results on analysis of trade diversion are shown in terms of number of goods where Tanzania competes with other EAC members and the EAC as a whole (Tables 3 and 4). The number of products where Tanzania competes with the EAC as a whole has increased from 20 in 2004 to 24 in 2010. As Tanzania gained comparative advantage on products such as [579] waste, parings and scrap, of plastics; [581] tubes, pipes and hoses of plastics; [611] leather; [613] furskins, tanned or dressed; and [642] paper and paperboard, other partner states also increased their products, meaning that these countries to some extent moved together instead of diversifying.

Competition also increased with individual countries; [554] soaps, cleansing and polishing preparations with Burundi; [658] made-up articles, of textile materials with Burundi and Uganda; [661] lime, cement, fabricated construction materials with Rwanda; and [593] explosives and pyrotechnic products with Uganda. Tanzania only lost competition in sugar [061] with Kenya and [665] glassware with Burundi, however these countries continue to serve as market for the same products.

The above results show that the EAC created more competition than complementarity; hence, there is still more of trade diversion than trade creation even after five years of implementation. As Tanzania had an increasing trend for RCA in chemical products[34] (532, 554, 562, 581 and 579), EAC revealed a promising market for these products but at the same time needed to be aware of competition in plastic products (569 and 579) and soap, cleansing and polishing preparations [554].

[34] Results for RCA trend from 1995 to 2012 are available from the author upon request.

Table 3 Tanzanian goods complements with other partner states before customs union

	RWANDA	BURUNDI	UGANDA	KENYA	EAC
PRODUCT	**2004**	**2004**	**2004**	**2004**	**2004**
[532] Dyeing and tanning extracts, synth. tanning materials	x	x	x	✓	✓
[554] Soaps, cleansing and polishing preparations	✓	✓	✓	x	✓
[562] Fertilizers (other than those of group 272)	✓	✓	✓	✓	✓
[653] Fabrics, woven, of man-made fabrics	x	x	✓	✓	✓
[657] Special yarn, special textile fabrics and related	x	x	x	x	✓
[658] Made-up articles, of textile materials, n.e.s.	✓	✓	✓	✓	✓
[661] Lime, cement, fabrica. constr. mat. (excluding glass, clay)	✓	✓	✓	x	✓
[665] Glassware	✓	✓	✓	✓	✓
[711] Vapour generating boilers, auxiliary plant; parts	✓	✓	✓	✓	✓
[034] Fish, fresh (live or dead), chilled or frozen	x	x	x	✓	x
[046] Meal and flour of wheat and flour of meslin	✓	✓	✓	✓	✓
[047] Other cereal meals and flour	✓	✓	✓	✓	✓
[061] Sugar, molasses and honey	✓	✓	✓	✓	✓
[071] Coffee and coffee substitutes	x	x	✓	x	x
[074] Tea and mate	x	x	✓	✓	✓
[075] Spices	x	x	✓	x	x
[122] Tobacco, manufactured	✓	x	x	x	x
[431] Animal or veg. oils and fats, processed, n.e.s.; mixt.	✓	✓	✓	✓	✓

✓ complements

Table 4 Tanzanian goods complements with other partner states after customs union

	RWANDA	BURUNDI	UGANDA	KENYA	EAC
PRODUCT	**2010**	**2010**	**2010**	**2010**	**2010**
[532] Dyeing and tanning extracts, synth. tanning materials	x	x	x	✓	✓
[554] Soaps, cleansing and polishing preparations	✓	✓	✓	✓	✓
[562] Fertilizers (other than those of group 272)	✓	✓	✓	✓	✓
[581] Tubes, pipes and hoses of plastics	✓	✓	x	✓	✓
[642] Paper and paperboard, cut to shape or size, articles	✓	✓	✓	✓	✓
[651] Textile yarn	x	x	x	✓	x
[658] Made-up articles, of textile materials, n.e.s.	✓	✓	✓	✓	✓
[661] Lime, cement, fabrica. constr. mat. (excluding glass, clay)	✓	✓	✓	✓	✓
[665] Glassware	✓	✓	✓	✓	✓
[775] Household type equipment, electrical or not, n.e.s.	x	x	x	✓	✓
[035] Fish, dried, salted or in brine; smoked fish	✓	x	x	x	x
[046] Meal and flour of wheat and flour of meslin	✓	✓	x	✓	✓
[047] Other cereal meals and flour	✓	✓	✓	✓	✓
[061] Sugar, molasses and honey	✓	✓	✓	✓	✓
[074] Tea and mate	x	x	x	✓	✓
[075] Spices	✓	✓	✓	x	x
[122] Tobacco, manufactured	✓	x	✓	x	x
[431] Animal or veg. oils and fats, processed, n.e.s.; mixt.	✓	✓	✓	✓	✓

✓ complements

Table 5 Tanzanian goods competes with other partner states before customs union

	RWANDA	BURUNDI	UGANDA	KENYA	EAC
PRODUCT	**2004**	**2004**	**2004**	**2004**	**2004**
[532] Dyeing & tanning extracts, synth. tanning materials	x	x	x	✓	✓
[554] Soaps, cleansing and polishing preparations	x	x	✓	✓	✓
[562] Fertilizers (other than those of group 272)	x	x	x	x	✓
[658] Made-up articles, of textile materials, n.e.s.	x	x	x	✓	✓
[661] Lime, cement, fabrica. constr. mat. (excluding glass, clay)	x	x	✓	✓	✓
[665] Glassware	x	✓	x	✓	✓
[667] Pearls, precious & semi-precious stones	x	✓	x	x	✓
[689] Miscellaneous no-ferrous base metals for metallur.	x	x	✓	x	✓
[711] Vapour generating boilers, auxiliary plant; parts	x	x	x	x	✓
[034] Fish, fresh (live or dead), chilled or frozen	x	x	✓	✓	✓
[035] Fish, dried, salted or in brine; smoked fish	x	x	✓	✓	✓
[046] Meal and flour of wheat and flour of meslin	x	x	✓	x	✓
[047] Other cereal meals and flour	1	1	1	1	1
[057] Fruits and nuts (excluding oil nuts), fresh or dried	x	x	x	✓	✓
[061] Sugar, molasses and honey	x	✓	✓	✓	✓
[071] Coffee and coffee substitutes	✓	✓	✓	✓	✓
[074] Tea and mate	✓	✓	✓	✓	✓
[075] Spices	x	x	✓	✓	✓
[122] Tobacco, manufactured	x	✓	✓	✓	✓
[431] Animal or veg. oils & fats, processed, n.e.s.; mixt.	x	x	✓	x	✓

✓ competes

Table 6 Tanzanian goods competes with other partner states after customs union

	RWANDA	BURUNDI	UGANDA	KENYA	EAC
PRODUCT	**2010**	**2010**	**2010**	**2010**	**2010**
[532] Dyeing & tanning extracts, synth. tanning materials	x	x	x	✓	✓
[554] Soaps, cleansing and polishing preparations	x	✓	✓	✓	✓
[562] Fertilizers (other than those of group 272)	x	x	x	x	✓
[579] Waste, parings and scrap, of plastics	x	x	✓	x	✓
[581] Tubes, pipes and hoses of plastics	x	x	✓	x	✓
[593] Explosives and pyrotechnic products	x	x	✓	x	x
[611] Leather	✓	✓	✓	✓	✓
[613] Furskins, tanned or dressed, excluding those of 8483	x	x	x	x	✓
[642] Paper & paperboard, cut to shape or size, articles	x	x	✓	✓	✓
[658] Made-up articles, of textile materials, n.e.s.	x	✓	✓	✓	✓
[661] Lime, cement, fabrica. constr. mat. (excluding glass, clay)	✓	x	✓	✓	✓
[665] Glassware	x	x	x	✓	✓
[682] Copper	x	x	x	x	✓
[685] Lead	x	x	x	✓	✓
[034] Fish, fresh (live or dead), chilled or frozen	x	x	✓	✓	✓
[035] Fish, dried, salted or in brine; smoked fish	✓	x	✓	✓	✓
[046] Meal and flour of wheat and flour of meslin	x	x	✓	x	✓
[047] Other cereal meals and flour	✓	✓	✓	✓	✓
[057] Fruits and nuts (excluding oil nuts), fresh or dried	x	x	x	✓	✓
[061] Sugar, molasses and honey	x	✓	✓	x	✓
[071] Coffee and coffee substitutes	✓	✓	✓	✓	✓
[074] Tea and mate	✓	✓	✓	✓	✓
[075] Spices	x	x	✓	✓	✓
[122] Tobacco, manufactured	x	✓	✓	✓	✓
[431] Animal or veg. oils & fats, processed, n.e.s.; mixt.	x	x	✓	✓	✓

✓ competes

CONCLUSIONS

Economic integrations can be considered as a means to connect trade in Africa and also help towards industrialization. The EAC is considered to be performing better than other integrations in Africa in terms of increases in intra-regional trade. General success of any integration depends on how it can create trade for its member countries and this depends on complementarity and competition between member states. This study looked at this issue using Revealed Comparative Advantage in the Tanzanian industrial sector. It was found that Tanzania has been able to gain advantage in new industries that complement with other EAC member states but also the number of industries facing competition has increased.

Effectiveness of a customs union is reached when production is allocated to more efficient firms; however with the non-tariff barriers among member countries, this is difficult to achieve. Never the less, as countries produce similar commodities, governments are not willing to face extreme competition from others and this results in closure of firms, which may possibly result in allocation of many industries in one country. This imbalance may itself be a threat to survival of the EAC. EAC member states need to diversify further and use a value chain approach among them-selves to better improve the welfare of the region. To make sure Tanzania does not lose its market, it is better for the local industries to focus on value addition; hence investment in Research and Development (R&D) is crucial.

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Sources of Regional Welfare Disparity in Nigeria: A Decomposition Analysis

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ABSTRACT

This paper investigates the determinants of regional disparity in welfare between the Southern region and Northern region in Nigeria, focusing on the roles of educational attainment and its distribution among households. The paper used the data from the World Bank 'Living Standards Measurement Survey' on Nigeria and applied the decomposition method suggested by Oaxaca and Blinder. We found that the household characteristics associated with better demographics such as a low number of dependants, urbanisation, the type of occupation, educational attainment and its distribution are associated with a higher standard of living in Nigeria. It was also found that the difference in the distribution of educational attainment among households is a leading factor to account for observed welfare gap across the regions. The findings emphasize the role of household characteristics in explaining regional welfare disparity and substantial improvements of those characteristics in the northern region will ameliorate the welfare gap. Therefore, investing in programs that ensure equal access to education and support the poor people to improve their human capital endowments will be a very helpful strategy.

Keywords: Welfare, Educational Distribution, Regional Disparity, Decomposition Analysis

-Requested by author not to be published as full paper-

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Value Relevance of Earnings Reports of Pyramid-Structure Firms with Institutional and Minority Shareholdings

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ABSTRACT

A principal-to-principal conflict between minority shareholders and an ultimate controlling owners in the presence of institutional owners has yet received sufficient research attention. This paper reports how the monitoring attributes of institutional owners mitigate this conflict, so reducing monitoring costs, thus making accounting earnings reports relevant for share valuation. This research uses data from four Southeast Asian countries, where such institutional ownership with three principals exists within pyramid-structure firms. We applied cross-sectional regression and the more robust panel regressions, and find the presence of institutional owners is significant enough to improve the value relevance of earnings reports of pyramid-structure firms. Improved value relevance of accounting reports may be attributed to the well-known close monitoring attribute of institutional owners. This finding, given institutional ownership, reverses the earlier findings of no significant earnings report effect released by firms with two principals namely, the controlling and the minority shareholders.

Keywords: Value Relevance, Pyramid-Structure Firms, Principal-to-Principal Conflict, Southeast Asian Countries

-Requested by author not to be published as full paper-

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The Availability of Sawn Timber and Sustainable Forest Management (SFM) Practices in Peninsular Malaysia

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ABSTRACT

Malaysia was recognized as one of the largest producer high qualities of tropical timber-based products especially sawn timber. Hence, Malaysia always subscribed to international best practices called Sustainable Forest Management (SFM) practices. This practice is to ensure the sustainability of forest resources, to protect and conserve biotimberical diversity and ensure the sustainable use of the genetic resources and enhance the full valuation of forest goods and services. This paper examines the economic impact on sawn timber production in Peninsular Malaysia complies with the scenarios under Sustainable Forest Management (SFM) practices. We employ ARDL Bound Approach Test used time series data from 1980 to 2012 has been obtained from Forestry Department Peninsular Malaysia and Department of Statistic, Malaysia. The scenario compromised of four scenarios; (i) reduced by 24-percent in harvested area, (ii) increased by 25-percent of the domestic price of commodities, (iii) increased 47-percent in input cost and (iv) incorporated all the three scenarios. The result reveals that, the production of sawn timber shown positive impact resulting of SFM practices.

Keywords: Sustainable Forest Management (SFM) Practices, Sawn Timber and ARDL Bound Approach Test

INTRODUCTION

Peninsular Malaysia has total area 13,184,629 hectare. From that, there are 5,788,523 hectare is dipterocarp forest which 4,893,613 hectare designated as permanent reserve forest, 304,907 as Stateland forest. Approximately, there are remaining 590,003 hectare for wildlife and other forest reserve (FDPM, 2012).

Forest harvesting for timber extraction in Peninsular Malaysia has been carried out since the late nineteenth century. Forest harvesting activities play a main

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role in socio-economic and rural development. According to Dato' Hamzah Zainudin Minister, Deputy of Plantation Industries and Commodities Malaysia said that timber-based industry has accounted for RM22.5 billion or 3.3 percent of Malaysia's exports. The industry has provided employment to over 300,000 people and is the fifth largest contributor to exports after electrical and electronics (38.5 per cent), palm oil (9.2 per cent), crude petroleum (6.8 percent) and liquefied natural gas (5.4 percent) (Anon, 2012).

According to FDPM (2012), the consumption of sawn timber by domestic market and international market mostly growth rapidly from 2003 to 2012. Based on the Figure 1, the consumption referred to domestic demand and export demand showed increasing trend despite several years of decline especially 2009. According to Amoah et al., (2009), the declining during 2008 and 2009 was happened due to 2008 global economic downturn resulting shaped the trend in export and domestic demand of sawn timber.

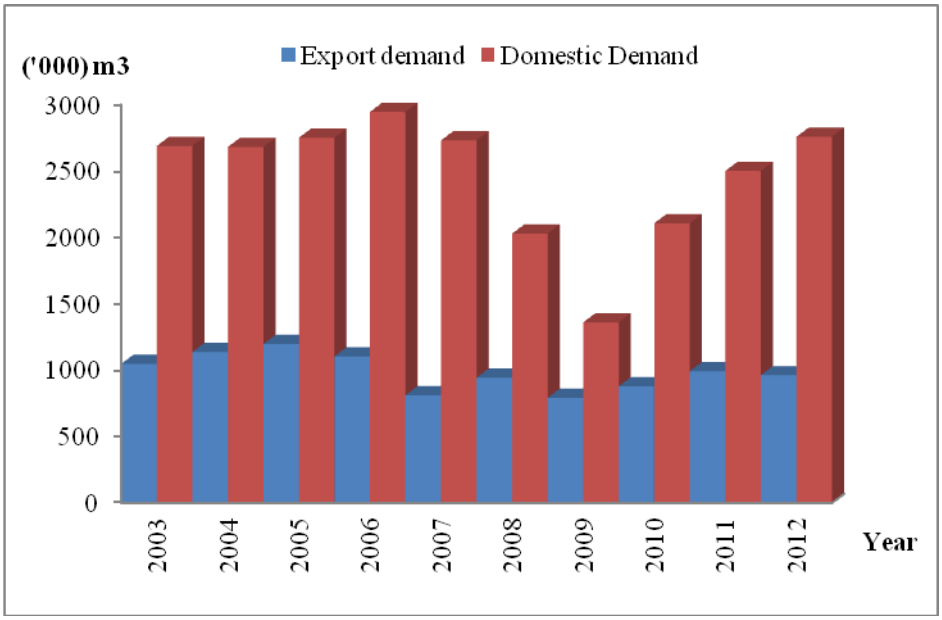


Figure 1 The consumption of sawn timber by domestic and international market

Since economic in growth in timber-based industry growth rapidly, forested area are open for area for harvesting to get the raw material for timber-based industry. According to FDPM, (2012) the forested area was decreasing from 5,901,389 hectares to 5,788,523 hectares. One of the reason contribute to the reduce factor was coming from area open for harvesting either for development or production of timber-based products.

Regarding on this scenario, government was take full responsibility by implementation of sustainable Forest Management (SFM) practices since 1990 (ITTO, 1990). During the Earth Summit declaration in 1992 at Rio, the first global policy on sustainable forest management, there are many countries have promoted and launched sustainable forest management with complying criteria and indicators (Wijewardana, 1998). In Peninsular Malaysia, the Malaysia criteria and indicators

(MC&I) were developed and prepared at the national and forest management unit for achieving sustainable forest management (Samsudin and Heyde, 1995).

The implementation of the MC&I would be effect the cost of forest harvesting. According to Ahmad Fauzi (2002), 24 percent reduction in harvested area due to SFM practices. Based on Figure 1.1, areas licensed for harvesting in Peninsular Malaysia was fluctuation with declining trends from the year 2003 onwards. The Forestry Department of Peninsular Malaysia has taken action by reducing area licensed for harvesting through the year to obtain a sustainable yield among the potential yield (Referred Figure 2).

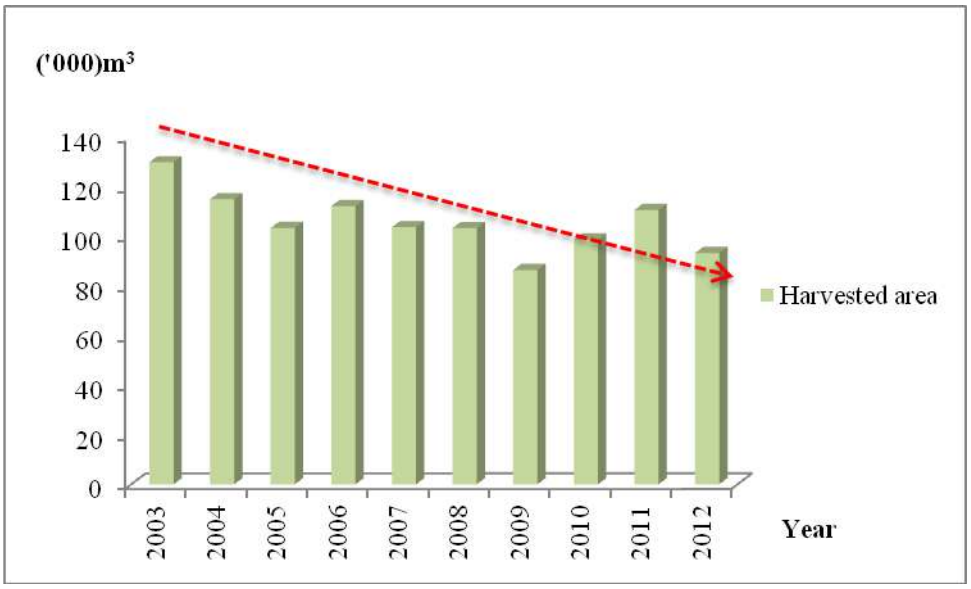


Figure 2 Harvested area in Peninsular Malaysia

Since the harvested area was reducing along the year, the quantity of timber produced from forests also diminishing. As the role of timber as raw material for sawn timber, resulting the sawn timber diminishing through the years resulting of shortage of availability of timber. According to (FDPM, 2012), the production of sawn timber was decrease from 2.93 million m^3 in 2003 to 2.79 million m^3 in 2012. Resulting on the shortage of timber as the main raw material of sawn timber, the production of sawn timber shown deficit from 2003 to 2012 (Table 1).

Table 1 Sawn timber Production, Consumption and Trade for Peninsular Malaysia (Million $m^{3)}$

Year	Total Sawn timber Production	Consumption		Total Sawn timber Consumption	Sawn timber Import	Surplus /deficit
		Domestic	Export			
2003	2.928	2.689	1.048	3.737	0.575	(1.38)
2004	3.200	2.682	1.137	3.819	0.665	(1.28)
2005	3.236	2.751	1.198	3.949	0.689	(1.40)
2006	3.019	2.945	1.104	4.050	0.746	(1.78)
2007	2.668	2.731	0.812	3.544	0.547	(1.42)
2008	2.387	2.029	0.944	2.973	0.395	(0.98)
2009	2.081	1.361	0.793	2.153	0.312	(0.38)
2010	2.659	2.107	0.879	2.986	0.294	(0.62)
2011	2.675	2.501	0.993	3.494	0.268	(1.09)
2012	2.790	2.758	0.963	3.721	0.295	(1.23)

Source: FDPM (various issues)

The shortage of timber production resulting from the increase in domestic demand for high value-added manufactured goods as well as the obligation of SFM practices become the main reason (Norini, 2001)

The challengers to adequate and sustainable production of timber as the main raw materials have been pivotal to the development of the sawn timber industry in the country. Production of sawn timber complying with the SFM practices, the price of timber-based products that are unpredicted and up to the high production costs become the main reason the economic impacts resulting of this scenario should be estimate in order to know its direct impact toward primary timber-based industry in Peninsular Malaysia.

LITERATURE REVIEW

A few studies have been done on the impact of Sustainable Forest Management (SFM) practices in timber-based product in worldwide. The effect on timber markets due to compliance with SFM practices is still open to debate. The capability of forest plantation to support our local timber industry is limited as the availability of land is not adequate especially in Peninsular Malaysia. Awang Mohdar and Ahmad Zuhaidi (2005) stated that, in spite of the high demand of timber worldwide and the upsurge in price over the years, forest plantation in Malaysia are developing at a very slow pace. So, the question is still being debated between the SFM and timber-based industry.

Some of the researcher believes in the long run there are the positive effects of SFM practices. Referring to the issue of timber production, Thang (2007) stated by 2020, the total timber production in Malaysia is expected to be increase to 32.47 million m^3. However, in Finland, Lepannen *et. al.,* (2002) found that the negative short run impacts of conservation on timber will be compensated in the long run by intensified use of the remaining timber stock.

But, Abdul Rahim and Mohd Shahwahid (2009) found that, both in the short run and long run analysis revealed that there are negative impacts of SFM practices on sawn timber production. While Mohd Shahwahid (1992) stated that Malaysian domestic processing of logs before exporting will generate high total direct and indirect output, value added, employment and government revenue to the economy due to greater technological sectorial linkages. In the case of Indonesia, Menurung (1995) stated that, the log export ban policies had indeed promoted the development of the plywood and sawn timber.

While in term of revenue, the country would have been better off without the ban. Revenue increases from exporting more plywood and sawn timber were less than the losses in the log exports. But, in the case of Japan, when Southeast Asia gave log export restrictions toward Japan, it gave high impact towards their plywood market. Tachiban (2000) stated that, in the raw log market both surpluses of producers and consumers decreased. While, in the case of plywood market, the consumer surplus in the Japanese plywood market increased and producer surplus of Southeast Asian countries increased.

When Woon (2001) done his study on the impacts of sustainable forest management on the timber-based industries in Peninsular Malaysia, he find that the within the next 5-7 years, the decreasing of timber-based industry mill is expected to be drastically reduced because of SFM practices and become worse it will be lost in in employment and forest revenue.

In term of green manufacturing practices among wood furniture manufacturers in Malaysia, Jegatheswaran and Karl Wagner (2009) revealed that, the adoption of green manufacturing practices within the Malaysian wood furniture industry is limited. These caused by the lack of price premium for green furniture and the absence of stringent legislations.

When the one of the author, Pakhriazad H.Z. from Malaysia with collaboration with Sakamoto, T, Shiba, M. from Japan (2010), they finds that the certified companies emphasized more on environmental aspects when purchasing timber materials compared to non-certified ones and by total of 67% of non-certified companies purchased or intended to purchase environment-friendly timber products (EWP). It's showed that, the demand towards green timber-based products is high among consumer's country.

There were various studies on timber-based industry along the years. This industry becomes crucial in the situation where Malaysia complying with SFM practices. The role of SFM practices is very important in order to sustaining Malaysian timber-based industry in Peninsular Malaysia.

METHODOLOGY AND DATA

This research work uses different methodology based on the purpose of the research. Based on this research, focus was given to identify the economic impact of Sustainable Forest Management (SFM) practices toward production of sawn timber Peninsular Malaysia. This study divides into two parts. First part was to develop goodness of fit of the model for each commodity by applying econometric methods known-as Autoregressive Distributed Lagged (ARDL) Bounds Test.

Second part was forecasting for the period 2013 until 2025 by using the estimated coefficient of each commodity, which is obtained from first part. Then the impact of Sustainable Forest Management (SFM) practices on timber-based product is determined. The forecasted results were tested using several policy scenarios which adopted in previous studies; (i) reduced by 24-percent in harvested area, (ii) increased by 25-percent of the domestic price of commodities, (iii) increased 47-percent in input cost and (iv) incorporated all the three scenarios.

The processes are presented in Figure 3. This illustration (3) provides a brief description of methodology framework that has been used throughout the study. The process was summarized in Figure 3.

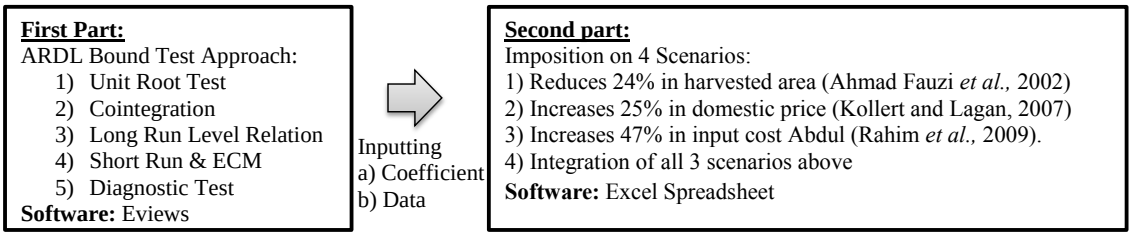


Figure 3 Methodology framework

Part 1: Production Model Estimation

Production model of sawn timber estimation specified as below:

$$InSB_t = \alpha_0 InDB_t^{\alpha_1} InAH_t^{\alpha_2} InWB^{\alpha_3} \varepsilon_t \quad (1)$$

$$InTSB_t = \alpha_0 + \alpha_1 InDB_t + \alpha_2 InAH_t + \alpha_3 InWB_t + \varepsilon_t \quad (2)$$

$$InTSB_t = \alpha_0 + \alpha_1 InDB_t + \alpha_2 InAH_t + \alpha_3 InWB_t + \alpha_4 InTSB_{t-1} + \varepsilon_t \quad (3)$$

Where:

$InTSB_t$ = Total production of sawn timber
$InDB_t$ = Domestic price of sawn timber
$InAH_t$ = Harvested area in natural forest
$InWB_t$ = Total wages paid in sawmill
$InTSB_{t-1}$ = Lag total production of sawn timber by one year
t = Years
ε_t = Error term
In = Natural logarithm

From the original model of sawn timber' production in Equation (1), we can transform it by using a log linear form to illustrate the ARDL modelling approach. Equation (3) estimates the total production of sawn timber. The relationship should be positively related to harvested area and price of sawn timber. TSB_t is the production of sawn timber as endogenous or dependent variable. DB_t is the price of sawn timber, which is an important variable in determining the quantity of sawn timber production. AH_t is the natural forested area open for harvesting in order to

produce timber as raw material of sawn timber as proxy for annual coupe. WB_t is a total wages paid by sawmills represent the input cost to the production cost. TSB_{t-1} is previous year sawn timber production. This variable was added in the model in favor to achieve a dynamic specification. We can incorporate lag effects and it is well known as partial adjustment model.

The ARDL approach involves estimating the error correction version of the ARDL model for variables under estimation (Pesaran et al. 2000). From Eq. (6), the ARDL model for production then can be written as follows:

$$\Delta LTSB_t = \alpha_0 + \gamma_1 LDB_{t-1} + \gamma_2 LAH_{t-1} + \gamma_3 LWB + \gamma_4 LTSB_{t-1} + \sum_{i=1}^{p} \beta_{1i} \Delta LDB_{t-i} + \sum_{i=1}^{p} \beta_{2i} \Delta LAH_{t-i} + \sum_{i=1}^{p} \beta_{3i} \Delta LWB_{t-i} + \sum_{i=1}^{p} \beta_{4i} \Delta LTSB_{t-i} + \varepsilon_t \quad (4)$$

Where Δ is the difference operator; p is lag order; and ε_t is assumed serially uncorrelated. Eq. (4) is called the error correction version related to the ARDL, since the terms with summation signs ($\sum$) represent the short run dynamics while the second part (term with μ's) corresponds to the long run (cointegration) relation. The null hypothesis in Eq. (4) is defined as H_0: $\gamma_1=\gamma_2=\gamma_3=\gamma_4=0$, indicating the non-existence of the long run relationship.

The advantages of using ARDL cointegration test has provided an alternatives to examine a long-run relationship without considering regarding variable are I(0), integrated at I(1) or fractionally integrated Johansen cointegration test need the all variables stationary before proceeding long-run relationship. However, ARDL cointegration model can be used regardless the conditions of stationary only. For the bound test there is reliable for the small sample size studies whereas both Engle and Granger (1987) test however Johansen and Juselius (1990) cointegration test are less applicable for small sample size studies.

Part 2: Forecasting

The forecasting process done from 2013 till 2025, the forecast of exogenous variables results namely as a baseline. However, since the second objective is to see the impact of Sustainable Forest Management (SFM) towards production of sawn timber, the baseline result is not sufficient to achieve the second objectives. So, as mentioned earlier, all the forecasted exogenous variables (baseline) have been imposed 4 scenarios to be adopted from previous study. The scenarios under SFM practices that were incorporated in timber-based products market model. All 4 scenarios were discussed below:

(i) Reduction by 24% in harvested area

This study on the percentage of the reduction in harvested area adopted from Ahmad Fauzi et al. (2002). This scenario reflected to the foregone revenue from buffer areas. The buffer areas referred to riverine area and steep area. The licensee contractors and harvesting crews also incurred an opportunity cost from

unearned timber income form buffer areas. Under Conventional Practices (CP), the forgone revenue from buffer areas only took 5.19% with RM216.26/ha.

However, under Malaysian criteria and indicators (MC&I) for SFM practices took 24.33% with RM2, 065.60/ha. This forgone revenue included forgone timber revenue incurred by the licensee and loss of royalty charges not collected by the Government. So, referred to impact of implementing SFM practices on timber harvesting (timber as raw material for primary timber-based products processing), a reduction by 24% in harvested area was taken as Scenario 1.

(ii) Rise by 25% in domestic price
This scenario reflected the domestic price market in Peninsular Malaysia by assuming that, the domestic price may fetch price premium. In other words, these simulated prices were the price of timber when best practice environmental resource management was adopted and when price distortion was remedied. According to Baharuddin (1995), Baharuddin and Simula (1996) and Oliver (2005), they claimed that consumer in Europe and USA were willing to pay between 2 to 30 percent more for sustainably produced certified tropical timber. However, according to finding by Kollert and Lagan (2007), carried out their study in selected Forest Management Units (FMUs) in Sabah, Malaysia and found that Sabah timber achieved a price premium average 2 to 56 percent. So, for this scenario, we take into account by imposing 25% of increasing of domestic price in average by range 2 to 56 percent.

(iii) Rise by 47% in input cost
This scenario reflected to the implementation of Sustainable Forest Management (SFM) practices toward forest area. It became adverse effect on the profitability on the practices of Sustainable Forest Management (SFM). This scenario borrowed from Abdul Rahim *et al.* (2009). They find that the cost of implementation of Sustainable Forest Management (SFM) practices by using logging methods namely 'Logfisher' instead of conventional logging much more higher than the other one. The incremental average per ha total cost rose by 46.8% to RM13, 573/ha. Referred to the wages as represented of input cost in this study, was impose rise by 47%.

(iv) Integration of all 3 scenarios above
This scenario represented of incorporated all the 3 scenarios above to see the integration between them. Each scenario was shown the changes and how each scenario tries to offset the others to make integrating changes.

Then, the discussion was discussed in term of graft and the comparative values reflected from each of the scenario. The tracing through the impacts were important**.**

Data Sources
This study employed annual data started from 1970 to 2012. All the data on production of sawn timber has been collected from Forestry Statistics Peninsular Malaysia. Historically, all the data about price of timber-based products and volume

were collected from Malaysia Timber Industry Board on monthly basis. Those data were submitted to Forestry Department of Peninsular Malaysia to be compiled and deemed correct by them and converted into annually data. Finally, all the variables are being transformed into natural log.

RESULT AND DISCUSSION

The result is presented into two parts of process as discussed previously. First part, the estimation of ARDL procedure was discussed briefly, followed by the forecasting process. On the first part, stationarity test was performed to the variables; ADF unit root test and Phillip-Perron unit root test. Secondly, the co-integration test has been estimated and then the results of the estimated models of the ARDL was presented and discussed. Finally, diagnostic tests were conducted to test the consistency and compatibility of the estimated model.

Afterwards, in the second part; forecasting using the coefficients (elasticities) was conducted for the period 2013 to 2025. As mention in earlier, in the second part of forecasting procedure, the impact analysis compromised four scenarios; (i) reduced by 24-percent in harvested area, (ii) increased by 25-percent of domestic price, (iii) increased 47-percent in input cost and (iv) incorporated all three scenarios.

First Part: ARDL Bound Test

a) Unit Root

This section will was report the estimation results of unit root test for each variable. Table 2, summarized the result of two unit root tests for endogenous variables, macro variables and price transmission variables under study. Most of the variables were stationary in the first difference at 1%, significant levels. In this case, most of the variables were non-stationary in levels. On the other hand, all series appeared to be stationary after first differencing, that is I(1). The result was consistent for both ADF and PP tests used in this study. Consequently, higher order of differencing was not required to transform the data into stationary process. The results implied that there is I(1) variables exist in the variables, with no existence of I(2) variables.

Table 2 Unit Root Test for Endogenous Variables

	Augmented Dickey Fuller (ADF)		Phillips Perron (PP)	
		Level		
	Intercept	Intercept and Trend	Intercept	Intercept and Trend
LTSB	-1.774643	-2.796481	-1.774643	-2.888236
LTDB	-3.826016*	-3.861350**	-2.806759*	-2.678098
LHA	-1.101416	-13.31621***	-2.909449**	-11.87045***
LWB	-4.975479***	-5.011444***	-4.975479***	-5.01144***
		First Difference		
LTSB	-5.947991***	-6.223817***	-5.931779***	-5.931779***
LTDB	-5.399168***	-5.298229***	-9.415549***	-9.282953***
LHA	-1.101416	-13.31621***	-2.909449**	-11.87045***
LWB	-7.071785***	-7.449866***	-20.83005***	-31.09326***

Note: *** and ** denotes significant at 1%, and 5% significance level, respectively.

b) ARDL Bound Test for Timber-Based Production Model

After determining the stationarity of all variables, the ARDL Bound test is implemented on timber-based production model. This test is to analyze long-run co-integration between the variables in the models. The results are shown in Table 3. From the results, production model of sawn timber, veneer and plywood are cointegrated as the test statistics are greater that upper bound of the bounds test critical values for each commodity. The F-statistic for production of sawn timber was 5.560 at 5% significance level, respectively. Hence, it indicates that, production of sawn timber models are co-integrated and validate a long-run correlation among the variables.

Table 3 ARDLBound Test

Variables: LTSB LDB LHA LWB		
	Critical Value	
Computed F- statistic: 5.560[0.002]**	Lower Bound	Upper Bound
1% significant level	5.333	7.063
5% significant level	3.710	5.018
10% significant level	3.008	4.150
	Diagnostic Test	
LM test (1)	4.587[0.332]	
Breuch Pagan test	1.335[0.248]	
Ramsey RESET test	2.156[0.152]	
Cusum test	Stable	
Cusum Square	Stable	

The F-statistic from Wald coefficient test is used to test the joint coefficient of the lagged variables in the ARDL model. The critical values were referred from table case 3: unrestricted intercept and no trend, Narayan (2005), page 1988. There are 3 explanatory variables for each production model. P-value for diagnostic test in parentheses […].***significant at 1%, **significant at 5%, *significant at 10%.

c) ARDL Coefficient for Long-Run Elasticity for Sawn timber Production Model

The econometric diagnostic is provided in Table 4. The coefficients are the production elasticities of the sawn timber models. The coefficients for all the variables show the correct signs and consistent with the theory. Among the production of sawn timber, harvested area (LHA) for production of sawn timber was highly significant with 5% level. The result indicated that, harvested area (LHA) was significant determinants on production of sawn timber (LTSB). This is believed to be direct impact of timber harvesting activities as raw material in sawn timber making.

Table 4 ARDL Coefficient for Long-Run Elasticity

Production of Sawn timber		
Lag structure		(1,0,0,0)
Dependant variable		$LTSB_t$
Independent Variables	Coefficient	t-Statistic (P-value)
LDB_t	0.333	1.070[0.292]
LHA_t	1.273**	2.133[0.040]
LWB_t	-0.015	-0.360[0.721]
Constant	0.580	-0.244[0.809]
R-Squared: 0.8534		
R-Bar-Squared: 0.8371		

Notes: P-value for diagnostic test in parentheses […]. ***significant at 1%, **significant at 5%, *significant at 10%.

According to Sangkul (1995), about 51% of sawn timber recovery from 20-year-old plantation teak trees with a diameter of 9-20.5 cm in Thailand. However, by improvement in silviculture activities on Teak tree, the sawn timber recovery for logs was in range 66.8% to 77.8% respectively (Tulacidas et. al. 2009). Furthermore, based on Jamal and Mohd Shahwahid (1997), started 1992 onward, the timber production has been decline due to the practice of Sustainable Forest Management (SFM). As a result, harvested area becomes one of the determinants of production of sawn timber.

According to economic theory, its own price always has a positive relation with production. Production will increase as price increase and vice versa. Domestic price of sawn timber (LDB) was revealed not become significant determinant of its production. This result contradict with Hashim (1998) quoted from Ariffin (1994) who studied production and demand relationships for hardwood timbers in Indonesia found that timber price does influenced the production of hardwood timbers.

R-squared values obtained from all equations were about 0.8534. It means that 85% of the variation in sawn timber availability is explained by all its explanatory variables.

d) Error Correction Representation of ARDL Model

After estimating the long-run coefficient of the variables, the Error Correction Model (ECM) has been estimated to determine the existence of the short-run relationship. ECM is the measurement for the speed of adjustment, which when the dependent variable adjusts to change in the independence variables before converging to the equilibrium level. The ECM_t for production model of sawn timber was significant at 5% which can be concluded that the short-run relationship exists among the variables. The estimates coefficient of ECM_t for production model of sawn timber is -0.236 respectively. The result suggested that, convergence to equilibrium of all independence variables for total production for each commodity in one year is corrected for about 23.6% respectively in the next year (Referred Table 5).

Table 5 Error Correction Representation of ARDL Model

	Production of Sawn timber		
Variables	Coefficient	Standard Errors	t-values
ΔDB_t	0.079	0.069	-1.137
ΔHA_t	0.301**	0.120	2.504
ΔWB_t	-0.004	0.009	-0.356
Constant	-0.519	2.052	0.253
$ECM_t(-1)$	-0.236**	0.072	-3.325

Notes: P-value for diagnostic test shown by; ***significant at 1%, **significant at 5%, *significant at 10%

e) Diagnostic Test

In addition, the estimate regression for production of sawn timber models had undergone the diagnostic tests to analyze the stability of the model. The tests that have been used are; Breuch-Godfrey serial correlation LM tests (testing for first order autocorrelation), Ramsey RESET test, CUSUM test and CUSUM square test. Based on the tests employed, all the regression models successfully obtained the same results. Firstly, the residuals of the models are normally distributed and free from autocorrelation problems in first order autocorrelation. Furthermore, the residuals are all homoscedastic. Moreover, the Ramsey RESET test concludes that the models are in correct functional forms. Lastly, the CUSUM and CUSUM square test showed the models are stable in 5% significance level. The summary of the diagnostic tests were incorporated in Table 6.

Table 6 Diagnostic Test

Type of Test	Sawn timber
LM test	0.074[0.788]
Breuch-Pagan	0.121[0.730]
Ramsey RESET test	0.078[0.782]
Cusumtest	Stable
Cusum Square	Stable

Notes: The p-value for diagnostic test in parentheses […].***significant at 1%,**significant at 5%,*significant at 10%

Forecasting of Production of Sawn timber

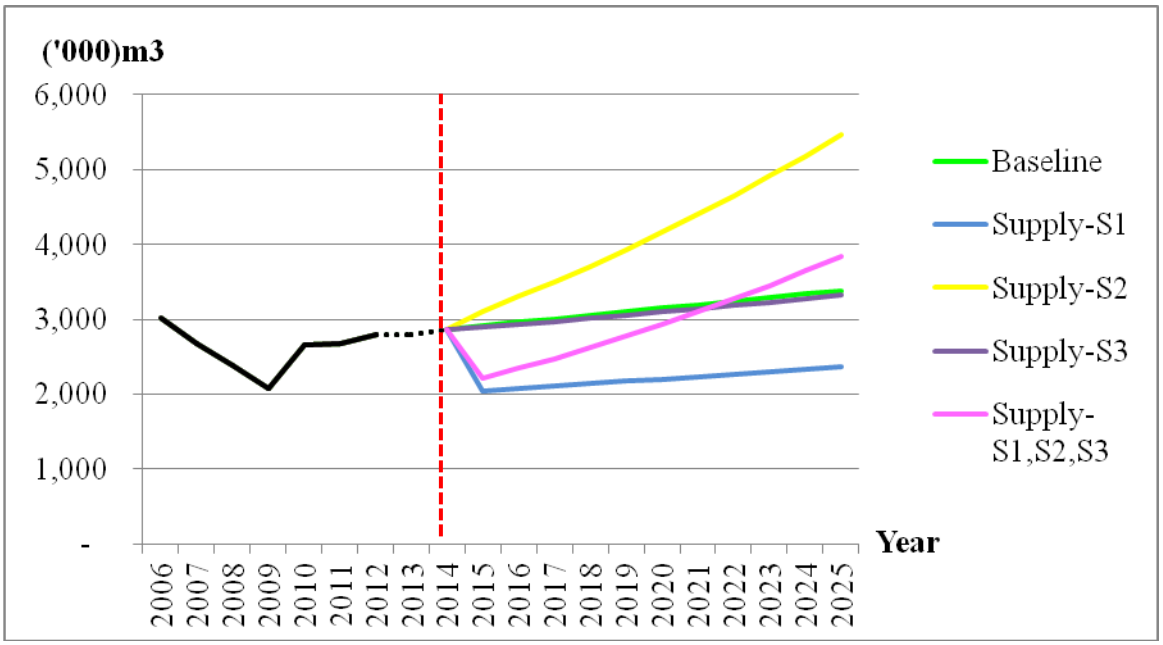
After the coefficient gathered from first procedure (ARDL) method, the second procedures was forecasting of timber-based commodities. In this procedure as discussed previously, each exogenous variable for each commodity was forecasted for 12 years from 2013 until 2025. However, the discussion and the changes due to the implementation of some scenarios only discussed from 2013 to 2020. According to McHugh and Sparkes (1983), in relation to the operation of many profit-seeking firms that in highly competitive markets, these firms put more emphasis on short-term than on the long-term forecasts. In contrast to short-term forecasts, long-term forecasting is seen as difficult and challenging for the reasons that the future is not simply and extrapolation of the past because of technological and other changes. While Makridakis (1996) supported with facts that, humans in attempt to profit from and influence what will happen, can and do change the course of the future events to achieve desired goals. Moreover, there would be changes in exogenous variable due to policy changes through the time.

As stated earlier the impact analysis compromised of four scenarios; (i) reduced by 24-percent in harvested area, (ii) increased by 25-percent of domestic price of commodity, (iii) increased 47-percent in input cost and (iv) incorporated all the three scenarios. The scenarios under SFM practices were imposed on 2015. Furthermore, here would be no major changes in consumer perceptions and behavior and no major technological development would undermine of improve the competitiveness of timber-based products or replaces them in their final uses. In addition, the historical data plot from 2006 to 2012, the fluctuation trend especially in 2008 was happened due to 2008 global economic downturn (Amoah et al., 2009) resulting shaped the trend in production of sawn timber.

The discussion on production of sawn timber shown as follows:

Figure 4 shows the time plot of the production of sawn timber from 2006 to 2025. All four scenarios were imposed on forecasted production in 2015 and were producing 5 lines including baseline. Based on the Figure 4, the production of sawn timber forecasted for each line shows an increasing trend until 2014. Once the shock imposes on 2015 (start from the red boundary line), the production forecasted line for baseline (light green line), scenario 2 (yellow line) and scenario 3 (purple line) shows increasing trend.

But, the production forecasted line for scenario 1(blue line) and scenario 4 (pink line) shows decreasing trend, however in 2016, all the line shows an increasing trends. As predicted, the each line represents each scenario shows an increasing trend, however the line with incorporated with 3 scenarios (pink line) show the result forecasted better than the other two scenarios and also the baseline. In reality, the policy involve was the combination of a few scenarios. From that, each scenario can be seen as the offset of each scenario to get the best forecasted result.



Notes: The black line referred to available data while the dotted line referred to unavailable data. The vertical line referred the year start imposed the scenario.

Figure 4 Forecasting Result on Production of Sawn timber due to SFM Practices for Peninsular Malaysia

Table 7 Average Forecasted Values Due To SFM Practices for Peninsular Malaysia

Year		**2015**			**2020**		
Variables		**TS**	**Changes**	**%**	**TS**	**Changes**	**%**
Unit		**(million) m^3**	**(million) m^3**	**%**	**(million) m^3**	**million) m^3**	**%**
Baseline Scenario		2.921	N.A	N.A	3.151	N.A	N.A
Scenarios % changes due to SFM practices	S1-Reduction by 24% in harvested area	2.043	(0.877)	(30)	2.204	(0.946)	(30)
	S2-Rise by 25% in domestic price of sawn timber	3.112	0.191	7	4.161	1.010	32
	S3-Rise by 47% in input cost	2.899	(0.022)	(1)	3.097	(0.053)	(2)
	Incorporated with S1,S2,S3	2.213	(0.708)	(24)	2.932	(0.219)	(7)

Note: S1, S2 and S3 referred Scenario 1, Scenario 2 and Scenario 3

In this impact analysis (see Table 7), under scenario 1, where the harvested area was reduced by 24%, the total production of sawn timber decreased by 30% from 2.921 million m^3 to 2.043 million m^3. The percentage changes of decreasing of total production were same in 2020 by 3.151 million m^3 to 2.204 million m^3 because along the time we were focus on quality of production instead of quantity of production by same size of harvested area. Differently under scenario 2, when the domestic price of sawn timber rose by 25%, total production of sawn timber was increased by 7% from 2.921 million m^3 to 3.112 million m^3.

However, the percentage change was kept increasing in 2020 by 32% from 3.151 million m^3 to 4.161 million m^3. According to basic economic theory, the price always has a positive relation with production. Production will increase as price increase and vice versa. On the other hand, under scenario 3, when the input cost rose by 47%, total production for 2015 and 2020 was decreased by 1% and 2% from 2.921 million m^3 to 2.899 million m^3 and from 3.151 million m^3 to 3.097 million m^3 respectively. After incorporating by three scenarios, total production of sawn timber was decreased by 24% from 2.921 million m^3 to 2.213 million m^3. However, after 5 years the percentage change of total production of sawn timber becomes smaller by 7% from 3.151 million m^3 to 2.932 million m^3.

The forecasted production of sawn timber is not affected by any scenarios under SFM practices. Based on the forecasted result of sawn timber, it shows the trend for production of sawn timber is constantly increasing in trend even though after the imposition of scenarios under SFM practices. It indicates that the production of sawn timber does not affected by the SFM practices. The result suggested that the producers are still producing sawn timber even after imposing the scenario under SFM practices. They are willing to bear the increasing costs and the shortage of the availability of raw materials. This is due to the demand of sawn

timber from both domestic and international markets. According to Shamsudin and Othman (1995), Malaysia plays a dominant role in international sawn timber trade. In 2012, Malaysia is one of the major suppliers of hard wood sawn timber other than Brazil and Cameron which cause a rapid construction activity in US (UNESCO/FAO, 2013). In addition, according to Dr Jalaluddin Harun, Director General of the Malaysian Timber Industry Board (MTIB), in an interview with the Top 10 of Malaysian Programs on "A Driving Force in the Malaysian Timber Industry", he claimed that Malaysia is the largest exporter of tropical sawn timber and plywood in the world. In addition, he claimed that, timber products are a significant contributor to the economy of this nation (Anon, 2011).

CONCLUSION

The first objective of this study is to develop a model and estimate the economic determinants of timber-based products market that incorporate external costs of timber harvesting activities in the Peninsular Malaysia forest. Based on the empirical result, harvested area becomes a determinant of production of sawn timber. This indicate that when government reduce the harvested area due to SFM practices, production of sawn timber would be affected as the timber as raw material coming from our forest. This study was similar to the Noraida and Abdul Rahim (2014) and Schwarzbauer and Rametsteiner (2001) referring to harvested area become significant impact on timber-based production. The diminishing in harvested area gave a decrease in harvested levels gave immerse impact on the timber-based product market rather than an increase in the operational costs.

For the forecasting the production of sawn timber was constantly increasing trend even though after imposition the scenario under SFM practices. It indicates that, the production of sawn timber has been successfully grown due to the SFM practices. The result suggested that, producer still produce the sawn timber after impose the scenario under SFM practices. They are willing to bear the increasing cost and the shortage of the availability of raw material from domestic timber supply and import raw material from outside. This is maybe due to the demand of sawn timber from domestic and international market. According to Shamsudin and Othman (1995), Malaysia plays a dominant role in international sawn timber trade. In addition, sawn timber is well anchored in Malaysia as an on-going subsector of the timber industry.

As whole, the changes in the economic and policy environment affect the sawn timber sector in various ways. However, as a concluding remark, the feedback and importance of the sawn timber sector to the economy and society should also be mentioned. Significant changes in the sawn timber sector will affect the economy, e.g., the importance of timber-based industry to Malaysian economic in rural development, in shaping income distribution, and in generation of export earnings. It can be seen from the strategies (capitalizing on core strengths in forestry and timber-based products) of Peninsular Malaysia, that timber-based industry is gaining more importance in overall strategies for transition economies.

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Assessing Social Responsibility towards Satisfaction and Trust in the Five-Star Hotel Brand

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ABSTRACT

Competing on branding has started to become a priority for the Five-star hotel players. This study used social responsibility as a branding determinant to measure against satisfaction and trust. Social responsibility measurements are comprised of judgmental on action, moral and social values, concern for environment, involvement with local communities and corporate giving for worthy causes. Self-reported questionnaire that consists of four sections with the scale of seven-point was deployed to tap the respondent's feedback. A total of 300 respondents participated in the study. It is found that perception towards hotel social responsibility is significant determinant for predicting satisfaction and trust. However the role of brand in the social responsibility relationship is insignificant and need further improvement. In this study, satisfaction is found to be an influence determinant that associate well with trust, and also significant in mediating social responsibility and trust relationship.

Keywords: Social Responsibility, Brand, Satisfaction, Trust, Hotel

INTRODUCTION

Building a strong brand in the market is the goal of many organizations because of the benefits that strong brand provides to a firm. For hotel industries, it allows less exposure to aggressive marketing actions and brand extension opportunities. For that reason, many firms need to expand its brand to ensure customer always attached to them. The brand served to identify a product and to distinguish it from the competition and therefore resulting in a need to create a strong and distinctive image (Kohli and Thakor, 1997).

Building brand image has getting tougher with the advancement of technology that offers several mediums to transfer the message. It is more worried with the growth of generation 'X' and 'Y' which is believed to be a highly technological savvy that are willing to find ways to get the right information.

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Branding is not only the way people think about the image, symbol or logo but to the intangibility benefits that the brand provides. In the service industry, the ability of the company to deliver the message and services to match the customer preferences with right timing provide added value in matching the customer satisfaction. However the right segmentation must be tackled in order to get the brand well-accepted by the customer.

As depicted in Table 1, tourist arrival has improved steadily for the past ten years. Similarly, Five-star hotel segment in Malaysia also had progressed well in the past five years especially in Klang Valley with additional two hotels built in 2009 and another 12 had been completed in 2011 bringing the total number of 47 five-star hotels in Klang Valley (JLW Research, 2009). The stiff competition prompts the new hotel to cater to the lifestyle preferences of various traveller segments that had emerged in recent years (Zhang, 2008). As such new hotel brands focused on developing an emotional and long-term relationship with travellers. The new hotel brands applied the concepts of self-expression, enhance identity, and achieve personal fulfilment that resembles the look, feel, and comforts aligned with customer's self-image and values (Zhang, 2008).

Table 1 Statistic of Tourist Arrival and Receipts to Malaysia, 2000-2013

YEAR	ARRIVALS	RECEIPTS (RM)
2013	25.72 Million	65.4 Billion
2012	25.03 Million	60.6 Billion
2011	24.7 Million	58.3 Billion
2010	24.6 Million	56.5 Billion
2009	23.6 Million	53.4 Billion
2008	22.0 Million	49.6 Billion
2007	20.9 Million	46.1 Billion
2006	17.4 Million	36.3 Billion
2005	16.4 Million	32.0 Billion
2004	15.7 Million	29.7 Billion
2003	10.5 Million	21.3 Billion
2002	13.2 Million	25.8 Billion
2001	12.7 Million	24.2 Billion
2000	10.2 Million	17.3 Billion

Source: Tourism Malaysia (2014)

The effect of having a strong brand is potent that the brand owners will be able to charge a higher price while benefiting from short-term price reductions to cater to price-sensitive consumers (Sivakumar & Raj, 1997). Previous scholars proved that brand significantly impact firm's performance, lower marketing cost, and develop deep and meaning relationship. For brand image, the logo acts as the primary visual representation of a brand's general image and meaning. The main purpose of this study was to develop and test the brand image scales that comprise of brand social responsibility and the relationship with satisfaction and trust. These premises were important because strong brand lies in what customers see, feel, hear

and learn and in turn form trust over period of time. To sum up, the brand image scales were examined to see the effect against customer's satisfaction and, in turn, how satisfaction affects trust of the hotel brand.

LITERATURE REVIEW

History of Hotel in Malaysia

In Asia, the history of the hotel was rooted in conjunction with the opening of Suez Canal in Egypt that allowed the travelling of steamship to Asia. "Galle Face" was the first hotel that built in Asia specifically in Colombo, Sri Lanka in 1864 (Kastrone, 2009). It was built with Victorian architecture that facing seafront of the famous Galle Face Green. In Malaysia, the first hotel was built in Penang with the name Eastern and Oriental (Kastrone, 2009). It was the third hotel opened in Asia after Galle Face Sri Lanka and Mandarin Oriental Bangkok. Eastern and Oriental Penang was built in 1885 slightly later than Mandarin Oriental Bangkok which was built in 1876. During that time, Eastern and Oriental Hotel was also pronounced as "The Premier Hotel East of Suez" boasting more than 100 rooms (Eastern and Oriental, n.d). Among other facilities were 40 adjoining rooms, hot and cold running water, individual telephones, and a 902-foot seafront that dubbed as "the longest of any hotel in the world."

In Kuala Lumpur, first modern hotel built was Majestic Hotel in 1932. It was not built intentionally but converted from European mansion style that used by Germany consulate into a luxury hotel. The original idea was to turn it into apartments but due to no buyer, the hotel was operated as a luxury hotel (Selima, 2012). There was no significant development of the hotel after then until 1952 with the introduction of Innkeepers Act 1952 (Shaari, 2009). The Innkeepers Act 1952 recognized the obligations of accommodation operators to their guests. It came to the effect specifically on May 29th, 1952

Majestic Hotel has ceased operation after the Japanese occupation in 1945 because the British High Commissioner was refused to leave the building. Another international hotel was built in 1957 with the name of Federal Hotel. Two years after that, another hotel was built with the name Merlin Hotel. During 1970's, there were several international brand penetrated Kuala Lumpur market like Hilton in 1972 and two more hotels Equotarial and Holiday Inn in 1973. Hilton Kuala Lumpur was the tallest building in Malaysia and even its Paddock Super Club and Lounge overlooking the then race course of Kuala Lumpur (Selima, 2012).

Service Industry

Service industry is considered as the tertiary industry and encompasses a number of economic sectors that are not concerned with the production of goods (Lovelock, 1983). Literally, service industry means "an industry made up of companies that primarily earns revenue through providing intangible products and services" (Service, n.d). The word intangible refers to things that cannot be felt by hands but can be seen or heard. Service industry is a market place under a generic service umbrella that comprised of distinct segments such as financial services and

telecommunications (Lovelock, 1983). Apart from that, Dittmer (2002) added several more segments such as law, interior decorating, dentistry, accounting, nursing, automobile repair, foodservice, hairdresser etc. In contrast, service industry is classified based on four attributes specifically intangibility, heterogeneity, perishability, and inseparability of production and consumption (Zeithaml, Parasuraman & Berry, 1985).

Hospitality

The term hospitality derived from a Latin word *hospitare* that means "to receive as a guest" (Dittmer, 2002). Similarly, Powers and Barrows (2006) noted hospitality derived from *hospice*, the term for a medieval house of rest for travellers and pilgrims. Semantic definitions of hospitality found in the dictionary stated as 'the friendly and generous reception and entertainment of guests, visitors, or strangers' (Hospitality, n.d). In relation to the previous mentioned, Bauman (1990, p.63) stated "the world we live in seems to be populated mostly by strangers; it looks like the world of universal strangerhood. We live among strangers, among whom we are strangers ourselves, in such a world; strangers cannot be confined or kept at bay. Strangers must be lived with." Hence, Mackenzie and Chan (2009) defined hospitality as "the act of kindness in welcoming and looking after the basic needs of guests or strangers, mainly in relation to food, drink and accommodation."

Brand

The term "brand" has been widely used by the marketers to show the importance of a name or a symbol to represent an organization. The usage of brand can be traced back in early 1760's by referring to the most cited father of the modern brand, Josiah Wegdwood (Almquist & Roberts, 2000). Wedgwood placed his name on his pottery and chinaware to indicate his state-of-the-art factories that resemble the quality of the products. Another name that is popular in the context of brand is French fashion designer, Rose Bertin that embraced France's new styles of fashions as appreciation towards the country 18th century marked a massive development of the knowledge, procedures, and theories within branding where England and France be the catalyst in this domain (Farquhar, 1995). In this era of no mass media advertising, the influence of royal endorsements, the nobility, foreign ambassadors, architects, and painters were vital to create an aura around the name of the company that enable the brand a value far beyond the attributes of the product itself as adopted by Wedgwood (Almquist & Roberts, 2000)

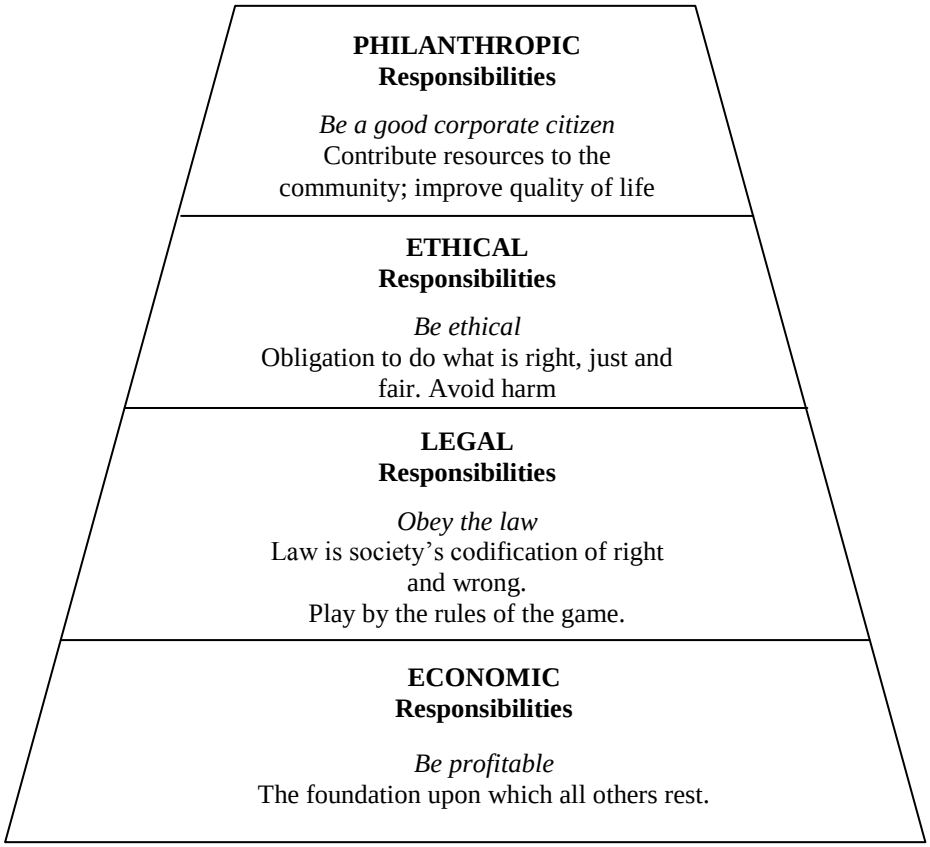
In the modern era, the most widely adopted definition of brand comes from The Marketing American Association (1960), "A name, term sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors". The definition of brand is refined by Aaker (1991, p7), "A distinguishing name and/or a symbol (such as a logo, trademark, or package design) intended to identify the goods or services of one seller, or a group of sellers, and to differentiate those goods or services from competitors who would attempt to provide products that appear to be identical." Almquist and Roberts (2000) defined brand as the sum of all the information about a product, a service, or a company that is communicated by a

name or related identifiers such as logo or other visual cues. The word "logo" often used to describe brand because it enabled the efficient identification of individuals, groups or movements, or in other words, convey key information about the brand stands for (Park et al., 2013).

Today the brand has become the sign that is consumed from having been a mere marker that identifies the producer or the origin of a product (Salzer-Morling & Strannegard, 2004). That means brand is no longer concerned with the production and consumption of signs or a marker of identification, but also a product in itself. Schmitt (1999) noted that brands are not just identifiers but represent products, communications, and marketing campaigns that dazzle customer's senses, touch customer's heart, and stimulate thinking. Kitchen and Schultz (2001) believed that brand is a collection of perceptions in the mind of consumer thus providing value of reducing risk, saving time and providing reassurance. Salzer-Morling and Strannegard (2004) added brand is a concept that expresses a particular set of values in an effort to position the brand as unique and valuable.

Social Responsibility

Social responsibility programs or commonly regard as corporate social responsibility have becoming steadily growing elements that recognized in the corporate marketing world. As mentioned by Jackson and Apostolakou (2010), social responsibility has become known as a wider strategy for a firm to develop and protect their reputation and at the same time improve performance. Literally, social responsibility refers to generally accepted beliefs or values that encompass a broad range of normative obligations (Enderle &Tavis, 1998). Blowfield and Frynas (2005) described social responsibility as an umbrella term for a variety of theories and practices that recognize the following: (a) that companies have a responsibility for their impact on society and the natural environment, sometimes beyond legal compliance and the liability of individuals; (b) that companies have a responsibility for the behaviour of others with whom they do the business; and (c) that business needs to manage its relationship with wider society, whether for reasons of commercial viability or to add value society.



Source: Carroll (1991)

Figure 1 The Pyramid of Corporate Social Responsibility

Carroll (1991) introduced The Pyramid of Corporate Social Responsibility (*Figure 1*) that represents four components of corporate social responsibility that is economic, legal, ethical and philanthropic. According to him, the basic motives for business were to act as economic entities that are designed to provide goods and services to societal members and make an acceptable profit in the process. Next, he regards business must act as legal entities in the view that they symbolize central notions of fair operations and act by the rules of the game. After that, Carroll (1991) included ethical as the third layer in the pyramid that embody the standards, norms, and expectations that are not codified by law as the first two layers. He explained that ethical responsibilities reflect a concern for what consumers, employees, shareholders, and the community regards as fair or in keeping with the respect of protection of moral rights. Finally, Carroll (1991) included philanthropic as the upper layer of the pyramid that indicates the business responses to society's expectation of good corporate citizens. The responses are in terms of participations, acts, or programs that promote human welfare or goodwill.

Through the review of the social responsibility subject, majority of the studies refer to corporate social responsibility rather than business domain as mentioned by Reich (2002). Webb, Mohr and Harris (2008) pointed out that social responsibility has started to be treated as societal marketing concepts that can

maintain or improve society's well being and simultaneously can be offered to a target market. In relating to this, several scholars has taken initiative to measure social responsibility as brand image (Reich, 2002), brand management (Mark-Herbert & Schantz, 2007), brand value (Chu and Keh, 2006), brand insurance (Werther & Chandler, 2005), and brand equity (Smith, Gradojevic & Irwin, 2007).

Table 2 Social Responsibilities Construct

Measurement	Source
Judgmental on action	Public opinions towards corporation's willingness to sacrifice profit for ethical initiatives.
Moral and social values	Voluntarily and discretionary decisions for human welfare.
Concern for environment	Developing environmental friendly products and protecting environment through employee's training (initial) and funding (external).
Involvement with local communities	Promoting values through involvement with charitable institution, nongovernmental agency or customer relation.
Corporate giving for worthy causes	Internal structures for monetary gifts or grants through established corporate foundation.

Source: Amato & Amato (2007), Ferrel (2004), Carrol & Shabana (2010), Erdogan & Baris (2007), Leland, Gulas & Gruca (2009), and Reinhardt & Stavins (2010)

In relation to Table 2, Mohr, Webb and Harris (2001) noted that social responsibility is a commitment to reduce, minimize or eliminate the dangerous effects to society, at once improve, maximize and initiate positive impact in the long run. Kitchin (2003) stressed that community and individuals are the "society" not because of the primary brand relationship but how they force themselves to the company's radar. Vassileva (2009) agreed that an organization must not only socially responsible to meet basic obligations and respond to societal demands, but must also actively pursues long-term goals that are good for society even they are still not in demand yet.

Min-Young, Fairhurst and Wesley (2009) noted that the organizations need to integrate social and environmental concerns into their daily operations. Such practices suggested are contributing money or time to local charitable institution, being environmentally conscious, and acting ethically towards internal and external stakeholder (Carroll, 1991), recycling, waste reduction, or the use of environmental-friendly products (Vassileva, 2009) and concern for pollution that cause depletion to the ozone layer and global warming (Kitchin, 2003). Vassileva (2009) added that the dilemma faced by the business is to act on the public demand while at the same time remain profitable.

METHODOLOGY

The main idea for this research was to measure the association of predictor variable that represented by brand social responsibility towards the outcome variable

represented by brand loyalty. From the review of the branding study, most of the studies deployed causal study in order to measure the significant of several dimensions towards outcome determinant. This research used quantitative method and cross-sectional study since the phenomenon has been taken by other scholars from different industry. Furthermore the data was only collected once over a period of two months around Klang Valley.

For the initial phase of the study, an intensive literature search was executed to understand the application of social responsibility in the satisfaction and trust framework. After that, a series of interviews were conducted to a pool of marketing and operation manager to get their opinions regarding the determinants selected in the study. The inputs from the managers were important because it validates the measurement chose in the study. Five-star hotel was chosen as the setting of the study because of its nature that fit the measurement in the study

Convenient sampling was deployed with the sample size of 400. The rationale behind this decision was based on the findings by Leland, Gulas and Greca (1999) that stated nowadays almost all corporations communicate the social responsibility in many platforms such as annual report, official website, press release and other printed media. Furthermore, every international corporation practices either one of the philanthropy motives specifically (i) focus on the business objectives linked to the donation and examines the potential rewards and benefits gained; and (ii) focus on the social responsiveness out of feelings of sympathy, empathy, feeling sorry and with the aim of trying to help others. For that reason, 20 international hotels were selected as the entity in the first item in the study to reflect respondent's experience staying in the five-star hotel in Malaysia. Furthermore, this number did not violate the minimum sample size as normally applied by marketing researches (Krejcie & Morgan, 1970).

For field survey, self-administered instrument were distributed personally to the respondents by research assistants that voluntarily help the researchers in the field survey. The research assistants were trained one week prior to the field survey in order to ensure better understanding towards the measurement in the study. However, the researchers had calculated the risk in employing research assistants in the field survey as it may result in slow response rate and failure of getting the right respondents. In order to eliminate this risk, one of the researchers was on site to deal with aforementioned issues.

The questionnaire consisted of five sections specifically (i) Section A: Examine respondent's attitudes towards SR; (ii) Section B: Examine satisfaction towards social responsibility and (iii) Section C: Examine trust towards hotel brand and (iv) Section D: Respondent's profile. In order to quantify the respondents for the study, another rule established for the research was the eligibility of the respondents to participate, and the use of screening question. To be exact, only those exceed 18 years of age and had experience staying in the selected Five-star hotel were fit to be the respondents.

The researchers used seven-point likert scale in measurement as stated by Sekaran and Bougie (2010), likert-scale is used to measure the degree of agreement towards a statement presented in the questionnaire. Furthermore the seven-point likert scale has a good reliability in measuring the opinion rather than rating. On the

other hand, the scale of "7" denotes well agree with statement; "6" denotes expectation is met. On the bottom scale, "2" denotes disagreement with the statement while "1" means serious problems with the statement.

RESULTS AND FINDINGS

After two months of field survey, a total number of 300 valid responses received with the response rate of 75 per cent. Based on the figure stated in Table 3, 'female' dominate the gender category (*n*=174) as compared to 'male' (*n*=126). Based on the distribution, it is consistent with the ratio of population in Malaysia. Furthermore, it is observed during the field survey that female respondents were more interested to participate as compared to male respondent. Through literature search, it is found that female dominates majority of the study in the marketing research whereas male dominates technology-based research. For educational level, the tabulation of respondents is seen saturated within 'undergraduate' and 'postgraduate'. Based on the interviews that had been undertaken earlier, this result is consistent with the views given by the managers of the five-star hotel. Apart from that, majority of the respondents were youth at the age of '18 – 39 years' (*n*=259), and 'single' (*n*=207).

Table 3 Respondent's Profile

Variables	*n*	%
Gender		
Male	126	42.0
Female	174	58.0
Age		
18-39 years	259	86.3
40-59 years	39	13.0
60 years and above	2	0.7
Marital Status		
Single	207	69.0
Married	93	31.0
Education level		
Secondary school	42	14.0
Undergraduate	116	38.7
Postgraduate	122	40.7
Others	20	6.7

On the stay and visit information, majority of the respondents stayed "3 nights and below' (n=224) whereas only 1.3 per cent stayed more than 10 nights *(refer Table 4).* This is in line with Bhuiyan, Siwar and Ismail (2013) that stated majority of the travellers in five-star hotel is a "short stay" traveller. Based on the frequency of stay, two dominant groups is seen where it is noted that majority of the Five-star hotel guests were either 'first-timer' or stayed for the second time. For the purpose of visit,

majority of the respondents stated that they stay in the hotel because of 'holiday/pleasure' (*n*=183).

Table 4 Stay and Visit Information

Variables	*n*	%
Length of Stay		
3 nights and below	224	74.7
4-6 nights	62	20.7
7-9 nights	10	3.3
More than 10 nights	4	1.3
Purpose	183	61.0
Holiday/ Pleasure	68	22.7
Business/ Meeting	28	9.3
Visiting Friends/ Relatives	7	2.3
Shopping	9	3.0
Entertainment	1	0.3
Food and Culture	4	1.3
Others		
Frequency		
First time	124	41.3
Second time	111	37.0
Third time	35	11.7
More than three times	30	10.0

In marketing research study, the role of reliability analysis usually performed to measure the reliability of the respondents to answer the questionnaire and then, the data to be processed for further analysis. From Table 5, it can be said that the respondents selected in the study were reliable to represent each measurement.

Table 5 Reliability Analysis

Measurement	*N of items*	*α*
Guest's perception towards hotel's social responsibility effort	13	.834
Guest's perception of hotel's brand	9	.807
Guest's satisfaction towards hotel social responsibility effort	5	.740
Guest's trust towards hotel brand	8	.701

Next, to measure the strength of the relationship among measurements selected in the study, the Correlation analysis was performed. From Table 6, it shows that hotel's social responsibility effort has moderate relationship with guest satisfaction *(r=.407, p<.01).* The

same can be said to the association between guest's perception of hotel's brand towards satisfaction (r=.435, p<.01). Similarly, both independent variables have moderate relationship with trust. From the table, 'guest's perception towards hotel's social responsibility effort' moderately associated with 'Guest's trust towards hotel brand' *(r=.460, p<.01)*. However, it is noted that 'guest's perception towards hotel's social responsibility' has slightly strong association with 'Guest's perception of hotel's brand' *(r=.681, p<.01)*. On top of that, the same can be said for satisfaction and trust relationship (r=.460, p<.01).

Table 6 Correlation among Measurements

Measurement	1	2	3	4
Guest's perception towards hotel's social responsibility effort	-	.681**	.407**	.460**
Guest's perception of hotel's brand			.435**	.422**
Guest's satisfaction towards hotel social responsibility effort			-	.613**
Guest's trust towards hotel brand				-

*Note. ** Correlation is significant at the 0.01 level (2-tailed)*

For the last analysis, the multiple regression analysis was conducted in order to measure the relationship among measurements. Table 7 depicts the result with 'satisfaction' acts as dependent variable for Model 1 while 'Trust' acts as dependent variable for Model 2. For model 1, the independent variables were used to predict the variance in guest's satisfaction. It is noted that 'social responsibility effort' and 'perceptions of hotel's brand' accounted for 20.9 per cent variance in satisfaction. Both independent variables, social responsibility effort (β = .245) and perceptions of hotel's brand (β = .245) were significant and positively influence guest's satisfaction. For Model 2, the result shows that only 'social responsibility effort' and 'guest's satisfaction' were significant and positively influence 'trust towards hotel brand'. The measurements for this model are accounted for 22.8 per cent change in trust.

From the analysis it is clearly indicated that satisfaction has strong influence towards trust and mediated the relationship between social responsibility effort and perceptions of hotel brand. However the strength of satisfaction in this relationship is obvious and downgrades the influence of social responsibility in predicting variance in trust. It is noted that perceptions towards hotel brand has less influence in trust and in fact, not significant to be included in the model.

Table 7 Multiple Regression Analysis

	Model 1	Model 2
	Std. β	Std. β
Guest's perception towards hotel's social responsibility effort	.245**	.135**
Guest's perception of hotel's brand	.239**	.046
Satisfaction		.311**
R^2	.211	.234
ΔF	79.886	45.270
ΔR^2	.209	.228

*Note. N = 300. **p<.01. Method: Enter.*
Dependent variable: Model 1 Satisfaction
Model 2 Trust

CONCLUSION AND IMPLICATIONS

It is concluded that the role of social responsibility is significant in the satisfaction and trust relationship. However the importance of brand in social responsibility needs further improvement. Hotel guest perceived social responsibility as important attribute towards brand however upon dealing with satisfaction, other factors are still dominant for the customer to establish trust towards hotel brand. It is concluded that satisfaction has a great influence in social responsibility effort. Hotel must pay special attention in defining satisfaction because in this study, satisfaction is influenced by the uncontrollable factors that worth future research.

The role of brand in social responsibility needs further refinement in terms of how it acts in the social responsibility context. Therefore, future research may inject new elements to further clarify why brand fail to be a good predictor in social responsibility and trust relationship. Perhaps the element of sacrifice in receiving the service has not received special treatment by the hotels. Thus, injecting moderator to encounter the sacrifice made by the guest may improve the brand and trust relationship.

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Green Concept: A New Concept in Malaysia?

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ABSTRACT

Sustainable development has become the primary objective of many nations and the green concept has been proposed as a means for strengthening environmental approaches and support for sustainable development. Despite the growing international interest to promote sustainability, a lack of clarity around what constitutes "green" often inhibits effective discussion. Besides that, to complement the efforts that the Malaysian Government has taken to promote green concept, it is essential to understand to what extent the concept has evolved in the country. Thus, this paper aims to discover if individuals are able to comprehend the real meaning of green concept and its significance to the society. Maximum Variation Sampling (MVS) technique is used in selecting the respondents and an inductive approach is employed to deal with the transcribed data. The findings reveal that the Malaysians are aware about the environmental issues in the country and their focus is mainly on recycling and its benefits. Moreover, the diversity of terms used by respondents to explain the green concept indicate that there is no one universal meaning for the concept but there are many terminologies that can be used to explain it. The discussion also reveals that the green movement is becoming gradually prevalent in Malaysia. This paper further explains that the green concept is no longer a new concept, but has to be pursued with much greater vigour since the awareness-raising initiatives in other areas of green concept are still lacking in the market. Drawing on the foundations developed by this study, future research may consider age as an important factor that affects one's environmental behaviour. Similarly, cost is also identified as an important consideration for elderly people to engage in certain behaviours. Besides that, future study may also include discussion on consumers' perceptions on green practices embraced by different industries.

Keywords: Green Concept, Sustainability, Eco-friendly, Environment, Malaysia

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INTRODUCTION

In recent years, the issue of sustainability has gained remarkable attention from researchers and practitioners around the world (Chabowski, Mena and Gonzalez-Padron, 2011). It has emerged as a result of excessive pressure on natural systems by rapid population growth, economic growth and poor consumption habits. In essence, sustainability takes the finite resources of the Earth into consideration in order to create a living place that is sustainable and harmless to everyone. It also generates and preserves the current conditions under which humans and nature can interact in productive harmony without compromising the ability of future generations to meet their own needs.

According to Yanarella, Levine and Lancaster (2009), the latest expression of this issue is evidenced in the emergence of "green-talk" and there is a growing shift from the language of sustainability to the increasingly popular term or concept which is known as green. As a broad consensus, the green concept refers to individual actions to reduce the harmful effects on the environment by applying environmentally friendly practices and through the use of eco-friendly resources and supplies (Myung, McClaren and Li, 2012). At this point, organisations of all kinds who act as the key forces in society have significant role to play in accomplishing this goal (Global Reporting Initiative, 2011).

Consequently, more organisations around the world are placing their attention towards green practices (Chang, 2011). They are also continuously looking for different ways to take advantage of the green trend as an effective approach in the environmental age (Chen and Chang, 2012). This situation also applies to Malaysia where many companies from different industries in the country have started getting themselves involved in green ventures. However, in this era of unprecedented population growth, achieving a sustainable future for all can seem more of just an ambition than a reality. This is because consumer's understanding towards the green concept is still questionable even though many businesses have already started to take important steps towards green growth. Makower and Pike (2009) who write on green marketing have also mentioned that one of the challenges facing the world today is lack of standards or public consensus about what constitutes green. Similarly, the Green Economy Post (2010) has also reported that most consumers know less about what constitutes green than what marketers think consumers might know. Besides that, to complement the efforts that the Malaysian Government has taken to promote sustainable development in the country, a study is definitely needed to explore the current understanding level of the locals. In the same vein, it is also important to know to what extent the concept has evolved successfully in the country.

Given this situation, this study intends to ascertain whether the local people understand the real meaning of green concept and if they are aware of its importance to the society. While these are the objectives of this study, the following are the research questions that this study attempts to answer: (RQ1) How the local people understand the green concept? (RQ2) How important is the green concept to the society? Besides that, this study seeks to make a contribution to the challenges facing the marketers today by providing a better understanding of how consumers view the

green concept. Similarly, as this study employs a qualitative method, findings from this study may lead to a truly new insight in the area of green management which the environmental researchers and scholars can investigate the matter further. Finally, this study also supports the Malaysian Government's efforts by recognising the effectiveness of its current green campaigns and promotions.

Basically, this paper starts with a brief literature review. Next, the methodology and data analysis techniques are discussed. Then, the findings are presented in the subsequent section. This is followed by discussion and conclusions. Finally, this paper discusses the managerial implications, limitations and future research directions.

LITERATURE REVIEW

The Evolution of Green Concept

The rise of greenhouse gas emission is more rapid than expected and the world is warming more quickly in return. This has been irreversibly changing the world through the rise of sea level, droughts, floods, storms and heat waves. This is due to the amplified amount of carbon dioxide produced by individuals into the atmosphere since the industrial revolution (National Geographic, 2013). In addition, the unsustainable consumption pattern of the planet's finite renewable and non-renewable resources has generated a situation of ecological overshoot at the global level. According to World Wild Fund (WWF), since the 1970s, humanity's yearly demand on the natural world has surpassed what the Earth can renew each year and the ecosystem will probably collapse if the current consumption rate continues (WWF, 2012). Further, a rapid increase in population would simply make the situation worse through the usage and serious depletion of natural resources.

To deal with this massive crisis, individuals are required to radically change their ways of thinking and operating in order to survive. It is important not just for the current generation but to provide a liveable future for the generations to come. This situation has called for a shift towards a greener society and the term "go green" has been used extensively to encourage people and businesses to pursue practices that can lead to more environmentally friendly decisions and lifestyles. Though there is no empirical evidence to show when the concept was established, the starting of industrial revolution, an extreme growth in human population and climate change could be the reasons for its formation. According to the Department of Environmental Conservation (2014), people began to set aside ideas on how they could protect and preserve the nature since the nineteenth century. However, conservation programs were truly rooted in protecting natural resources not until the mid-1980s (Cain and Lovejoy, 2004).

Further, what differentiates the green movement today from the previous conservation movement is its focus on science and research. In recent years, more inventions can be seen and innovations in green technologies have been accelerating. At the same time, many countries have made significant investments in research and development to scale up the performance of green technologies. Moreover, there is a

growing recognition in every sector of society, including business in bringing about the comprehensive changes required to confront the environmental issues.

Sustainability and Green Concept

According to Kannegiesser and Günther (2014), sustainability is referred to development that meets the needs of the present society that can continue indefinitely into the future without damaging or depleting natural resources. Whereas, the green concept can be defined as a way to fulfill the demand for an improved approach to better living and a cleaner environment. Basically, academics acknowledge sustainability as a requirement to protect the environment whereas the green concept is approached as a commitment to sustainability. While there is a great deal of debate about the real meaning of sustainability and green concept by academics (Yanarella, Levine and Lancaster, 2009), these terms are often associated and used together by consumers. Consumers use them interchangeably as these terms basically focus on the environmental dimensions that aim to reduce the environmental risks and ecological scarcities. The reason behind this could be because of practitioners who adopt green practices as their internal sustainable practices do not distinguish these terms but often market them together with identifications such as eco-friendly, environmentally friendly, nature-friendly and earth-friendly. As a result, consumers often view these terms as umbrella terms that incorporate any words that could benefit, protect or save the environment.

According to the United Nations Division for Sustainable Development, UNDESA (2012), the term green has been used as a means for achieving sustainable development. Basically, there are many areas where the green concept can be incorporated to deliver added values. Hume *et al.* (2013) have mentioned that there are six key markets that have involved the green ventures, namely (1) renewable energy, (2) energy efficiency, (3) sustainable water systems, (4) biomaterials, (5) green buildings and (6) biomass. While the industries' interactions with the natural environment have become increasingly important (Leonidou and Leonidou, 2010), many research efforts around predominant themes of green concept in various disciplines can be seen. As the list for green studies is very long, some of the common areas include green awareness, green knowledge, green image, green intention and green behaviour.

Despite the various green topics, green awareness is the initial stage of the green movement. It evokes the need and responsibility of the community to respect, protect and preserve the natural system from being destroyed. To build a strong foundation for environmental stewardship, green awareness is basically seen as a crucial part. While the awareness level continues to grow in many other countries, the Borneo Post newspaper has reported that Malaysia is still struggling and a little far behind when it comes to people's awareness (Ruekeith, 2013). At the same time, the failure of current studies to report the Malaysian's green awareness level represents a significant information gap in the literature.

Partnering for Success

In meeting those environmental issues and challenges, human beings are required to grow a greater sense of responsibility as it is a real key to human survival. The sense of responsibility which demands for one's action before others can be formed due to many reasons, be it as a moral imperative (Brown, 2014), as a governance mechanism (Tacconi, 2011), as a legal responsibility exerting normative constraint (Tang, Amran and Goh, 2013) or as an economic mechanism (Visser, 2008). However, no matter what the reason is, it is important to understand that everyone has a responsibility in protecting the environment from damages. When everyone plays their roles and takes care of their immediate surroundings, then together these actions will make a difference. In a way, biodiversity loss, pollution and resources scarcity can be avoided and that is how the environmental protection can benefit the society.

Yet, it is certainly a big challenge to make it successful. To make the environmental protection a reality, what is needed is a call for massive social, political, technological and behavioural transition. Together, pursuing collaboration among key stakeholders will absolutely lead to the desired outcomes. In this event, the key stakeholders who play major roles are the governments, businesses and consumers. As mentioned before, many companies to date have taken the lead on go green concept whereas currently, the governments are also seriously looking for ways to regulate a better world without compromising development or living standards.

Despite these two stakeholders' involvements, the role of consumers in environmental protection often remains at the top of any green agenda. This is because consumers are the one who make purchasing decisions and without understanding them, the green concept will not face a real breakthrough in the long run. Basically, consumer's awareness and knowledge about the environment are very important to direct business firms and the government to initiate green strategies. According to Kasim (2007), the green awareness in Malaysia is still in its infancy stage. While this was reported a few years ago, there must be a lot of changes currently and this time difference warrants further investigation to grasp the current stage of the green awareness in the country.

METHODOLOGY

This study employs a qualitative design in order to explore to what extent the respondents understand about the green concept. A form of purposive sampling technique which is Maximum Variation Sampling (MVS) technique is used in this study to capture a wide range of perspectives while selecting the respondents. The purpose of using this sampling technique is to select cases that are likely to be knowledgeable (Cohen, Manion, & Morrison, 2007; Creswell, 2012) and highly appropriate when conducting a research that requires in-depth exploration of a specific group of people (Neuman & Kreuger, 2003). Also, it is stated that the basic principle behind the MVS technique is to gain greater insights into a phenomenon by

looking at it from different angles. This can often help the researcher to identify common themes that are evident across the sample. According to Ary, Jacobs, Razavieh, and Sorenson (2009), this type of sampling discloses differences but may also recognise commonalities across the units. In addition, this MVS technique is extremely used when the sample size is small (List, 2004). In relation to this, a few appropriate qualifying questions were asked to the respondents to maximize the observable diversity, such as demographics.

Basically, this study interviewed five Malaysians ranging from various demographic profiles to enable the collection of rich responses in answering the research questions. The respondent's demographic profile is provided in Table 1. The respondents were accessible and were not reluctant to contribute their opinions regarding the research problem. Semi-structured interview was conducted with each respondent as it enables the interviewer to interject and get explanation of unclear answers while allows for new questions for further clarification. According to Fraenkel and Wallen (2003), flexibility allows the researcher to bring up information which could be a new or unexpected insight onto the enquiries. This is a remarkable resource for an exploratory study as the researcher has not recognised all the key variables for the study before the interview (Mitchell and Jolley, 2004). The main interview questions are attached in the appendices.

The interview session took about 30 minutes for each respondent. The interviews were recorded as it lessens the distraction and accurately records the entire session clearly. Terms of confidentiality were addressed and each respondent's consent was obtained prior to the recordings.

The interview questions were naturally simple and direct to ensure the respondents understand the questions easily. The session was started with respondent's demographic profile such as country of origin, age, race, marital status and occupation. Next, questions pertaining to the research questions were asked while they were arranged accordingly using the concept of inverted pyramid. Questions which represent a broad set of considerations related to overall understanding of green concept were asked first. This is followed by narrowly defined questions related to the importance of the concept to the society. Overall, the interview session can be regarded as a properly directed conversation discussing the predetermined topic.

Table 1 Demographic profile of respondents

Assigned Number	Country	Age	Gender	Race	Marital Status	Occupation
R1	Malaysia	29	Male	Malay	Married	School teacher
R2	Malaysia	34	Female	Indian	Married	Bank officer
R3	Malaysia	32	Female	Malay	Married	Manager
R4	Malaysia	42	Male	Indian	Married	Businessman
R5	Malaysia	55	Male	Chinese	Married	Businessman (Restaurateur)

DATA ANALYSIS TECHNIQUE

An inductive approach was employed to deal with the transcribed data. Two sections pertaining to the research questions were identified. The first was "level of understanding" and the second was "level of importance". The data was then transcribed wisely into the relevant sections by writing down the responses. Additional information and comments were written down separately in another new column to ensure no points were left out. Then, the transcripts were re-read and common themes and patterns were recognised. As the recurring themes were identified, they were arranged from the highly stated to the less stated themes and the relations between them were studied. Finally, the information was concluded and reported.

FINDINGS

Referring to Table 1, the respondents were assigned numbers (R1 until R5) for anonymity purpose. Throughout the discussion, they will be referred accordingly by using the given numbers.

The Understanding Level of Green Concept

When the respondents were asked about the green concept, R1, R2, R3 and R4 explained that the concept is for people to make environmentally friendly choices in their daily lives. Further explained by them, this concept encourages people to make responsible daily decisions that benefit the environment and help reduce the waste and pollution. They have added that words such as "recycling", "eco-friendly", "environmentally friendly" and "save the planet" can be associated with the green concept. When asked about the symbols or pictures that come to their mind when this concept is mentioned, they said that they often see images such as recycling label (Mobius loop symbol), tidyman logo, green earth and go green leaf. The following figures provide an overview of the images explained by the respondents.

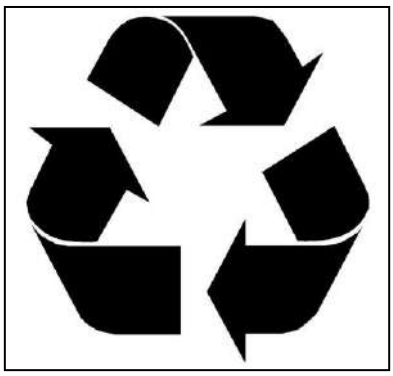


Figure 1 Mobius loop



Figure 2 Tidyman



Figure 3 Green earth

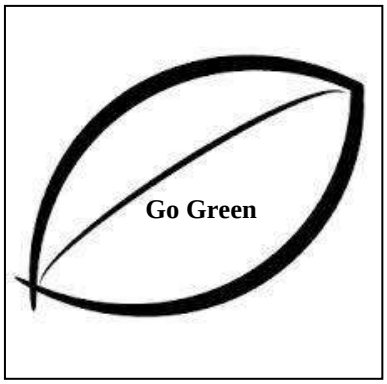


Figure 4 Go green leaf

Besides that, the respondents also mentioned that now the Malaysians have started to manage their waste material and adopt the recycling culture as a way of life. They agreed that currently Malaysians are showing considerable interest in recycling programmes. In addition, the Malaysian government is said to be heavily involved in encouraging the locals to recycle waste materials. R3 has further added that different coloured bins for plastics, paper and aluminium have been placed at many shopping malls in the country and larger containers for recyclable goods are also located in certain residential areas. R3 has also concluded by saying:

> "In essence, the go green concept helps to foster environmental awareness and concern among the public to reduce pollution. When things are recycled, fewer natural resources will be used to feed the escalating demand".

R1, who is a school teacher, also shared his experience by explaining that promotions about recycling have been carried out in schools to educate the children about the importance of recycling and how it benefits the environment. He said that involving the teachers and children in such educational activities can be a lot of fun.

This teacher who is also a university graduate also shared his experience when he studied in Universiti Kebangsaan Malaysia (UKM). He said students conducted various go green activities in the school and that was how he learned about this concept.

While the four respondents, namely R1, R2, R3 and R4 showed a larger degree of involvement towards the topic, overall R5 who is a 55 year-old businessman seemed to show less interest in the topic. However, when he was asked to describe what he knows about the concept, he said:

> "I think the green concept is simply about steps to reduce pollution. I have also read news about companies making an effort to go green and I believe that it is one of their strategies to sell their products to people".

He also mentioned that the "No Plastic Bags on Saturdays" campaign probably could be an example of the green concept. When asked what the campaign is all about, he explained that it is a simultaneous nationwide campaign that the government has implemented for all hypermarkets and supermarkets in the country to no longer provide free plastic bags on Saturdays. Further mentioned, the shoppers are required to pay an additional amount of RM 0.20 for each plastic bag that they request. When further asked if he supports this campaign, he replied that he does not request for a plastic bag if the items that he buys could be carried without it.

The Importance of Green Concept to the Society

According to R2, R3 and R4, the green concept is very important as it helps to reduce the amount of waste produced and further lighten the load in local landfills. This benefit is mentioned essential for Malaysia because the existing landfills in the country are expected to be exhausted much earlier than planned due to an increase of solid waste production every day. R1 further mentioned that:

> "By reusing or recycling waste material, there will be less trash sent to the landfills and this may lengthen the lifespan of existing landfills in the country. On the other hand, when more waste is disposed in landfills, more valuable and costly materials will be wasted and this may lead to more greenhouse gases when these landfills decompose".

Besides that, R4 pointed out that this concept basically helps to keep the surroundings clean and free from pollution. R4 also mentioned that he likes to read about conservation projects. When asked for an example, he mentioned about an environmental project organised by a local media company, the Astro Kasih which took place in Sabah's Tunku Abdul Rahman Marine Park. The operation actually involved local and international divers who gathered more than 3 tonnes of rubbish from the seabed and the team was presented with an official Guinness World Records certificate. With that example, R4 stressed that the green concept is very important and it leads to a cleaner environment.

In addition, R3 also mentioned that:

> "The Malaysians must be very familiar with the ubiquitous "old newspaper man" who often drives through the housing areas in a small lorry. This man normally requests for old newspapers via loudspeaker by using different languages and at times accompanied by the tooting of a musical horn. Today, this man also collects other items such as glass bottles, cans and metals, in addition to old newspapers. He takes these items from the people in return for a small sum. However, I'm not sure if the man realises how much contribution he is making to the environment but basically it gives him a job to do".

In addition, R5 mentioned that he has read about energy and water saving techniques and how these techniques can help to reduce the environmental problems. When asked if he practices or implements them in his daily life, he said:

> "Yes I do because the more I use, the more I pay. I also always scold my children to switch off the lights if they are not using them. As a businessman, I'm very much concerned about these techniques because they have the abilities to reduce my utility bills".

DISCUSSION AND CONCLUSIONS

Basically, eco-consciousness is growing in Malaysia. Consumers are concerned and their responses towards environmental issues have improved in recent years. They are certainly aware about the green concept and they believe it is a word that can be associated with anything that is benefiting the environment. They are also able to recognise images that are often used along with the green concept. While pollution remains an important issue in Malaysia, recycling is known to be a key component of waste reduction in the country. The awareness campaigns conducted by the Malaysian government also seemed to provide desired outcomes since consumers are able to relate and explain the concept. However, their explanations were more on recycling and reusing waste material to reduce pollution and not other areas where green movements have penetrated. Besides that, educational activities related to environmental protection also offer opportunities to promote awareness among students in colleges and universities.

Besides that, an important environmental issue that is receiving enough attention from the local people is household consumption and waste. It has become the highlight of green concept and it seems to overshadow other environmental problems such as energy and water. The locals also believe that recycling is an effective method to combat this issue and there will be a corresponding reduction in waste levels. As recycling continues to grow, job opportunities in the recycling industry also develop. The people are given the opportunity to earn money for a living as they collect, segregate, transport and recycle the waste materials into

useable products. In a nutshell, the green concept is believed to lead to a cleaner environment and a safe place for everyone to live.

In the same vein, the different responses given by the elderly man also opens for a larger discussion. Overall, it is observed that he showed lack of interest in the topic discussed. By knowing that small qualitative studies are not generalizable in the traditional sense, this could actually become a matter of serious concern to understand if age is a factor that makes individual to show lack of interest and concern towards the environment. Similarly, this study also discovers cost as an important factor for elderly people. Yet, this information needs to be further studied to make certain if cost is a factor that influences an elderly person's choice to engage or refrain from engaging in certain behaviours.

MANAGERIAL IMPLICATIONS

The level of awareness towards environmental issues and involvement of the people seem to be increasing over time, as evidenced by the information and ideas shared by the respondents. This outcome is fairly consistent with the effort that the Malaysian government has put to promote sustainable development in the country. However, despite the fact that environmental awareness and commitment have become more obvious within the society, there is still a strong need to increase environmental campaigns and educational programmes in other areas besides recycling. The focus must be more on "prevention" rather than "cure". For this, a change of consumption habit is important and the government has all the potential to nurture this habit among its people.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

A limitation of the study was the relatively small sample size. For this reason, the findings cannot be generalised to the broader community based on this study alone. However, it is often agreed by researchers who conduct qualitative studies that generalisability is neither desirable nor necessary as qualitative studies do not permit generalisations to some wider population (Niaz, 2007). Yet, a qualitative approach is important to understand a phenomenon from a closer perspective and serves as a base for quantitative studies. While the purpose of this study is to explore if individuals are able to comprehend the real meaning of green concept and its significance to the society, the qualitative approach certainly suits well. Nevertheless, future research can include quantitative approach to investigate the ideas developed in this study across a larger number of individuals using survey methods for the purpose of generalisation.

The lack of interest shown by one of the respondents in this study warrants further investigation to identify if age is a factor that affects one's environmental behaviour. Further, cost is also identified as an important factor for elderly people to engage in a particular behaviour. Thus, this factor can be included and further analysed in studies that measure the behaviour of this group of consumers. At the

same time, while this study explored the understanding level of people about the green concept in general, it would also be interesting to know how the locals respond to the green initiatives of different industries.

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APPENDICES

List of main interview questions:

1. What is green concept?
2. Can you give some examples?
3. What comes to your mind when this concept is mentioned?
4. How do you think this concept can benefit the society?

Note: Additional questions were asked to follow up on any interesting or unexpected answers given by the respondents.

Consumer Purchase: A Journey of Intention Formation, Implemented Intention and Point of Purchase

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ABSTRACT

The purpose of the study is to understand the underlying issue associated with gauging planned purchaser behaviour. This study intended that there is a need to investigate the entire purchase process in order to get planned purchaser behaviour gauging tool. To understand the issues qualitative interview technique has been applied. The study probed 12 participants. It compares and contrast approaches to data aggregation and interpretation and highlights some of the uncovered issues associated to gauge consumer purchasing behaviour. The study disembark that three different stages; intention formation, implemented intention and point of purchase a planned purchaser usually passing through to fulfil their behaviour, and caution that in implemented intention, purchaser most often alter their planned purchase. Finally this study also draws a boundary line to distinguish all three stages. Although a large measure of effort is spent on gauging purchaser behaviour, in many cases little time is dedicated to specifying the importance of situations or time frame associated with gauging purchaser behaviour. Some researchers' analyses either intention or point of purchase solely or together and do not ask informants their pre-purchase plan, or what affect predispose them toward a particular choice in the market and yet when these inquiries are asked, answers are often not linked to actual purchaser behaviour. This is the crucial information on purchaser behaviour research. The study's significant to consumer behaviour and marketing literatures by revealing a new approach for gauging purchaser behaviour, possibly for the first time, as it offers a snapshot of three stages intention formation, implemented intention and point of purchase that need to consider systematically to gauge purchaser behaviour.

Keywords: Gauging Purchaser Behaviour, Intention Formation, Implemented Intention, Point of Purchase

-Requested by author not to be published as full paper-

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Multivariate Value-at-Risk Evaluation between Malaysian Islamic Stock Index and Sectoral Indices

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ABSTRACT

Value-at-Risk (VaR) is a broadly used risk metric in quantifying market risk. VaR measures have various applications in finance especially in risk management. Without a sufficient and efficient financial risk management, it can cause massive consequences in a financial institution as well as individual. Therefore, developing methodology which could give precise estimates in order to reduce the exposure of risk to the minimal is of great important. Thus this paper examines the return and volatility linkages among the Malaysian Islamic stock index with other sectoral indices. BEKK-GARCH (1, 1) model is employed to estimate the conditional mean and volatilities in order to discover the dynamics interactions between the indices. Next, these empirical findings are used to quantify the risk minimizing weight, cross-market hedge ratio and cross-market risk evaluation among the pair-wise models.

Keywords: Value-At-Risk, Islamic Stock Index, Sectoral Indices, BEKK-GARCH Model

INTRODUCTION

Risk in finance can be generally defined as a state of exposure to uncertainties on future net returns. Financial institutions are entailing to numerous sources of risks such as credit risk (losses from default events), operational risk (losses from people/system failures), liquidity risk (losses from short term financial demands) and market risk (losses from economic changes). Market risk which is also called as systemic/systematic risk is among the prime risk in trading. It manifests the potential enormous economic changes which set off by the fluctuation of the market value of a portfolio and will impact a huge portion of the market. Thus, market risk cannot be eliminated through diversification but it can be mitigated by hedging.

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Generally, market risk consists of equity risk, interest rate risk, currency risk and commodity risk.

Value-at-risk (VaR) has become the standard measure in quantifying risk to any liquid trading portfolio on a regular basis. It reveals the maximum potential loss in value of a portfolio over a defined time horizon for a given confidence interval. VaR aggregates all the risks of a portfolio of financial instruments into a single, summary statistical measure of losses in 'normal' market movements (Linsmeier and Pearson, 1966). VaR is a remarkable risk management tools for determining the market risk among financial practitioners.

The introduction of autoregressive conditional heteroscedastic (ARCH) model and the generalized ARCH (GARCH) model managed to describe the time-varying variances of financial data in the univariate case. Besides modeling volatility of the returns, it is of great practical important in comprehending the comovements of the financial returns and volatilities over time across markets. In recognizing this vital feature, it has led to a more powerful empirical model rather than working with separate univariate models, therefore Bollerslev, Engle and Wooldridge (1988) had extended these models to multivariate dimension, namely the multivariate GARCH (MGARCH) model. MGARCH models have been used to examine the correlation, dynamic transmission mechanism and spillover effects across markets. There have been extensive studies investigating the return and volatility linkages between the developed markets (Martens & Poon, 2001; Tse & Tsui, 2002; Bae, Karolyi & Stulz, 2003; Christos, 2009) and numerous investigations on estimation and generalize of VaR measures (Manganelli and Engle, 2001; Benati and Rizzi, 2007; Nappo and Spizzichino, 2009; Prekopa, 2012) . However, the is a lack of study in exploration of the volatilities transmission and analysis of VaR in the Islamic financial market.

Hakim and Rashidian (2002) analyzed the risk and return on Dow Jones Islamic Market (DJIM) and Wilshire 5000 which represent Islamic index and non-Islamic index, respectively. The finding shows that the DJIM appears less risky than the W5000. Mohammed and Fouzia (2012) explored the persistence of volatility between S&P Sharia and its counterpart, S&P 500 from 2006 to 2011 by using GARCH (1, 1) model. This period involved the subprime crisis of 2007. Their findings show that there is significant persistence volatility for both indexes. However, the Islamic index is less volatile on the long run and less risk at crisis periods as compared to its conventional counterpart index. In studying Islamic stock market in Malaysia, Ahmad and Albaity (2008) investigated the performance of Syariah (KLSI) and Composite (KLCI) indexes from 1999 to 2005. Their results suggest that there is no statistical difference in mean return between both indices. However, KLCI is found to have higher returns and risks than KLSI. These results are in line with the study done by Ahmed and Ibrahim (2002).

From the several studies above, the results evidently indicate that the Islamic financial market is not protected from being exposed to wide risks of market volatility and fluctuation as like their conventional counterparts. Thus, the issue of risk management is crucial in order to ensure Islamic finance's competitiveness, viability and sustainability in the future. In general, the objectives of this study are to measure and manage market risk by exploring the dynamic interdependence between the studied pair modeled by using bivariate BEKK-GARCH (1, 1) model.

Therefore, the research questions are as follows: Do the mean return spillover effects presence in the pair modeled? If yes, are the mean return spillovers a uni-directional or bi-directional relationship? Do the transmission of the shocks and volatility spillovers exist in the pair modeled? How to hold a position of the stock indices of a portfolio through the VaR evaluation based on the outcomes of the estimations? How risk can be mitigated through diversification by evaluating the risk minimizing portfolio weight and hedge ratio between the stock indices?

The following of this study is organized as such: Section 2 introduces the data; model utilized for estimation and economic implication, Section 3 presents the descriptive statistics, analysis of the empirical estimates and application, finally ended with Section 4 concluding the study.

DATA AND METHODOLOGY

The historical data used in this study are the daily closing price indices of FTSE Bursa Malaysia Emas Shariah Index (FBMS) and some Malaysian financial sectoral indices which comprises construction (CON), consumer product (COP), finance (FIN), industrial product (INP), industrial (IND), plantation (PLN) and properties (PRP) markets in Bursa Malaysia. There are a total of 2402 observations for each financial market. The observations are retrieved from the DataStream and Bloomberg database which dated 1st July 1999 to 12th September 2008.

Data

The daily continuously compounded rate of return, r_t at time t is calculated as follows:

$$r_t = 100\left(\ln P_t - \ln P_{t-1}\right) \quad \text{for} \quad t = 1, 2, ..., T \tag{1}$$

where P_t and P_{t-1} are the corresponding closing stock price index days t and $t-1$. The return series are used for estimating the conditional mean and conditional variance-covariance.

Model Specification

Modeling of volatility (or risk) plays a paramount role in finance specifically in risk management. Volatility measures the quantity of uncertainty of the changes in value of a financial instrument which can either be denoted by using the standard deviation or variance of the returns of the financial instrument. The ARCH (Engle, 1982) and GARCH (Bollerslev, 1986) have extensively led to a family of autoregressive conditional time-varying volatility models. GARCH models are capable to capture several stylized facts (behavior of financial data) of financial time series such as time-varying volatility, clustering of volatility and asymmetric effects in positive and

negative shocks of same magnitude. The models are also potentially crucial to evaluate the VaR thresholds.

In order to examine the dynamic volatility linkages of multiple financial markets, the univariate GARCH models are extended to multivariate GARCH models (Martens and Poon, 2001). Next, Engle and Kroner (1995) had proposed the BEKK-GARCH (taking the first letter of Baba, Engle, Kraft, and Kroner) model with the advantages of allowing the interaction of the conditional variances and covariances parsimoniously, avoiding the number of the estimated parameters rise significantly with the number of financial markets involved (Karolyi, 1995) and also guaranteed the positive definiteness in the estimated conditional variance-covariance matrix by the imposition of quadratic forms in the matrices of coefficients.

Thus, the return can be modeled as such:

$$r_t = \mu_t + \varepsilon_t \quad (2)$$

where r_t is an $n \times 1$ vector of daily returns at time t for each time series, μ_t is the conditional mean vector and ε_t is the $n \times 1$ vector of error terms represent the innovations (shocks) for each time series at time t with its corresponding $n \times n$ conditional variance-covariance matrix H_t. It is assumed to be normally distributed and conditional on the past market information set Ω_{t-1}. This paper examined on a bivariate case, therefore, the conditional mean equations can be stated as such:

$$\mu_{1,t} = \theta_{01} + \theta_{11} r_{1,t-1} + \theta_{12} r_{2,t-1}$$
$$\mu_{2,t} = \theta_{02} + \theta_{21} r_{1,t-1} + \theta_{22} r_{2,t-1} \quad (3)$$

where θ_{01} and θ_{02} are the long-term drift coefficients, θ_{11} and θ_{22} measure the impact of own-market returns spillover on its own lagged return while θ_{12} and θ_{21} capture the cross-markets past returns spillover. The conditional variance-covariance equation, H_t of the unrestricted BEKK model (Engle and Kroner, 1995) with one time lag is as follows:

$$H_t = CC' + A\varepsilon_{t-1}\varepsilon_{t-1}' A' + GH_{t-1}G' \quad (4)$$

where C is a 2×2 upper triangular matrix of constants, A is a 2×2 symmetric matrix which measures on the effects of the past innovation while G is a 2×2 symmetric matrix captures how the past conditional variances impact on the current conditional variances.

According to Black (1976), leverage effect occurs commonly in stock returns. This indicates that the volatility responds asymmetrically to a positive (good news) and a negative (bad news) innovation of the same magnitude. Thus it is vital to scrutinize this asymmetric effect of the news impacts. Kroner and Ng (1998) extended the BEKK-GARCH model to capture for the asymmetric feature which still ensures the positive definiteness specification in the variance-covariance matrix. Based on the Threshold ARCH (Glosten, Jagannathan, and Runkle, 1993; Zakoian, 1994) specification, the asymmetric BEKK model is as follows:

$$H_t = CC^{'} + A\varepsilon_{t-1}\varepsilon_{t-1}^{'}A^{'} + GH_{t-1}G' + \gamma\left[\varepsilon_{t-1}\left(\varepsilon_{t-1} < 0\right)\right]\left[\varepsilon_{t-1}\left(\varepsilon_{t-1} < 0\right)\right]^{'}\gamma^{'} \quad (5)$$

where γ is a 2×2 symmetric matrix measures on the effects of the negative innovation in impacting on current conditional variances.

Nonetheless, in an unrestricted BEKK-GARCH model, the number of estimated parameters will still rise drastically as the dimension of the model increases (Baur, 2006). As a result, a restricted diagonal BEKK-GARCH model are used in this study which the off-diagonal elements of A, G and γ matrices are set to zero except for C matrix. As a result, the number of parameters to be estimated is lessen while preserving the positive definiteness of the conditional variance-covariance. The restricted diagonal BEKK model with asymmetric effect of the news impacts can be written as follows:

$$\begin{aligned}
\sigma_{1,t}^2 &= c_{11}^2 + a_{11}^2\varepsilon_{1,t-1}^2 + g_{11}^2\sigma_{1,t-1}^2 + \gamma_{11}^2\varepsilon_{1,t-1}^2\left(\varepsilon_{1,t-1} < 0\right) \\
\sigma_{2,t}^2 &= c_{12}^2 + c_{22}^2 + a_{22}^2\varepsilon_{2,t-1}^2 + g_{22}^2\sigma_{2,t-1}^2 + \gamma_{22}^2\varepsilon_{2,t-1}^2\left(\varepsilon_{2,t-1} < 0\right) \\
\sigma_{12,t} &= c_{11}c_{12} + a_{11}a_{22}\varepsilon_{1,t-1}\varepsilon_{2,t-1} + g_{11}g_{22}\sigma_{1,t-1}\sigma_{2,t-1} + \gamma_{11}\gamma_{22}\varepsilon_{1,t-1}\left(\varepsilon_{1,t-1} < 0\right)\varepsilon_{2,t-1}\left(\varepsilon_{2,t-1} < 0\right) = \sigma_{21,t}
\end{aligned} \quad (6)$$

where the first two equations are the conditional variances for the first and second time series, respectively, while the third equation is the conditional covariance for both the series.

The BEKK system can estimate the parameters of the conditional mean and variance-covariance equations competently by maximizing the log likelihood function under the assumption of conditional normality. Let L_t be the log likelihood of observation t and L be the joint log likelihood give

$$\begin{aligned}
L &= \sum_{t=1}^{T} L_t \\
L_t &= -\frac{1}{2}n\ln 2\pi - \frac{1}{2}\ln\left|H_t\right| - \frac{1}{2}\varepsilon_t^{'}H_t^{-1}\varepsilon_t
\end{aligned} \quad (7)$$

where n is the number of mean equations and ε_t is the n vector of mean equation residuals.

It is common that the distribution of the residuals tends to behave with higher peak and thicker tails than a normal distribution. In order to solve the problem of non-normality, Bollerslev (1987) proposed the standardized student's t-distribution that is able to capture the estimates though the distribution of conditional residuals is leptokurtosis in the univariate time series. Thus, by employing the same probability density function in the context of multivariate case, the student's t-distribution is expressed as

$$l_t = \ln\left[\frac{\Gamma\left(\frac{\nu+n}{2}\right)\nu^{\frac{n}{2}}}{(\nu\pi)^{\frac{n}{2}}\Gamma\left(\frac{\nu}{2}\right)(\nu-2)^{\frac{n}{2}}}\right] - \frac{1}{2}\ln|H_t| - \frac{1}{2}(\nu+n)\ln\left(1+\frac{\varepsilon_t' H_t^{-1}\varepsilon_t}{\nu-2}\right) \quad (8)$$

where ν represents the degree of freedom with $\nu > 2$ and $\Gamma(\cdot)$ is the gamma function.

In order to ensure the adequacy of the BEKK-GARCH model is well specified in obtaining accurate and reliable estimated parameters, the Ljung-Box Q and Q^2 statistic tests are performed for each return series in order to examine the serial correlations in both the standardized residual series and squared standardized residual series before the estimation processes. The null hypothesis of the diagnostic test is that the residuals and the squared residuals series are serially uncorrelated or random. If the model is suitable, the Ljung-Box Q-statistics are asymptotically distributed as χ^2 with degrees of freedom equal to the number of autocorrelations.

Economic Implication of the Model

The application of the estimated conditional variance-covariance matrices in multivariate volatility model is the value-at-risk determination. Accurate estimation of the time-varying variance-covariance matrices provides useful information in risk management, assets pricing and portfolio allocation of a financial position in multiple financial markets.

According to Tsay (2002), VaR is defined under a probabilistic framework. Let $\Delta r_i(l)$ be the variation of value in the returns of the stock markets from time t to $t+l$, therefore VaR of a long position over the time l horizon with probability α is defined as:

$$\alpha = P(\Delta r_i(l) \le VaR_i). \quad (9)$$

The individual $q\%$ quantile VaR_i under the ARCH estimation can be expressed as

$$VaR_i = \hat{\mu}_{i,t} + d_q \hat{\sigma}_{i,t} \quad (10)$$

where $\hat{\mu}$ and $\hat{\sigma}$ represented the estimates of conditional mean and conditional standard deviation while d is the parametric distributions. However, VaR is only proper to measure the short-term risks, thus it is common to assume the estimated conditional mean as zero ($\hat{\mu} = 0$). As a result, it is the estimated conditional standard deviation that influences the VaR.

In order to discover the dynamic transmission mechanism of multiple markets, the time-varying volatilities are needed to determine the cross-markets VaR. The standard deviation of the portfolio, $\sigma_{portfolio}$, for two markets' return under Markowitz mean-variance utility function is:

$$\begin{aligned} \sigma^2_{portfolio} &= \left(w_1\sigma_1 + w_2\sigma_2\right)^2 \\ &= w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1^2w_2^2\sigma_{12} \\ \sigma_{portfolio} &= \sqrt{w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1^2w_2^2\rho_{12}\sigma_1\sigma_2} \end{aligned} \quad (11)$$

where σ_1^2 and σ_2^2 are the variances of the first market and second market, respectively, σ_{12} is the covariance of first and second markets' returns and whereas ρ_{12} is the time-varying cross-correlation coefficient between the returns of the two markets with $\rho_{12} = \dfrac{\sigma_{12,t}}{\sqrt{\sigma_{1,t}^2\sigma_{2,t}^2}}$ (Note: $\rho_{12} = \rho_{21}$). Based on the Kroner and Ng (1998) recommendation, if we assume the optimal portfolio holding with the expected returns are zero, thus the risk minimizing portfolio weight is given as

$$w_{12,t} = \frac{\sigma_{2,t}^2 - \sigma_{12,t}}{\sigma_{1,t}^2 - 2\sigma_{12,t} + \sigma_{2,t}^2} \quad (12)$$

where $w_{12,t}$ is the portfolio weight for the first market relative to the second market $(1 - w_{12,t})$ at a specific time. Under the mean-variance utility function, the optimal portfolio holding on the two markets are based on the following

$$w_{12,t} = \begin{cases} 0 \; ; & w_{12,t} \le 0 \\ w_{ij,t} \; ; & 0 < w_{12,t} < 1 \\ 1 \; ; & w_{12,t} \ge 1 \end{cases}$$

(13)

It is suggested that one should place all investment into a particular market with $w_{12,t}$ exceeded unity while a negative $w_{12,t}$ of a market will be too risky to invest.

The portfolio's percentage VaR can be obtained by multiplying both sides of the equation (11) by α and thus substituting $\sigma_{portfolio}\alpha$, $\sigma_1\alpha$ and $\sigma_2\alpha$ by $\%VaR_{portfolio}$, $\%VaR_1$ and $\%VaR_2$, respectively, is as follows:

$$\%VaR_{portfolio} = \sqrt{w_1^2 \%VaR_1^2 + w_2^2 \%VaR_2^2 + 2w_1^2 w_2^2 \rho_{12} \%VaR_1 \%VaR_2}$$

(14)

Equation (14) represents the formula for the percentage VaR for a portfolio consisting of two markets. A portfolio risk will be reduced if the time-varying correlation between the markets' returns is small or negative. Thus, cross-correlation is a vital factor to be considered in any portfolio decision in obtaining optimal risk diversification.

There are three extreme cases (+1, 0 and -1) about the correlation between the returns of the first and second market relatively to the exposure of the level of risks which is illustrated in Figure 1. First, if ρ_{12} takes its maximum value of +1 which the first and second markets' returns are perfectly positively correlated, in equation (11), the portfolio standard deviation becomes the sum of the simple weighted average of the standard deviations of the two individual markets as such:

$$\begin{aligned} \sigma_{portfolio} &= \sqrt{w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1^2 w_2^2 \sigma_{12}} \\ &= \sqrt{(w_1\sigma_1 + w_2\sigma_2)^2} \\ &= w_1\sigma_1 + w_2\sigma_2 \end{aligned}$$

(15)

In this circumstance, in whatever the proportions of investment in the first and second markets, the portfolio VaR is merely the aggregate of the individual undiversified VaRs, thus there is no diversification of risks. It is only the case with perfect positive correlation gains no benefit from diversification. Thus, whenever the market returns' correlation is less than perfectly correlated

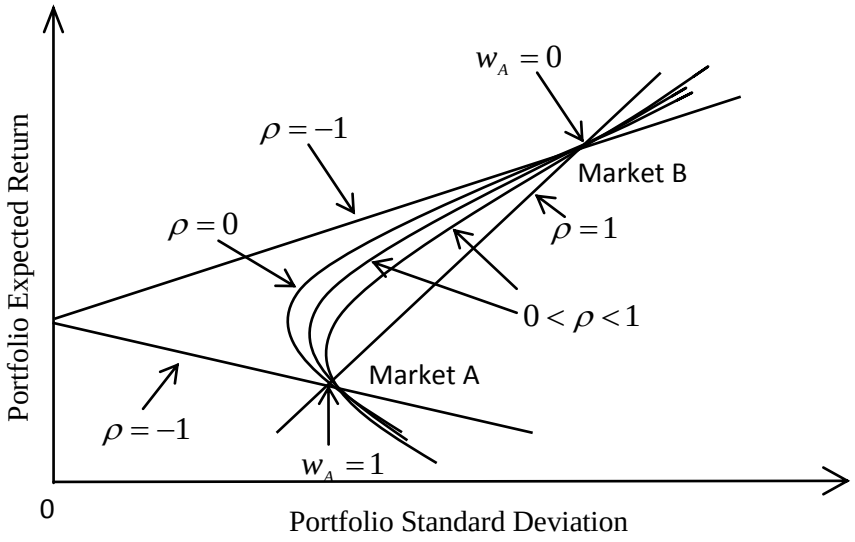


Figure 1 Investment opportunity sets for stock market A and B with various correlation coefficients

($\rho_{12} < 1$), there will be a diversification effect; the portfolio standard deviation is less than the weighted average of the standard deviations of the two individual markets (Jorion, 2001). Second, if ρ_{12} is zero, the portfolio standard deviation in equation becomes

$$\sigma_{portfolio} = \sqrt{w_1^2\sigma_1^2 + w_2^2\sigma_2^2} \quad (16)$$

which is less than the sum of the simple weighted average of the standard deviations of the two individual markets. The benefits of diversification are quite clear in this case that if returns are independent, a portfolio consisting of two markets will be less risky than a portfolio involving either market on its own. Third, if ρ_{12} takes its minimum value of -1 between two markets, there will be even greater diversification benefits. When the stock market returns are perfectly negatively correlated, the two individual VaRs offset one another and leads to minimizing the portfolio VaR. Besides, equation (17) shows that the portfolio standard deviation could be reduced to zero if the portfolio is equally weighted ($w = 0.5$) which it maximizes the benefit of risk diversification.

$$\begin{aligned}\sigma_{portfolio} &= \sqrt{w_1^2\sigma_1^2 + w_2^2\sigma_2^2 - 2w_1^2w_2^2\sigma_{12}} \\ &= \sqrt{(w_1\sigma_1 - w_2\sigma_2)^2} \\ &= |w_1\sigma_1 - w_2\sigma_2|\end{aligned} \quad (17)$$

This reveals on how two risky markets can be combined to create a riskless portfolio. In other word, the first stock market can be a perfect hedge for the second stock market and vice versa.

An investor can trim down their portfolio risk merely by holding financial instruments which are imperfectly correlated. In other words, investors can lower their exposure to risk by holding a diversified portfolio of assets. Diversification will allow for the similar portfolio return with reduced risk. A diversified VaR is a portfolio VaR which consider the diversification benefits between markets, whereas an undiversified VaR is a portfolio VaR with all its markets are highly positively correlated.

Besides the value-at-risk determination, risk-minimizing hedge ratio can be estimated by using the findings from the bivariate BEKK-GARCH analysis as shown by Kroner and Sultan (1993). In order to minimize the risk of some portfolio, the hedge ratio implies that every unit of capital that is long in the first market, the investor should hold short β_t unit of capital in the second market. The optimal hedge ratio, β_t, is given as:

$$\beta_t = \frac{\hat{\sigma}_{12,t}}{\hat{\sigma}_{22,t}} \quad (18)$$

RESULTS AND DISCUSSION

Preliminary Analysis

Table 1 reports the summary of the descriptive statistics of the daily return series. All the indices show approximately equal to zero mean. It is common to witness that the stock prices are prone to a behavior of mean reversion (De Bondt, 1991) over time that suggests the stock prices will eventually return to their fundamental prices after a significant short-term swing, thus the return series are mean reverting to zero. Table 1 displays PLN has the highest return followed by COP and IND while CON, INP and PRP are in negative values. In other hand, the result shows CON is the most volatile index relatively to other indices as it has the largest standard deviation of 1.5280 though it has a much lower return. In the aspect of the strength of relationship between FBMS with the indices, there is a strong positive correlation (higher than 0.8) between FBMS and the indices except CON and PRP indices. This indicates the relationships are very close and it can significantly influence one another.

The skewness for all indices are negatively skewed which indicates the lower tail of the distribution (i.e. the tail of interest for VaR calculation) is particularly longer at the left tail. The kurtosis coefficients are exceeded three for all indices which illustrate the presence of heavy-tailed behavior and higher peak. These proofs imply the return series are significantly violated the normality properties which are also supported by the results of Jarque-Bera normality test at the 5% significant

level. Thus, the estimation of BEKK- GARCH model is proposed under the assumption of standardized student-*t* distrbution.

Ljung-Box Q and Q^2 statistic tests show significant signs a strong serial correlations in all standardized residual and squared standardized residual series up to lag 12 at 1% significance level. The significant signs of the squared standardized residual series exhibit the existence of time-varying volatility (heteroscedasticity) effects in the series. The results of the ARCH and Lagrange Multiplier (LM) tests also support this conclusion that there is the presence of strong

Table 1 Summary of descriptive statistics

	FBMS	CON	COP	FIN	IND	INP	PLN	PRP
Mean	0.0062	-0.0129	0.0216	0.0113	0.0178	-0.0015	0.0436	-0.0218
Max	4.9195	8.1328	6.0959	8.0535	7.1778	6.3579	5.3245	9.6554
Min	-11.320	-17.1600	-6.4611	-9.6385	-10.0003	-8.5722	-9.4018	-11.8684
Std Dev	1.0220	1.5280	0.7788	1.1532	0.9559	1.0284	1.0920	1.3236
Skewness	-0.9904	-0.8080	-0.6947	-0.3601	-0.4883	-0.8440	-0.7915	-0.6921
Kurtosis	14.324	14.7480	11.9020	11.2182	14.4919	13.0572	10.7126	15.9379
Jarque-Bera	13221.81	14068.72	8120.994	6808.515	13307.37	10403.99	6201.630	16937.48
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Correlation	1.000	0.7862	0.8914	0.9632	0.9038	0.9423	0.9177	0.6220
Q(12)	67.729	40.278	47.365	73.248	27.279	50.071	74.979	82.969
	(0.000)	(0.000)	(0.000)	(0.000)	(0.007)	(0.000)	(0.000)	(0.000)
Q^2(12)	147.56	252.16	497.28	732.37	246.01	452.33	304.18	1406.9
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ARCH Test (12)	8.4746	11.868	21.8039	32.1937	12.3177	19.5869	15.1866	58.4756
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LM Test (12)	5.5723	3.4187	4.3078	6.2285	2.4211	3.8881	5.3519	6.4899
	(0.000)	(0.0001)	(0.000)	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)
ADF	-42.5595	-45.1697	-43.9767	-42.4849	-45.1224	-45.6417	-42.5454	-29.8513
	(0.000)	(0.0001)	(0.0001)	(0.000)	(0.0001)	(0.0001)	(0.000)	(0.000)
PP	-42.9126	-45.3103	-44.0617	-42.6957	-45.1427	-46.3087	-43.4663	-46.2218
	(0.000)	(0.0001)	(0.0001)	(0.000)	(0.0001)	(0.0001)	(0.000)	(0.0001)

Note: Values in parenthesis are p-values.

ARCH effects; therefore, estimation of the conditional variance-covariance is in favor of GARCH model. The Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) unit root tests show that both the test statistics for each return series reject the null hypothesis of a unit root which implies that the series are stationary (mean reversion).

Empirical Analysis

Under the bivariate BEKK-GARCH specification, the empirical results of the estimated conditional mean and variance-covariance coefficients are reported in Table 2. The findings are to analyze the dynamic linkages of the combinations of the modeled pair-wise indices as such: FBMS-CON, FBMS-COP, FBMS-FIN, FBMS-IND, FBMS-INP, FBMS-PLN and FBMS-PRP.

The estimated coefficients of the conditional mean equations consist of the parameters θ_{01} and θ_{02} that are the long term drifts, θ_{11} and θ_{22} are the first lagged value of own-market dependence while θ_{12} and θ_{21} are the first lagged value of

cross-market dependence on their current mean returns. Among the estimates, the value of θ_{12} that exhibits highly positive

Table 2 Mean and volatility spillovers estimates

		FBMS-CON	FBMS-COP	FBMS-FIN	FBMS-IND	FBMS-INP	FBMS-PLN	FBMS-PRP
Conditional mean equation								
Constant:	θ_{01}	0.0136	0.0190	0.0110	0.0162	0.0173	0.0088	0.0009
		(0.0129)	(0.0134)	(0.0135)	(0.0135)	(0.0134)	(0.0125)	(0.0131)
Lag return of order:	θ_{11}	0.0603**	0.0800***	0.0670**	0.1074***	0.0642**	0.1161***	0.0651***
		(0.0240)	(0.0236)	(0.0273)	(0.0271)	(0.0265)	(0.0219)	(0.0238)
Lag return of cross market:	θ_{12}	0.0459***	0.0533**	0.0598***	0.0078	0.0638**	-0.0105	0.0748***
		(0.0150)	(0.0288)	(0.0227)	(0.0267)	(0.0258)	(0.0174)	(0.0174)
Index-*i*								
Constant:	θ_{02}	-0.0344*	0.0322***	-4.33E-05	0.0280**	0.0072	0.0373***	-0.0450***
		(0.0199)	(0.0107)	(0.0163)	(0.0130)	(0.0134)	(0.0136)	(0.0151)
Lag return of order:	θ_{22}	0.0476**	-0.0030	0.0588**	-0.0793***	-0.0034	0.0226	0.1435***
		(0.0235)	(0.0242)	(0.0267)	(0.0260)	(0.0260)	(0.0220)	(0.0238)
Lag return of FBMS:	θ_{21}	0.0714**	0.0850***	0.0648**	0.1566***	0.0987***	0.1029***	0.0161
		(0.0325)	(0.0170)	(0.0293)	(0.0237)	(0.0239)	(0.0191)	(0.0265)
Conditional variance-covariance equation								
Constant:	c_{11}	0.0109***	0.0120***	0.0119***	0.0116***	0.0111***	0.0129***	0.0126***
		(0.0024)	(0.0026)	(0.0025)	(0.0025)	(0.0025)	(0.0029)	(0.0026)
	c_{12}	0.0200***	0.0080***	0.0143***	0.0082***	0.0092***	0.0107***	0.0146***
		(0.0038)	(0.0017)	(0.0028)	(0.0018)	(0.0019)	(0.0024)	(0.0027)
	c_{22}	0.0591***	0.0132***	0.0308***	0.0112***	0.0147***	0.0202***	0.0293***
		(0.0104)	(0.0025)	(0.0058)	(0.0024)	(0.0028)	(0.0043)	(0.0051)
ARCH:	a_{11}	0.2254***	0.2255***	0.2152***	0.2150***	0.2412***	0.2598***	0.2151***
		(0.0180)	(0.0182)	(0.0178)	(0.0183)	(0.0166)	(0.0218)	(0.0198)
	a_{22}	0.2222***	0.1885***	0.1835***	0.1674***	0.2103***	0.3184***	0.2944***
		(0.0211)	(0.0226)	(0.0202)	(0.0196)	(0.0184)	(0.0201)	(0.0190)
Asymmetric ARCH:	γ_{11}	0.1347***	0.1562***	0.1564***	0.1665***	0.1000***	0.1982***	0.1952***
		(0.0306)	(0.0321)	(0.0292)	(0.0311)	(0.0393)	(0.0388)	(0.0316)
	γ_{22}	0.2360***	0.2193***	0.2215***	0.2021***	0.1559***	0.0845***	0.1341***
		(0.0319)	(0.0292)	(0.0273)	(0.0268)	(0.0337)	(0.0464)	(0.0416)
GARCH:	g_{11}	0.9664***	0.9618***	0.9634***	0.9631***	0.9627***	0.9545***	0.9625***
		(0.0035)	(0.0040)	(0.0039)	(0.0038)	(0.0039)	(0.0043)	(0.0036)
	g_{22}	0.9471***	0.9558***	0.9557***	0.9686***	0.9617***	0.9432***	0.9398***
		(0.0052)	(0.0050)	(0.0050)	(0.0035)	(0.0038)	(0.0055)	(0.0050)
Degree of freedom,	ν	3.8083***	4.4025***	4.5979***	4.4554***	4.3928***	3.6937***	3.9572***
		(0.2496)	(0.3104)	(0.3236)	(0.3090)	(0.3153)	(0.2409)	(0.2618)
Diagnostic Tests								
Q(12) - FBMS		31.148***	32.129***	28.673***	31.774***	29.843***	35.463***	24.950**
Q^2(12) - FBMS		15.642	11.473	12.275	12.377	12.353	6.2794	10.359
Q(12) – *i* - index		8.2706	22.793**	3.6357	21.391**	10.276	13.245	22.859**
Q^2(12) – *i* - index		4.0500	14.506	13.972	8.7470	18.060	8.1556	11.915

Note: ***, ** and * indicate the significance level at 1%, 5% and 10%. Values in parenthesis are standard errors.

significant with the θ_{21} which is not statistically significant is exhibited in FBMS-PRP. This implies the effect of first lagged return of the PRP is spillover to FBMS

current mean return however it does not hold for the reverse effect. Conversely, the outcomes of a high positive significant of θ_{21} with θ_{12} which is not statistically significant are seen in FBMS-IND and FBMS-PLN. This reveals the presence of the spillovers effect in the first lagged return of FBMS to the current mean return of IND and PLN indices. Next, the rest of the pair-wise models comprise FBMS-CON, FBMS-COP, FBMS-FIN and FBMS-INP are found to be in a bi-directional return spillover effects. In other words, the first lagged return of FBMS with CON, COP, FIN and INP are mutually impacting one another current mean returns. These findings show that the FBMS does not play a dominant role in mean return spillover effect as FBMS only contributes the mean spillover effect to several sectoral indices while at the same time a certain sectoral indices as well do give a significant mean spillover effects to FBMS. The results also reveal that θ_{11} is significant which means the current mean return of FBMS do depend on its first lagged return in all pair-wise models. On the other hand, the current mean return of CON, COP, FIN, IND and PRP indicate similar dependency on its first lagged return as observed in θ_{22}. This implies that the past return of the indices is affecting its own current mean return.

As for the estimated coefficients in the conditional variance-covariance equations, the a_{11} and a_{22} are observed to be statistically significant in each pair-wise indices at 5% significance level. This means the current conditional volatility of all indices is influenced by their own lagged shocks. While the parameter estimates g_{11} and g_{22} that assess the impact of past volatility effects on the current conditional volatility are found significant in all pair-wise models. In other words, own past innovations and volatility affects the current conditional variance-covariance of the all the pair-wise models. The findings also discover that GARCH effects are stronger as compared to the ARCH effects in all pair-wise. These results are found similar with the research carried out by Hammoudeh, Yuan and McAleer (2009). Next, the estimates γ_{11} and γ_{22} are displaying positive significant values in all pair-wise models which implies that the bad news will intensify the volatility of the price index more than the arrival of the good news of the similar magnitude. In the economic aspect, this is an expected phenomenon as the most of the stock market participants in the global are tended to be more responsive to negative shocks as compared to the positive shocks.

A diagnostic model namely the Ljung-Box Q-statistic is performed on the residuals of the estimates. Both the standardized residuals and squared standardized residual series are tested in order to check for the presence of serial correlation. The squared standardized residual in all series are found to be statistically not significant at the 5% level. It can be concluded that the absence of serial correlation in the second conditional moment implies the bivariate BEKK-GARCH (1, 1) model with asymmetric effect of the news impacts is capable to effectively capture the dynamics of the time-varying volatility behavior in all the stock indices.

Risk Management using Value-at-Risk (VaR)

The above empirical outcomes from the transmission of shocks and volatilities can be utilized in risk management with multiple assets investment in stock markets. The evaluation of one-day-ahead VaR forecasts for conditional mean and conditional variance-covariance of individual markets and cross-markets can be computed from the multivariate GARCH analyses. In general, the individual VaR can be attained based on the following equation:

$$VaR_i = \hat{\mu}_{i,t} + t_v \hat{\sigma}_{i,t} \quad (19)$$

where i represented the respective markets and t_v indicated the lower-tail q% quantile of a standardized student-t with the corresponding degree of freedom. The conditional mean estimates are calculated from all the historical data before t = 2402 and are used in the one-day-ahead forecast at time horizon t = 2403. Based on Tables 2, the 5% quantiles VaR for each pair-wise model can be found in Table 3 which are expressed in percentage and the negative signs denoted the lower tail of the stardardized student-t distribution. For instance, the individual VaRs that are assessed for FBMS and COP market under the assumptions of standardized student-t are given as -2.2415% and -1.8673% respectively. Let it be that an investor invests for a long position of $1 million in each of the stock markets, in a confidence level of 95%, the one-day-ahead time horizon potential loss of holding long positions are at most $22,415 and $18,673.

Table 3 VaR of pairwise stock markets evaluated based on bivariate BEKK-GARCH analyses

	FBMS-CON	FBMS-COP	FBMS-FIN	FBMS-IND	FBMS-INP	FBMS-PLN	FBMS-PRP
VaR_{KLSI} (in %)	-2.5268	-2.2415	-2.2292	-2.2360	-2.1746	-2.6798	-2.5747
VaR_i (in %)	-3.3839	-1.8673	-2.8546	-2.3864	-2.0940	-5.4374	-2.0463
w_{12}	1.1472	0.2622	0.8588	0.6408	0.4166	1.3742	0.1960
β_t	0.6079	0.7569	0.5330	0.7222	0.8040	0.4049	0.8120
$\hat{\rho}_{12,t}$	0.8141	0.6305	0.6826	0.7709	0.7742	0.8216	0.6454
Portfolio VaR_a (in %)	-2.5268	-1.8068	-2.2093	-2.1636	-2.0067	-2.6798	-2.0083

On the other hand, in order to determine the portfolio VaR for each pair-wise, the risk minimizing portfolio weight is needed for making optimal portfolio allocation decisions. In FBMS-COP pair-wise, the portfolio weight calculated is 0.2622. This implies that the investor should hold 0.2622 of the capital invested in the FBMS over 0.7378 in the COP market for the optimal portfolio holding. Among all the pairwise, the allocation of the capital should be distributed accordingly based on the calculated risk minimizing weight except for the pairwise of FBMS-CON and FBMS-PLN. It is suggested to place the investment only in FBMS rather than in CON and PLN markets which are too risky to invest as the w_{12} exceeded unity.

Thus, the optimal diversified overall VaR are the same for individual VaR of FBMS in both the pair-wise FBMS-CON and FBMS-PLN. It is worth noting that the non-perfectly positively correlated returns between the markets allow us to diversify the optimal allocation under the minimal market risks. In this study, all the pair-wise markets indicate a positive cross-correlation with less than one, ranging from 0.6305 and 0.8216.

Finally, as for risk minimizing hedge ratio, the time dependent beta, β_t, is found to be ranging from the value of 0.4049 to 0.8120. The lowest value is found to be in FBMS-PLN while the highest is in the FBMS-PRP. This implies that for every capital (suppose the capital is $ 1million) that is long in FBMS market, the investor should short 0.4049 ($ 0.4049 million) in the PLN market. As a result, the hedging ratios suggest that for every unit capital $ C that is invested as long position in FBMS, the investor should invest $0.6079C, $0.7569C, $0.5330C, $0.7222C, $0.8040C and $0.8120C as short position in CON, COP, FIN, IND, INP and PRP markets respectively in order to mitigate the potential market risks.

CONCLUSION

This study investigated the transmission of shocks and volatility between Malaysian Shariah Index with seven sectoral indices, namely, construction, consumer product, finance, industrial product, industrial, plantation and properties. The analysis used the daily historal data from July 1, 1999 to September 12, 2008 with a total of 2402 observations in each time series. It is found the presence of uni-directional mean return spillovers from the FBMS to IND and PLN while PRP to FBMS. Uni-directional relationship can be interpreted as movement in one direction which the past mean return of FBMS has an influential effect on the current mean return of IND and PLN indices. The converse is not true; the past mean return of IND and PLN have no impact on the current mean return of FBMS. As for bi-directional mean return spillover effect which allowing movement in two opposite directions is observed in FBMS-CON, FBMS-COP, FBMS-FIN and FBMS-INP. Next, by examining into the volatility co-movement between the indices, the results on the whole show strong significant transmission of past own shock and past own volatility among all the pair-wise indices. In other words, this indicates the presence of ARCH and GARCH effects. Besides, the findings deduce that leverage effect is found in all pair-wise indices. It is worth to note that at a 5% significant level, the Ljung-Box Q-statistics show no evidence of autocorrelation in the squared standardized residuals of the estimated model in each series. This implies the adequacy of the model specifications applied in this study.

As for the optimal portfolio holding within each pair-wise indices, it based on the determinants of risk minimizing weight and cross-correlation which are calculated from the findings of the bivariate BEKK-GARCH time varying volatility modeling. All the pair-wise indices exhibit the portfolio weights between zero and unity except FBMS-CON and FBMS-PLN. This implies that the optimal portfolio allocations should follow these indicators accordingly for each pair-wise except there should be no investment allocated in the CON and PLN of the FBMS-CON and

FBMS-PLN portfolio due to the high volatile of CON and PLN markets. The degree of correlation between the returns of the markets plays a major role as well in reducing portfolio risk. A perfect positively correlated returns gain no benefit from diversification. In other words, there are with benefits to diversification if stock returns are less than perfectly correlated which in this study all the pair-wise indices show a cross-correlation coefficient that is less than +1. This implies that the pair-wise will benefit from the portfolio diversification. Besides the allocation decision making analysis, the risk minimizing hedge ratio are reported for each pair-wise markets. This information provide helpful guide on holding the long and short financial positions in the pair-wise markets in order to reduce the market risk.

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Revenue Efficiency of Islamic and Conventional Banks in the GCC Countries: Does Country Governance Matters?

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ABSTRACT

The paper provides new empirical evidence on the impact of country governance on the revenue efficiency of Islamic and conventional banks. The empirical analysis is confined to Islamic and conventional banks operating in the Gulf Cooperation Council (GCC) countries banking sectors during the period of 2007 to 2011. The analysis comprise of two main stages. In the first stage, we employ the Data Envelopment Analysis (DEA) method to compute the revenue efficiency of individual Islamic and conventional banks. We then employ panel regression analysis to investigate the effect of country governance on revenue efficiency. The empirical findings indicate that greater voice and accountability, government effectiveness, and rule of law enhance the revenue efficiency of both Islamic and conventional banks. We find that regulatory quality exerts positive influence on Islamic banks, while the impact of political stability and control of corruption enhances the revenue efficiency of conventional banks.

Keywords*:* Revenue Efficiency, Data Envelopment Analysis, Country Governance

INTRODUCTION

Given the fact that the banking sector forms an integral part of the financial system, studies focusing on the efficiency of financial institutions have become imperative since the early 1990s (Berger and Humphrey, 1997). While empirical evidence on the performance of the conventional banking sectors have been extensive, there is still paucity of studies on the Islamic banking sector (Iqbal and Molyneux, 2005). On the other hand, studies which investigate the revenue efficiency concept and its cost and profit efficiency components are scarce (Ariff and Can, 2008). This limitation is

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somewhat surprising given the fact that revenue inefficiency has been found to be the main problem resulting in lower profit efficiency (Kamarudin et al. 2014a; Kamarudin et al. 2014b; Sufian et al. 2012; Sufian et al. 2013). Furthermore, inefficient revenue may negatively affect the difference between cost and profit efficiencies (Ariff and Can, 2008; Sufian et al. 2012).

To date, there exist empirical studies examining the impact of governance on the efficiency of Islamic banks. However, the focus of these studies is on the micro dimension of governance or governance within banking institutions (Darmadi, 2013; Ginena, 2014). Noticeably absent is empirical evidence on the impact of country governance on the performance of Islamic banks. In this vein, Chortareas et al. (2012) suggest that country governance may significantly influence the efficiency of the banking sector.

Kaufmann et al. (2010) defines country governance as a set of traditions and institutions by which authority in a country is exercised. The country governance comprised of three main dimensions with two different measures corresponding to each of the three different dimensions. The first dimension is the process whereby the citizens select, monitor, and replace governments measured by Voice and Accountability (VA) and Political Stability and Absence of Violence (PV). The second dimension is the capability to effectively formulate and implement policies by the government measured by Government Effectiveness (GE) and Regulatory Quality (RQ). The final dimension concerns respectable institutions governing economic and social interaction among citizens and state measured by Rule of Law (RL) and Control of Corruption (CC).

The purpose of the present paper is to build on the earlier contributions on the performance of Islamic and conventional banks operating in the Gulf Cooperation Council (GCC) countries banking sectors and to establish new empirical evidence on the impact of country governance. As noted earlier, empirical evidence on the impact of country governance on Islamic banks is completely missing from the literature. The paper also investigates to what extent internal (i.e. bank specific characteristics) and external factors (i.e. macroeconomic conditions) influence the performance of Islamic banks while controlling for the impact of country governance.

To do so, we collect and analyze data on both Islamic and conventional banks operating in the GCC countries banking sectors over the period of 2007 to 2011. The analysis comprise of two main stages. In the first stage, we compute the revenue, cost, and profit efficiencies of individual Islamic and conventional banks by employing the Data Envelopment Analysis (DEA) method. We then employ panel regression analysis to examine the impact of country governance on the revenue efficiency of both Islamic and conventional banks.

The paper is set out as follows: In the next section we provide review of the related literature. Section 3 discusses the methods and variables employed in the study. We present the empirical findings in section 4. The article concludes and provides discussions on the policy implications in section 5.

LITERATURE REVIEW

Since its introduction by Charnes et al. (1978) and Banker et al. (1984), researchers have welcomed the Data Envelopment Analysis (DEA) as a methodology for performance evaluation. However, a large body of literature exists on banking efficiency in the United States (Berger and Humphrey 1997) and the banking systems in the western and developed countries (Kenjegalieva and Simper, 2011). To date, studies by Johnes et al. (2014), and Maghyereh and Awartani (2014) are among the most notable empirical research performed to examine the efficiency of the Gulf Cooperation Council (GCC) countries banking sectors.

Zeitun et al. (2013) employs the Data Envelopment Analysis (DEA) method to explore the relative efficiency of 65 conventional and Islamic banks in the Gulf Cooperation Council (GCC) region during the period of 2002 to 2010. The empirical results suggest that Islamic banks are significantly less efficient than conventional banks in three out of five DEA models. On the other hand, results from the remaining two DEA models indicate no significant differences in the efficiency status of these banks. By employing financial ratio analysis (FRA) and the DEA method, Johnes et al. (2014) examine the efficiency in GCC Islamic and conventional banks. Under the FRA, they find that the Islamic banking system is less cost efficient but more revenue and profit efficient than the conventional one. The results from the DEA method suggest that the average efficiency is significantly lower in Islamic than conventional banks.

More recently, Maghyereh and Awartani (2014) employs the DEA method to examine the efficiency of GCC banks over the years 2000 to 2009. They perform the on 70 banks operating in GCC countries. They found that efficiency is not independent of the market structure, regulatory environment, and risky activities undertaken by banks. They suggest that high capitalization levels, market discipline, and supervisory power contribute to the higher bank efficiency, while market power tends to lead to lower bank efficiency.

In summary, the above literature reveals the following research gaps: First, the majority of these studies have mainly focused on the technical, cost, and profit efficiency of Islamic and conventional banks. On the other hand, there is a paucity of studies examining the revenue efficiency concept within the Islamic banking sector and is completely missing within the context of the GCC countries banking sectors. Second, although there are empirical studies examining the impact of governance on the efficiency of Islamic banks, the focus of these studies is on the micro dimension of governance. Noticeably absent is empirical evidence on the impact of country governance on the performance of Islamic banks. The present study therefore attempts to fill in a demanding gap in the literature by providing new empirical evidence on the impact of country governance on the efficiency of Islamic and conventional banks operating in the GCC banking sectors.

DATA AND METHODOLOGY

The present study gathered data on 74 banks comprising of 47 conventional and 27 Islamic banks) operating in the GCC countries banking sectors during the period of

2007 to 2011. The primary source of financial data is the BankScope database. We gather the country governance data from the World Governance Indicator (WGI) database. The updated WGI data together with the underlying source and details are available online at www.govindicators.org. The macroeconomic variables are retrieved from the IMF Financial Statistics (IFS) and the World Bank World Development Indicator (WDI) databases.

Data Envelopment Analysis

This study compute the revenue, cost, and profit efficiency to obtain robust results and to enable us to observe and compare different efficiency measures of Islamic and conventional banks operating in the GCC banking sectors. The DEA Excel Solver developed by Zhu (2009) under the VRS model used to solve the revenue, cost, and profit efficiency problem. The revenue, cost, and profit efficiency models are given in Equations (1) – (3) below. As can be seen, the revenue, cost, and profit efficiency scores are bounded within the 0 and 1 range.

Frontier Type	Revenue Efficiency (1)	Cost Efficiency (2)	Profit Efficiency (3)
VRS	$max \sum_{r=1}^{s} q_r^o \tilde{y}_{ro}$	$min \sum_{i=1}^{m} p_i^o \tilde{x}_{io}$	$max \sum_{r=1}^{s} q_r^o \tilde{y}_{ro} - \sum_{i=1}^{m} p_i^o \tilde{x}_{io}$
	subject to	*subject to*	*subject to*
	$\sum_{j=1}^{n} \lambda_j x_{ij} \le \tilde{x}_{io} \quad i = 1,2,...,m;$	$\sum_{j=1}^{n} \lambda_j x_{ij} \le \tilde{x}_{io} \quad i = 1,2,...,m;$	$\sum_{j=1}^{n} \lambda_j x_{ij} \le \tilde{x}_{io} \quad i = 1,2,...,m;$
	$\sum_{j=1}^{n} \lambda_j y_{rj} \ge \tilde{y}_{ro} \quad r = 1,2,...,s;$	$\sum_{j=1}^{n} \lambda_j y_{rj} \ge y_{ro} \quad r = 1,2,...,s;$	$\sum_{j=1}^{n} \lambda_j y_{rj} \ge \tilde{y}_{ro} \quad r = 1,2,...,s;$
	$\lambda_j \tilde{y}_{ro} \ge 0$	$\lambda_j, \tilde{x}_{io} \ge 0$	$\tilde{x}_{io} \le x_{io}, \tilde{y}_{ro} \ge y_{ro}$
	$\sum_{j=1}^{n} \lambda_j = 1$	$\sum_{j=1}^{n} \lambda_j = 1$	$\lambda_j \ge 0$
			$\sum_{j=1}^{n} \lambda_{j=1}$

where

s	is output observation
m	is input observation
r	is s^{th} output
i	is m^{th} input
q_r^o	is unit price of the output r of DMU0 (DMU0 represents one of the n DMUs)
p_i^o	is unit price of the input i of DMU0
$\tilde{y}_{ro}$	is r^{th} output that maximize revenue for DMU0
$\tilde{x}_{io}$	is i^{th} input that minimize cost for DMU0

y_{ro} is r^{th} output for DMU0
x_{io} is i^{th} input for DMU0
n is DMU observation
j is n^{th} DMU
λ_j is non-negative scalars
y_{rj} is s^{th} output for n^{th} DMU
x_{ij} is m^{th} input for n^{th} DMU

The Choice of Approach, Inputs, and Outputs Variables

The present study adopts the intermediation approach in the definition of inputs and outputs used to construct the efficiency frontiers for three main reasons. Accordingly, two inputs, two input prices, two outputs, and two output prices variables are chosen. The two input vector variables consist of *x*1: Deposits and *x*2: Labour. The input prices consist of *w*1: Price of Deposit and *w*2: Price of Labour. The two output vector variables are *y*1: Loans and *y*2: Income while, the two output prices consist of *r*1: Price of Loans and *r*2: Price of Income. The selection of the input and output variables are based on Ariff and Can (2008) and other major studies on the efficiency of banking sectors in developing countries (e.g. Sufian et al. 2012; Sufian et al. 2013; Kamarudin et al. 2013). The summary of data used to construct the efficiency frontiers are given in Table 1.

Table 1 Summary Statistics of the Input and Output Variables in the DEA Model (USDmn)

Variable	Mean	Minimum	Maximum	Std. Deviation
Deposits (*x*1)	11,740.237	0.044	69,172.564	13,213.378
Labour (*x*2)	121.856	0.900	661.387	124.103
Loan (*y*1)	9,795.650	6.875	54,017.420	10,190.788
Income (*y*2)	694.820	0.100	3,178.320	711.964
Price of Deposit (*w*1)	0.078	0.001	5.773	0.387
Price of Labour (*w*2)	0.012	0.001	0.120	0.014
Price of Loans (*r*1)	0.101	0.010	6.393	0.377
Price of Income (*r*2)	0.362	0.000	14.333	1.518

Notes: *x*1: Deposits (deposits and short term funding), *x*2: Labour (personnel expenses), *y*1: Loans (total of short-term and long-term loans), *y*2: Income (gross interest and dividend income), *w*1: Price of Deposits (total interest expenses/ deposits), *w*2: Price of Labour (personnel expenses/ total assets), *r*1: Price of Loans (interest income on loans / loans), *r*2: Price of Income (other operating income/ income).

Panel Regression Analysis

This study adopt the Ordinary Least Square (OLS) regression method in the second stage regression analysis to examine the relationship between bank efficiency and other potential internal and external determinants (bank specific characteristics and macroeconomic conditions). As suggested by McDonald (2009), we estimate the regression models by using the White (1980) transformation which is robust to heteroskedasticity and the distribution of the disturbances in the second stage regression analysis involving DEA efficiency scores as the dependent variable. By

using the revenue efficiency scores as the dependent variable, we estimate the following baseline regression model:

$$Efficiency_{i,t} = \beta_1 \sum_{n=74}^{6} BankCharacteristics_{i,t} + \beta_2 \sum_{n=74}^{3} Macroeconomics_t + \beta_3 \sum_{n=74}^{3} CountryGovernance_t + \eta_i + \varepsilon_{i,t} \quad (4)$$

As robustness check, we employ the Generalized Method of Moments (GMM) estimator (Arellano and Bover, 1995; Blundell and Bond, 1998). The GMM estimator joins in a single system the regression equations in difference and levels, each one with its set of instrumental variables (the lags of each variable are used as instruments). By doing so, this study is capable of exploiting the panel structure of the dataset and controls for unobserved bank specific effects, time specific effects, potential endogeneity problems of the explanatory variables, and the use of lagged dependent variable. The panel data regression through the GMM provides an efficient solution and enables valuable inferences to be drawn in respect of the degree of efficiency and inefficiency of Islamic and conventional banks across different economic and institutional conditions.

Description of Variables Used in the Panel Regression Models

We include six bank specific [total assets (lnTA), loan loss reserve over gross loan (lnLLRGL), earning over total assets (lnETA), non-interest income over total assets (lnNIITA), non-interest expense over total assets (lnNIETA), total loan over total assets (lnLOANSTA)] and three macroeconomic [gross domestic product (lnGDP), consumer price index (lnINFL), concentration ratio of the three largest banks (lnCR3)] determinant variables in the panel regression models. To address the issue whether country governance matters for bank efficiency, we re-estimate equation (4) to include the six dimensions of country governance indicators. The country governance indicators are measured by scores ranging between -2.5 and 2.5, where a higher value indicates better country governance.

We introduce the voice and accountability (VA) variable in regression model 3. A higher value of VA implies greater participation from citizens to participate in selecting their government, freedom of expression, freedom of association, and free media. In regression model 4, we include the Political Stability and Absence of Violence (PV) variable. A higher value of PV indicates greater political stability. We include the Government Effectiveness (GE) variable in regression model 5. A higher value of GE indicates a higher credibility of the government's commitment to formulate and implement policies which promote private sector development.

The Regulatory Quality (RQ) variable is introduced in regression model 6. The RQ measures the ability of the government to formulate and implement sound policies and regulations which permit and promote private sector development. To examine the impact of quality of enforcements on bank efficiency, we include the Rule of Law (RL) variable in regression model 7. A higher value of RL represents greater confidence by agents to abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, and courts. Finally, in regression model 8 we introduce the Controlling Corruption (CC) variable. A higher

value of CC indicates strict control of which public power is exercised for private gain to reduce and eliminate corruption.

We expect all the six dimensions of country governance to have a positive impact on the efficiency of both Islamic and conventional banks operating in the GCC countries banking sectors indicating that banks operating in countries with better governance tend to report higher bank efficiency levels.

EMPIRICAL RESULTS

Efficiency of the GCC Banking Sectors

Table 2 presents the mean revenue, cost, and profit efficiency of Islamic and conventional banks. The empirical findings seem to suggest that Islamic banks operating in the GCC countries banking sectors have exhibited mean revenue, cost, and profit efficiency of 52.7%, 38.4%, and 52.2% respectively. On the other hand, we find that the mean revenue, cost, and profit efficiency of the conventional banks stands at 76.6%, 71.9%, and 66% respectively. The results clearly indicate that both Islamic and conventional banks operating in the GCC countries have been inefficient in producing outputs by using the given inputs (revenue inefficiency) and by not fully utilizing their inputs efficiently to produce the same outputs (cost inefficiency). Banks are said to have slacked if they fail to fully minimize their cost and maximize their revenue (profit inefficiency).

As for revenue efficiency, Islamic and conventional banks generated on average 52.7% and 76.6% less than what was expected respectively. The empirical findings seem to suggest that on average Islamic and conventional banks lose the opportunity to earn 47.3% and 23.4% more revenues out of their outputs respectively given the same amount of resources that they employ. Regarding cost efficiency, the results indicate that on average Islamic and conventional banks have utilized only 38.4% and 71.9% of their resources or inputs to produce the same level of outputs respectively. In other words, on average, both Islamic and conventional banks have wasted 61.6% and 28.1% of its inputs to produce the same level of outputs respectively. Concerning profit efficiency, the results seem to suggest that Islamic and conventional banks have lost the opportunity to generate 47.8% and 34% more outputs respectively from the available inputs.

In conclusion, the empirical findings from this study seem to suggest that Islamic banks operating in the GCC countries banking sectors have been relatively inefficient compared to their conventional bank peers on all three efficiency measures (e.g. revenue efficiency (52.7% vs. 76.6%), cost efficiency (38.4% vs. 71.9%), and profit efficiency (52.2% vs. 66%)). The results seem to suggest that Islamic banks generate less revenue and profit, but incur relatively higher cost compared to their conventional bank counterparts implying high wastage of inputs among Islamic banks operating in the GCC countries banking sectors. In essence, the low (high) level of profit efficiency of Islamic (conventional) banks is due to lower (higher) revenue efficiency or higher (lower) inefficiency level from the revenue side.

Table 2 Summary of Revenue, Cost, and Profit Efficiencies

Bank	MEAN		
	RE	CE	PE
Islamic Bank	0.527	0.384	0.522
Conventional Bank	0.766	0.719	0.66

Robustness Tests

An analysis base on levels may be biased by a few observations. Accordingly, in the preceding section, we perform a series of parametric (*t*-test) and non-parametric (Mann-Whitney (Wilcoxon) and Kruskall-Wallis) tests to examine the difference in revenue, cost, and profit efficiency of Islamic and conventional banks operating in the GCC countries banking sectors. Table 3 present the results. The results from the parametric *t*-test suggest that Islamic banks have exhibited a lower mean revenue efficiency ($0.527 < 0.766$), cost efficiency ($0.384 < 0.719$), and profit efficiency ($0.522 < 0.660$) compared to their conventional bank peers (statistically significantly different at the 1% level in all cases). The results from the parametric *t*-test are further confirmed by the non-parametric Mann-Whitney (Wilcoxon) and Kruskall-Wallis tests.

In essence, the empirical findings in Table 3 confirm our main findings given in Table 2. We therefore concludes that Islamic banks operating in the GCC countries banking sectors have been less efficient than their conventional bank counterparts on all three efficiency measures (statistically significant at the 1% level in all cases).

Table 3 Summary of Parametric and Non-Parametric Tests

	Test groups					
	Parametric test		Non-Parametric test			
Individual tests	*t*-test		Mann-Whitney [Wilcoxon Rank-Sum] test		Kruskall-Wallis Equality of Populations test	
Hypothesis			MedianIslamic = MedianConventional			
Test statistics	*t(Prb>t)*		*z(Prb>z)*		*X² (Prb > X²)*	
	Mean	*t*	Mean Rank	*z*	Mean Rank	*X²*
Revenue Efficiency						
Islamic banks	**0.527**	8.056***	124.245	–5.287***	124.245	27.951***
Conventional bank	**0.766**		182.164		182.164	
Cost Efficiency						
Islamic banks	**0.384**	9.502***	119.182	–5.982***	119.182	35.779***
Conventional bank	**0.719**		184.766		184.766	
Profit Efficiency						
Islamic banks	**0.522**	3.673***	140.709	–3.036***	140.709	9.216***
Conventional bank	**0.660**		173.701		173.701	

*** correlation is significant at the 0.01 level (2-tailed).
** correlation is significant at the 0.05 level (2-tailed).
* correlation is significant at the 0.1 level (2-tailed).

Determinants of Revenue Efficiency

An important understanding that arises after the computation of the efficiency scores is to attribute variations in efficiency change to bank specific characteristics and the environment in which they operate. In the following section we proceed to discuss results derived from the multivariate panel regression analysis framework. Tables 5 and 6 present regression results focusing on the relationship between revenue efficiency and the contextual variables for Islamic and conventional banks respectively.

Referring to the impact of bank size, the empirical findings indicate a positive relationship between size (lnTA) and revenue efficiency for both Islamic and conventional banks. The results imply that the larger (smaller) size banks tend to exhibit higher (lower) revenue efficiency providing support to the argument that large bank may benefit from economies of scale which enables them to generate higher revenues. Concerning the impact of capitalization on revenue efficiency it can be observe from Table 4 and 6 that the coefficient of the lnETA variable exhibits a positive sign. The results imply that the relatively better capitalized Islamic and conventional banks tend to report higher revenue efficiency levels.

We find that the impact of management quality (lnNIETA) is negative on the revenue efficiency of Islamic banks, but not so in the case of the conventional banks.

Since the lnNIETA variable represents good management qualities, a negative sign of the variable signals poor senior management practices in managing input-usage and day-to-day operations. Furthermore, we find that the coefficient of lnLOANSTA has consistently exhibit a positive relationship with the revenue efficiency of the conventional banks but not so in the case of Islamic banks..

The empirical findings in Table 5 show a negative relationship between gross domestic product (lnGDP) and revenue efficiency of the conventional banks. A plausible reason could be due to the volatile economic growth in the GCC countries resulting in banks to suffer from lower demand for their financial services, increase loan defaults, and lower outputs. Concerning the impact of banking sector concentration, it can be observed from Table 5 that the coefficient of the lnCR3 entered most of the regression models with a positive sign providing support to the Structure-Conduct-Performance (SCP) hypothesis.

Does Country Governance Foster Revenue Efficiency?

To address the issue whether country governance matters in determining the revenue efficiency of Islamic and conventional banks operating in the GCC countries banking sectors, we re-estimate Equation (4) to include the six dimensions of the country governance indicators namely Voice and Accountability (lnVA), Political Stability and Absence of Violence (lnPV), Government Effectiveness (lnGE), Regulatory Quality (lnRQ), Rule of Law (lnRL), and Control of Corruption (lnCC). The relationship between the six different dimensions of country governance and revenue efficiency is analyzed individually, due to the high correlation between the sub-indices (see Langbein and Knack, 2010). The results are shown in columns 3 – 8 of Table 4 for Islamic and Table 5 for conventional banks.

As observed, the empirical findings in column 3 of Tables 5 and 6 indicate that the coefficient of the Voice and Accountability (lnVA) variable has consistently exhibit a positive sign (statistically significant at the 1% level). Within the context of the GCC countries banking sectors, the empirical findings clearly imply that greater voice and accountability is vital to ensure higher revenue efficiency of Islamic and conventional banks. A plausible reason could be attributed to the fact that voice and accountability promotes democracy and eradicate poverty through the role of citizens and state institutions which could consequently lead to higher revenue efficiency for both Islamic and conventional banks operating in the GCC countries banking sectors.

Concerning the impact of Government Effectiveness (lnGE), the empirical findings given in column 5 of Tables 5 and 6 shows a positive coefficient of the lnGE variable (statistically significant at the 1% and 5% levels respectively). The results imply that the greater the credibility of a government towards its commitment to formulate and implement sound private sector development policies and regulations positively influence the revenue efficiency of Islamic and conventional banks operating in the GCC countries banking sectors. The findings to a certain extent lend support to the theory of behavioural commitment. To recap, the theory argues that the characteristics of governments and their implementation of policies affects the credibility of their behaviours in ways independent of the structural underpinnings of a country's political institutions (Stevens and Cooper, 2010).

Turning to the impact of Regulatory Quality (lnRQ), it can be observed from column 6 of Table 4 that the coefficient of the lnRQ variable exhibits a positive sign (statistically significant at the 5% level). The results clearly imply that better governance in the form of Regulatory Quality enhances the revenue efficiency of Islamic banks operating in the GCC countries. The theory of regulation stipulates that a quality regulatory system can be assessed through the measurement of effectiveness, efficiency, and good governance (Jalilian et al. 2007). The empirical findings to a certain extent lend support to the fact that governments in the GCC countries have formulated and implemented sound policies and regulations which encourage positive development within the Islamic banking sector. Furthermore, good Regulatory Quality may result in a more professional handling of bureaucracy and accountability of government employees which could positively influence the revenue efficiency of Islamic banks.

Similarly, the positive coefficient of lnRL indicates that better Rule of Law in the GCC countries contribute to a higher revenue efficiency of Islamic banks. The Rule of Law in country governance is the respect for order and law, effectiveness of the judiciary system, and enforceability of contracts. In essence, Rule of Law measures the efficiency of the legal system (Kaufmann et al. 2010; Jalilian et al. 2007). The theory of judicial behaviour suggests that the quality of judicial behaviour produced by a quality Rule of Law may drive economic efficiency (Sherwood et al. 1994). It would be reasonable to assume that efficient judicial institutions in the GCC countries has helped reduce uncertainty and risk for conducting and starting businesses subsequently boost investments by the private sector, reduce transaction costs for consumers, and strengthens the market.

Finally, it can be observed from column 4 of Table 5 that the Political Stability and Absence of Violence (lnPV) variable exhibits a positive relationship with the conventional banks operating in the GCC countries banking sectors (statistically significant at the 1% level). The positive coefficient of lnPV indicates that the stability of politics and free from any violence and terrorism in the GCC countries contribute to a higher revenue efficiency of the conventional banks. The theory of public policy and regulation argues that politicians do not maximize the country's social welfare but they are more interested to maximize their own private welfare (Becker, 1983). Although politicians have the power to discipline non-compliant banks, they may otherwise exercise it to divert the credit flow of the politically connected banks.

The empirical findings to a certain extent support the fact that politicians in the GCC countries fully exercise their power to optimize social welfare rather than their own private interest. Political stability may help banks reduce transaction costs and remove asymmetric information which allow banks to receive deposits and provide loans efficiently. The earlier study by Roe and Siegel (2011) suggest that political stability may help eliminate asymmetric information problem through efficient regulatory measures and improve the efficiency of the economy and promote banking sector developments.

As observed from column 8 of Table 5, the empirical findings indicate a positive relationship of the impact of control of corruption (lnCC) implying that greater Control on Corruption enhances the revenue efficiency of conventional banks

operating in the GCC countries banking sectors. Kaufmann et al. (2010) define control of corruption as controlling of public power to obtain their own private benefits. The empirical findings seem to suggest that supervisory agencies in the GCC countries have been successful to contain corruption which helps enhance the revenue efficiency of the conventional banks. Stigler (1971) states that strong official supervision may help improve the quality of governance in the banking sector when the cost of transaction, cost of information, and government policies interferes with the abilities and incentives of private agents to monitor banks.

Table 4 Panel OLS Regression Results – GCC Islamic Banks

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Constant	-2.096***	-17.099	-63.357	-31.789	-24.577	-18.168	-49.969	-33.066
Std. Error	0.601	131.193	124.292	132.201	129.034	128.233	129.908	131.927
Bank-Specific Variables								
lnTA	0.276***	0.273***	0.475***	0.261***	0.343***	0.410***	0.361***	0.275***
Std. Error	0.096	0.097	0.107	0.098	0.101	0.111	0.104	0.097
lnLLRGL	0.161	0.173	0.075	0.174	0.195	0.213	0.157	0.185
Std. Error	0.135	0.137	0.132	0.137	0.135	0.135	0.135	0.138
lnETA	0.642***	0.615***	1.104***	0.631**	0.801***	0.877***	0.815***	0.665***
Std. Error	0.236	0.240	0.262	0.241	0.252	0.259	0.254	0.244
lnNIITA	-0.063	-0.124	-0.130	-0.127	-0.148	-0.168	-0.162	-0.130
Std. Error	0.107	0.124	0.117	0.125	0.123	0.123	0.124	0.124
lnNIETA	-0.615***	-0.540***	-0.464**	-0.519**	-0.482**	-0.443*	-0.391	-0.507**
Std. Error	0.216	0.231	0.219	0.232	0.229	0.229	0.238	0.233
lnLOANSTA	-0.027	-0.025	-0.012	-0.039	-0.020	0.016	-0.020	-0.031
Std. Error	0.125	0.126	0.119	0.127	0.124	0.125	0.124	0.126
Macroeconomic Variables								
lnGDP		0.127	-0.490	-0.150	-0.150	0.352	-0.398	-0.278
Std. Error		3.729	3.519	3.743	3.668	3.646	3.674	3.745
lnINFL		0.008	-1.302	-0.373	-0.106	0.032	-0.890	-0.417
Std. Error		3.630	3.440	3.655	3.569	3.548	3.594	3.648
lnCR3		8.235	36.851	17.656	12.952	6.928	28.213	18.878
Std. Error		89.617	84.825	90.231	88.137	87.596	88.607	90.091
Country Governance Variables								
lnVA			0.286***					
Std. Error			0.078					
lnPV				0.294				
Std. Error				0.313				
lnGE					0.633**			
Std. Error					0.300			
lnRQ						1.191**		
Std. Error						0.500		
lnRL							1.574**	
Std. Error							0.744	
lnCC								0.270
Std. Error								0.251
R^2	0.219	0.233	0.326	0.240	0.266	0.275	0.267	0.242
Adj R^2	0.174	0.164	0.258	0.163	0.192	0.202	0.192	0.166
F-statistic	4.820***	3.380***	4.780***	3.130***	3.590***	3.750***	3.600***	3.160***
No. of Obs.	110	110	110	110	110	110	110	110

Note: ***, **, * indicates significance at the 1%, 5% and 10% levels respectively.

Table 5 Panel OLS Regression Results – GCC Conventional Banks

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Constant	-0.630***	2.445	2.644	2.555	2.841*	2.432	2.771	3.395**
Std. Error	0.159	1.725	1.701	1.666	1.712	1.731	1.755	1.717
Bank-Specific Variables								
lnTA	0.039**	0.030	0.047**	0.054***	0.046**	0.029	0.039*	0.044**
Std. Error	0.019	0.019	0.020	0.020	0.020	0.021	0.021	0.020
lnLLRGL	0.043	0.021	0.015	0.036	0.038	0.021	0.025	0.048
Std. Error	0.028	0.029	0.028	0.028	0.029	0.029	0.029	0.029
lnETA	0.0940*	0.050	0.066	0.059	0.053	0.049	0.061	0.061
Std. Error	0.055	0.059	0.058	0.057	0.058	0.059	0.060	0.058
lnNIITA	-0.054	-0.043	-0.046	-0.066	-0.049	-0.043	-0.046	-0.059
Std. Error	0.038	0.042	0.041	0.041	0.041	0.042	0.042	0.041
lnNIETA	-0.067	-0.076	-0.051	-0.064	-0.067	-0.078	-0.061	-0.070
Std. Error	0.044	0.047	0.047	0.045	0.046	0.048	0.049	0.046
lnLOANSTA	0.138***	0.133***	0.123**	0.069	0.118**	0.133***	0.127**	0.102**
Std. Error	0.051	0.050	0.049	0.051	0.050	0.050	0.050	0.050
Macroeconomic Variables								
lnGDP		-0.692	-0.776*	-0.784**	-0.827**	-0.681	-0.804*	-0.972**
Std. Error		0.421	0.416	0.407	0.420	0.426	0.435	0.422
lnINFL		0.094	0.134	0.140	0.161	0.089	0.137	0.219
Std. Error		0.171	0.170	0.166	0.171	0.174	0.177	0.173
lnCR3		0.809	0.965*	0.913*	0.978*	0.790	0.937	1.195**
Std. Error		0.566	0.560	0.547	0.563	0.576	0.579	0.568
Country Governance Variables								
lnVA			0.030***					
Std. Error			0.011					
lnPV				0.204***				
Std. Error				0.051				
lnGE					0.10**			
Std. Error					0.044			
lnRQ						-0.016		
Std. Error						0.088		
lnRL							0.105	
Std. Error							0.104	
lnCC								0.112***
Std. Error								0.036
R^2	0.073	0.133	0.163	0.196	0.158	0.133	0.137	0.172
Adj R^2	0.046	0.095	0.121	0.157	0.117	0.091	0.095	0.132
F-statistic	2.700***	3.480***	3.940***	4.950***	3.820***	3.120***	3.230***	4.220***
No. of Obs.	214	214	214	214	214	214	214	214

Note: ***, **, * indicates significance at the 1%, 5% and 10% levels respectively.

Robustness Checks: Controlling for Potential Endogeneity

Garcia-Herrero et al. (2009) points out that potential endogeneity could be a problem when assessing bank profitability determinants. In this vein, Poghosyan and Hesse (2009) suggest that empirical works on determinants of bank performance may suffer from several sources of inconsistencies, such as highly persistence performance, omitted variables, and endogeneity bias. For instance, the more efficient banks may have sufficient resources to provision for their non-performing loans. The more profitable banks may also find it easier to increase their customer base through a successful advertising campaign and could hire the most skilled personnel (Garcia-Herrero et al. 2009).

To address this concern, we introduce a lagged dependent variable in the regression models by employing the Generalized Methods of Moments (GMM) estimator introduced by Arellano and Bover (1995), and Blundell and Bond (1998). The system GMM (see Blundell and Bond, 1998) allows us to control for persistence and endogeneity issues and therefore yields consistent estimates. The GMM joins in a single system the regression equations in differences and levels, each one with its set of instrumental variables. By doing so, the present study attempts to exploit the panel structure of the dataset and controls for unobserved bank specific effects, potential endogeneity problems of the explanatory variables, time specific effects, and the use of lagged dependent variables. Therefore, the panel data regression method provides efficient solution and enables valuable inferences to be drawn in respect to the degree of performance of banks across different economic and institutional conditions.

The reliability of our econometric methodology depends critically on the validity of the instruments, which can be evaluated with Sargan's test of overidentifying restrictions, asymptotically distributed as χ^2 in the number of restrictions. A rejection of the null hypothesis that instruments are orthogonal to the errors would indicate that the estimates are not consistent (Baum et al. 2010)[36]. We also present test statistics for the first and second order serial correlations in the error process. In a dynamic panel data context, second order serial correlation should not be present if the instruments are appropriately uncorrelated with the errors (Baum et al. 2010).

36 Following Garcia-Herrero et al. (2009) among others, we instrument for all regressors, while the macroeconomic characteristics are treated as exogenous.

Table 6 Panel GMM Regression Results – GCC Islamic Banks

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Constant	-3.349**	-35.589	-273.585	26.278	-304.087	2.936	32.401	-116.311
Std. Error	1.683	194.187	270.653	299.339	696.573	307.568	244.257	347.725
Bank-Specific Variables								
ln(RE_{t-1})	0.441**	0.672***	0.482*	0.632***	0.452**	0.640**	0.522***	0.558***
Std. Error	0.176	0.138	0.261	0.128	0.220	0.319	0.159	0.193
lnTA	0.708**	0.116	0.441	-0.007	0.298	0.274	0.377	0.329
Std. Error	0.357	0.135	0.298	0.217	0.317	0.456	0.309	0.380
lnLLRGL	-0.172	-0.017	-0.083	0.086	0.377	0.200	0.089	-0.103
Std. Error	0.154	0.158	0.179	0.205	0.370	0.369	0.170	0.195
lnETA	0.678	0.307	1.795**	0.435	1.358**	1.302	1.215*	0.470
Std. Error	0.436	0.277	0.834	0.399	0.664	1.413	0.651	0.421
lnNIITA	-0.030	0.003	-0.050	0.021	-0.271	-0.088	-0.224	0.027
Std. Error	0.144	0.113	0.184	0.107	0.295	0.217	0.133	0.178
lnNIETA	-0.117	0.086	0.350	0.309	0.472	0.281	1.028	0.188
Std. Error	0.434	0.357	0.622	0.469	0.514	0.371	0.686	0.493
lnLOANSTA	-0.263	0.031	0.352	0.072	0.263	0.399	0.158	-0.091
Std. Error	0.358	0.214	0.426	0.302	0.378	0.545	0.253	0.287
Macroeconomic Variables								
lnGDP		-0.700	-6.158	2.601	-10.715	1.998	6.098	-3.258
Std. Error		7.136	9.708	10.765	26.372	11.798	10.073	12.044
lnINFL		-1.012	-7.398	0.824	-7.027	0.712	1.047	-3.098
Std. Error		5.395	7.541	8.122	18.365	8.336	6.809	9.575
lnCR3		22.798	179.653	-25.804	212.374	-12.218	-45.672	78.347
Std. Error		138.971	192.697	212.428	501.478	222.260	178.017	245.540
Country Governance Variables								
lnVA			0.616***					
Std. Error			0.190					
lnPV				0.989				
Std. Error				1.489				
lnGE					2.352**			
Std. Error					0.918			
lnRQ						2.332		
Std. Error						3.699		
lnRL							5.857**	
Std. Error							2.977	
lnCC								0.665
Std. Error								1.137
Wald x^2	42.59	204.72	70.27	133.27	137.07	107.92	80.79	54.75
AR(1) *p*-value	0.378	0.209	0.451	0.245	0.241	0.306	0.199	0.332
AR(2) *p*-value	0.887	0.849	0.631	0.928	0.779	0.946	0.802	0.977
Hansen *p*-value	0.956	0.998	0.994	0.992	0.455	0.995	0.988	0.989
No. of Obs.	82	82	82	82	82	82	82	82

Note: ***, **, * indicates significance at the 1%, 5% and 10% levels respectively.

Table 7 Panel GMM Regression Results – GCC Conventional Banks

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Constant	-0.271	-0.913	-3.110	3.454	1.375	-0.941	-1.715	5.128*
Std. Error	0.430	5.202	4.357	5.327	4.273	4.559	4.729	2.973
Bank-Specific Variables								
ln(RE$_{t-1}$)	0.335***	0.428***	0.430***	0.304**	0.625***	0.732***	0.644***	0.594***
Std. Error	0.114	0.147	0.184	0.133	0.142	0.141	0.135	0.117
lnTA	0.030	0.115	-0.028	0.096	-0.001	-0.056	-0.008	-0.014
Std. Error	0.023	0.075	0.063	0.062	0.044	0.043	0.036	0.041
lnLLRGL	0.017	-0.033	-0.104	0.284**	0.005	-0.082	-0.049	0.025
Std. Error	0.042	0.050	0.090	0.121	0.062	0.078	0.066	0.045
lnETA	0.138*	0.848**	-0.210*	-0.040	-0.227	-0.240**	-0.150	-0.177
Std. Error	0.074	0.383	0.116	0.137	0.150	0.112	0.144	0.136
lnNIITA	-0.102**	-0.118	0.156	-0.010	0.166	0.214*	0.155	0.118
Std. Error	0.048	0.168	0.127	0.154	0.120	0.130	0.139	0.137
lnNIETA	0.027	0.017	-0.189	-0.289	-0.254*	-0.301***	-0.197	-0.258*
Std. Error	0.058	0.249	0.131	0.187	0.135	0.115	0.148	0.134
lnLOANSTA	-0.049	0.130	-0.110	-0.203*	-0.198	-0.162	-0.161	-0.165
Std. Error	0.188	0.288	0.191	0.111	0.133	0.145	0.169	0.161
Macroeconomic Variables								
lnGDP		0.069	0.828	-0.932	-0.086	0.677	0.606	-1.027
Std. Error		1.162	0.974	1.232	0.960	1.005	1.091	0.661
lnINFL		-0.593	-0.925**	-0.026	-0.718**	-1.105**	-0.988**	-0.332
Std. Error		0.468	0.378	0.559	0.354	0.439	0.472	0.216
lnCR3		-0.574	-0.441	0.710	-0.035	-1.034	-0.803	1.140*
Std. Error		0.975	0.921	1.162	0.901	1.051	1.072	0.604
Country Governance Variables								
lnVA			0.109*					
Std. Error			0.061					
lnPV				0.809***				
Std. Error				0.166				
lnGE					0.397***			
Std. Error					0.116			
lnRQ						-0.062		
Std. Error						0.310		
lnRL							0.4312**	
Std. Error							0.212	
lnCC								0.331***
Std. Error								0.088
Wald x^2	47.32	45.26	119.26	55.25	111.95	93.44	98.69	233.6
AR(1) *p*-value	0.036	0.023	0.028	0.069	0.002	0.002	0.002	0.001
AR(2) *p*-value	0.119	0.1	0.367	0.608	0.187	0.278	0.203	0.203
Hansen *p*-value	0.11	0.11	0.105	0.134	0.313	0.213	0.227	0.381
No. of Obs.	167	167	167	167	167	167	167	167

Note: ***, **, * indicates significance at the 1%, 5% and 10% levels respectively.

The regression results focusing on the relationship between the revenue efficiency of Islamic and conventional banks operating in the GCC countries banking sectors and the explanatory variables are shown in Tables 7 and 8. Several general comments regarding the test results are warranted. Firstly, the results for most variables remains stable across the various regressions tested. Secondly, it can be observed that for all the regression models estimated, the Hansen statistics for overidentifying restrictions and the Arrelano–Bond *AR*(2) tests shows that at the 5% significance level our instruments are appropriately orthogonal to the error and no second order serial correlation is detected respectively. The highly significant of the lagged dependent variable's coefficient confirms the dynamic character of the model specification, thus justifying the use of dynamic panel data model estimation.

It can be observed from Table 7 that the coefficient of lnLLRGL becomes significant when we control for Political Stability and Absence of Violence (lnPV) in the regression model. On the other hand, the coefficient of lnNIETA turns out to be significant when we control for Government Effectiveness (lnGE), Regulatory Quality (lnRQ), and Control of Corruption (lnCC). Similarly, the coefficient of lnINFL exhibits a negative sign (statistically significant at the 5% level) when we control for Voice and Accountability (lnVA), Government Effectiveness (lnGE), Regulatory Quality (lnRQ), and Rule of Law (lnRL) in the regression models.

It is also worth noting that the coefficients of lnTA, lnGDP, and lnCR3 lose its explanatory power when we control for potential endogeneity among the conventional banks. The empirical findings seem to suggest mixed impact of capitalization (lnETA) when we control for Voice and Accountability (lnVA) and Regulatory Quality (lnRQ) in the regression models. Likewise, a mixed impact of non-traditional activities (lnNIITA) takes place after we control for Regulatory Quality (lnRQ) in regression model 6.

CONCLUSIONS AND POLICY IMPLICATIONS

The present study provides new empirical evidence on the impact of country governance on the revenue efficiency of Islamic and conventional banks. The empirical analysis is confined to Islamic and conventional banks operating in the GCC countries banking sectors during the period of 2007 – 2011. We employ the non-parametric Data Envelopment Analysis (DEA) method to compute the efficiency of individual Islamic and conventional banks. To obtain robust results we compute three different efficiency measures namely revenue, cost, and profit efficiency. Additionally, we perform a series of parametric (*t*-test) and non-parametric (Mann-Whitney [Wilcoxon] and Kruskall-Wallis) tests to examine the difference in the efficiency of the Islamic and conventional banks. To investigate the potential determinants and the effect of country governance on the revenue efficiency of both Islamic and conventional banks we adopt a panel regression analysis framework based on the Ordinary Least Square (OLS) and Generalized Method of Moments (GMM) estimator methods.

We find that Islamic banks have been relatively less efficient compared to their conventional bank counterparts on all three different efficiency measures. The

parametric (*t*-test) and non-parametric (Mann-Whitney [Wilcoxon] and Kruskall-Wallis) tests confirm that these differences are significant. The empirical findings also suggest that revenue efficiency has been a significant factor influencing the low (high) profit efficiency of Islamic (conventional) banks operating in the GCC banking sectors. The results suggest positive impact of bank size and capitalization levels on the revenue efficiency of both Islamic and conventional banks, while a negative relationship is observed on management quality. On the other hand, the impact of asset quality, non-traditional activities, and liquidity on the revenue efficiency of conventional banks seem ambiguous. Likewise, we find mixed evidence on the impact of macroeconomic conditions on the revenue efficiency of conventional banks.

Examining the impact of country governance, we find that greater Voice and Accountability, Government Effectiveness, and Rule of Law have a positive impact on the revenue efficiency of Islamic and conventional banks operating in the GCC banking sectors. The empirical findings seem to suggest that Regulatory Quality has positive impact on the revenue efficiency of Islamic banks but not so in the case in the conventional banks. On the other hand, Political Stability and Control of Corruption (lnCC) positively influence the revenue efficiency of the conventional banks but not Islamic banks.

The empirical findings from this study could be useful and may have significant implications for regulators, bankers, investors, and academicians in the GCC countries. The regulators or policy makers could find mechanisms to improve the revenue efficiency and subsequently result in a higher profitability of Islamic and conventional banks operating in the GCC countries banking sectors. Furthermore, the empirical findings could serve as guidance to regulators and decision makers in designing new policies and regulation for a sustainable and competitive banking sector.

The results also provide useful insights and guidance to the bank managements. Since different principals are practiced by Islamic and conventional banks (*Syari'ah* and non-*Syari'ah* compliance), therefore, different strategies need to be taken to improve their revenue efficiency levels. Accordingly, both Islamic and conventional banks should revise or improved on their existing governance strategy so as to be aligned with the country governance if improvement in revenue efficiency levels is to be expected.

Nevertheless, the empirical findings may also provide useful insights to investors as they may be able to assess the performance of Islamic and conventional banks operating in the GCC countries banking sectors. Investors are able to predict the future of GCC banks revenue efficiency level if all the potential determinants and the specific dimension of country governance have been taken seriously by banks and regulators. Therefore, the empirical findings from this study may help investors plan and strategize their investment portfolio performance.

Finally, the paper fills in a demanding gap in the literature by providing new empirical evidence on the impact of country governance on the revenue efficiency of Islamic banks. Although studies examining the performance of Islamic banks have expanded rapidly in recent times, most of these studies have examined the concept of technical efficiency. On the other hand, empirical studies on the revenue efficiency

concept are relatively scarce, while empirical evidence on the impact of country governance on the efficiency of Islamic banks is completely missing from the literature. Therefore, this study provides a new area of research for academicians to explore where more interesting and new findings could be obtained.

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Green Innovation for Sustainable Development: A Quantitative Analysis of the Impact of the Kyoto Protocol

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ABSTRACT

This study quantitatively investigated the role of green innovation on the impact of the Kyoto Protocol from the perspective of sustainable development. In order to estimate the impact of the Kyoto Protocol, this study used a country-based panel data set from 1977 to 2010 in the analysis, spanning 97 countries. This study estimated the degree of green innovation in each country by their proportion of selected patents that relate to CO_2 emission mitigation technology. The results reveal that participating in the Kyoto Protocol has no significant impact on CO_2 emissions, but there is a statistically significant improvement in GDP. Moreover, this study observed a significant effect of the degree of green innovation on the reduction of CO_2 emissions and on GDP growth. However, there is no empirical evidence that the green innovation facilitates CO_2 emission reductions and eases economic decline. Although this study does not find empirical support for a significant positive effect of green innovation on the environment and economy of member countries of the Kyoto Protocol, there is potential for a significant positive effect on overall emission reductions and economic growth.

Keywords: Economic Growth, Emission Reductions, Green Innovation, Kyoto Protocol, Sustainable Development

INTRODUCTION

The international effort toward sustainable environmental governance to cope with global environmental degradation has increased. The Kyoto Protocol is one of the most influential international environmental agreements (IEAs) with respect to reducing greenhouse gas (GHG) emissions, as it considers national differences in initial emissions, wealth, and the capacity to reduce emissions (Grubb, 2004). The agreement identified industrial countries as having the primary responsibility of

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mitigating pollution. As a result, the internationally binding emission reduction targets were only imposed on developed countries.

However, the UN Climate Change Conference in Durban in 2011 launched an agreement based on a new platform of negotiations to deliver a universal GHG reduction protocol that included developing countries. This agreement took the view that developing countries should also share the responsibility of achieving sustainable development (United Nations Framework Convention on Climate Change (UNFCCC), n.d.). Therefore, there is a growing need to grasp the impact of the Kyoto Protocol and establish strategies for sustainable development, both in developed and developing countries.

With regard to concerns over the cost of implementing these environmental policies, existing empirical studies are skeptical about the economic effectiveness of the Kyoto Protocol (Böhringer et al., 2001; Nordhaus & Boyer, 1999)[37]. In this context, the economic burden of reducing pollutants cannot be overlooked. Thus, it is crucial to find a way to reduce emissions while simultaneously enabling sustainable economic development and addressing the adverse effects on the economy.

The advancement of science and technology is closely related to a country's capacity to enhance emission reduction and to mitigate the economic burden of these policies. For example, the Porter Hypothesis suggests that both environmental and economic performance can be improved by innovations that improve environmental performance and redress inefficiencies. In particular, innovation in the environmental sector—or "green innovation"—can be a touchstone with which to investigate potential for sustainable development.

Nevertheless, there has not yet been sufficient research evaluating the environmental effect and economic burden of participating in the Kyoto Protocol from the perspective of sustainable development. Moreover, the discussion on substantial and realistic measures to achieve sustainable development by redeeming de-growth from participating in the Kyoto Protocol has suffered from this lack of empirical analysis. The Kyoto Protocol was established based on market-based mechanisms with the intention of reducing the economic burden. Therefore, the Kyoto Protocol may be an appropriate way to gauge the possibility of applying the Porter Hypothesis to IEAs.

In this sense, the aim of this study is to quantitatively investigate the role of green innovation on the impact of the Kyoto Protocol, and to suggest ways of furthering sustainable development worldwide. This study evaluates the role of green innovation from a broader perspective for sustainable development, and suggests ways in which to improve both environmental quality and economic performance, based on the following main research question: *How does green innovation affect sustainable development in the world?* To answer this question, the main question is divided into two specific sub-questions, which investigate the effect of green innovation on the Kyoto Protocol from an environmental aspect and economic

[37] The empirical analysis of my doctoral thesis also revealed a significant positive effect in reducing CO_2 emissions, but a negative effect in terms of economic growth for Annex 1 parties participating in the Kyoto Protocol. This article is under review for *International Environmental Agreements: Politics, Law and Economics*.

aspect. Sub-question 1: *Does green innovation create a synergy effect to enhance pollutant reduction via the Kyoto Protocol?* Sub-question 2: *Is it possible to mitigate the economic burden of the Kyoto Protocol that implements green innovation?* Figure 1 depicts the conceptual framework of this study, which applies the Porter Hypothesis to IEAs.

This paper is organized as follows. First, the theoretical framework and hypotheses are established, based on the literature review in section 2. Then, section 3 elaborates on the empirical methods used to measure green innovation and to test the role of green innovation on the impact of the Kyoto Protocol. This section also describes the data used in this study. The empirical results are given in section 4, and section 5 concludes the paper.

LITERATURE REVIEW

Sustainable Development and IEAs

Historically, there has been a lack of consensus on the meaning of sustainability, giving rise to numerous definitions for the term. After lively discussions on the concept of sustainable development, sustainability is now accepted to mean "a change in a property referred to as 'system quality'" (Bell & Morse, 2008, p. 12). The term "sustainable development" was popularized in the Brundtland Commission, formally known as the World Commission on Environment and Development (WCED) (Adger & Jordan, 2009), which focused on the sustainable management of global environment concerns as an interaction between nature and human systems. As introduced in Bell and Morse (2008), Brundtland (1987) provides the classic definition of sustainable development as "meeting the needs of the present without compromising the ability of future generations to meet their needs" (p. 10). This concept combines the socioeconomic concerns and environmental concerns that could conflict, and thus, remains controversial.

In this context, it is true that sustainable development is connected to all aspects of human lives. Consequently, a definition is necessary to narrow the scope of this concept. Based on the literature reviewed here, this study defines sustainable development as comprising the economy, environment, and society. These three sectors can be expressed as three interconnected rings (du Plessis, 2000). According to Adger and Jordan (2009), discussing sustainable development, under the title "Our Common Future," has raised the awareness of common environmental problems. However, the synergies between the three elements of sustainable development have been the focus of research since the Brundtland Commission. There is some debate about the weaknesses and limitations of the conceptual simplicity, as well as doubts about the relation and priority among sectors. However, its division into three separate sectors—environment, economy, and society—reveals the general approach to sustainable development (Giddings et al., 2002).

In accordance with current discussions, IEAs have become a mode of transnational cooperation for sustainable development and forming and

implementing global environmental governance to prevent environmental degradation. In other words, it focused on managing the interaction between the global environment and development. From the IEA perspective, it is necessary to achieve the original purpose to enhance participation in the IEAs, especially considering the influence of IEAs on the socioeconomic aspects of member countries. In particular, the effect of economic performance is practically important to revitalizing IEAs by encouraging participation. The reason for this is that imposing the economic burden of IEAs caused by pollutant reduction is one of the significant considerations for countries deciding on whether to participate (Sprinz & Vaahtoranta, 1994). Moreover, IEAs are expected to improve the efficiency of economic growth, especially in developing countries, since environmental quality is closely related to the quality of human life, including public health, life satisfaction, and even economic activities.

In this respect, IEAs must also consider economic aspects to enhance environmental cooperation, since both the environmental and the economic impact of IEAs are significant considerations when a country decides whether to participate in an IEA. Therefore, these cannot be overlooked from the perspective of sustainable development. Indeed, many countries, especially developing countries in Asia, such as China, pay careful attention to the expected negative effect on their economic growth. In addition, the economic burden of reducing pollutants causes the free rider problem, which decreases the overall effectiveness of IEAs (Mearsheimer, 1994). Kanie (2007) also states that the economic burden is considerable, even in developed countries: "Public expenditures on environmental protection and sustainable development in the advanced industrialized countries now routinely run between 2–3% of their GNP" (p. 71).

In this context, it is necessary to find a way to simultaneously reduce pollutants and mitigate the economic burden of doing so by participating in IEAs. This study investigates the Kyoto Protocol from both environmental and economic aspects and from the point of view of sustainable development. Here, this study focuses on green technical innovation based on the theoretical evidence provided by the Porter Hypothesis. Even though this hypothesis is established from a domestic perspective, it is apparent that the possibility of applying this concept to the international level is not outrageous. In particular, since the Kyoto Protocol was established based on market-based mechanisms, it seems to be more appropriate to apply this assumption to the effectiveness of IEAs.

Green Innovation and Sustainable Development: The Porter Hypothesis

The Porter Hypothesis provides theoretical evidence supporting the supposition that an international environmental policy improves both environmental and economic performance by enhancing innovation and, thus, creating greater economic efficiency (Lanoie et al., 2011; Porter & Van der Linde, 1995). The traditional viewpoint is that environmental policies have a negative effect on productivity. In contrast, Porter and Van der Linde (1995) argue that more stringent and flexible environmental policies improve both environmental and economic performance by leading to innovation that improves environmental performance and redresses

inefficiencies. That is, technological advances resulting from environmental policies can induce economic development (Lanoie et al., 2011). Esty and Porter (2001) conduct a national analysis and comparison. Their findings show that the quality of an environmental policy is highly and positively correlated with the competitiveness of a nation. Moreover, the Porter Hypothesis is related to the production function, because economic performance improvement caused by innovations is included in total factor productivity (TFP). Tzouvelekas, Vouvaki, and Xepapadeas (2007) believe that green total factor productivity (GTFP) contains both general technological progress and technological progress related to emission reduction. However, in their empirical analysis, it is difficult to extract only technological progress related to emission reduction.

Although this hypothesis is established from a domestic perspective, it is apparent that the possibility of applying this concept at the international level is not outrageous. In particular, since the Kyoto Protocol was established based on market-based mechanisms, it seems to be more appropriate to apply this assumption to the effectiveness of IEAs. Here, the Porter Hypothesis provides a clue that the environmental effectiveness of IEAs can be connected theoretically to economic effectiveness. In this sense, this theory provides inspiration to approaches for evaluating the effectiveness of IEAs. If the Porter Hypothesis is valid for IEAs, participating in IEAs triggers innovations for the member countries in line with investment in R&D, which then have a positive effect on pollutant reduction and economic growth.

Moreover, there are theoretical discussions on green innovation for sustainable development (Bowen & Fankhauser, 2011; Fankhauser et al., 2013; Jacobs, 2013). Proponents of green innovation oppose the negative view of the environmental policy on economic growth. They insist that developing green technologies enhances the economy in a sustainable way, leading to a green economy. Furthermore, this green economy will benefit both the economy and the environment. More specifically, Fankhauser et al. (2008) demonstrated that the impact of climate policy could be considered in three stages from the perspective of the employment market: a short-term effect, a medium-term effect, and a long-term effect. In the short term, there is a negative impact on the economy in terms of a loss of jobs in directly affected sectors. However, new opportunities will eventually be created in the process of innovation and the development of new technologies. Thus, this ripple effect on economic growth shows that there is a possibility of enhancing both environmental and economic performance using environmental policies (Fankhauser et al., 2008).

However, it is clear that there is insufficient empirical evidence on whether and how green innovation affects environmental and economic performance. Therefore, this study focuses on the role of green innovation on the impact of international environmental policies, focusing on the case of the Kyoto Protocol. More specifically, this study investigates whether green innovation resulting from the development of green technologies is closely related to accomplishing the Porter Hypothesis. Based on the literature review, this study establishes the following hypotheses about the role of green innovation from a positive perspective. The hypotheses assume a positive effect on both emission reductions and economic

growth from the possibility of achieving the Porter Hypothesis using green innovation. *Hypothesis 1: Green innovation creates a synergy effect in terms of pollutant reduction by means of IEAs. Hypothesis 2: Green innovation has a positive impact on mitigating the economic burden of IEAs.*

RESEARCH DESIGN

Empirical methods

Measuring Green Innovation

The first analysis in this study is designed to measure the potential of green innovation using patent data. Even though part of numerical evidences showed that participating in IEAs has a positive effect on R&D expenditure (Kim, 2014), more concrete analyses of the "role of innovation" are needed to verify the impact of green innovation on both environmental performance and economic growth. Therefore, this study focuses on green innovation to evaluate the effect of green innovation on the environmental and economic impact of the Kyoto Protocol.

This approach is based on the work of Grupp (1994), Fankhauser et al. (2013), and Waltz and Eichhammer (2012), who developed and analyzed the Green Innovation Index (GII). Although patents are not a complete indicator of the degree of innovation, they are regarded as a core output measurement of innovation performance (Dutta, 2012; Fankhauser et al., 2013). The OECD (n.d.) also mentions that "patents are a key measure of innovation output, as patent indicators reflect the inventive performance of countries, regions, technologies, firms, etc." In this context, green innovation is evaluated using the following equation:

$$\text{Green Innovation}_i = p_i^G / p_i. \qquad (1)$$

In this equation, p_i^G is the number of green patents related to green technology for CO_2 emission reductions in country i, and p_i is total number of patents in country i. Since this study focuses on the case of the Kyoto Protocol, the degree of green innovation is measured by the proportion of selected patents that broadly relate to CO_2 emission reduction technology. Moreover, the portion of each group of selected patents is also estimated based on the classification of the OECD database. This approach enables us to identify the green technology that affects the environmental and economic impact of the Kyoto Protocol and the manner in which such effects occur[38].

[38] More information about each group of selected patents is provided in the data description section.

The Role of Green Innovation and the Impact of the Kyoto Protocol

Based on measuring the degree of green innovation of each country, the next step is to investigate how green innovation in each country affects the environmental and economic impact of the Kyoto protocol. Based on the Porter Hypothesis, it is expected that a country with a higher degree of green innovation will show more emission reduction and less economic decline.

To quantitatively evaluate the environmental and economic impact of the Kyoto Protocol, it is necessary to find proxies for the environmental and economic changes within each country. First, the environmental impact of the Kyoto Protocol is estimated by the status of CO_2 emissions, since this protocol aims to reduce CO_2 emissions. This study establishes the following equation as the environmental model, with CO_2 emissions as the independent variable:

$$Ln(\mathrm{CO_2\ emissions}) = \alpha_0 + \alpha_1 \mathrm{IEA} + \alpha_2 \mathrm{Green\ innovation} + \alpha_3 Ln(\mathrm{GDP}) + \alpha_4 \mathrm{OECD} + \alpha_5\ (\mathrm{IEA} \times \mathrm{Green\ innovation}). \quad (2)$$

This model uses an IEA dummy to verify the effectiveness of participating in the Kyoto Protocol. This dummy variable is defined as being affiliated to the protocol, and has a value of 1 if a country joined the Protocol in year *t*, and 0 otherwise. Next, the green innovation value calculated in the first step is added to investigate the influence of green innovation on reducing CO_2 emissions. The logarithm of the GDP variable is also included to reflect the relationship between CO_2 emissions and GDP. Moreover, an Organization for Economic Cooperation and Development (OECD) dummy variable is appended to verify the Kyoto Protocol's impact on the environmental performance of OECD countries[39]. Lastly, the interaction variable (IEA × Green innovation) is included to provide a more specific interpretation of the role of green innovation in countries participating in the Kyoto Protocol. Note that the interaction variable is added to the general models, which include the total number of green patents related to CO_2 emission reductions.

Second, the economic model is based on the Cobb–Douglas GDP function. Therefore, components of the GDP function—the capital, labor, and human capital variables—are used as dependent variables in the logarithmic terms. The IEA dummy, which refers to the status of participating in the Kyoto Protocol, and the green innovation variable are also included to calculate the impact of the Protocol and green innovation worldwide. The OECD dummy and the variables for the interaction between the IEA dummy and the green innovation variables are also used

[39] Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israël, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States (OECD, n.d.).

in the economic model, as in the previous model. Thus, this study uses the following equation as the economic model:

$$Ln(\text{GDP}) = \beta_0 + \beta_1 \text{IEA} + \beta_2 \text{Green innovation} + \beta_3 Ln(\text{Capital}) + \beta_4 Ln(\text{Labor}) + \beta_5 Ln(\text{Human capital}) + \beta_6 \text{OECD} + \beta_7 (\text{IEA} \times \text{Green innovation}). \quad (3)$$

Using a small p-value in the Durbin–Wu–Hausman test for endogeneity indicated that the ordinary least square (OLS) approach is not consistent because of the observed endogeneity of $Ln(\text{GDP})$. Thus, this study adopts the two-stage least squares (2SLS) approach to estimate the environmental effectiveness model more precisely. The dependent variable, $Ln(\text{GDP})$, of the economic equation model is also included in the environmental effectiveness model as an endogenous explanatory variable. Thus, the environmental and economic models can be described using simultaneous equations. Therefore, using the 2SLS estimator and applying the IV method, this study can estimate the fitted GDP value. This yields the adjusted regression model as the environmental model. The fitted value of $Ln(\text{GDP})$—$Ln(\widehat{\text{GDP}})$—is calculated from the first stage within the regression. Then, $Ln(\widehat{\text{GDP}})$ is included in the environmental model with IV regression, as follows:

$$Ln(\text{CO}_2 \text{ emissions}) = \gamma_0 + \gamma_1 \text{IEA} + \gamma_2 \text{Green innovation} + \gamma_3 Ln(\widehat{\text{GDP}}) + \gamma_4 \text{OECD} + \gamma_5 (\text{IEA} \times \text{Green innovation}). \quad (4)$$

Furthermore, for a more precise analysis, the panel fixed-effect models are conducted in the evaluation process, based on the result of the Wu–Hausman test[40]. Owing to the database containing country-based panel data, it is possible to control time-varying covariates and unobserved time-invariant individual heterogeneity using the fixed-effect models. All empirical models are analyzed using STATA/SE 11.2 for Windows (32-bit).

Data Description

The aim of this study is to investigate the role of green innovation on sustainable development, focusing particularly on the Kyoto Protocol. To test the role of green

[40] The Wu–Hausman test identifies an appropriate model between the fixed-effect model and the random-effect model. The null hypothesis was rejected in this study. Thus, the fixed-effect model is more appropriate than the random-effect model.

innovation and the impact of the Kyoto Protocol, this study uses a country-based panel data set from 1977 to 2010 in the analysis, spanning 97 countries[41].

The program effect variables that determine whether and when each country belongs to the Kyoto Protocol are taken from data of the Status of Ratification of the United Nations Environment Programme (UNEP) (2005). This indicator is given a value of 1 if a country receives the status of ratification, acceptance, accession, or approval[42]. In other words, this study regards these actions as confirmation that these countries participate in the Kyoto Protocol.

Next, to calculate the degree of green innovation, this study requires a database of patents by technology. To retain the wide variety of worldwide patent data, this study uses the statistical database of the OECD for the analysis (OECD, n.d.). This database contains patent data by technology for OECD and non-OECD countries from 1976 to 2011[43]. Since this study is interested in the impact of the

[41] Since the data base about patents covers limited countries, only 97 countries are analyzed: Algeria, Andorra, Argentina, Armenia, Australia, Austria, Belarus, Belgium, Bermuda, Bosnia and Herzegovina, Brazil, Bulgaria, Canada, Cayman Islands, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Ecuador, Egypt, Estonia, Finland, France, Georgia, Germany, Greece, Guatemala, Hong Kong, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Korea North, Korea South, Kuwait, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malaysia, Malta, Mexico, Moldova, Monaco, Mongolia, Morocco, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Panama, Peru, Philippines, Poland, Portugal, Puerto Rico, Romania, Russian Federation, Saudi Arabia, Seychelles, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Trinidad and Tobago, Tunisia, Turkey, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay, Uzbekistan, Venezuela, Zimbabwe.

[42] Ratification: Ratification defines the international act whereby a state indicates its consent to be bound to a treaty if the parties intended to show their consent by such an act. In the case of bilateral treaties, ratification is usually accomplished by exchanging the requisite instruments, while in the case of multilateral treaties the usual procedure is for the depositary to collect the ratifications of all states, keeping all parties informed of the situation. The institution of ratification grants states the necessary time-frame to seek the required approval for the treaty on the domestic level and to enact the necessary legislation to give domestic effect to that treaty.

Acceptance and approval: The instruments of "acceptance" or "approval" of a treaty have the same legal effect as ratification and consequently express the consent of a state to be bound by a treaty. In the practice of certain states acceptance and approval have been used instead of ratification when, at a national level, constitutional law does not require the treaty to be ratified by the head of state.

Accession: "Accession" is the act whereby a state accepts the offer or the opportunity to become a party to a treaty already negotiated and signed by other states. It has the same legal effect as ratification. Accession usually occurs after the treaty has entered into force. The Secretary-General of the United Nations, in his function as depositary, has also accepted accessions to some conventions before their entry into force. The conditions under which accession may occur and the procedure involved depend on the provisions of the treaty. A treaty might provide for the accession of all other states or for a limited and defined number of states. In the absence of such a provision, accession can only occur where the negotiating states were agreed or subsequently agree on it in the case of the state in question (United Nations Treaty Collection (UNTC), n.d.).

[43] The OECD Patent Database fully covers: Patent applications to the European Patent Office (EPO), Patents granted by the EPO, Patents granted by the US Patent and Trademark Office (USPTO), Patents filed under the Patent Co-operation Treaty (PCT), at international phase, that designate the

Kyoto Protocol, only patents related to the broad scope of climate change and emission reduction are selected from the category on environment-related technologies. The selected patents include the following technologies: air pollution abatement (from stationary sources), energy generation from renewable and non-fossil sources, combustion technologies with mitigation potential (e.g., using fossil fuels, biomass, waste, etc.), technologies specific to climate change mitigation, technologies with potential or indirect contribution to emissions mitigation, emissions abatement and fuel efficiency in transportation, and energy efficiency in buildings and lighting (OECD, n.d.). This study uses the percentage of these patents of the total number of patents for the green innovation variable.

The remaining variables—the GDP function variables—are collected from the World Bank's World Development Indicators (WDI) (World Bank, n.d.). For the GDP function variables, capital, labor, and human capital variables, gross fixed capital formation, total labor force participation rate (percentage of total population aged 15 to 64), and adjusted savings-education expenditure (current U.S. dollars) are used from the WDI.

Table 1 provides an overview of these variables.

RESULTS

The estimated results are presented in Table 2. Two models are used for each of the environmental impact model and economic impact model, namely the general and specific models. The general model includes the total green innovation, calculated as the percentage of total selected patents related to CO_2 emissions mitigation. The specific model is conducted with each group of selected patents, based on the classification in the OECD database, to estimate the role of green innovation more specifically. The R^2 values are 0.768 and 0.976 for the environmental and economic models, respectively. That is, this study obtains a good model fit, with high explanatory power of the variance.

First, the results of the IEA dummy, which takes the value 1 if participating in the Kyoto Protocol, show positive coefficients in all models. However, only the results of the economic impact models are statistically significant at the 1% level. The results of the environmental impact models are not statistically significant. Therefore, even though there is no statistically significant link between participating in the Kyoto Protocol and CO_2 emissions, there is a statistically significant improvement in GDP among member countries that participate in the protocol. Although there have not been many studies analyzing the impact of the Kyoto Protocol on national economic performance, there are concerns over the economic burden of implementing the environmental policy (Böhringer et al., 2001; Nordhaus & Boyer, 1999). However, this empirical evidence is consistent with those arguments showing a possible positive relationship between participating in the Kyoto Protocol and economic growth (Lindmark, 2002; Manne & Richels, 1998).

EPO, Patents that belong to Triadic Patent Families (OECD definition): i.e. sub-set of patents all filed together at the EPO, at the Japan Patent Office (JPO) and granted by the USPTO, protecting the same set of inventions (OECD, n.d.).

Note that although this study cannot find statistically significant evidence of CO_2 emission reduction by participating in the Kyoto protocol, there will be a time lag in achieving emission reductions. Therefore, a long-term follow-up analysis may confirm that the Kyoto protocol is effective in reducing CO_2 emissions.

Second, the variables on green innovation show interesting results. For the total variables, both variables in the environmental and economic impact models are statistically significant, but with opposite signs: the coefficients are negative and significant at the 1% level in the environmental model, and positive and significant at the 10% level in the economic model. Therefore, it is possible that the degree of green innovation has a significant effect on reducing CO_2 emissions and on GDP growth.

The specific analyses of each model show how green technology influences environmental and economic performance. In the environmental impact model, only technologies related to emissions abatement and fuel efficiency in transportation have a significant effect on reducing CO_2 emissions. In the economic impact model, technologies with the potential to contribute, or that indirectly contribute to emissions mitigation are positively related with GDP. The other coefficients of green technology variables are not statistically robust. These results support proponents of green innovation who insist that green technologies enhance economic growth. Thus, it is possible to achieve economic development in a sustainable way while simultaneously reducing pollutants (Bowen & Fankhauser, 2011; Fankhauser et al., 2008; 2013; Jacobs, 2013).

Third, in contrast to the results of the total green innovation variables, the signs of the variables for the interaction between the IEA dummy and the total green innovation variables are positive in the environmental model and negative in the economic model. However, the coefficients of variables in both models do not reach conventional levels of significance. Therefore, this study does not find evidence supporting the hypotheses that green innovation creates a synergy effect on CO_2 emission reductions and mitigates the economic burden of the Kyoto Protocol. In other words, even though the results for the total green innovation variables indicate a significant beneficial effect of green innovation on CO_2 emission reductions and GDP, green innovation has no significant synergy effect among member countries of the Kyoto Protocol. This can be interpreted that green innovation does not yet enhance emission reductions and decrease economic burden in those countries.

Finally, with regard to the control variables, the coefficients of the fitted GDP variables in the environmental models are highly significant with a positive sign. Thus, greater economic growth is closely connected to more CO_2 emissions. Therefore, from the perspective of sustainable development, it is necessary to establish strategies to reduce CO_2 emissions and create economic growth. In the case of the production function variables in the economic impact model, it is possible to determine the relationship between each variable and economic growth. The results show that all production function elements—capital, labor, and human capital—are important to improving economic performance. Lastly, the coefficient estimates of the OECD variables are all statistically significant at the 1% level. Hence, OECD member countries show less CO_2 emissions and more GDP growth.

CONCLUSIONS

This study quantitatively investigated the role of green innovation on the impact of the Kyoto Protocol from the perspective of sustainable development. The study sought to identify ways to achieve sustainable development from environmental and economic points of view and assumed that green innovation can play an important role in improving the quality of the environmental while mitigating the negative effect of the policy on economic growth. In order to estimate the impact of the Kyoto Protocol, this study used a country-based panel data set from 1977 to 2010 in the analysis, spanning 97 countries. This study estimated the degree of green innovation in each country by their proportion of selected patents that relate to CO_2 emission mitigation technology.

The results reveal that participating in the Kyoto Protocol has no significant impact on CO_2 emissions, but there is a statistically significant improvement in GDP. Moreover, this study observed a significant effect of the degree of green innovation on the reduction of CO_2 emissions and on GDP growth. However, there is no empirical evidence that the green innovation facilitates CO_2 emission reductions and eases economic decline. As a result, the hypotheses of this study, which assume a synergy effect of green innovation on reducing pollutants and mitigating the economic burden of IEAs, are rejected. Although this study does not find empirical support for a significant positive effect of green innovation on the environment and economy of member countries of the Kyoto Protocol, there is potential for a significant positive effect on overall emission reductions and economic growth.

This study contributes to the field of sustainable development by providing quantitative empirical evidence. There are three aspects to the significance of this study: the extensive scope and number of research objects, the creation of an indicator of green innovation, and the convergence of research on the advancement of science and technology and socioeconomic development. First, this study focuses on various countries that have not been fully investigated in previous studies. Moreover, both the environmental and the economic aspects will be evaluated to verify the influence of green innovation on the impact of the Kyoto Protocol. Second, it is possible to establish a new innovation indicator using selected patents. Third, this study opens up new possibilities for the convergence of research on the advancement of science and technology and socioeconomic development by adopting the Porter Hypothesis and focusing on green innovation.

In conclusion, the academic consideration of the role of green innovation on the environmental and economic impact of the Kyoto Protocol is deeply significant to furthering sustainable development in the world.

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Table 1 Descriptive Statistics

Variables		N	Mean	SD	Min	Max
IEA		3392	0.080	0.271	0	1
Ln(CO_2 Emissions)		2865	10.707	1.935	4.244	15.857
Green innovation variables	Total	3392	3.338	9.483	0	100
	Air pollution abatement	3392	0.433	3.245	0	100
	Energy generation	3392	1.345	6.095	0	100
	Combustion technologies	3392	0.079	0.929	0	30.003
	Climate change mitigation	3392	0.038	0.357	0	12.631
	Emissions mitigation	3392	0.591	4.291	0	100
	Transportation	3392	0.617	3.690	0	100
	Buildings and lighting	3392	0.233	1.498	0	50
(IEA × Green innovation)		3392	0.472	3.256	0	100
Ln(Capital)		2482	23.409	1.838	17.148	28.419
Ln(Labor)		1927	4.180	0.150	3.709	4.474
Ln(Human capital)		2711	21.502	1.966	15.068	27.274
Ln(GDP)		3047	24.595	1.939	19.209	30.116
OECD		3392	0.280	0.449	0	1

Note 1: Total (total green innovation), air pollution abatement (air pollution abatement from stationary sources), energy generation (energy generation from renewable and non-fossil sources), combustion technologies (combustion technologies with mitigation potential (e.g. using fossil fuels, biomass, waste, etc.)), climate change mitigation (technologies specific to climate change mitigation), emissions mitigation (technologies with potential or indirect contribution to emissions mitigation), transportation (emissions abatement and fuel efficiency in transportation), buildings and lighting (energy efficiency in buildings and lighting)

Table 2 Empirical Results

		Environmental impact *Ln*(CO_2 Emissions)		Economic impact *Ln*(GDP)	
		General	Specific	General	Specific
IEA		0.017 (.018)	0.021 (0.016)	0.051*** (0.011)	0.046*** (0.010)
Green innovation variables	Total	-0.001*** (0.000)	-	0.001* (0.000)	-
	Air pollution abatement	-	0.002 (0.0016)	-	0.001 (.001)
	Energy generation	-	-0.001 (0.001)	-	0.000 (0.000)
	Combustion technologies	-	-0.005 (0.003)	-	-0.001 (0.002)
	Climate change mitigation	-	0.009 (0.010)	-	0.007 (0.006)
	Emissions mitigation	-	0.001 (0.002)	-	0.002* (0.001)
	Transportation	-	-0.004*** (0.001)	-	0.000 (0.001)
	Buildings and lighting	-	-0.000 (0.003)	-	-0.000 (0.002)
(IEA × Green innovation)		0.001 (0.002)	-	-0.001 (0.001)	-
$\widehat{Ln(GDP)}$		0.529*** (0.021)	0.524*** (0.021)	-	-
Ln(Capital)		-	-	0.371*** (0.012)	0.370*** (0.012)
Ln(Labor)		-	-	0.172*** (0.053)	0.173*** (0.053)
Ln(Human capital)		-	-	0.196*** (0.008)	0.196*** (0.008)
OECD		-0.136*** (0.034)	-0.137*** (0.034)	0.077*** (0.021)	0.076*** (0.021)
Constants		-2.097*** (0.511)	-1.950*** (0.514)	11.302*** (0.277)	11.314*** (0.278)
R^2		0.768	0.768	0.976	0.976
Number of sample		1520	1520	1520	1520
Number of groups		85	85	85	85

Note 1: ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.
Note 2: Total (total green innovation), air pollution abatement (air pollution abatement from stationary sources), energy generation (energy generation from renewable and non-fossil sources), combustion technologies (combustion technologies with mitigation potential (e.g. using fossil fuels, biomass, waste, etc.)), climate change mitigation (technologies specific to climate change mitigation), emissions mitigation (technologies with potential or indirect contribution to emissions mitigation), transportation (emissions abatement and fuel efficiency in transportation), buildings and lighting (energy efficiency in buildings and lighting)



Source: Author, based on Lanoie et al. (2011)

Figure 1 Conceptual framework of this study

A Disaggregated Analysis on the Energy Consumption and Real GDP for the Case of Malaysia

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ABSTRACT

The transition of Malaysia's role from a net oil exporter nation to a net oil importer nation is expected in the near future and has become an alarming issue. The driving force behind this phenomenon is the maturing and depleting oil resources as well as its continuous development with higher demand for oil. Furthermore, crude oil is one of the major contributors to the primary energy supply. Hence, it will have significant impact on the economic development. The primary objective of this paper is to investigate the impact of energy consumption measured by energy consumption (E) on the disaggregated real gross domestic product (RGDP) in Malaysia. The theoretical model is based on the established Cobb-Douglas production function model which includes both the labour (LB) and capital stock (KS) as the independent variables. The results suggest that the long run relationship is observed at both the aggregated and disaggregated level by applying the Dynamic Ordinary Least Square (DOLS) and Fully Modified Ordinary Least Square Method (FMOLS).

Keyword: Energy Consumption, RGDP, Cobb Douglas, FMOLS and DOLS

INTRODUCTION

Country Background

Malaysia is situated in the heart of South East Asia. Its strategic geographical location has been one of the main contributors and driving cause for its successful economic development. Specifically, it is divided into two regions which is the Peninsular Malaysia formerly known as Malaya and the East Malaysia which consists of Sabah and Sarawak. Moreover, it is beautifully divided into two parts by

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the South China Sea; one of the world's deepest sea. Besides that, the Peninsular Malaysia's neighbouring countries are Thailand and Singapore whereas the East Malaysia borders Indonesia and Brunei.

Furthermore, Malaya achieved its independence in 1957 which is then joined by East Malaysia in 1963 and it is currently known as Malaysia. Although, the path to independence was not an easy one with a few bumpy rides along the way. However, today Malaysia has successfully transform into a vibrant economic besides the continuous effort in improving the social status of its people. This can be seen through the relatively smooth transition to modern economic growth over the last century or so. Besides that, under the banner of 1 Malaysia and Vision 2020, Malaysia is now striving hard to achieve the developed nation status.

Economic Backgrounds

Malaysia is pretty much involved in agricultural and mining economy since it gains independence in the year 1957 and it lasted up to 1970s. This is due to the fact that Malaysia is endowed with abundance of natural resources. As time progresses, its role has then evolved into a major supplier of primary products to the industrialised countries which include tin, palm oil, rubber and many more. Nevertheless, in accordance with the rapid development its role has then progress into export-oriented manufacturing industries.

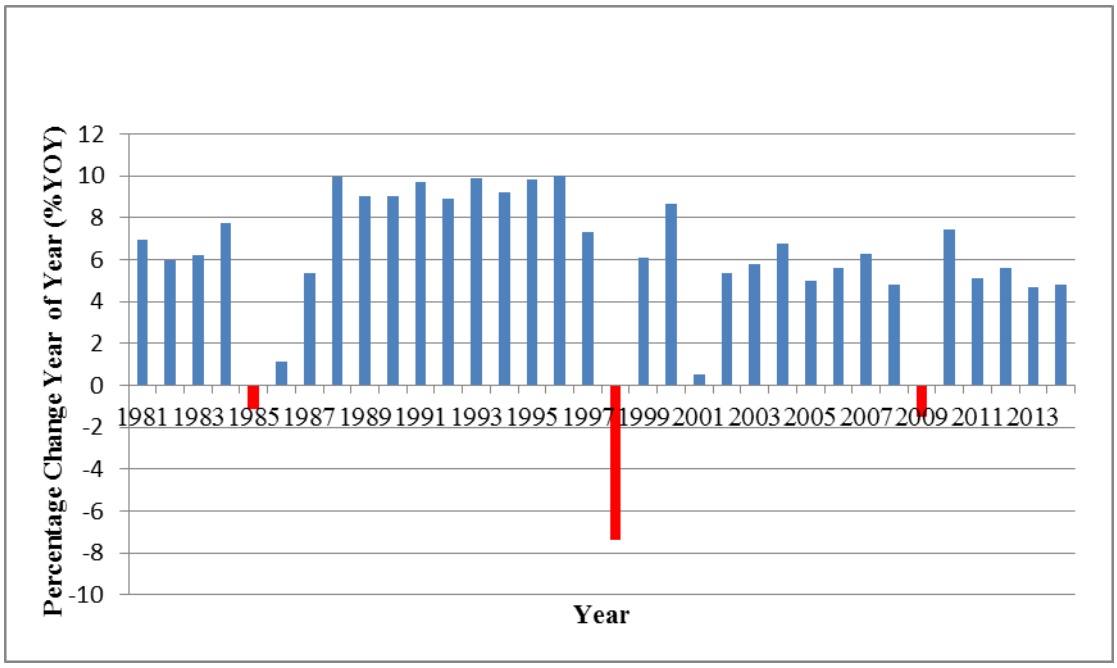
Figure 1.1 shows the real gross domestic product (RGDP) growth from 1981 until 2014. Based on Figure 1.1, it is clearly observed that Malaysia experience three episodes of crises which is indicated by the negative economic growth. The first crisis observed was in 1985 which was due to the commodity shock. Athukorala (2010), explain that the crisis 1985 was set off by the United States high interest rates policy which is also known as the Volker Shock which lead to the huge debacle of the world commodity trade. Hence, this lead to a sharp decrease in the tin and palm oil prices which is mirrored by the declining of the export price index by 30%. Furthermore, the terms trade also show depreciation by 20%. Nonetheless, Malaysia's economy manages to regain from the crisis with a stronger performance on the following year.

Although, with its smooth transition after the first crisis; by 1990 Malaysia has successfully met the criteria of Newly-Industrialised Country (NIC) status in which 30% of its exports consist of manufactured goods. The economy was definitely blooming at that point in time. However, the unforeseen Asian Crisis that had hit hard in July 1997 on the South East Asia countries' economy has then hold back the progress and transition that is taking place. In the light of this crisis, Malaysia did not escape the catastrophic. The effect was visible through a huge drop in the stock market couple with the depreciation of currency as well as an increase in the interest rate. It was a devastating time for the South East Asia's countries but baby steps has been taken through numerous changes in the fiscal and monetary policies in order to cope with the crisis.

Nevertheless, Malaysia picked up its economic progress speed after recovering from the Asia crisis. Roughly after ten years, a similar scenario has been observed with another downfall of the economy but it was the domino effect from the mighty economy, the United States. It was like a huge tsunami that came

unalarmed on the global economy but the effect to the advanced economies were more severe comparatively to the developing economies which is also known as the sub-prime mortgage crisis.

Nonetheless, the sub-prime mortgage crisis has then put every nation in a grave concern on its effect to their country's economy. The concern was definitely a justified one with news of countries and major banks declaring bankrupt as well as big firms closing down which lead to a hike in unemployment and increase in social problem. On the other hand, Malaysia's financial institutions were able to escape the direct effect of the crisis because Malaysia's progress is still lag one to two years behind the developed nation. Hence, when the crisis took place Malaysia had sufficient time to buffer and cushions the effect. Nevertheless, the penetration through the trade links and various other channels of the adverse economic pressure was inevitable. Therefore, a negative growth was observed in 2009 in Figure 1.1 due to the sub-prime mortgage crisis. In a nutshell, it can be concluded that the Asian financial crisis has the most prominent effect on Malaysia's economy with a negative growth 7.36% observed in 1998.



Source: Oxford Economics

Figure 1.1 Real Gross Domestic Products (RGDP) Growth

Problem Statement and Objectives

Every nation aims to achieve price stability and positive economic growth as this will reflects a country's performance. The level of performance is usually measured

by observing the growth rate as per Gross Domestic Product (GDP) attainment. According to Deutch (2010), the dominant source energy up 2030 is determined by the non-renewable energy source which includes coal, oil and gas. Hence, conjecture that the world is heading for renewable and nuclear energy is only a perception and yet to achieve reality.

The ugly truth is when non-renewable primary energy production faces extinction and the renewable primary energy resources are unable to cater for the domestic demand. Hence, the speediest way to solve this problem is to import from other countries. However, this will not be sustainable in the long run as it translates to higher production costs.

The relationship between energy consumption and the economy growth has been one of the most discussed topics and the central of attention researches around the world. However, the focus of the majority research is on the causality relationship by adopting the mainly the Granger causality method to determine the direction of the causality.

Although, there are many study on the energy consumption and economic growth but the highlight and focus is on the causality relationship but not sign and significance of the long run relationship. The contribution of this thesis is to understand the long run relationship between energy consumption and the economic development whether the relationship is positively or negatively related as well as is there any significance in the relationship.

Hence, by investigating the relationship at a disaggregated level it will provide a greater insight of the relationship at a scrutinised level. In this case, the econometric findings from this research will be a crucial contribution which will function as a guideline to steer the policy direction in the future. Furthermore, the findings from this paper will be able to identify which factor of production is essential for each sector respectively.

LITERATURE REVIEW

The topic on energy consumption and economic activity has managed to address vast amount of attention worldwide. This is primarily contributed by the fact that its' significant effect on our daily life. Hence, the keen interest on this topic is definitely inevitable. Nevertheless, different studies has highlighted on different countries in which some focuses on time series basic while others undertake the panel data analysis. Moreover, the relationship has also been explored on various time frames as well as different economic methodologies were adopted. However, one common ground observed is that the focal point between the relationship of energy consumption and economic activity is on the causal relationship in which the emphasis is given on the direction of the causal relationship.

Causal Relationship between Energy Consumption and Economic Activity

The results obtained from the current studies were inconclusive and some were even conflicting. Nonetheless, there are four main hypotheses observed to explain the

direction of the causal relationship between energy consumption and economic activity namely the neutrality hypothesis, conservation hypothesis, growth hypothesis and feedback hypothesis.

Neutrality Hypothesis

The neutrality hypothesis is referred to as a situation in which there is an absence of the Granger-causality between energy consumption and GDP. Therefore, it indicates that the energy consumption is not correlated with the GDP. In other words, both the conservative as well as expansive policies have no effect on the economic growth.

The findings obtained on the investigation on the causal relationship between energy consumption and GDP for the case United States concluded the existence or neutrality hypothesis included Akarca and Long (1980) and Yu and Hwang (1984) in which both applied the Sim's technique. Extending their work with a different time frame and method is Yu and Jin (1992) by adopting the co-integration and Granger causality from the 1974 until 1990. On the other hand, Cheng (1995) provided a wider picture by applying the same method as Yu and Jin (1992) but with a longer time period from 1947 until 1990. Moreover, Payne (2009) also provided the same conclusion through the Toda-Yamamoto causality test.

As for the panel data analysis, Masih and Masih (1996), concluded that the there is no Granger-causality between energy consumption and GDP for the case of Malaysia, Philippines and Singapore by adopting the co-integration and error correction model. The time frame utilised spanning from 1955 until 1990 which include a total of six Asian countries.[44]

Conservation Hypothesis

The uni-directional running from the GDP to energy consumption is known as the conservation hypothesis. Hence, this implied that the nation is less energy dependent economy. This is because the policy of conserving energy has minimal or no unfavourable effect on the economic growth.

One of the pioneering works in the area of energy has captured evidence the causality running from the income to energy for the case of United States through Granger causality; from 1947 until 1974 by Kraft and Kraft (1978). Furthermore, Cheng and Lai (1997) and Zhang and Cheng (2009) also found similar results in which GDP Granger causes the energy consumption. The former utilised the time frame from 1954 until 1993 for Taiwan whereas the latter employed the time frame spanning from 1960 until 2007 for the case of China by applying the Granger causality.

On the other hand, Ang (2008) investigated the relationship between output, pollutant emissions and energy consumption for the case of Malaysia. The dataset employed ranging from 1971 until 1999. By adopting the Johansen co-integration and Vector Error Correction (VEC) model, the results concluded that there is strong evidence both in the short run as well as long run on the causality running from the

[44] The countries are India, Indonesia, Pakistan, Malaysia, Philippines and Singapore.

economic growth to energy consumption. This is in accordant with the conservation hypothesis.

Growth Hypothesis

The growth hypothesis indicates a uni-directional causal relationship running from energy consumption to economic growth. Hence, this indicate that increase in energy consumption may increase economic growth and at the same time any unprecedented energy supply shock will have adverse shock on the economic growth.

Stern (1993), concluded that energy consumption Granger cause the economic growth by applying a multivariate vector autoregressive model (VAR) for the case of US with the time frame spanning from 1947 until 1990. The author extended his work by adopting a different method which is the co-integration and Granger causality in Stern (2000) with dataset ranging from 1948 until 1994. The similar conclusion recorded which supports the growth hypothesis for the case of US. Moreover, Bowden and Payne (2009) further elaborate on his work on the same country by providing a bigger picture through the inclusion of bigger dataset spanning from 1949 until 2006. The finding drawn is also consistent with the growth hypothesis by adopting the Toda-Yamamoto causality test.

Moreover, Chiou-Wei et al. (2008) investigated the relationship between energy consumption and economic growth by adopting both the linear and non-linear Granger causality tests. The study undertaken incorporated the Asian newly industrialised countries and the US. The data set employed ranging from 1954 until 2006. The findings supported the growth hypothesis for the case of Taiwan, Hong Kong, Malaysia and Indonesia.[45]

Feedback Hypothesis

The feedback hypothesis indicates that the energy consumption and economic growth are mutually driven and concurrently affected by each other. Therefore, it is also known as the bi-directional causality between the energy consumption and economic growth.

The findings drawn from Hwang and Gum (1991), there is a presence of feedback hypothesis captured for the case of Taiwan. The study is undertaken by utilising the co-integration and error correction method for the time period from 1961 until 1990. Furthermore, the results from Glasure (2002) also supported the existence of the feedback hypothesis by applying the same time frame. However, the method and country studied is different. Glasure (2002), conducted a study on Korea by adopting the co-integration, error correction as well as variance decomposition method.

[45] The Asian Newly Industrialised Countries are Taiwan, South Korea, Singapore, Hong Kong, Indonesia, Malaysia, Philippines and Thailand.

Long run Co-integration between Energy Consumption and Economic Activity

A vast amount of literature embarked on the causal relationship between energy consumption and economic growth. However, there is only a handful that investigated on the elasticity of the long run relationship as well as incorporates other essential variables such as the capital and labour as independent variables besides energy consumption.

Based on Lee (2005), the author re-examined the co-movement and the causality relationship between energy consumption and GDP by the annual data from 1975 until 2001. A total of 18 developing countries[46] were incorporated in this study by adopting the panel unit root, heterogeneous panel cointegration as well as panel-based error correction model. The results indicated that there long run relationship prevail between the energy consumption and GDP for a cross-section of countries after allowing for the country-specific effect. Furthermore, the conclusion drawn from the panel FMOLS to investigate the long run relationship indicated that in general the growth effect of energy consumption is larger than capital stock. Although, it is recognised the elasticity of energy consumption and capital stock with regards to GDP are smaller than 1 and is significant. As for the case of Malaysia, a 1% increase in the energy consumption is associated with a 0.80% increase in the GDP and is significant at 5% level. On the other hand, there is no long run relationship between capital stock and GDP captured for Malaysia. As for the causality, the results show that the long run and short run causalities run from energy consumption to GDP but not vice-versa on the panel basis.

Extending his work with another partner, they added labour input as a new independent variable besides the existing capital stock and energy consumption. Lee and Chang (2008), re-examined the relationship between the co-movement and the causal relationship between energy consumption and real GDP by adopting the panel unit root, heterogeneous panel co-integration as well as the panel-based error correction models. The focal point of this study is the incorporation of capital stock and labour input as the independent variable. The annual data employed spanning from 1971 until 2002 and included 16 Asian countries.[47] In order to investigate for the long run relationship the panel FMOLS method is utilised. The results indicated that 1% increase in the energy consumption is associated with 0.32% increase in the real GDP and is significant at 5% level. Furthermore, a 1% increase in the labour input is correlated with 0.90% increase in the real GDP and it is significant at 5% level. In addition, the capital stock is also positively related with the real GDP in which 1% increase in the capital stock leads to an increase of 0.24% in the real GDP and significant at 5% level. Moreover, the FMOLS is also conducted on country level. As for the case for Malaysia, the positive and significant relationship is observed between the labour input, capital stock and real GDP. However, the energy consumption is positively related with real GDP but not significant. On the other

[46] The countries included are South Korea, Singapore, Hungary, Argentina, Chile, Colombia, Mexico, Peru, Venezuela, Indonesia, Malaysia, Philippines, Thailand, India, Pakistan, Sri Lanka, Ghana and Kenya.

[47] The 16 Asian countries are China, Hong Kong, India, Indonesia, Iran, Japan, Jordan, South Korea, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka, Syrian Arab Republic, Thailand and Turkey.

hand, the short run causality observed was weak but the unidirectional long run relationship is recorded running from energy consumption to economic growth.

In addition, Narayan and Smyth (2007), explored the relationship between capital formation, energy consumption and real GDP by incorporating the G7 countries.[48] Moreover the methods adopted for this research are the panel unit root, panel co-integration, Granger causality as well as the long run structural estimation. The results obtained concluded that the causality running from capital formation and energy consumption to real GDP and is positively correlated in the long run. On the other hand, the findings from the panel long run were conducted across three estimators which include FMOLS, DOLS and OLS. All three estimator displayed similar results in which the relationship between energy consumption, capital formation and real GDP is positively and significantly related. An increase by 1% in the energy consumption is associated with a 0.12% - 0.39% increase in the real GDP and is significant at 1% level across all three methods. Besides that, 1% increase in the capital formation leads to 0.01% - 0.28% increase in the real GDP and significant at 1% on FMOLS and OLS whereas is significant at 5% level in DOLS.

METHODOLOGY

The data annual data employed for this paper extends from 1980 until 2011. Besides that, the dependent variable is the real gross domestic product (RGDP) and at the disaggregated level incorporates the agriculture; mining and quarrying; manufacturing; construction and services sector. All the data for the dependent variables are obtained from various issues of Malaysia's Economic Report. On the other hand, there are three independent variables for this paper namely labour (LB), capital stock (KS) and energy consumption (E). The data for all the independent variables were attained from World Development Indicator (WDI).

The Cobb-Douglas model is adopted from Lee and Chang (2008) and transformed into functional form and utilised the logarithmic transformation which is as follows for both at aggregated and disaggregated level:-

$$Model\ 1: LRGDP_t = \alpha_t + \gamma_1 LLB_t + \gamma_2 LKS_t + \gamma_3 LE_t + \varepsilon_t$$

$$Model\ 2: LYARG_t = \alpha_t + \gamma_1 LLB_t + \gamma_2 LKS_t + \gamma_3 LE_t + \varepsilon_t$$

$$Model\ 3: LYMNQ_t = \alpha_t + \gamma_1 LLB_t + \gamma_2 LKS_t + \gamma_3 LE_t + \varepsilon_t$$

$$Model\ 4: LYMNF_t = \alpha_t + \gamma_1 LLB_t + \gamma_2 LKS_t + \gamma_3 LE_t + \varepsilon_t$$

$$Model\ 5: LYCONS_t = \alpha_t + \gamma_1 LLB_t + \gamma_2 LKS_t + \gamma_3 LE_t + \varepsilon_t$$

$$Model\ 6: LYSRV_t = \alpha_t + \gamma_1 LLB_t + \gamma_2 LKS_t + \gamma_3 LE_t + \varepsilon_t$$

[48] The countries included are Canada, France, Germany, Italy, Japan, United Kingdom and United States

where LRGDP stands for real gross domestic product; LYARG indicates the agriculture sector; LYMNQ stands for the mining and quarrying sector; LYMNF represents the manufacturing sector; LYCONS indicates the construction sector; LYSRV stand for services sector; LLB indicates labour; LKS represents capital stock proxy by gross capital formation and LE stands for energy consumption.

The expected signs between all the independent and dependent variables are positively related. In order to examine for the long run relationship, the Dynamic Ordinary Least Square (DOLS) by Stock and Watson (1993) is employed. In addition, the Fully Modified Ordinary Least Square (FMOLS) by Phillips and Hansen (1990) is also utilised as a robustness check.

DATA ANALYSIS AND FINDINGS

According to Table 1.1, it is observed that the relationship between the LLB and LRGDP at the aggregated and disaggregated level conforms to the expected signs except for LYARG, LYMNQ, and LYCONS for both the methods whereas the negative sign is observed in LYSRV only through the FMOLS method but is not significant so it can be disregarded. The only method that shows the negative and significant at 1% level is the FMOLS for LYCONS. Nevertheless, this scenario can be justified with the higher number of unskilled foreign labour comparatively to the skilled domestic labour in the construction sector. Moreover, the positive and significant relationship in the long run is indicated only in the manufacturing sector for both the methods.

On the other hand, it is indicated in Table 1.1 that the relationship between the LKS and the LRGDP at both the aggregated and disaggregated level is positively related which is consistent with the expected signs expect for LYMNQ but the long run relationship is insignificant so it can be ignored. The LKS appears to be positively and significantly related with LRGDP, LYMNF and LYSRV in the long run. In addition, the positive and significant relationship is observed in the LYARG in the FMOLS method with 1% significance.

Besides that, the variable of interest for this research which is LE; which signify the positive sign and conforms to the expected signs. This is identified at both the aggregated as well as disaggregated level except for LYARG which indicates a negative relationship. The positive and significant relationship is observed in the LRGDP, LYMNQ and LYMNF on both methods. Nevertheless, the positive and significant relationship is also seen in LYCONS and LYSRV for both the DOLS and FMOLS method. The negative and significant relationship between LRGDP and LYARG is a peculiar. However, this finding can be supported by the fact that the increase in efficiency of the energy consumption in the agriculture sector. This can be viewed as a decrease in the energy consumption leads to increase in the LYARG due to the increase in the efficiency of the energy consumption.

CONCLUSION

In a nutshell, it can be concluded that the essential determinants for growth in each sector as well as its crucial input factor varies across all the sectors. First and foremost, the important determinant for growth in the LRGDP and LYSRV is both LKS and LE. Besides that, for LYARG, LYMNQ and LYCONS the LE is an important catalyst for its growth. On the other hand, for LYMNF all three namely LLB, LKS as well as LE are important agent in determining its growth.

Hence, from the findings it is concluded that energy consumption is a crucial determinant as well as input for the growth of the sectors respectively. In other words, Malaysia's GDP is essentially fuelled by the energy consumption. At this current rate of primary energy consumption, the non-renewable primary energy will soon be exhausted. Thus, a thorough and resilient blue print has to be outlined focusing on the long term energy policies in order to avoid adverse effect on the economic development; prevention is better than cure.

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APPENDIX

Table 1.1 Summary of the Long Run Relationship between Real Gross Domestic Product (RGDP), Labour (LLB), Capital Stock (LKS) and Energy Consumption (LE)

Variables	Model 1: LRGDP		Model 2: LYARG		Model 3: LYMNQ		Model 4: LYMNF		Model 5: LYCONS		Model 6: LYSRV	
	DOLS	FMOLS	DOLS	FMOLS	DOLS	FMOLS	DOLS	FMOLS	DOLS	FMOLS	DOLS	FMOLS
LLB	0.1675	0.0062	-0.0614	-0.1655	-3.2593	-0.3485	3.4449[a]	3.9043[a]	-4.8160	-5.2961[a]	0.061	-0.8702
LKS	0.1140[a]	0.0956[a]	0.0303	0.0996[a]	-0.2154	-0.2223	0.1304[b]	0.1044[b]	0.2949	0.1582	0.1453[b]	0.0887[b]
LE	0.6520[a]	0.6422[a]	-0.5555[c]	-0.6642[a]	1.5739[a]	0.9152[a]	1.0075[a]	0.8550[a]	2.3886[a]	2.4354[a]	0.6412[b]	0.7983[a]

Note: LLB, labour; LKS, capital stock; LE, energy consumption; a, b and c represent significance at 1%, 5% and 10% level, respectively.

Dispute Resolution in the Islamic Finance Industry in Malaysia: Some Legal Conundrums

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ABSTRACT

The main purpose of this paper is to explore the state of dispute resolution in the Islamic finance industry in Malaysia as well as expose the legal issues surrounding the effective resolution of Islamic finance disputes in Malaysia. The exploratory study involved several case analyses and judicial pronouncement of some landmark cases during the four decades that Islamic finance has been operating in Malaysia. A content legal analysis of the two most important primary sources-case law and legislation- were used to examine the current state of dispute resolution in the Islamic finance industry in Malaysia. The main findings of the study indicated that the Islamic finance industry which is renowned for its product quality is now also known for the many confrontations, claims, disputes and litigations that permeate the industry. The study also revealed that despite the trends showing changes in the dispute resolution sector of the Islamic finance industry in terms of legal framework reforms, the current jurisdiction over Islamic finance matters that rest with the civil courts and its consequential issues have not helped the industry, the challenge of adequate access to justice still lingers on. Implications of, and limitations to the study are also discussed.

Keywords: Dispute Resolution, Islamic finance, Malaysia, Jurisdiction of the Court

INTRODUCTION

The attribute of Islamic values form a part of the strong foundation of an Islamic finance industry. The various rules and regulations governing contractual transactions which are based on justice and honesty, and which are meant to safeguard the parties' interests in the transaction against any frustration and non-compliance are expected to be present in any Islamic finance contract. This is very important as one of the aims of formulating a financial system by Islamic law is to protect the poor and the weak, while at the same

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time providing an avenue for the creation of fair and just profits to the capital suppliers. This is even truer when the concept of wealth in Islam as a trust (*amānah*) from Allah for which everyone is going to be accountable for, is understood.

However, the Islamic finance industry in Malaysia may be said to be presently dispute ridden. An important reason for the incessant occurrence of disputes in Islamic finance contracts is that most of these contracts are now being modified and expanded through the use of *ijtihād*[49] by the Islamic banks thereby making them even more sophisticated. As David Leibowitz and Claire Lester (2002) put it "…the variety and complexity of disputes has grown as the banks and financial institutions have provided an increasingly wide variety of products and services to customers" (pg. 3) Thus, there has been a proportionate increase in the volume of associated complaints from the general public over the past few years because of the rapid expansion of products and services particularly in the field of consumer credit. Another possible explanation for the increase in dispute in the industry has been said to be that "[c]ustomers have become increasingly sophisticated and are increasingly prepared to exercise their rights against nationals or multinationals" (Leibowitz & Lester, 2002, pg. 3). Everyone now wants to run to the court even with the slightest claim, just to prove his right. This is evident in the nature of Islamic finance cases finding their way into the courts system, particularly in the civil courts of Malaysia. Hence there is the search for an alternative to the litigation process as well as the overall administration of justice system.

LITERATURE REVIEW

Dispute Resolution in Malaysia

The amicable resolution of dispute in Malaysia is imbued in the three ethnicities dominant: the Malay; the Chinese; as well as the Indians customary values. However, it was in the twilight of the 19th century that a formalised ADR was introduced in Malaysia. For example, the process of court-annexed mediation is new to Malaysia (Oseni & Ahmad, 2012). This is different from the existing traditional mediation practices in the cultural heritages of the predominant Malays; Confucianism in the Chinese cultural heritage and Hinduism under the traditional Indian culture (Campbell & Chong, 2008).[50]The courts in Malaysia thereafter adopted some models which were based on best practices in the UK, Australia and the United States. In 2000, the court-annexed mediation project was introduced for the first time in Malaysia in *Penang* which was a success (Oseni & Ahmad, 2012). However, the need to amend the High Court Rules of 1980 to further allow for court referrals was felt. Since then, there has been continuous call for reforms in the civil justice system in the country in order to

[49]This is the use of deductive reasoning to arrive at Islamic rulings that are not explicitly provided for in the primary sources of the *Sharī'ah*.

[50] These cultural heritages employ the resolution of conflict in an informal setting by a mediator. With the use of informal mediation styles and face-saving strategies which helps to sustain and preserve relationships, they are able to achieve justice.

increase the adjudication process to be in line with the advances experienced in other common law jurisdictions (Oseni & Ahmad, 2012).

In 2003, there was the provision[51] for a specialised high court judge to preside over Islamic Banking and Finance cases (IBF) at the muamalat division of the court so that future courts' decisions will take better cognizance of Islamic legal principles (Miskam & Hamid, 2001). This was meant to "encourage a sort of expert determination of Islamic finance disputes albeit through adjudication" (Oseni & Ahmad, 2012, pg. 6) since Islamic finance disputes falls under the High Court's jurisdiction. Therefore, Muamalat division of the High Court has exclusive jurisdiction to decide cases of Islamic finance.[52] The introduction of this bench though laudable did not record the success expected as the challenge of adequate justice still lingered on. The judge that was placed at the bench to man the court and hear Islamic finance cases, though supposedly with an Islamic background determines most of the cases that was brought before him in an unexpected manner and contrary to the spirit and principle of Islamic finance. He continued to use the conventional banking and principles of common law of contract to decide Islamic finance disputes which resulted in a number of judgement that attracted lots of criticisms from all quarters.[53]

On 16th August, 2010, The Chief Justice of Malaysia issued the Practice Direction No. 5 of 2010 and this was seen as a welcome development in the civil justice system in Malaysia (Oseni & Ahmad, 2012). This is known as the Practice Direction on Mediation (Geok, 2009). The practice direction directed and mandated all judges to first refer all cases to Mediation before proceeding to trial by adjudication. It is said that "in order to encourage expert determination of Islamic finance disputes through amicable means, this Practice Direction on Mediation will play a significant role" (Oseni & Ahmad, 2006, pg.6). This provided a suitable framework for the civil courts for the first time in order to explore every process of amicable dispute resolution before proceeding for court adjudication.[54] There was also an enactment on court referrals to *taḥkīm* (Arbitration) known as *ḥākam* in the *Sharī'ah* courts of each of the states in Malaysia. This was introduced in 1984 through the Islamic Family Law (Federal Territories) Act 1984 ("IFLA 1984") that introduced the framework for *ḥākam* and the conciliatory committee. Closely related to this is the introduction of the *ṣulḥ* (mediation) process in the 1990s in the various *Sharī'ah* courts in the country. It was however after a decade, in the 2000s, that series of enabling enactments were made (Oseni & Ahmad, 2012). It is to

[51] The Practice Direction No. 1/2003 in its paragraph 2 directs that all IBF cases under the Code 22A filed in the High Court of Malaya will be registered and heard in the commercial division of the High Court known as the Muamalat bench. The bench only hears IBF cases.

[52] See paragraph 2 of the Practice Direction No. 1/2003.

[53] See the cases of *Affin Bank v Zulkifli* [2006] 3 MLJ 67 and *Arab Malaysian Finance Bhd v Taman Ihsan Jaya & Ors* [2008] 5 MLJ 631. The judge in the above cases equated the transaction of *Bay' Bithamin Ajil* (BBA) to a loan transaction. The term 'loan' and 'interest' were frequently used in this case. The judge also applied equitable principle in interpreting BBA, he computed daily profit into outstanding selling price thereby converting *Sharī'ah* contract to a conventional loan.

[54] Rule 1.4(1) and (2) (e) - (f) CPR. See also Rule 26.4 (1)-(4) CPR.

be noted that the above initiatives (*ṣulḥ* and *taḥkīm*) were meant for Islamic family disputes that is within the *Sharī'ah* Court jurisdiction (Nora, 2006).

However, Jamal et. al. (2011) argued that despite the new formal infrastructure available for the settlement of disputes involving Islamic finance matters by arbitration through the Kuala Lumpur Regional Centre for Arbitration (Islamic Banking and Financial Services), only a few disputes have been submitted to arbitration. They argued further that in order to enhance the legal framework of Islamic finance in Malaysia, *Ṣulḥ* as an ADR or at least arbitration in Islamic banking related disputes need to be considered. Ruzian et. al (2013) emphasized the inadequacy of the existing legal framework for dispute resolution in the Islamic finance industry in Malaysia. Zulkifli and Mehmet (2011) had earlier expressed similar concern where they argued that disputes are inevitable in an industry that is experiencing tremendous growth; hence, the need for adequate institutional infrastructure and a sustainable legal framework. In spite of the developments that have taken place as identified by Hakimah (2012) there is the need to step up the ladder to establish a sustainable framework for dispute resolution that would serve as a benchmark for other jurisdictions. This requires a comprehensive framework of dispute management which necessity is supported by relevant empirical evidence (Oseni & Hassan, 2011).

The Concept of Islamic Finance

What is Islamic Finance? In a layman's term, it can be explained as a financial system that conforms to the Islamic principles, rules and injunctions which is conveniently referred to as the *Sharī'ah*. *Sharī'ah* is the word used for the entire body of laws and rules that are deduced from the primary sources of Islamic law that are divine in origin, this means the injunctions of the Quran and the directives and practices of the Prophet (S.A.W) referred to as the Sunnah; as well as the secondary sources of *Sharī'ah* that are based on human interpretation and reasoning, whether at the strongest level of *Ijma'* (consensus of all jurists), or in the form of *Qiyas*, *Istihsan*, *Istishab* etc.

Islamic financial service providers therefore offer "Sharī'ah-compliant" (International Shariah Research Academy, 2012, pg. 148) and "Sharī'ah-based" (International Shariah Research Academy, 2012, pg. 148-149) products and services. Islamic banking has also been described as:

> [t]he *Sharī'ah* or Islamic law consistent way of banking. There are certain strict rules that should be observed in Islamic banking. If these fundamental rules are breached, the Islamicity of Islamic banking would be lost. In Islamic banking, riba (interest), maysir (gambling) and gharar (uncertainty) shall be eliminated. Apart from it, the investments made, shall also be for *Sharī'ah* compliant products, which shall not include commodities classified as haram (prohibited) like alcohol and pork (Hassan et.al., 2011, pg. 126)

Before any Islamic contract can be classified as valid, it must have been obtained through mutual consent of the parties involved. A hypothetical case is hereby given to

explain the concept of 'mutual consent'. Let us assume a situation where a bank official does not give a customer an ample opportunity to go through the contract documents before he/she is asked to append his signature on it. The bank official just ticks all the necessary spaces and passes it on to the customer to sign or he just provides a blank paper to the customer and then personally fills it up later. The customer who also is in a hurry to close the deal or out of ignorance does not bother to read the document before he signs it. In the end, the customer complains of not being aware of certain clauses that were in the contract. In such a situation, the theory of Islamic contract that requires mutual consent to be present in any valid contract (*'aqd*) cannot be seen or said to have been observed. It is instructive here to note the Quranic verse wherein Muslims are warned not to unjustly consume one another's property.[55]Therefore the concept of mutual consent requires that parties disclose all facts to each other. This is to ensure and guarantee the satisfaction of all parties.

Another important element that must be present in any Islamic contract is the avoidance of *al batil* (unjust). This will include any element of the contract that may lead to unfairness, deception, uncertainty and other illegal elements. This is in order to eliminate any future disputes between the contracting parties. Thus, if this element is not avoided in the various contracts entered into by Islamic banks and their customers, dispute is most likely to arise which may threaten the sustainability of the Islamic finance industry. Furthermore, Islamic banking contracts are guided by one of the principles of Islam that says "all parties are to be bound by their contracts".[56]

The nature of Islamic finance contracts therefore is that it must have all the principles and elements of a valid Islamic contract as stated above. Some of the different contractual relationships that occurs between an Islamic bank and its customers are *Murabahah* (cost-plus sale), *Ijarah* (lease), *Musharakah* (Partnership), *Bay' Al-Istisna* (manufacturing sale), *Al-Bay' Bithaman Ajil* (sell and buy back sale), *Qard al-Hasan* (benevolent loan), *Wadiah yad dhamanah* (Guaranteed deposit). In all these contracts the relationship between a customer and his bank differs, likewise the nature of disputes.

Jurisdiction of the Court in Malaysia in Islamic Finance Disputes

The earlier position in Malaysia was that the *Sharī'ah* courts and civil courts exercised concurrent jurisdiction on certain matters involving Islamic law. The Federal Constitution sets out the jurisdiction of the courts under Article 121 of the Federal Constitution. Thus the jurisdiction of the civil courts includes all matters conferred by the Federal and State law except for the personal law of Muslims. List 1 of the 9th schedule of the Federal Constitution, known as the Federal List contains civil and criminal procedure and administration of justice. The relevant part in List I are: Item 7: Finance including (j)banking (K) bills of exchange, promissory notes and other negotiable instruments (l)foreign exchange; and Item 8: Trade, commerce and industry including: (c) incorporation, registration and winding up of company (d)insurance. It is

[55] "O you who believe! Eat not up your property among yourselves unjustly except it be a trade amongst you, by mutual consent…." Surah al Nisa' Qur'an 4:29.
[56] "O you who believe, fulfil your contracts" Surah al Maida Qur'an 5:1.

imperative to note that despite the fact that Islamic law matters are State issues according to the Federal Constitution, the 9th schedule of the Federal Constitution also provides the *Sharī'ah* court's jurisdiction under its Para 1 List II. This is otherwise known as the State list. This provision excludes the jurisdiction of the *Sharī'ah* court on banking matters as it falls under federal matters.

Thus, the jurisdictions of these two courts were seen to overlap in some instances where the civil courts entertained matters that are supposed to be within the purview of the *Sharī'ah* courts. Therefore there were lots of criticisms that necessitated an amendment to the Federal Constitution in 1998. This brought about the inclusion of clause 1A in Article 121 of the Federal Constitution. With this amendment therefore, the civil courts are refrained from adjudicating cases in which Islamic law is applicable and such jurisdiction is now vested in the *Sharī'ah* courts exclusively. Civil courts therefore no longer have jurisdiction over matters that fall within the purview of the *Sharī'ah* courts and the power to review *Sharī'ah* courts' decisions has been taken away by this provision. Because the clause was introduced to put to rest the confusion in case law on the actual demarcation of civil courts' jurisdiction and *Sharī'ah* courts' jurisdiction, it was presumably expected to settle the issue and prevent further conflict of jurisdiction (Farid et. al., 2001).

However, this was not the case due to some reasons. First, although the term 'Islamic law' in para 1, list II of the 9th schedule is wide, its application is limited to persons professing the religion of Islam (Mustafa, 2011). This does not mean that if both parties to an Islamic banking transaction are Muslims, the matter can fall under the *Sharī'ah* jurisdiction. The judgement of the Supreme Court in the case of *Mohamed Habibullah bin Mohammed v Faridah Dato Talib*[57] which ruled that *Sharī'ah* Court can only decide matters falling under its jurisdiction is instructive here. The Judge, Harun Hashim S.C.J reasoned that in the absence of express provisions, it is not sufficient merely to show that both parties are Muslims if the matter at hand does not fall under the jurisdiction of the *Sharī'ah* courts (Hamza & Bulan, 2006). This restrictive approach adopted by the Supreme Court in this case appears to be the accepted interpretation of the phrase 'within jurisdiction' in Clause 1A of Article 121. Thus, the clause has no general application to legal persons, such as banks and financial institutions, which cannot be construed to be professing the religion of Islam (Yaacob, 2012).

Secondly, there are only Federal legislations on Islamic Banking and Finance (IBF). Since the *Sharī'ah* courts are state courts and have jurisdiction only within the respective states, it is necessary to have provisions relating to Islamic finance in the state legislations before it can come under the jurisdiction of the *Sharī'ah* courts (Ibrahim & Joned, 1995). Although Islamic law falls under the state list, this does not automatically confer the jurisdiction over Islamic finance matters on the *Sharī'ah* courts. The state legislatures must thus first act upon powers given to it by the Federal Constitution[58] and accordingly enact laws conferring the jurisdiction on the *Sharī'ah* courts by incorporating the appropriate provisions to that effect. It is clear from the discussions so

[57] [1992] 2 MLJ 793.
[58] Article 74 and 77 of the Federal Constitution.

far that civil courts will not have jurisdiction over matters upon which *Sharī'ah* courts have jurisdiction. Therefore, going by this analysis, the jurisdiction to hear Islamic finance cases lies with the civil courts.

Thirdly and most importantly is that banking and finance comes within List I of the 9th schedule. As such the amendment to Article 121 of the Constitution does not take away the jurisdiction of the High Court in matters that are in the Federal list. Such matters include banking and finance (Mustafa, 2011). In the case of *Dato' Nik Hj Mahmud Bin Daud v Bank Islam Malaysia Bhd*[59], the Defendant argued that since BIMB (plaintiff) is an Islamic bank, the Civil Court had no jurisdiction to hear the case in view of Article 121 (1A) of the Federal Constitution 1957. The judge, N.H. Chan, overruling this objection submitted that the matter was rightly brought before the civil court. It was further held that BIMB being a corporate body has no religion and therefore does not fall within the jurisdiction of the *Shari'ah* Court. This is also the opinion and conclusion of an expert in the field (Engku Rabiah, 2008, pg. xiii).

Therefore, litigation of Islamic finance cases, though not totally dispensable as it is needed to enforce arbitration awards and negotiated settlements, seems to be the most prevalent mechanism for dispute resolution in most Islamic finance jurisdictions including Malaysia. As Ruzian and Noor (2002) argued, litigation involving Islamic finance matters in civil courts has its inherent problems as it has proven to be inadequate in the sustainability of the Islamic finance industry. Such legal constraints were earlier pointed out by Engku Rabiah (2008) but there have been significant developments in Malaysia since then.

METHODOLOLGY

The purpose of this study is to explore the state of dispute resolution in the Islamic finance industry in Malaysia. The study will also expose the legal issues surrounding the effective resolution of Islamic finance disputes in Malaysia. A legal content analysis of the two most important primary sources was therefore used. Landmark cases as well as legislations were examined in this light. By using the legal content analysis method, the information conveyed in the cases and legislations are condensed and made systematically exposable using an objective coding system called analytic induction. This is because generally content analysis is "any technique for making inferences by systematically and objectively identifying special characteristics of messages" (Holsti, 1968, pg. 608).

This study also adopts a doctrinal legal method in analysing the existing mechanisms of dispute resolution in the Islamic finance industry in Malaysia. It is important that the doctrinal methodology is used to analyse the existing state of dispute resolution in the Islamic finance industry in Malaysia because there is the need to identify the various primary sources that are relevant to the theme of this research. Further, the exposition of the rules governing a particular legal category, analysis of the

[59] [1996] 4 MLJ 295

relationship between these rules, explanation of areas of difficulty and prediction of future developments are the main aims of a doctrinal methodology (Huchinson, 2002).

DATA ANALYSIS AND FINDINGS

The Legal Framework for ADR in Islamic Finance in Malaysia

The effective resolution of Islamic finance disputes requires the development of an effective legal framework for ADR in Islamic finance. Therefore, whatever law or legal framework is to be made within the context of Islamic finance should be one which can authoritatively enforce the principles of *Sharī'ah* in dispute settlements involving Islamic financial transactions. The new Islamic Financial Services Act (IFSA) 2013 Act 759 which came into operation on 30th June 2013 is aimed at providing the regulation and supervision of Islamic financial institutions, payment systems and other relevant entities as well as the oversight of the Islamic money market and Islamic foreign exchange market to promote financial stability and compliance with *Sharī'ah* and for other related, consequential or incidental matters including the resolution of its disputes.[60] Its section 138 provides for the establishment of a Financial Ombudsman Scheme (FOS) which is for the purposes of ensuring effective and fair handling of complaints and for the quick resolution of disputes in connection with financial services or products. FOS is defined under Section 133 as: "a scheme for the resolution of disputes between an eligible complainant and a financial service provider in respect of financial services or products". Section 138 further provides that regulations may be made by the Minister of Finance to require an Islamic bank to become a member of the FOS. Such a bank must comply with all the regulations made by the Minister under section 138(3) in order to ensure that the scheme is fair, accessible and equally effective. In addition, it must provide documents or information as may be required for the purpose of the resolution of disputes referred to the FOS, comply with any award granted under the FOS including a direction that requires it to take such steps in relation to a dispute.

In 2012, there has been established the new i-Arbitration Rules 2012 which is *Sharī'ah* compliant as against the old rule that was modelled after the UNCITRAL rules. This has since been revised in 2013. The KLRCA i-Arbitration Rules are a set of procedural rules covering all aspects of the arbitration process, which parties may agree to in part or in whole in order to help resolve their domestic or international disputes. It provides under its Rule 8 that whenever the arbitral tribunal has to form an opinion on a point related to *Sharī'ah* principles and decide on a dispute arising from the *Sharī'ah* aspect of any agreement which is based on *Sharī'ah* principles the arbitral tribunal shall refer the matter to the Shariah Advisory Council (SAC) or *Sharī'ah* expert. This is thus a legal framework that is most suitable for the resolution/arbitration of disputes arising from commercial transactions premised on Islamic principles, Islamic finance disputes inclusive.

[60] Islamic Financial Services Act (IFSA) 2013, (ACT No. 759).

The Kuala Lumpur Regional Centre for Arbitration (KLRCA) which was established with the aim of providing a system for settlement of disputes for the benefit of parties engaged in trade, commerce and investment with and within the Asian and the Pacific region has as one of its main function, the provision of facilities for arbitration under its rules for settlement of disputes in matters arising out of commercial transactions through cost-effective, fair and expeditious procedures (Ahmad & Rajasingham, 2001). Rule 6 of the i-Arbitration Rules provides that facilities and assistance for the conduct of arbitral proceedings shall be made available by the director of KLRCA.

Another important Act that forms part of the legal framework for ADR in Islamic finance is the Malaysian Arbitration Act of 2005, amended in 2011.[61] Sections 38 and 39 of the Act provide a uniform process for the recognition and enforcement of arbitral awards. Section 38(1) provides thus:

> 38. (1) On an application in writing to the High Court, an award made in respect of a domestic arbitration or an award from a foreign State shall, subject to this section and section 39 be recognised as binding and be enforced by entry as a judgment in terms of the award or by action.

Section 39 provides for the grounds for refusing recognition or enforcement by the High Court.

The Mediation Act was brought into force on August 1, 2012. The Act was introduced with the aim of promoting and encouraging mediation as a method of ADR and to facilitate the settlement of disputes in a fair, speedy and cost-effective manner. However, the Act has been widely seen as being merely a reproduction of existing procedural rules of certain professional mediation institutions and therefore not entirely relevant. Primarily, stakeholders familiar with the mediation framework in Malaysia have long hoped for a legislation to regulate the practice of mediation by mediators and the standardisation of competency requirements with minimum qualifications for mediators, whether or not through an accreditation system where an authority is given the power to revoke or confer accreditation. The Act has not addressed these points. Most glaringly, whilst the Act preserves the voluntary process of mediation, it falls short of making mediation mandatory in certain appropriate instances. By giving parties the right to commence mediation simultaneously with any civil action or arbitration, it allows litigants to explore multiple simultaneous dispute resolution routes without promises of having disputes resolved expediently. This therefore defeats the purpose of ADR.

An important reform in the Islamic banking industry with regards to its dispute resolution sector is the CBMA Act 2009 which provides for the reference of any question relating to *Sharī'ah* matters to the Sharī'ah Advisory Council (SAC). The Central Bank Act 2009 (Act 701) clearly states under its Section 56 and 57 that it is the duty of the court to either take into consideration any published rulings of the SAC for

[61] Arbitration Act, 2005 (Act No. 649) came into effect on 15th March, 2006.

its ruling or advice; and any ruling made pursuant to a reference made under Section 56 is binding on the court (Markom et.al., 2013).However there have been cases where parties have challenged the authority of the SAC in giving its ruling, claiming that this amounts to usurping the powers of the Court. In *Tan Sri Khalid Ibrahim v Bank Islam Malaysia Berhad*[62] the Plaintiff challenged the BBA facility agreements and the Defendant, Bank Islam made an application to the High Court to refer to SAC for its ruling on *Sharī'ah* questions. The Plaintiff objected on the ground that section 56 and 57 of the Central Bank of Malaysia Act (CBMA) 2009 which provide for reference to SAC were unconstitutional and that the two sections came into effect after the actions were filed and could not apply retrospectively. The High Court held that sections 56 and 57 of CBMA 2009 were procedural in nature and they can have retrospective effect. On the issue of constitutionality of Sections 56 and 57, the High Court held that the function of SAC was confined to the ascertainment of Islamic law on a financial matter and it is still the court's function to apply it to the facts of the case. This was affirmed by the Court of Appeal[63] as it held on the issue of the alleged usurpation of the powers and jurisdiction of the court by the SAC that the duty of SAC is confined exclusively to the ascertainment of the Islamic law on financial matters or business. The judicial function is still vested with the court, i.e. to decide on the issues as pleaded. The Federal Court had granted leave to appeal. Therefore the issues raised in this case remain to be determined by the Federal Court (Zakaria, 2013) and poses as a crucial factor for ADR in the Islamic finance industry in Malaysia.

Legal Conundrums

A number of issues are brought to the fore with the present jurisdiction of the courts in Malaysia with regards Islamic finance cases causing untold hardships on the parties in the Islamic finance industry. The application of common law to Islamic banking contracts, the manning of the civil court by judges who are unqualified to sit over Islamic banking cases and the application of general laws to Islamic banking cases are some of the issues that will now be examined.

Common Law Principle is applied to Islamic Banking Contracts

Reported cases reveal that the civil courts are inclined to decide IBF cases strictly based on common law principles without considering the Islamic dimension of IBF documents. In *Dato' Nik Hj Mahmud Bin Daud v Bank Islam Malaysia Bhd*, [64] the Plaintiff had executed two agreements, namely the 'Property Purchase Agreement' and the 'Property Sale Agreement' with the Defendant. There was a purchase by the Defendant through the former agreement of properties for a price of RM520,000.00 which were then resold through the latter agreement to the Plaintiff for RM629,200.00. Both agreements were signed contemporaneously. The Plaintiff's attorney executed two

[62] [2010] 4 CLJ.
[63] Tan Sri Khalid Ibrahim v Bank Islam Malaysia Berhad [2012] 3 CLJ 249.
[64] [1996], 4 MLJ 295.

charges of the said lands in favour of the Defendant as securities. The Plaintiff applied for an order that the charges, the Property Purchase Agreement and the Property Sale Agreement be declared null and void and of no effect. It was contended by the Plaintiff that the execution of the Property Purchase Agreement, the Property Sale Agreement and the charge documents would clearly be tantamount to an exercise to defeat the purpose and intention of the Kelantan Malay Reservations Enactment 1930 and the National Land Code (NLC). The Court dismissed the application and held that there was no transfer affected and the proprietorship still remained with the Plaintiff. That the contemporaneous execution of the Property Purchase Agreement and the Property Sale Agreement constituted part of the process required by the Islamic banking procedure before the Plaintiff could avail himself of the Financial facilities provided by the Defendant under the Bay' Bithamin Ajil concept.

In the case of *Bank Islam Malaysia Berhad V Adnan Omar*[65] the Plaintiff had provided a financing facility of RM 583,000 to the Defendant under *Bay'Bithamin Ajil* (BBA) and it was secured upon a charge over certain parcel of land. A term of the charge document stated that in the event of any default in the payment of the financing instalments by the Defendant, the Plaintiff would be entitled to sell the land. The issue before the court was whether the Plaintiff had full knowledge of the term and whether the parties were at *ad idem* when they entered into the contract. It was held by the court that the transactions between the parties were above board and made with the full knowledge of the Defendant who knew that the entire exercise was to implement the grant of a financing to him through a transaction within the limits of the Islamic law. His knowledge of this was evidenced by his acceptance of the letter of offer containing all the terms of the financing. This being the case, this court can only accept the Plaintiff's statement of the amount of advance under Order 83 rule 3(3)(a) of the Rules of the High Court 1980 as being RM 583,000. The amount is in accord with the intention of the parties and the Defendant cannot now dispute the amount.

In these two cases it is observed that the Judges applied the common law in reaching their decisions and did not consider the application of the existing law and procedure to have contradicted the *Sharī'ah* or in any way affect the validity of the security documents. Instead of addressing the elements and principles contained in the agreements, the Judges using 'the parties are bound by their agreement' approach ruled that the parties having entered into the contracts with full knowledge and knowing the terms of their contracts with the bank, must be bound by the contracts and must therefore pay the whole sum of the selling price.

Qualifications of the Judges and Competency of Lawyers

Most of the Judges are common law trained with little or no background in Islamic law. They therefore tend to apply common law of contract principles to Islamic banking contracts which is totally different and has mostly nothing in common. The judge,

[65] [1994] 3 CLJ 735

Abdul Wahab Patail J in the case of *Affin Bank Bhd v Zulkifli bin Abdullah*[66] said in delivering the judgement on this case thus:

> If the customer is to pay the profit for the full tenure, he is entitled to have the benefit of the full tenure. It follows that it would be inconsistent with his right to the full tenure if he could be denied the tenure and yet be required to pay the bank's profit margin for the full tenure. To allow the bank also to be able to earn for the unexpired tenure of the facility, means the bank is able to earn a profit twice upon the same sum at the same time. The profit margin that continued to be charged on the unexpired part of the tenure cannot be actual profit. It was clearly unearned profit. It contradicted the principle of Bay' Bithamin Ajil as to profit margin that the provider was entitled to. Obviously, if the profit had not been earned, it was not profit, and should not be claimed under the Bay' Bithamin Ajil facility. The profit margin could be calculated and derived with certainty. Even if the tenure was shortened, the profit margin could be recalculated with equal certainty. (para 1, pg. 67-68).

Suriyadi Halim Omar J (as he then was) in the case of *Arab-Malaysian Merchant Bank Bhd v Silver Concept Sdn Bhd*[67], stated that "…in the event any litigation is commenced, it must be appreciated that not every presiding judge is a Muslim, and even if so, may not be sufficiently equipped to deal with the matters, which the *Ulama* (Jurist) take years to comprehend" (para 17, pg. 217).

Also in the case of *Dato' Hj. Nik Mahmud bin Daud v Bank Islam Malaysia Berhad*[68] the parties, their counsel and the court itself all applied a superficial understanding of the nature of Islamic financial transactions to their arguments and analysis. Commenting on this judgement, it was noted that: "Based on the overall analysis of the Court decisions, particularly in deliberating *Sharī'ah* issues, it is observed that the judges in the civil courts to a certain extent do not have the competence to deal with *Sharī'ah* matters" (Hassan & Asutay, 2011, pg. 50).

There is also the issue of the competency of lawyers which was succinctly put in these words:

> Most of the Sharī'ah issues argued in the Islamic finance disputes were constructed by the lawyers' understanding of the principles of fiqh al-mu'amalat in which some of them had limited knowledge. Moreover, most of the contractual agreements in Islamic financial contracts are drafted by lawyers that are heavily influenced by the English legal drafting techniques (Balz, 2004, pg. 132).

[66] [2006] 3 MLJ 67.
[67] [2006] 8 CLJ 9
[68] [1996] 4 MLJ 295.

This is therefore a problem that has brought untold hardships on the parties as it is reflected in the judgements given by these judges.

Application of General Laws to IBF

Civil courts in Malaysia do apply some laws such as the National Land Code 1965, Rules of Court 2012, Contracts Act 1950, Companies Act, Hire Purchase Act 1967 and others to Islamic banking and finance cases. These laws are applied by the courts depending on the facts of each case and are important for adjudicating cases that comes within their purview. However most of these laws are not legislated to facilitate or support IBF. This is because while drafting these laws, the legislatures did not have Islamic banking and finance in mind. Moreover these laws have been in existence before the emergence of Islamic banking and finance in Malaysia. The extent of the application of these laws to the Islamic banking and finance cases can be seen in some reported cases. In the case of *Bank Kerjasama Rakyat Malaysia Berhad v Emcee Corporation Sdn Bhd*,[69]Dato Abdul Hamid Mohamad JCA stated thus:

> As was mentioned at the beginning of this judgment the facility is an Islamic banking facility. But that does not mean that the law applicable in this application is different from the law that is applicable if the facility were given under conventional banking… The procedure is provided by the Code and the Rules of the High Court 1980. The court adjudicating it is the High Court. So, it is the same law that is applicable, the same order that would be, if made, and the same principles that should be applied in deciding the application (Para 1, pg. 408).

Also in the case of *Dato Hj. Nik Mahmud bin Daud v Bank Islam Malaysia Bhd*,[70] the relevant transactions involved sale contracts, which ought to be governed by Islamic law. This aspect of the Islamic law of sales was not considered at all in that case, the judge only considered the sales of land and transfer of title under the National Land Code 1965 in arriving at his conclusion.

Most of the Islamic finance contracts are still being governed by the general laws like in the case of *Ijarah* where the applicable law is the Contract Act 1950 and *al-Ijarah Thumma al-Bay* where its applicable law is the Hire Purchase Act 1967. In this situation the necessity to have two different contracts: the lease contract; and the sale contract, in two different contracts is made impossible because there is no such provision in the Hire Purchase Act 1967 that can be applied. The banks have to use their initiative by stating in the agreement that two separate contracts are entered into. Here lies the issue. This is why a number of studies have been conducted calling for the harmonisation of these laws with some *Sharī'ah* principles. For example, the Hire Purchase Act 1967 could adopt the *Sharī'ah* principle of *Ijarah* (lease) while the

[69] [2003] 2 MLJ 408; [2003] 1 CLJ 625
[70] [1996] 4 MLJ 295

Sharī'ah doctrine of *khiyar* (options) may be introduced into the Contract Act 1950 (Abdul Gani, 2007).

As a response to this, the Law Harmonisation Committee was set up by the Malaysian Government in July 2010 towards the creation of a legal system that supports the development of the Islamic finance industry (Bank Negara Malaysia, 2013); (Abdul Hamid, 2011). The aim of harmonising these laws is to create *Sharī'ah*-compatible laws to support their implementation, documentation and settlement of disputes. Some of the issues being considered by the committee include: the need to recognise Islamic finance transactions under the National Land Code 1965; the legal recognition of *Sharī'ah* principles to facilitate provision of Islamic finance under the National Land Code 1965; the implications of Partnership Act 1961 on profit-sharing *Sharī'ah* contracts. Issues; the Implications of Contracts Act 1950, Civil Law Act 1956 and Specific Relief Act 1950 on *Sharī'ah* contracts are also being considered.

CONCLUSIONS AND IMPLICATIONS

The findings of this study have provided an interesting conclusion with significance for both research and practice. This research shows that there are current trends showing changes in the dispute resolution of the Islamic finance industry in Malaysia. It further demonstrates that in order to develop an effective legal infrastructure for Islamic finance, the role of adjudication system cannot be underrated. The findings suggest that for a successful development of Islamic finance in any jurisdiction, the most important and key determinant is the existence of a favourable dispute resolution system that supports the operations and growth of the industry. It is equally discovered that there are a number of legal conundrums causing untold hardships on parties in Islamic finance contractual disputes with the current jurisdiction of the courts in Malaysia.

The implication of the study therefore is that the preference of Malaysian Islamic finance institutions for litigation as a means of dispute resolution has relegated other sustainable processes of dispute resolution to the background and made them irrelevant in the Islamic finance industry. Also, the continued preference for litigation as a means of settling disputes in Islamic finance industry is not sustainable due to the paradigm shift in dispute resolution involving Islamic finance matters. It is hereby recommended that judges as well as lawyers be trained in the arts of dispute resolution using the Islamic procedure so as to equip them with all the necessary skills and qualifications to be able to effectively resolve Islamic finance disputes brought to them. Furthermore, investors in the Islamic finance industry as well as other market participants seek stability and reliability and always try to avoid volatility and risk. Thus, there is the need for a reliable, predictable, just and fair system of dispute resolution in the Islamic finance industry. The need for ADR is also important if the much acclaimed success story of the industry is to be maintained. There is no need for a robust and fast growing industry if there is not in place a just system of dispute resolution which is provided by the ADR processes. An industry with a stable and just dispute resolution mechanism will surely attract investors from all over the world which will invariably mean more

growth to the industry than is presently being experienced. This study therefore gives a clear picture of the current situation in Malaysia and why ADR is seen as very crucial in the resolution of Islamic finance disputes.

Limitations and Future Research

The current study still has its limitation in terms of the method used. The legal content analysis method was used in a qualitative manner. This research is clearly required to conduct an empirical research where data will be sourced from the field and a sample of the industry taken before being analysed quantitatively. Therefore, the use of a quantitative method for a future research will enable an objective, as well as analytical empirical data analyses.

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Influence of Power Distance on Voice and Silence Behaviours of Employees in Nigerian Tertiary Educational Institutions

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ABSTRACT

The extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally referred to as power distance is investigated to determine the influence it has on employee voice, and silence behaviours in Nigeria - a culture that is collectivist. Data was collected from 127 middle cadre employees of the Waziri Umaru Federal Polytechnic; Birnin Kebbi in Kebbi State, Nigeria is using a questionnaire. Findings revealed that high power distance has a strong influence on employee silence and mild or little influence on employee voice. Organisations need to narrow the interpersonal power distance of employees to get them to open up and voice useful suggestions and opinions on the best way to improve work and work related issues.

Keywords: Power Distance, Voice, Silence, Tertiary Education, Nigeria

INTRODUCTION

The distribution of power in organisations right from time has never been equal. The way power has usually been distributed is explained from the behaviour of the more powerful members, the leaders rather than those led (Hofstede & Hofstede, 2005). However, the value system of the less powerful organisational members further consolidates the distribution. The ability of employees to open up (voice) and come up with useful suggestions, and corrections are dependent on how superior officers permit and encourage the voice in organisations (Umar & Hassan, 2013).

Much research on employee voice and silence has been carried out in the western cultures (Brinsfield, 2009; Milliken, Morrison, & Hewlin, 2003). These cultures are mostly associated with small power distance index and a high degree of individualism. Organisational climate in other cultures varies substantially with western cultures. Dissimilar cultural patterns create ineffective inter-organisational relationships

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by distorting the knowledge that is transferred between organisations (Bhagat & Kedia, 2002). The transportability of social science models from one society to another have been questioned (Tsui, 2004), likewise the universality of social exchange theory explanations of employee attitudes and behaviours has also been questioned by a growing body of literature (Farh, Hackett, & Liang, 2014). Societies have subcultures (professional, educational…) and that it does not make much sense to compare for instance English nurses to Danish policemen (Sondergaard, 2002). Still, does it make sense to compare French bakers to French engineers? It seems difficult to agree as they have different corporate structures, different types of jobs, different educational and probably socioeconomic backgrounds and must then hold different values. Therefore, it seems difficult to apply Hofstede's results to all employees in all types of occupations within the same country (Ly, 2013). Hence, the need to examine the impact that power distance has on employee voice and silence in collectivist cultures become significant, after all the cultural values of a society will apply to organisations located in that society.

Nigeria is a collectivist culture with a high level of power distance index score of 80 on a Hofstede scale (Centre, 2014) and 5.80 on the GLOBE scale (Carl, Gupta, & Javidan, 2004). The reports in the western based studies may not stand to explain the real situation on the ground in countries like Nigeria. In large-power distance situations, superiors and subordinates consider each other as existentially unequal; the hierarchical system is based on this existential inequality (Hofstede & Hofstede, 2005). There is a tendency for a high degree of centralisation not only of power distribution, but also other resources needed in the accomplishment of organisational objectives. Hence, making subordinates with no option than to succumb to the dictates and flexing of the superior officers because of cultural value orientations. Individually held cultural values and beliefs, play an important role in how employees react to aspects of their work (Kirkman & Lowe, 2009). In this type of situation, voice behaviour on the part of subordinates is highly restricted. Making it difficult for employees to suggest anything, no matter how valuable such thing may be in improving the quality of work and enhancing efficiency. The high power distance societies are characterised by a tolerance for inequality, and the members of such societies agree that the power should be unequally shared. The people with higher social position obtain numerous privileges, and it is considered as something right and natural (Bialas, 2009). These somewhat facilitate and help with the cultivation of the climate of silence and subsequently, the suppression of voice.

This study is an effort to establish the influence of power distance on the voice and the silence behaviour of middle cadre employees in collectivist organisational setting. The aim is to find out if power distance difference is a significant factor impacting on employee voice and intentional withholding of vital information needed for improving work and uplifting the conditions of work and other related issues.

LITERATURE REVIEW

Power Distance

Scholars have recognised socio-cultural environment as one of the most-important factors affecting the behaviours of individuals and groups in the organisations (Khatri, 2009). Understanding the ways in which culture impacts organisational behaviour has become a strategic necessity rather than a mere scientific curiosity (Sagie & Aycan, 2003). One of the central dimensions of culture is that of power distance (status differences), which is one of the five cultural dimensions in Hofstede's framework. Power distance has been defined as "the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally"(Hofstede & Hofstede, 2005). According to Hofstede's definition, the power distance is connected with the social acceptance of unequal distribution of the power. This inequality can be connected with prestige, wealth and power (Bialas, 2009). Within organisations, an unequal distribution of power is inevitable, and this inequality in power is typically formalised in hierarchical superior-subordinate relationships (Hofstede, 1984). Even within a society, individuals differ in the extent to which they expect and accept inequality in power and wealth, which is referred to as power distance belief (Winterich & Zhang, 2014). In other words, power distance refers to the degree to which an individual prefers to be told what to do and how by persons in higher power positions than themselves (Madlock, 2012).

Recent studies (Rao, 2013; Rao & Pearce, 2012) split power distance into societal power distance (SPD) and interpersonal power distance (IPD). Societal power distance is considered as "the extent to which rank, status and power are accepted within society." SPD is similar to Hofstede's concept of a societal norm; however, the construct is not confounded by the supervisor-subordinate relationship (Rao & Pearce, 2012). Interpersonal power distance (IPD) is considered as a "difference in power and status between two individuals, such that one party is more dependent on another" (Rao & Pearce, 2012). In high power distance cultures, responsibility for and authority in decision-making is vested in the hands of a few at the top, and delegation is somewhat avoided. By contrast, in low power distance cultures, everyone is perceived to have the potential to contribute to the decision-making process. In fact, interdependence between the superior and subordinate(s) is valued (Sagie & Aycan, 2003). All these are an indication of the unlikelihood of generalisations in cultures with low power distance to be valuable in high power distance cultures. Members of a culture share certain mindsets that cause them to interpret situations and events in generally similar ways, while persons from other cultures and mindsets are likely to interpret them differently (Khatri, 2009).

Employees with a high power distance orientation tend to behave submissively around managers, avoid disagreements, and believe that bypassing their bosses is insubordination (Hofstede, 2001). Such employees, obey leaders' instructions without question; believe that leaders deserve respect and deference, are superior, and are elite, and accept their decision-making limitations while trusting that leaders provide more reliable decisions (Javidan, Dorfman, Sully de Luque, & House, 2006). However, the

roots of power distance, whether high or low, are historically derived and satisfy cultural expectations within societies (Cullen, 2001). Carl, Javidan and Gupta (2004:518) concluded that the acceptance of a certain level of power distance within societies can be traced to certain fundamental phenomena like religion or philosophy, the tradition of democratic principles of government, the existence of a strong middle class, and the proportion of immigrants in society's population. Hence, cultural differences are likely to influence power distance and possible actions and inactions of employees.

Thus, it seems clear that societal characteristics can and do influence the characteristics of the organisations within the society as a culture is a powerful force that shapes and influences the cognitions and behaviours of people. There is still limited consensus regarding a general theory of organisational culture, and healthy scepticism about whether culture can ever be "measured" in a way that allows one organisation to be compared with another (Denison & Mishra, 1995).

Power Distance and Voice and Silence

Cultural values have substantial influence on both employees' willingness to voice and intentional concealment of information on work-related matters. The cultural values of a society will apply to organisations located in that society (Rhee, Dedahanov, & Lee, 2014). Thus, power distance is a potential opener and an inhibitor in employee voice and silence. Speaking up is inconsistent with the cultural value of high power distance. Thus, individuals employed in organisations in high-power-distance cultures are less likely to express their ideas, lest this be understood as challenging the status of the manager. Likewise, managers with high-power-distance orientation and collectivistic cultural beliefs are more likely than other managers to foster silence in their organisations (Morrison & Milliken, 2000). Issues of this nature influence the employee always to think twice before speaking up. Employees also assess and weigh the risk that sharing of information has on losing a job or not receiving a promotion. If the perceived outcome is negative and dangerous, employees become reluctant to share information with their superiors (Frances J Milliken et al., 2003). In high-power-distance settings, revealing the unethical attitudes of superiors or challenging their roles can be perceived as disobeying the norms of the society. Individuals who disobey social norms can become socially isolated or may be perceived as troublemakers. Therefore, individuals who wish to share their suggestions, and to report organisational problems that may challenge managerial roles, become more reluctant to report their work-related concerns. Owing to their fear of social isolation and as a means of self-protection, therefore, they become defensively silent (Rhee et al., 2014).

Differences in the employee reasons or motives for withholding vital information necessary for improving and sustaining work indicate the benefits of differentiating types of silence (Zehir & Erdogan, 2011). As such, employee silence has been classified as quiescent and acquiescent silence (Pinder and Harlos, 2001) and defensive and prosocial silence (Van Dyne, Ang, & Botero, 2003). In quiescent silence, information withholding on work-related issues is based on disengagement from organisational issues. Employees are somewhat excluded and not involved in discussions of

organisational issues. In some instances, superiors do not react to information shared by low-level subordinates. Employees perceive that information sharing is pointless and does not lead to change and, therefore, this perception on the part of employees may cause acquiescent silence. Employees engaged in this category of silence are ready to speak up to change the environment that created the silence. On the other hand, those engaged in acquiescent silence have less intention to change their environment compared with quiescent individuals (Pinder & Harlos, 2001). They are unlikely to open up and voice opinions or suggestions that can improve work and matters related to work. This class of employees accepts the fact that those on the high level of the organisational hierarchy are more knowledgeable and therefore need not be disturbed and distracted from what they believed is the best for the organisation. In high power distance cultures, the superior is the person who more often takes decisions without the subordinates' participation. The superior also gives the subordinates precise instructions on how to execute his decisions (Hofstede & Hofstede, 2005).

In organisations operating in high power distance cultural milieu, a superior is expected to make decisions without consulting his or her subordinates. Subordinates may view their involvement in decisions by their superiors as a sign of incompetence or weakness on the part of the superior (Francesco and Chen, 2000). Subordinates are also unwilling to express their opinions and disagreements openly due to fear of losing face or making someone else loses face (Khatri, 2009). This cultural believe thus create an atmosphere of silence leading further widening the communication gap.

Defensive silence describes concealing work-related problems based on fear and self-protection. In other words, individuals attempt to conceal information when they feel that information sharing is dangerous, risky, or threatening. These feelings trigger an emphasis on self-protection by hindering information sharing. Prosocial silence, on the other hand, involves the withholding of work-related ideas, information, or opinions with the goal of benefiting other people or the organisation-based on altruism or cooperative motives (Van Dyne et al., 2003). The working relationship between managers and their subordinates is dependent on the power distance (Bialas, 2009). This difference in power distance results in information blocking in order to self-guard the common interest of the workers.

METHOD

The study participants were middle cadre employees of Waziri Umaru Federal Polytechnic, Birnin Kebbi, in Kebbi State, Nigeria. The population of middle cadre employees in the institution was 194. A sample of 127 was chosen based on the sample size table for research activities (Krejcie & Morgan, 1970). Data for the study was collected using an adopted self-administered quantitative survey questionnaire developed and validated by earlier studies. The data collection instrument was administered personally by one of the researchers. A total of 127 questionnaires was issued out, 109 were fully completed and returned representing 86%. There were 69 (63%) men and 40 women (37%) in the study. The respondents' age ranges from 18 years to over sixty years; the mean age was 29 years. The academic qualification of

respondents ranges from Higher National Diploma to Master's degree. 89% of the respondents were married and 11% unmarried or divorced. The length of service put in by the respondents was between less than a year to above 30 years.

INSTRUMENTS

We measure power distance by Dorfman and Howell's (1988) new measure of Hofstede's (1984) dimensions; it has a Cronbach's α reliability scale of 0.924. The measure was employed because the reliability score for power distance on the Hofstede original scale was found to be low (Wu, 2006). Dorfman and Howell's (1988) five-point Likert scale contains ("Managers make most decisions without consulting subordinates." "Managers frequently use authority and power when dealing with subordinates." "Managers do not delegate important tasks to employees." "Employees should not disagree with management decisions." "Managers should not delegate important tasks to employees"). A higher score indicates higher power distance and vice versa.

Voice behaviour was measured using Van Dyne and LePine (1998) seven-point scale. Items contained in the questionnaire include (e.g., "I develop and make recommendations to my supervisor concerning issues that affect my work." "I speak up and encourage others in my work unit to get involved in issues that affect our work." I get involved in issues that affect the quality of life in my work unit") and it has a Cronbach's α reliability scale of 0.906. A higher score indicates voice.

Silence was measured using Brinsfield (2009) seven-point scale. Example items include "I frequently remain silent at work: To avoid conflict; Due to negative experiences I've had with speaking up; Because I was instructed not to speak up" etc.). It has the Cronbach's α reliability scale of 0.931. A higher score indicates silence.

Analysis of data for this study was done using SPSS software.

Cronbach's α reliability scale

Variable	Score
Power Distance	.934
Voice	.906
Silence	.931

RESULTS AND DISCUSSIONS

The results of this study supported the earlier researches classification of Nigeria's power distance. We obtained a power distance index score of 78.6 on Hofstede index. This demonstrated the presence of high power distance among the middle cadre employees in tertiary educational institutions in Nigeria as supposedly is the case in the rest of organisations in the country. The results capture the societal power distance. The interpersonal power distance (that is the level of dependence between supervisors and subordinates) on the other hand seems different. Despite the high power distance,

employees still opined their readiness to open up and voice opinions and suggestions in the areas that affect their work where they sense no danger or risk.

There was a negative Pearson correlation of -0.96 between power distance and employee developing and making recommendations to supervisors on issues that affect their work. When the power distance increases, the respondents developing and making recommendations to supervisors on issues that affect their work decreases. No wonder, only a handful of employees had ever opened up and developed or recommended anything to their supervisors. Therefore, this confirmed the fear that employees in high power distance organisations have of not speaking up for the consequent reprimand. Employees consider the risk that sharing of information has on losing a job or not receiving a promotion. If the perceived outcome is negative and dangerous, the employee becomes reluctant to share information with their superiors (Milliken et al., 2003).

Likewise, a negative Pearson correlation -0.76 was observed between making decisions without consulting employees and voice. The employees believed that decision making was the exclusive right of managers, but there was a need for input in order to accomplish objectives. Managers and supervisors, on the other hand, consider any unsolicited interference as distraction and unwelcome. Employees held those on top of the hierarchy with much respect and honour. At the same time feels that the work has to be discharged properly in order to achieve organisational objectives. Therefore, speak up might be proper to ensure that the best practices, means and methods were employed in discharging organisational responsibilities. But doing this is risky in the condition of the high rate of unemployment and competition for lucrative postings. This clear ground for quiescent silence because supervisors were not willing to engage employees in decision making. Consulting subordinates when making decisions do away with the prestige of the office holder. Credit goes to the employee being consulted thereby giving employee edge in the organisation. To safeguard prestige and honour, superiors in high power distance cultures avoid instances of giving too much room for subordinates to air views and suggestions. Depending on the employees, interpersonal power distance, he may voice or remain silent.

Silence was also observed where the use of power and authority was prominent. Use of authority and power, when dealing with subordinates, has a Pearson correlation of 0.69. High power distance organisations were characterised by authoritarian dictates, indicating that the more supervisor uses the power and authority the more likely subordinates are to withhold information necessary for the accomplishment of objectives. This support and reinforces earlier studies that individuals employed in organisations in high power distance cultures are less likely to express their ideas, lest this may be mistaken as challenging the status of a superior.

Implication to Organisations

This study made an addition to the existing literature on voice and silence by confirming the results of earlier studies on voice and silence in cultures other than the western culture. The study shows how power distance impact on employee voice and silence in a Nigerian organisation, a collectivist culture.

Many employees choose not to voice their opinions and concerns about the matters in their organisations despite the heightened rhetoric of open communication and employee empowerment. For organisational success and development, voice and silence are critical components of social interaction that organisations supposed to pay more attention to. Being interrelated and intertwined strategic forms of communication, the two constructs of voice and silence mean much not only to the attainment of organisational objectives, but also to the health and development of organisations.

One important implication to the organisation is that those in authority need to demonstrate a willingness openly to accept suggestions and shrink the gap in the hierarchy by not being too authoritarian. They should also not expect subordinates to take the blame always for not opening up and voicing. There should be an atmosphere of cordiality in the relationship between superior and subordinate.

Findings of this study point to the tendency of employees in high power distance organisations to break the silence and open up by voicing on work related matters given the right atmosphere. Developing trust and confidence in employee's capabality is the antidote. Superiors must do everything possible to reduce the gap in the power distance so that employees would become confident and open up to speak on work related matters. Development of confidence will reduce power distance at the interpersonal level and give the opportunity for employees to engage in meaningful interaction and understanding of one another. Thereby strengthening interpersonal communication and reducing silence.

STRENGTHS AND LIMITATION OF THE STUDY

The study strongly supported the presence of high power distance in Nigerian organisations. It also reinforces the tendency of employees in high power distance organisations to respect and uphold the views of those above them in the hierarchy. Hofstede (2001) rightly observed "employees with a high power distance orientation tend to behave submissively around managers, avoid disagreements, and believe that bypassing their bosses is insubordination." They believe that employees in high power distance organisations kept silent owing to their fear of social isolation and as a means of self-protection (Rhee et al., 2014) was not supported by this study.

This study looked at power distance only; there is a need to study the other cultural dimensions. The influence that individualism/collectivism, uncertainty avoidance and masculinity and femininity have on voice and silence behaviours of employee in non-western cultures need to be examined.

The study was conducted in one tertiary educational institution alone (even though the institution's employment meets the federal character composition) this limits the generalizability of the results. Therefore, a nationwide survey should be conducted to cover the whole country.

CONCLUSION

Power distance describes the extent to which the subordinate members of institutions and organisations accept that the power is distributed unequally. In a high power distance organisations like Waziri Umaru Federal Polytechnic, Birnin Kebbi, Nigeria, consultations on work related matters with subordinates are not regarded as important. Those in managerial positions openly demonstrate rank by being authoritative. Subordinates are expected to do exactly what is expected of them and not meddle in the affairs of the boss through speaking ups and unsolicited suggestions. The relationship between boss and subordinate is rarely close/personal. These characteristics make speak up and voice difficult and low; hence the atmosphere of silence.

Organisations operating in collectivist and high distance power cultures should strive to understand the peculiarities of their environment in dealing with the factors that influence voice or silence. An application of other cultures findings in getting the best in operations is risky. We need to explore more of voice and silence in order to develop our human resource potentials and achieve the desired level of development.

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Relationship between Principals' Leadership Attributes and School Effectiveness in Niger State Secondary Schools, Nigeria

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ABSTRACTS

The success of secondary schools depends on the skills, characteristics and knowledge of leadership obtained by the principal. This stand as a fact on principals' leadership attributes to be a topic of discussion towards the effectiveness of secondary schools for the pass decades, based on the assumption that no school can be successful without effective leadership of the principal. This resulted to the conduction of various researches in such area worldwide. The study examined the relationship between the principals' leadership attributes and school effectiveness in Niger State secondary schools. It is a survey research, quantitative approach and correlation analysis was used to determine the relationship between the principals' leadership attributes and school effectiveness in Niger state senior secondary schools, Nigeria. The study includes all the senior and assistant senior masters, which gives the total population of 460. The sample size was 209 and was calculated using the Cochran formula with the addition of 30% of the unreturned of which determined the sample size to be 272 and simple random sampling technique was used. Questionnaire was an instrument used for the collection of data; Leader Attributes Inventory (LAI) was used to measure the Principals' Leadership Attributes and it measures each of the 37 leadership attributes, while School Effectiveness Index (SEI) was used to measure the School Effectiveness and it is made up of 8 items. Both the two instruments were structured questions with positive statements and the options are in Likert type scale. Findings show that there is a significant positive, high relationship between the principals' leadership attributes and school effectiveness in Niger state senior secondary schools, Nigeria.

Keywords: Principals' Leadership Attributes, School Effectiveness, Secondary Schools, Niger State

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INTRODUCTION

Principals' leadership attributes is perceived as an essential variable towards the effectiveness of every secondary school, right from the goals setting to its means of attainment. Numerous researches identified the association between the principals' leadership attributes and the school effectiveness. In the absence of effective and efficient leadership there is no assurance of school success and its goal attainment. It is generally believed that under normal circumstances, where there are no obstructions on the number of teaching staff, number of students from similar background, schools' rules, an educational institution reprobate or rises to yearning standard with the change of the school principal (Sharma, 2010).

Principals' leadership attributes is highly interrelated with the school improvement, school effectiveness and total students' achievements. Studies have shown that, principals' leadership attributes are concerned with the overall improvement and effectiveness of the school, and the academic success of every student (Goldring & Pasternack, 1994).

Despite the fact, the contemporary educational setup has proven to be the greatest challenge for the majority of principals in leading their schools to meet up with the required proficiency levels of student achievements and the general effectiveness of the school (Matibe, 2007). Niger state government have been allocating an adequate amount of funds to the educational sector in the state, yet the performance of staff and student achievement does not meet up with the yearning aspiration of the parents and the Niger state government. This is rooted from the frequent poor performance of students in the internal promotion examination and eventually leads to the poor performance in West African Examination Council and National Examination Council too. For instance, in the year 2007, Niger state students got only 7% whilst in 2008, Niger state students got 18.7% which is extremely poor in terms of students' achievement (Desert Herald, 2011). Niger state government had paid the sum of #440.4 million for its students who sat for West African Examination Council (WAEC) and National Examination Council (NECO) in the year 2010/2011 while parents contributed the sum #191.6 million, but the performance of students was not admirable and encouraging less than 25%. The Commissioner for Education said, 17, 550 senior secondary school students in the state have failed their 2011/2012 promotion examination out of the 57,510 registered student, which gives a total of 30.52% of students that pass the examination (Premium Time, 2012). And that there is generally believed that principals are responsible of all what happens in their various secondary schools (Adeyemi & Bolarinwa, 2013).

Meanwhile, School effectiveness encompasses all the general achievement of students in the three domains of learning such includes cognitive domain, psychomotor domain and effective domain (Ekundayo, 2010), therefore learning the leadership attributes is very imperative for school principals in order to enable them to develop and improve their leadership so as to meet up with the necessary outcomes of their respective students (Mathibe, 2007). With the above evidences of experiences and the literatures energised the researcher to conduct a study on the relationship between the principals' leadership attributes and school effectiveness in Niger State Secondary Schools, Nigeria.

Objective of the Study

The objective of this study is to examine the relationship between the principals' leadership attributes and school effectiveness in Niger State secondary schools, Nigeria

Research Question

Is there any relationship between the principals' leadership attributes and school effectiveness in Niger State secondary schools, Nigeria?

Research Hypothesis

HA: There is a positive significant relationship between the principals' leadership attributes and school effectiveness in Niger state secondary schools.

LITERATURE REVIEW

Principal as a school leader "needs to be prepared to deal with the complex nature of the principal's responsibilities and unavoidable social, economic, technological, political and cultural problems that can serve as a barrier to improvement efforts to their respective secondary schools. The relationship between the principals and their subordinate staff are of utmost importance. However, they lead both internal constituencies and external constituencies to influence the environment and get support for the development and effectiveness of school programs (Isaacs, 2003). There is a general acceptance that the professional practice of principals greatly affects the process of schooling, and that more successful schools are run by most effective principals, the support for this connection comes from related literature sources in school change, school improvement, staff development, and school effectiveness (Bookbinder, 1992). In study after study it has been shown that the one key determinant of excellence in public schooling is the leadership of the individual school principal. The effective schools literature has established that principal leadership influences student achievement, at least indirectly, through a multitude of complex interactions, therefore "behind every successful school is a successful principal" (Hallinger, 2005).

In many studies conducted involving 13 school principals, it is recognized that the single individual most responsible for the success or failure of a public school is the principal; Certainly these conditions warrant regular and relevant professional leadership development to enable the school principals to address the issue concerning new approaches, new ideas and the best practice of principal ship. The principal is assumed to be perceived as a promoter of human learning (Leithwood, 2006). The duties and responsibilities assumed in order to do this are complex and vast; principals are described as artists and technicians. As an artist, the principal anoints heroes, tells stories, celebrates important events and values, and acts as a cultural symbol. As a

technician, the principal is a planner, resource allocator, coordinator, disseminator of information, jurist, gatekeeper, supervisor and analyst (Catano & Stronge, 2006).

In the current climate of education reform and improvement, the principal has been viewed as a key player in efforts to foster excellence in schools. If we are to realize dreams of sustained and widespread improvement as asserted, we must look for several ways of improving his leadership to meet up with the targeted needs (Hallinger, 2005). Without strong leadership in school, change and growth within the entire school population, is said to be less productive, this is because is the principal leadership that creates and communicates the compelling purpose and aligns the school with a vision for change in order to improve schooling for children (Omeke Faith & Onah Kenneth, 2012). Principals stand as a crucial link between policy set for school development, school improvement and actual classroom practice. Based on the key position held by school principals in school, many school districts use professional development opportunities as a means to empower their school principals**, t**hat principals should be included as key participants in quality professional development. Khagendra, (2006) is of the view that, "good leaders are perpetual learners." In schools also, it is believed that principals should be models of lifelong learners, committed to continuous improvement. Principals as promoters of human learning need to consider themselves learners, as well as, leaders.

Secondary Schools in Nigeria

The first secondary school in Nigeria was established in 1859 by the Christian missionaries, certain reforms taken into consideration in the early days of secondary education up to the late 1980s (Arikewuyo, 2009).

During the earlier time, there were three types of secondary schools in the country, and such includes the secondary modern school, secondary commercial school and secondary grammar school. The secondary modern school was a three-year program, which offered a general education program, mostly in the humanities, for primary school leavers, who could not pass the competitive examination to the secondary grammar school. The secondary commercial school was a four-year course, which focused on commercial oriented subjects such as business studies, commerce, shorthand, typewriting, accounting and bookkeeping. The products of commercial and modern schools were allowed to proceed to the secondary grammar school to spend three years instead of the normal five-year duration. The secondary grammar school was a five-year duration school, which offered a range of subjects, including humanities, social science, technical, vocational and science subjects, leading to the award of West African School Certificate (WASC) (Arikewuyo, 2009).

All of these categories of secondary schools aimed at producing desirable and productive citizen that would contribute to the development of the nation. This is synonymous to the aim of the present secondary schools in Nigeria. The Federal Government of Nigeria in 2004, highlighted in the National Policy on education, that the broad aims of secondary education is to prepare students for useful living within the society and preparing them for higher education (Arikewuyo, 2009). To

achieve the above expectation, there is a need for an effective school leader that would energize the activities of the teachers to maximize the utilization of their potential towards high student's achievement and school effectiveness (Ekundayo, 2010)

The Theories and Models Used by the Researcher

There are many leadership theories as accentuated by the literatures, such includes the great man, trait, behavioural, contingency, path-goal and situational theory (Kristic, 2012). But this study considers behavioural theory as the most substantial theory to be used in explaining the theoretical foundation of the principals' leadership attributes in this study. This is because leadership attributes need to be acquired by the principals through learning and training processes. Behavioural theory is emphasizing that all those leadership attributes can be learnt and thereby making school principals to become great leader (Khagendra, 2006). Researcher also employed new model of educational leadership developed by Senge in (2000). The model is elaborated below:

Senge (2000) proposed an educational leadership model that focuses on four key dimensions to allow people to lead without having to control, these includes the followings; engagement, system thinking, leading learning, self-awareness

Engagement: It is the capability to recognize an issue or situation that has no clear definition, no simple cause and no recognizable answer. When faced with such complexity is called for System Thinking: The ability to recognize the hidden dynamics of complex systems, and to find leverage, goes hand in hand with the engagement. School leaders, in this regard, might look at a situation from the perspectives of the next higher system.

Leading Learning: Engaging people and systems thinking is not sufficient for dealing with complex issues in the educational sector. Leading learning gives principals the liberty to say, "I don't know where we're going and I'm still willing to dig into this 'mess' to discover a way for us to go".

Self-Awareness: Principals must know the impact they are having on people and the system and how that impact has changed over time. Self-awareness is a position of knowing one's strength, personal vision and values, and where your personal "lines in the sand" are drawn will build a base of self-awareness that allows you to craft your career and have more good days than bad (Isaac, 2003). Leadership models help us to understand what makes leader the way they behave and realized every situation calls for a particular behavior (Khagendra, 2006).

Researcher employed Capital theory of school effectiveness to explain school effectiveness, which is referred to as the degree to which school is able to accomplished it predetermined objectives, it encompasses the achievement of all the three domains of learning including the cognitive, effective and psychomotor (Ekundayo, 2010).

Capital theory of school effectiveness was developed by David H. Hargreaves in 2000, it has four master concepts, namely as outcomes, leverage, intellectual capital and social capital. The four master concepts are explained below:

Outcomes: The outcomes of a school represent the extent to which its goals and objectives are achieved (Hargreaves, 2001). The major open goal of the school is ensuring students' academic achievement both cognitively and morally in which Hargreaves has mentioned as one of the master concept of the theory which is explained in Aristotelian ways. Here we meet a second intractable problem of translation: *arête* a Greek word meaning virtue, is perhaps better rendered as excellence (Hargreaves, 2001). In Artistotle's view, there are two kinds of excellence, namely intellectual excellence and moral excellences. Intellectual excellences include many forms of knowledge, skill and understanding while moral excellences include many aspects of social and emotional life. The main aim of education is to initiate the young into these excellences, through which they acquire the disposition to make sound intellectual, moral judgments, choices and finally become good citizens (Hargreaves, 2001).

Leverage: Capital theory supported the above factors with 'Leverage;' which explained the relation between the teachers' input and educational output, it can also be seen as the quality and quantity of effected change on students' intellectual and moral state base on the level of teachers' invested energy. Teachers in effective schools share and regularly apply combinations of high leverage strategies and avoid low leverage strategies: they respond to demands for change by working smarter, not harder. An improving school learns how to identify and apply effective, efficient and ethically justifiable leverage points to enhance the intellectual and moral excellences as outcomes. Many schools do not know how to increase their leverage, that is, to know how to work smarter rather than work harder (Hargreaves, 2001). Mastery of the art and science of leverage requires an understanding of professional ability to apply, for 'what works' on the basis of research or personal experience, and a capacity to innovate and experiment in novel situations and where evidence is lacking (Hargreaves, 2001). He further added that, an effective school discovers how to combine high leverage strategies and to sequence their implementation over time, so that the quality and quantity of their outcomes are high with less energy investment. Understanding school effectiveness involves discovering how high leverage works.

Intellectual capital: This is defined as the total sum of the knowledge and experience of the school's stakeholders that they could deploy to achieve the school's goals and objectives while social capital can be viewed in two components, cultural and structural components. The cultural part is mainly the degree of trust between people and the generation of norm of mutual favor and collaboration. The structural aspect is the networks, in which the people are fixed firmly by strong ties, thus improve orderly and safely school climate (Hargreaves, 2001). Social capital: Social capital gives much emphasis on improving safely and orderly environment through maintaining the degree of trust between the co-workers and again enhancing collaboration among the colleagues which bring about mutual understanding in an organization.

METHODOLOGY

This research is a survey method and it is a quantitative approach which involved 460 populations, sample of 272 was selected from 230 secondary schools and these schools were randomly selected. It has been designed to examine the relationship between the principals' leadership attributes and school effectiveness in Niger state senior secondary schools. In this context, the study demands a correlation analysis to measure the relationship between the Principals' leadership attributes and School effectiveness with respect to the demographic factors. The subjects of this research work are principals of Niger state senior secondary schools who have been assessed by the senior and assistant senior masters of their respective schools. Niger state ministry of education provided all the necessary information to the researcher by given the researcher details of the total number of secondary schools to be visited of which determined the population of the study. Questionnaire shows high reliability and validity in measuring the constructs under this study (Cronbach's alpha = .856).

Sample Size

The sample size was obtained from the population of 460, using the Cochran formula which is 209 and 30% of 209 was added to the total sample size and thereby raising the sample size to 272, because of the experience of the pass researchers; that is, it is very unusual for a researcher to obtain the exact number of distributed questionnaires, therefore there is need to add a certain percentage to cover up the percentage unreturned (Barlett, 2001).

Research Instruments

The main tool for data collection of this study was questionnaires in the form of observing rating form, the instruments address, the demographic information of the respondents, all the leadership attributes expected from principals and finally questions on school effectiveness. The instrument used for measuring principals' leadership attributes was Leader Attributes Inventory (LAI) and was developed by Moss, Johanssen and Judith J. Lambrecht in 1991 and later refined in 1994 by Moss, Lambrecht, Jensrud and Finch. They further explain that, Leader Attribute Inventory was administered to determine the degree to which individuals possess each of 37 attributes with likert-type scale (Donald W. Knox, 2000). These 37 items of leadership attributes was categorized under the four major dimensions of Educational leadership attributes, which are Engagement, System Thinking, Leading Learning and Self-Awareness. Researcher was permitted to use and adapt the instrument by the developer to suit the study. School Effectiveness Index (SEI) was used to measure the school effectiveness. The instrument was developed by Wayne K. Hoy, School Effectiveness Index (SE Index) is an 8-item Likert-type scale that provides a collective and subjective judgment of the overall effectiveness of a school. Teachers are asked to describe the operation and performance of their school along a 6-point Likert scale from strongly disagree to strongly agree, the higher the score, the better the effectiveness of the school

(Wayne, 2005). Researcher gained permission to use and adapt the instrument to suit the study.

The questionnaire used a 5-point Likert type scale for senior and assistant senior masters to rate their principal's leadership attributes and the effectiveness of the Niger state secondary schools by selecting one item out of the on the following options:

Strongly disagree	1
Disagree	2
Moderately agree	3
Agree	4
Strongly agree	5

Researcher conducted a pilot study to determine the effectiveness and the workability of the instrument during the final study. The pilot study comprises of 32 senior and assistant senior masters in Zone 'C' of Niger state and it provided the reliability co-efficient of 0.856. Therefore the instrument is reliable to measure the Principals' leadership attributes and school effectiveness in the final study.

Data Analysis

The study aimed to identify the relationship between the principals' leadership attribute and school effectiveness through the teachers' perspectives. Data collected for the study was analyzed using SPSS software version 22, descriptive analysis was used to calculate the mean, standard deviation frequency, percentage, minimum and maximum of the background of the respondents; which comprises of the age, gender, years of working experience and qualification while correlation analysis was used to determine the relationship between the principals' leadership attributes and school effectiveness. Below are the tables showing results of the analysis.

Table 1 Background of the Respondents (n = 249)

Variable	Frequency	Percent	Mean	SD	Min	Max
Gender						
Male	130	52.2				
Female	119	47.8				
Age group			**34.94**	**6.26**	**23**	**62**
23 – 36 years	166	66.7				
37 – 49 years	80	32.1				
50 – 62 years	3	1.2				
Years of working			**10.06**	**5.09**	**5**	**34**
Experience						
5 – 14 years	210	84.3				
15 – 24 years	36	14.5				
25 – 34 years	3	1.3				
Level of Education						
Masters	2	0.8				
Bachelor	49	19.7				
N. C. E	180	72.3				
Others (HND & OND)	18	7.2				

Gender

Out of the 249 respondents male gender constitutes 139 (52.2%) respondents, while female respondents constitute 119 (47.8%). This indicates that male respondents were the majority in the study area due to some factors that serve as barrier in terms of female education in the northern part of Nigeria; such factors include culture and religion inclination of the northerners in Nigeria. Literatures revealed that, female enrollments and participation in tertiary institutions in most countries of West Africa, including Nigeria, ranges from 34% to 38 % for the majority of the countries. These differences reflect the least participation of female students in both secondary and tertiary institutions. Researchers reveal that, due to the rapid expansion of secondary enrollment has led to the decrease in gender inequalities in most counties (Oanda & Akudolu, 2010). This might serve as a fact for the reasonable numbers of female respondents which rises from 34% to 47% in the current study.

Age

The mean value of the age in the study is 34.94 years while standard deviation is 6.26; the mean value is within the range of (23 – 36) age group of which constitutes 166 (66.7%). This indicated that the majority of the respondent's falls within the group of (23 - 36) years of age, while only 80 (32.1%) respondents from the age group of (37-49) years and 3 (1.2%) respondents are from the age group of (50-62). In this study

indicated that, most of the respondents are very young, they are the category of teachers that possess the special designation in carrying out the teaching activities (Phillip & *etals,* (1988).

This is in line with Phillip & *etals*, (1988), based on the research conducted on the relationship between teaching and age stated that, candidates with 29 years are more preferable candidate compared to candidates with 49 years in teaching profession, It is also stated that principals, superintendents and board members desired to selected the younger candidates in teaching, due to the special designations possess by the youth candidate (Phillip Young & Will Place, 1988), the average age 34.94 years falls within the range of group (1) which is (23 -36).

Years of Working Experience

The mean value of years of working experience is 10 years and the standard deviation is 5.09, from the above table the mean value falls within the age group (5 – 14) years, of which constitute the majority of the respondents with the highest frequency of 210 out of the 249 respondents in the study. The researcher is convinced with the average number of years of working experience of the respondents because either senior or assistant senior master with 10 years of working experience gained the knowledge of assessing the leadership attributes of their respective principals. This is supported by Ibukun, (2011) where he explains that, experience plays a vital role in aiding teachers in understanding the ideologies and approaches to carry out certain responsibilities such includes supervisory activities, Writing a report on certain event and so on. Senior masters with their assistant having the experience of the average numbers of years would actively participate in assessing the leadership attributes of their respective principals (Ibukun & Abe, 2011).

Level of Qualification

From the result of the study majority of the respondents were N.C.E (Nigeria Certificate in Education) holders of which constitute (180) respondents out of (249) (72.3 %). Bachelor degree constitutes (51) (19.7%) respondents, while masters constitute only 2 (0.8%) respondents. This indicates that, majority of the respondents have the least professional qualification, N.C.E. qualification does not adequately meet up the minimum qualification of teaching in senior secondary schools and this indicated the inadequacy of the quality of teachers, the minimum qualification for teaching in secondary schools is bachelor degree (Ololube, 2005a).

Research Question: Is there any relationship between the principals' leadership attributes and school effectiveness?

In order to examine the relationship between the principals' leadership attributes and school effectiveness Pearson correlation analysis was conducted between school effectiveness and the each of the dimensions of the principals' leadership attributes (engagement, system thinking, leading learning and self - awareness). Below is the

matrix table indicating the correlation between the school effectiveness, which is the dependent variable and each of the dimensions of the principals' leadership attributes:

Table 2 Correlation Matrix

Variables	Y	χ_1	χ_2	χ_3	χ_4
Y (TOT_SE)	1				
χ_1 (ENGMT)	.611**	1			
χ_2 (SYS_THNKG)	.690**	.782**	1		
χ_3 (LED_LEARN)	.621**	.760**	.809**	1	
χ_4 (SELF_AWARE)	.653**	.718**	.806**	.809**	1

**. Correlation is significant at the 0.01 level (2-tailed).

H_A: there is positive significant relationship between the principals' leadership attributes and school effectiveness.

***H_{A1}**: there is a significant relationship between Engagement and school effectiveness among the respondents.*

Pearson correlation analysis was conducted to examine the relationship between engagement and total school effectiveness. As shown in Table 2, there is significant positive and high relationship between engagement and total school effectiveness (r = .611, *p* = .000), therefore, ***H_{A1}*** is supported. This finding is in line with (Ekundayo, 2009). Even though is not as strong as the remaining three dimensions.

***H_{A2}**: there is significant relationship between System Thinking and school effectiveness among the respondents.*

Pearson correlation result from the table 4.6: also indicated that, there is strong significant and positive relation between the System Thinking and total school effectiveness (r = .690, p = .01), therefore ***H_{A2}*** is supported. The analysis shows that, the relationship is even stronger than that of the relationship between the total school effectiveness and engagement, the result in line with the study of Isaac in (2003).

HA3: *there is a significant relationship between leading learning and school effectiveness among the respondents.*

The relationship between the total school effectiveness and leading learning is also positively significantly stronger than that of engagement, but lower than the system thinking and self-awareness (r = .621, p = .01), therefore ***HA3*** is supported.

HA4: *there is a significant relationship between Self-Awareness school effectiveness*

The correlation analysis between the self-awareness and school effectiveness is also significantly stronger than that of engagement and leading learning, but lower than the system thinking (r = .65, p = .01). Therefore, it is significantly strongly and positively related to school effectiveness (r = 65, p = .0), the findings supported the ***HA4*** as can be seen from table 2.

Other result shown by the correlation analysis on the relationship among the predictors variable from table 2 are explained below:

The correlation analysis indicated the two strongest significant positive relationship between the System Thinking and Leading Learning (r = .809, p = .01), and the relationship between the Self-Awareness and Leading Learning (r = .809, p = .01). The relationship between System Thinking and Self-Awareness is also very strong (r = .806, p =.01), stronger than the relationship between that of System Thinking and Engagement (.782), Leading Learning and Engagement (.760), Self-Awareness and Engagement (.653). The finding is in line with the view of Leithwood, (2006), that there is linked and association between the principals' leadership attributes and school effectiveness/ student achievement. He further added that, in the absence of effective principals' leadership, goal accomplishment of school is never guaranteed.

HA: There is positive significant relationship between the principals' leadership attributes and school effectiveness

Table 3 Relationship between the principals' leadership attributes and school effectiveness

Variable	**Y**	**χ_1**
Y (School effectiveness)	1	
χ_1(Principal Leadership Attributes)	.703**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Conclusively Pearson correlation analysis was conducted between the total principals' leadership attributes and total school effectiveness, the result indicated that there is

strong significant positive relationship between the total principals' leadership attributes and the total school effectiveness (r = .703, p = .01). A correlation of.5 is half way between 0 and 1 and therefore representing the moderate degree of relationship, while .60 and above is indicating a strong relationship (Frederick, 2011). Therefore, interpretation of the correlation result of this study is positively high significant, this supported **HA** which explains that, there is significant relationship between the principals' leadership attributes and school effectiveness. This finding is line with the opinion of Hallinger, (2005) explain that, many studies highlighted on the association and the relationship between the school principals' leadership and high school success.

DISCUSSION

Strong educational leadership has been found to be among the essential characteristic of school effectiveness, most scholars believed that; leadership is interconnected with the leadership attributes of the principal being him the head of the school (Akinola, 2013). The study was set out to investigate the relationship between the principals' leadership attributes and school effectiveness from the perspective of senior and assistant masters of secondary schools. The findings indicated that, there is high positive significant relationship between the dimensions of principals' leadership attributes and school effectiveness as perceived by the senior and assistant senior masters. This served as evidence that, both the senior and assistant senior masters are familiar with the connection between the principals' leadership attributes and school effectiveness. With this finding, it may provide the bedrock of creating the learning and training techniques that may lead to the acquisition of such leadership attributes by the principals, thus may lead to the improvement of school effectiveness through probable solutions to the contemporary challenges facing the principals (Arikewuyo, 2009).

Leadership attributes are subject to learning, therefore leadership learning environment should be created to equip the school principals with those desirable leadership attributes, because people can learn to become great leaders (Khagendra, 2006). With the provision of the current leadership learning programs to the principals, may serve as one of the measures of improving their leadership skills attributes and knowledge. As regards to the past experience of the researcher that, there were frequent poor performance of the academic achievement which stand as one components of school effectiveness, it may be as a result of the inadequate deployment of such leadership attributes by the principals or the lowest qualification obtained by the majority of teachers, because the analysis on the background of the respondents indicated that most of the respondent were having Nigeria Certificate in Education (N.C.E.), with about 180 (72.3%) out of the 249 respondents rather than bachelor degree or master degree, which is the required qualification in teaching at secondary schools level (Ololube, 2005b) .

CONCLUSION AND RECOMMENDATIONS

It can be concluded that, there is a significant positive relationship between the principals' leadership attributes and of school effectiveness in Niger State secondary schools, Nigeria. Despite the fact, it is very pertinent to measure the level of principals' leadership attributes and school effectiveness in Niger State Secondary Schools, but yet it could not measure in the study.

In Nigerian system of education teachers were given high priority in terms of development training programs while neglecting the escalating responsibilities of the principals, therefore it is very significant to design a learning and development program with the aimed of improving the leadership attributes of school principals (Arikewuyo, 2009). The result of the analysis indicated, there is high positive significant correlation between the four dimensions of the principals' leadership attributes and school effectiveness in Niger state secondary schools. Designing a special program the inform of pre-service training for aspiring principals, induction training programs of new principals and In-service training for serving principals by the Niger state government, may serve as a means of providing the basic knowledge on educational leadership of which may assist in increasing the level of principals' leadership attributes and school effectiveness in the state (Taipale, 2012). With high level of leadership attributes prepared the school principals to possess the necessary skills and knowledge of addressing the complex and undefined issues through the knowledge of system thinking, leading learning and self-awareness and thereby overcoming the mandatory challenges in their respective schools.

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Antecedents of Employees' E-training Participation in a Selected Private Company

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ABSTRACT

Previous literature indicated that people tend to have lower motivation and level of participation in e-training. Thus, this study aimed to shed light on the factors that contributed to employees' e-training participation. This study investigated the influence of personality traits (computer self-efficacy, self-esteem) and attitudinal dispositions (technology acceptance, job satisfaction and organizational commitment) on employees' e-training participation. Results of the study indicated that all of the selected independent variables correlated positively with employees' participation in e-training. The three most dominant factors that influenced employees' participation in e-training were computer self-efficacy, technology acceptance and organizational commitment. The implications and conclusions of the study are clarified.

Keywords: E-training, Participation, Personalities, Attitudes

INTRODUCTION

Nowadays, e-training or web-based training (WBT), virtual classroom, distance education, Information and communications technology (ICT) have become prevalent. (Ramayah, Ahmad & Tan, 2012). In e-training, the training programmes are provided through internet and the course interaction and delivery are technology mediated. Therefore, one can easily access the information online and be more flexible in terms of time and venue of learning as the learning is more self-directed and independent. As such, e-training is suitable for adult learners who are more independent, mature and expected to have higher locus of control (Makoe, Richardson & Price, 2008).

As a result, e-training which is flexible, accessible, save cost and time has become an ideal and popular delivery method for training programmes in many organizations (Rosenberg, 2006). Based on the studies by Welsh (2003), learners tend to learn better by using computer-based teaching method rather than traditional classroom

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methods. In addition, Fletcher and Tobias (2000), Bonk and Wisher (2000), Hairsten (2007) and Lowry (2007) obtained similar results in their research. Furthermore, e-learning is more effective than traditional classroom education as learners can tailor the learning to suit their learning pace and it is more engaging for learners (Means, 2009). Therefore, it is not surprising that e-learning plays a major role now in adult education and e-training has become a trend in private and public sectors (Egodigwe, 2005). E-training refers to the use of technology in order to learn while e-training is defined as learning offered to employees to enhance their job performance (Nadler, 1984). On the other hand, adult education or andragogy is the art and science of teaching adults. Thus, e-training is a combination of e-learning and adult education that refers to any type of training given by organizations through electronic media to improve employees' knowledge, attitudes and skills (Ramayah, Ahmad & Hong, 2012).

The objective of this study is to determine the relationship between employees' personality traits (computer self-efficacy and self-esteem), attitudinal dispositions (technology acceptance, job satisfaction and organizational commitment) and e-training participation. Moreover, the study also determines the major predictors of employees' e-training participation. It is important to investigate the antecedents of e-training participation in order to promote e-training in the workplace. In addition, it is of the utmost importance to enhance the effectiveness of training in the workplace to produce competent and knowledgeable workforce to develop the county. The paper is structured as follows: Firstly, we discuss the concept of employees' e-training participation and review previous literature to develop the hypotheses. Then, the methodology, results and implications of the study are discussed.

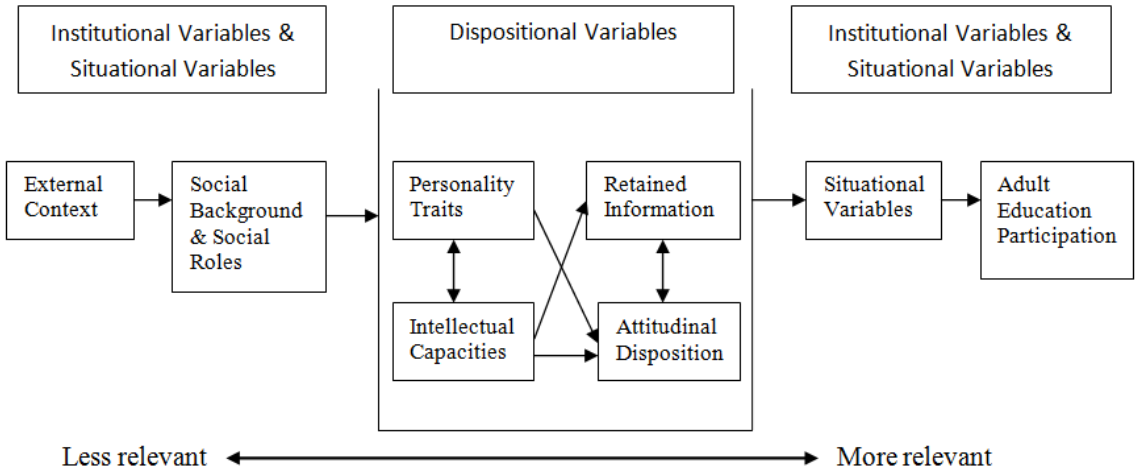
Theorizing Employees' Participation in E-Training

In this study, employees' participation in e-training is conceptualized using ISSTAL Model by Cookson (1986). ISSTAL model stands for Interdisciplinary, Sequential-specificity, Time-allocation and Life-span model. This classic model incorporates all relevant institutional, situational and dispositional variables to explain the factors that affect adult education participation. This is also the main reason why ISSTAL model is picked to be the foundation of this study as it is a well-rounded and complete model that explains the various factors that influence employees' participation in e-training. The model is first introduced by Smith and Theberge in 1980 and later adapted by Cookson in 1986.

In this model, institutional and situational variables include external context such as climate, culture and environment; and learners' social background and social roles like age, education level and occupation. On the other hand, there are four factors fall under dispositional variables which are personality traits, intellectual capacities, retained information and attitudinal dispositions. Personality is the individual characteristics of a person while intellectual capacities refer to a person's cognitive ability like a person's intelligence test scores.

Retained information includes learners' information storage and retrieval, images, knowledge and plan. Attitudinal dispositions refer to learners' attitudes, beliefs,

motivations and perceptions. All of these factors are intertwined and lead to situational factors which are a result of the complex and interactive effects of the previous factors. Finally, situational variables lead to adult participation in continuing education. Based on Figure 1, from left to right, it shows the relevance of the factors towards adult education participation. The more to the right, the stronger the relation is between the factors and adult education participation.



Source: (Cookson, 1986, p. 130-141)

Figure 1 ISSTAL Model

The Theory of Reasoned Action

This study also applied the Theory of Reasoned Action (Ajzen & Fishbein, 1980) to explain the phenomenon of employees' participation in e-training. According to this theory, an individual's behavioural intention is determined by two major factors which are the person's attitudes and subjective norms. Ajzen and Fishbein refer attitudes as the evaluation and strength of a belief whereas subjective norms are "the person's perception that most people who are important to him think he should or should not perform the behavior" (Fishbein & Ajzen, 1975, p.302).

The Equation of the Theory of Reasoned Action:
Behavioural Intention = Attitude + Subjective norms

Based on this theory, employees' behaviour is determined by their behavioural intention and behavioural intention is a result of attitude and subjective norms as depicted in the equation above. Behavioural intention is an indication of how hard individuals are willing to try and how much effort they are going to put in to perform the behaviour. A person's beliefs or perceptions about the consequence of a behaviour will affect the person's attitude towards that particular behaviour. Thus, an employee who

perceives e-training as beneficial will have a more positive attitude towards e-training participation.

Meanwhile, subjective norms are determined by the beliefs of the people around him and by his motivation to comply to the norms. For example, in this study, if many of the employees have positive experience in e-training and it has become the organizational culture to actively take part in e-training, other employees who previously did not take part will be influenced to join e-training too.

Method

This descriptive correlational study investigates the relationships between the five independent variables which are personality traits (computer self-efficacy and self-esteem) and attitudinal dispositions (technology acceptance, job satisfaction and organizational commitment) and the dependent variable (employees' participation in e-training). According to Ary, Jacobs and Razavieh (2002), correlational research is indeed suitable to determine the relationships between variables.

This study used a cross-sectional survey research that helped researchers to collect data at one-time from a large sample in an easier and cheaper way (Ary et al., 2002). The data were collected using self-administered survey and analyzed using univariate, bivariate and multivariate statistical analyses to describe the employees' participation in e-training. Furthermore, the study calculated the coefficient of correlation between the measures to indicate the strength and direction of the relationships between the variables to test the hypotheses. The following section discusses the development of the five proposed research hypotheses.

Conceptual Framework and Research Hypotheses

The research framework in Figure 2 shows the relationships between the independent variables which are personality traits (computer self-efficacy and self-esteem) and attitudinal dispositions (technology acceptance, job satisfaction and organizational commitment) with the dependent variable (employees' participation in e-training). The position of these variables is consistent with the research objectives. Moreover, the research framework is based on the ISSTAL Model by Cookson (1986) and the selection of variables are supported by Maslow's Hierarchy of Needs (1943), the Theory of Reasoned Action (Ajzen, 1980) and previous research to investigate the relationships between the chosen independent variables and employees' participation in e-training.

Personality Traits and Employees' E-Training Participation

Computer self-efficacy

According to the studies by Karsten and Roth (1998) and Kripanont (2007), learners with higher computer self-efficacy tend to perform better in e-learning. Furthermore, based on Bandura (1997), people with higher self-efficacy have a stronger sense of

commitment to their tasks. Therefore, these people tend to develop deeper interest in their job. Thus, when an employee has higher computer self-efficacy, he or she will also be more interested in e-training. Moreover, computer self-efficacy influences employees' expectation on the learning outcome and their emotional reactions to computers (Compeau & Higgins, 1995). Staples (1999) also agreed that employees with higher computer self-efficacy tend to have more satisfactory experience in e-learning. As such, the previous research supports that computer self-efficacy has a correlation with employees' e-training participation. Based on the above, this study hypothesizes:

H1: Employees' computer self-efficacy will be positively and significantly related to employees' participation in e-training.

Self-esteem

In this study, self-esteem refers to the feelings or perception an employee has towards himself. It can reflect the employees' overall emotional evaluation towards themselves. According to Maslow (1954), people with positive feelings about themselves are having higher self-esteem and will have a more positive thinking that reflect higher confidence. In addition, self-esteem is closely related to one's happiness, low self-esteem is more likely to lead to depression and low confidence (Rosenberg, 1965). For instance, employees with high self-esteem are more willing to take risk and perceive challenges more positively (Hellriegel & Slocum, 2010). Training involves changes and therefore, employees with higher self-esteem tend to take part more in e-training. Based on Maslow's Hierarchy of Needs, self-esteem is one of the crucial factors that leads to self-actualization. The meaning of self-actualization is to become what a person can be and to actualize his or her potential (Maslow, 1954). As the main purpose of e-training is to help employees to realize their full potential, it is more likely that employees with high self-esteem will be interested in joining e-training (Lloyd & Sullivan, 2003). Therefore, employees' self esteem will influence their participation in e-training. We therefore hypothesize that

H2: Employees' self-esteem will be positively and significantly related to employees' participation in e-training.

Attitudinal Dispositions and Employees' E-Training Participation

Technology Acceptance

In this study, technology acceptance refers to how well an employee can accept the use of technology in training. This variable is based on Technology Acceptance Model by Davis (1989) that proposes perceived usefulness and perceived ease of use will determine a person's behavioural intention and eventually in technology related behaviour. Thus, employees tend to use technology in learning when they perceive it as useful in improving their working skills (Kripanont, 2007). However, if the system is

too complex to use, employees will lose interest in using technology to assist their learning as the perceive ease of use is too low (Sardinha & Costa, 2011). Therefore, an employee with high technology acceptance will have a more positive thinking about technology and thus more willing to take part in e-training (Al-Adwan & Smedley, 2013). Apart from that, employees with higher technology acceptance are more readily to use technology in their learning to enhance job performance. Consequently, this will eventually motivate employees to take part in e-training with an open heart (Masrom, 2007). As such, this study hypothesizes:

H3: Employees' technology acceptance will be positively and significantly related to employees' participation in e-training.

Job satisfaction

Job satisfaction refers to how content an employee is towards his or her job. Job satisfaction is influenced by job expectation. If the work conditions meet the employees' expectation, they will be more satisfied with their job. If it is in the other way round, employees may suffer from stress, low quality of working life, depression and finally resort to absenteeism and resignation (Seashore &Taber, 1975). According to the study by Jones, Latreille and Sloane (2008), employees with lower job satisfaction will have lower participation in training provided by the company. Therefore, in order to encourage employees to take part in e-training, employers have to meet the needs of workers to raise their job satisfaction. This is because employees with higher job satisfaction have lower resistance to change as they feel more secured and confident with their job (Abdulhamid, 2011; Struijs, 2012). Thus, they will also be more likely to take part in e-training. Based on the above, this study hypothesizes:

H4: Employees' job satisfaction will be positively and significantly related to employees' participation in e-training.

Organizational commitment

Organizational commitment refers to how much effort and how dedicated the employees are to their company. Research has shown that high organizational commitment will have positive influence on employees' attitudes and behaviours in organizations (Porter, 1974; Koch & Steers, 1978). Studies by Mowday, Porter and Steers (1979) also reveal that employees with higher organizational commitment are less likely to absent or resign and tend to be more productive. Apart from that, study by Cunningham and Mahoney (2004) also points out that higher organizational commitment will result in higher motivation to take part in training. Moreover, employees with higher organizational commitment have a stronger bond with the company and are willing to exert more effort for their job (Miller & Lee, 2001). High level of organizational commitment leads to high affection for the job, continuance commitment and a sense of obligation to stay. Thus, employees with high level of commitment have low turnover intention (Meyer &

Allen, 1991). All these evidences support that employees' organizational commitment correlates with e-training participation. Based on the above, this study hypothesizes:

H5: Employees' organizational commitment will be positively and significantly related to employees' participation in e-training

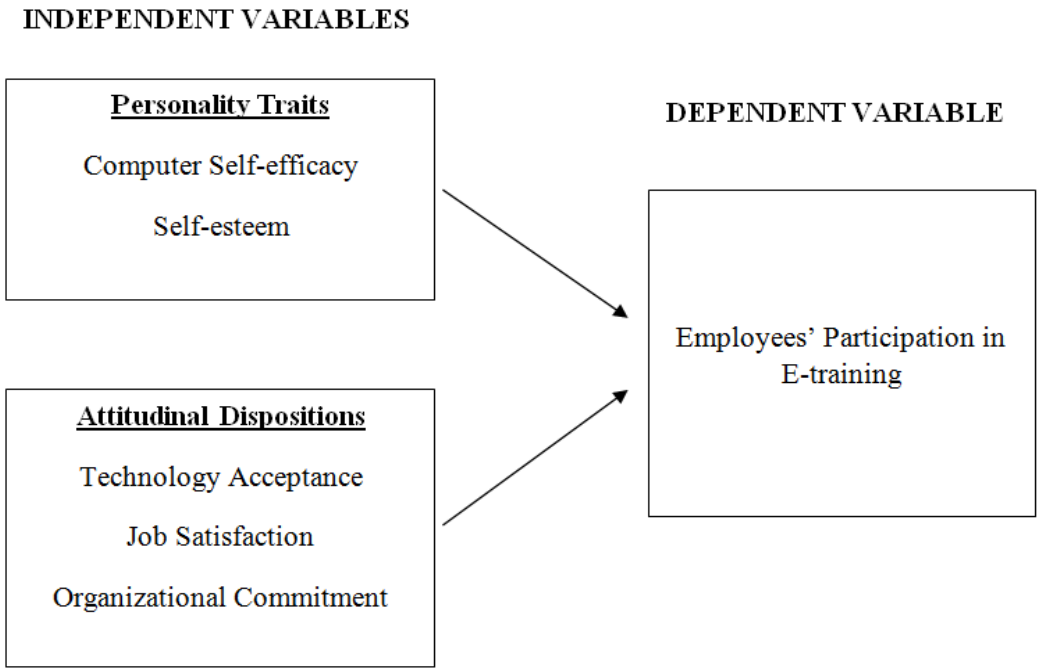


Figure 2 The Research Framework

Method

Participants

The study sample was 100 employees working in a selected private company in Malaysia which consisted of 67 female and 33 male respondents. The average age of the respondents was 32.46 years old with 19 years old as the youngest and 54 years old as the oldest. The majority (74%) of the respondents was married and 26% were single. 37% of the respondents were Malay, 40% were Chinese and 23% were Indian. Moreover, none of the respondents possessed a doctoral or master's degree, the majority (64%) had a bachelor's degree while only one respondent received education up to secondary level only. On the other hand, 35% of the respondents had education until diploma.

Procedures

There were two steps of sampling in this study. In the first stage, the convenient sampling technique was used to select the focus of this study which was a private company in Cheras, Kuala Lumpur. It was a large scale private company with 384 employees consisted of different ethnicity and age. The main service provided by the company was business security systems such as structured wiring, alarm systems and camera systems. Apart from its convenience, the sample was typical and can be used to represent the target population. In the second stage, the simple random sampling technique was adopted to identify the respondents who were representative of the target population (Ary et al., 2002). The researcher used the table of random numbers to select the 100 samples of the study randomly.

Data were collected from the employees through a formal survey using a standardized questionnaire. A drop-and-pick method was used to collect data in this research. Prior to data collection, the researcher approached the top management of the company by phone and later sent an application letter to the company for approval to carry out the research. Then, the researcher met the manager of the human resource department of the company to further clarify the purpose, significance of the return rate and data collection procedures. Anonymity of the company and respondents was ensured in this study. After that, the researcher gave the questionnaires to the manager of the human resource department to be distributed to the employees.

Dependent Variable

Employees' e-training participation was measured using a single-item scale adapted from Adult Education and Training Survey (2003) and Continuing Vocational Training Survey (2005). This item measured employees' e-training participation by measuring how often employees took part in e-training. The item is, "In the past 12 months, how often did you participate in e-training?' The responses for this question range from 1 (Never) to 5 (Very often). As it is hard to measure employee's level of participation, most of the previous studies used secondary data to measure this variable. As such, there is no one simple and established scale to be used to measure e-training participation.

Therefore, based on extensive literature review, this study adapted the item from the related surveys to measure this variable. The literature revealed that there were researchers who used a-single item scale to measure education participation when they did not use secondary data (Chmielewski, 1998; Renard, Hinson, Morris, Chair & Boucouvalas, 2013). As there was only one question in the scale, internal consistency cannot be calculated. However, many studies showed that single-item scale is reliable and valid to be used in research too. For example, single-item scale correlated highly with multiple-item scales to measure personality in the study by Woods and Hampson (2005) and Wanous, Reichers and Hudy (1997).

Independent Variables

Personality Traits

Self-efficacy was measured with a 15 items scale developed by Murphy (1992). The Likert-scale items ranges from 1 (Strongly Disagree) to 5 (Strongly Agree). Sample items: 'I feel confident copying a disk' and 'I feel confident getting the software up and running'. In this study, the reliability coefficient estimated for this scale was 0.89.

Self-esteem was measured with a 10 items scale developed by Rosenberg (1965). The scale measures both positive and negative feelings about one self. The scale uses a 4-point Likert scale format ranging from strongly agree to strongly disagree. Sample items: 'At times I think I am no good at all' and 'I am able to do things as well as most other people'. The reliability coefficient estimated for this scale in this study was 0.76.

Attitudinal Dispositions

Technology acceptance was measured with a 10 items scale developed by Venkatesh (2003), Compeau and Higgins (1995), Thompson (1991) and Teo (2009) to measure employees' intention to use technology in e-training. The instrument uses a 4-point Likert scale ranging from strongly disagree to strongly agree. Two sample items are included, 'Working with computers is fun' and 'I find computers easy to use. The reliability coefficient reported in this study was 0.86.

Job satisfaction was measured using the Minnesota satisfaction questionnaire (MSQ) (Weiss, Dawis, England, & Lofquist, 1967) which consists of 20 items. The instrument uses a five-point scale ranging from 1 (not satisfied) to 5 (extremely satisfied). Two sample items are included, 'I am able to keep busy all the time' and 'I am feeling of accomplishment I get from the job'. The reliability coefficient reported was high in this study which was 0.84.

Organizational commitment was measured using the Organizational Commitment Scale (OCS) developed by Mowday (1982) which consists of 9 items. This instrument uses a 5-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Two sample items are 'What this organization stands for is important to me' and 'I feel a strong sense of belonging to this organization'. This scale had also high reliability coefficient of 0.87 in this study.

FINDINGS

The objective of this study is to determine the relationship between employees' personality traits, attitudinal dispositions and e-training participation. Moreover, this study also determines the major predictors of employees' e-training participation. As high as 81% of the respondents had low level of participation in e-training and 14% of them had medium level of e-training participation while only 5% of the respondents achieved high level of e-training participation. The personality traits categorization reveals that only 20.5% of the respondents achieved high level of personality traits,

followed by 30% of the respondents who had medium level of personality traits and 49.5% of the respondents who had low level of personality traits. On average, the level of personality traits and attitudinal dispositions of the respondents were low.

Skewness and kurtosis were used to test for normality. As not all of the skewness and kurtosis values fall between -2 and +2, the data was not normally distributed. Thus, Spearman's Rho was used to determine the relationships between the five variables which are personality traits (computer self-efficacy, self-esteem) and attitudinal dispositions (technology acceptance, job satisfaction and organizational commitment). The five hypotheses (H1, H2, H3, H4, H5) based on correlations between the independent variables and the respondent's participation in e-training were tested. The five hypotheses predict that personality traits (computer self-efficacy, self-esteem) and attitudinal dispositions (technology acceptance, job satisfaction and organizational commitment) are positively related to employees' participation in e-training. The findings of the study supported the positive relationships between all independent variables and dependent variable in this study.

Table 1 Spearman's Rho Correlation Coefficient of Relationships between the Independent Variables and Employees' Participation in e-training

	Variables	**Spearman's.Rho Correlation (r_s)**
Y	Employees' participation in e-training	
X1	Computer Self-efficacy	0.416**
X2	Self-esteem	0.270**
X3	Technology Acceptance	0.306**
X4	Job Satisfaction	0.244**
X5	Organizational Commitment	0.349**

**Correlation is significant at the 0.01 level (two-tailed)

Hypothesis 1 was supported by the findings (r_s= 0.416, p=0.000) which showed a positive and moderate relationship between them. Thus, the results suggested that the higher the respondents' level of computer self-efficacy, the higher their level of e-training participation as employees with higher computer self-efficacy were more likely to have higher ability in using computer for their training. Moreover, the results also supported the positive relationship between employees' self-esteem and their level of participation in e-training. From the findings, employees' self-esteem (r_s= 0.270, p=0.046) had a positive but low relationship with employees' participation in e-training. Overall, it implied that the higher the level of employees' self-esteem, the more likely they took part in e-training as they had higher confidence in themselves and thus more open to changes.

As illustrated in Table 1, employees' technology acceptance (r_s= 0.306, *p*=0.019) had a positive but low relationship with employees' e-training participation. Therefore, the more positive perception employees had towards technology, the more willing they were to participate in e-training as they had a positive perception towards e-training. In addition, employees' job satisfaction (r_s= 0.244, *p*=0.023) had a positive and weak relationship with their e-training participation. As such, employees who are more satisfied with their job tend to take part more in e-training. This was because employees were more willing to put in more effort for a company that they were satisfied with. Apart from that, the result showed that employees' organizational commitment (r_s= 0.349, *p*=0.012) was positively and weakly correlated with their e-training participation. Employees were more supportive towards the company training when they were dedicated to the company.

Through the findings from Table 2, it was supported that the five independent variables: personality traits (computer self-efficacy, self-esteem) and attitudinal dispositions (technology acceptance, job satisfaction and organizational commitment) were indeed the antecedents of employees' participation in e-training. Overall, the results supported Maslow's Hierarchy of Needs (1943) and the Theory of Reasoned Action (Ajzen, 1980) that explain how human beings learn. Moreover, studies by Rubenson (2010), Meriam (1998), Holton (2003) and Costa (2011) also agreed on the influence of personality traits and attitudinal dispositions in affecting individual's intention to learn. From the results, we found that computer self-efficacy (r_s= 0.416, *p*=0.000) had the highest correlation with employees' participation in e-training followed by organizational commitment (r_s= 0.349, *p*=0.012), employees' technology acceptance (r_s= 0.306, *p*=0.019), self-esteem (r_s= 0.270, *p*=0.046) and finally job satisfaction (r_s= 0.244, *p*=0.023). This showed that among the variables, the most influential factor was employees' computer self-efficacy. The higher their confidence in using computer, the more willing they are to take part in e-training as they are able to make good use of computer in helping their training.

Table 2 Estimates of Coefficients for the Model of Employees' Participation in e-training

Dimension	B (Unstandardized Coefficients)	Std. Error	Beta (Standardized Coefficients)	t	*p*-value
Constant	1.639	0.448		-3.660	0.000
Computer Self-efficacy	0.435	0.81	0.455	5.394	0.000
Organizational Commitment	0.164	0.64	0.212	2.551	0.012
Technology Acceptance	0.267	0.112	0.195	2.379	0.019

Notes: R=0.612; R^2=0.374; Adj. R^2=0.355; F=19.156; *p*=0.000; Durbin-Watson=1.499

DISCUSSION

In this study, all of the five independent variables were positively correlated with employees' participation in e-training. This showed that the increase in the five independent variables will also increase the dependent variable in the study. Thus, it explained why most of the respondents had low level of e-training participation because their overall level of personality traits and attitudinal dispositions was mostly low too. In other words, an employee with high level of computer self-efficacy, organizational commitment and technology acceptance were more likely to take part in e-training.

Furthermore, the significance of computer self-efficacy and technology acceptance in affecting employees' participation in e-training was highly supported by Ajzen (1980), Kripanont (2007), Richardson and Price (2008) and Sardinha and Costa (2011). Apart from that, the findings also supported the Theory of Reasoned Action (Ajzen, 1980) and Maslow's Hierarchy of needs (1943). Based on Maslow's view, self-actualization can only be achieved when an individual's needs of physiological, safety, love or belonging and self-esteem are met. Thus, in order to encourage employees to continue learning to realize their full potential, self-esteem and organizational commitment are the important factors that motivate them to join e-training. According to Ajzen (1980), an individual's behavioral intention depends on one's attitudes about the behavior and subjective norms. Thus, an employees' intention to join e-training was influenced by their own attitudes about e-training and also the people around them. In other words, if employees have a positive attitude towards e-training and their work, they will be more likely to join e-training which was in line with the findings in this study.

The findings of the study also suggested that employees with low confidence in using computer had higher tendency of having low participation in e-training too because they do not think using computer in training can help them to learn better. As a result, they were not interested in joining e-training which uses computer and internet as the teaching medium. Moreover, low self-esteem leads to low e-training participation as employees had a negative attitude toward themselves. This kind of pessimistic thinking makes them have higher resistance to change. As such, employees with low self-esteem do not like to take part in e-training. Moreover, employees who are unsatisfied and not committed to their job have lower e-training participation as they do not want to spend more time and effort for a company that they do not have a sense of belonging to the company.

In addition, employees with low technology acceptance have low e-training participation as they have a negative perception about the use of computer in e-training. Furthermore, Maslow Hierarchy of Needs also supported the findings. An employee can only achieve self-actualization which is the highest level of need when his or her lower level of needs such as commitment, care, love and self-esteem are fulfilled.

IMPLICATION

The findings of the study provided empirical data for the ISSTAL Model (Cookson, 1986), Theory of Reasoned Action (Ajzen, 1980) and Maslow's Hierarchy of needs (1943). The results were in line with the theories and thus supported the importance of intrinsic motivation. Through this research, it is hoped that human resource practitioners' can pay their attention to employees' affective domain to increase e-training participation. Moreover, the study also contributed to the theories by having a different context in Malaysia.

On the other hand, the study helped the organization to identify the possible reasons behind employees' low motivation to participate in e-training. With the findings of the study, the organization can promote and encourage employees to take part in e-training by addressing employees' affective domain and needs. The overall level of employees' attitude and personality variables in the company was low. Thus, through the study, the organization should now be able to determine the areas they need to focus on to increase employees' e-training participation.

RECOMMENDATIONS

As the sample of the study was drawn from a private company only, it is not suitable to generalize the findings to the public sector. Thus, it is recommended that future studies can pick the sample from the public sector and do a comparative study to add to the field of knowledge. Other than that, the number of respondents in this research is also limited and cannot represent the whole target population. Therefore, future research can increase the sample size. On the other hand, the scope of the study is limited to the selected independent variables only. Thus, it is highly recommended that future studies can include more relevant variables to yield a clearer picture of the phenomenon. Moreover, as this study is a quantitative research, the findings are only surface-level. To have a more thorough understanding about the antecedents of employees' e-training participation, it is recommended for future research to carry out a qualitative research on this topic.

CONCLUSION

The findings showed that the majority of the respondents had low level of personality traits and attitudinal dispositions. Thus, it was not surprising that the respondents (81%) had low level of participation in e-training. In conclusion, employees' participation in e-training is a function of personality traits and attitudinal dispositions. Employees' computer self-efficacy plays a major role in their e-training participation. Besides enriching the understanding of e-training, the study also promoted and improved e-training in the company. All in all, the organization should take into account employees' affective domain when trying to encourage them to join e-training. E-training can only be successful when both the organization and the employees are willing to cooperate and pitch in effort.

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Level of Gross Motor Skill by Ethnic Groups among Children in Malaysia

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ABSTRACT

This study is aimed at comparing motor skill among Malay, Chinese and Indian children from the age of 6 to 9 years. The 217 respondents (n=115 Malays, n=69, n=33 Indians) who have been made the subjects of the study are children from Kuala Lumpur, Selangor and Johor. "Test of Gross Motor Development 2" (TGMD-2) by Ulrich (2000) has been used to measure the level of motor skill among children. The methods of analysis were one-way analysis of variance (ANOVA), Analysis of Co-variance (ANCOVA) and descriptive analysis. The alpha level of 0.05 was the criterion for all statistical significance. The findings showed that there were significant difference in locomotor skills, $F(2, 214) = 6.500$, $p<.05$, object control skills, $F(2, 214) = 5.581$, $p<.05$, and gross motor skills, $F(2, 214) = 9.068$, $p<.05$ among Malay, Chinese and Indian children. The study shows that Chinese children have better motor skill compared to Malay and Indian children in locomotor skills, object control skills and gross motor abilities.

Keywords : Motor Skill, Ethnic, Gross Motor Development, School Children, TGMD-2

INTRODUCTION

Motor development can be defined as development of human fundamental movement patterns and specialised skills which includes human movement abilities and motions that take place through lifespan (Payne and Isaacs, 2005). Gross motor development can be defined as development of movements that use the large muscles of the body (Gallahue and Ozmun, 1998), which enables functions such as walking, running, kicking, and throwing. Efficiency in gross motor skills is important to determine individual involvement in sports and physical activities in the future (Gallahue and Ozmun, 1995; Williams et al., 2008). This means that inefficient achievement of gross

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motor skills in childhood becomes the main obstacle for teenagers to involve themselves in sports and physical activities. A strong link between motor skills and involvement in sports and physical activities shows the importance of motor skills achievement during childhood (Poulsen et al., 2011). Furthermore, previous studies shows that those active children are more likely to become active adults (Glenmark, Hedberg and Jansson, 1994; Vandendriessche et al., 2012) and mastery of motor skills in childhood results in increased level of physical activity in later year (Barnett et al., 2009).

Failure of children to master gross motor skills is the main obstacle for them to involve themselves in sports and physical activities during teenage and adulthood; and to achieve adult physical activity levels recommended for health maintenance (Beurden et al., 2002). This situation shows the importance of children mastering gross motor skills which is in accordance with their age.

The level of motor development in children is caused by the interaction of biological factors and their environments. Biological factors are linked to genetic characteristics which affect individual physiology whereas environmental factors are linked to social factors, cultures and socio-economic status. According to Haywood and Getchell (2009), social factors, environment, socio-economic status, race, ethnicity and culture can influence the level of motor ability due to the interaction of these factors.

Malina, Bouchard and Bar-Or (2004) had done many historical and comparative studies related to the physical differences in races, ethnicities and socio-economic status backgrounds. They stated that there is a need for differing views when conducting studies on factors of race, ethnicity and socio-economic status. For instance, race and ethnicity should be integrated in the study although these two aspects have differences. The characteristics of a race have links with biological traits and genetic similarities of the particular racial group, whereas, ethnicity is related to culture and similar cultural characteristics of that group.

Biological factors and genetics should be observed when conducting studies on the differences in motor development among races. Sinclair (1978) said that genetic factors and the surrounding environments influence maturity and the development of motor skills in children. He said that genetic factors can influence the height among races resulting in some races and ethnic groups being taller than others. For instance, the "Dinkas" is the tallest race whereas the "Pygmies" in Congo is the shortest race.

This view is supported by Malina (1988) who found that genetic factors will determine the size and rate of maturity in children. Parents who have a good height will also have children who are tall. On the other hand, parents who are short will possibly have short children.

Genetic differences in each race are among the factors causing difference in maturity levels and motor development among children. Comparative studies conducted on Negro children in Africa and the United States of America comparing them with white children showed that Negro children will grow faster and also have faster motor development (Sinclair, 1978; Malina, 1988).

Apart from that, Sinclair (1978) stated that socio-economy also influences maturity and motor development of children. The socio-economic status of a family is not only caused by the diet per se but also by various other factors like sufficient and

balanced food, proper sleep, good exercise as well as education on health given to the children. Besides this the family size is important, children from big families are found to be smaller and lighter than children from small families. Children from low socio-economic status families usually have lower body fat which is associated with the lack of nutrients and insufficient nutrients compared to children whose socio-economic status are better (Malina et al., 1985) This situation may also be because the large number of siblings in the family results in them getting less attention and good care from their parents. In addition to this, the study by Sekiya and Sakate (1996) in Japan found that children from wealthy families in private school have physical development and motor ability level that are better than children in public schools.

The findings of studies on comparative developments and motor ability achievements among different races and ethnicities are not consistent. In the West, comparative studies on motor ability levels between the blacks and the whites found that black children have better motor ability levels compared to white children (Malina, Bouchard and Bar-Or, 2004). Further studies also showed the same findings, that is, black children, especially males have better motor abilities than white children in sprinting (Milne, Seefeldt and Reuschlein, 1976; Malina and Roche, 1983), high jump (Dinucci and Shows, 1977) and long jump (Nance, 1970).

However, the study by Martinek, Cheffers and Zaichowsky (1978) contradicts the results of earlier findings, that is, their study found no difference in the motor development between the blacks and the whites in the United States.

In Malaysia there are three main races, namely, the Malays, Chinese and Indians and several other races. Each race has a different historical background in its culture, lifestyle and social economy. Thus, it is said that the different backgrounds have influenced the development and the motor abilities of the three races. According to Malina and Bouchard (1998), many studies found that genetic differences influence the level of motor ability in children.

In view of the fact that there is contradiction of earlier studies regarding differences in motor abilities among children of different races, further studies are required, especially comparative studies among the races in Malaysia. Furthermore, environmental factors such as socio-economy have to be controlled in order that comparative results are focused on the race and ethnicity. Thus this study is conducted to determine the difference in motor abilities among Malay, Chinese and Indian children.

METHODOLOGY

The motor development is measured using "Test of Gross Motor Development 2" TGMD-2 (Ulrich, 2000). This instrument of measurement will test the locomotor skills and object control skills of children. TGMD-2 is a norm and criterion reference instrument which provides a reliable measurement of locomotor and object control skills and it consists of 12 tests divided into two sub-tests, that is, for locomotor skills and object control skills. There are six tests for locomotor skills, namely, run, gallop, hop, leap, slide and horizontal jump. For object control skills, there are also six tests

which include striking a stationary ball , stationary dribble, catch, kick, overhand throw and underhand roll.

According to the TGMD-2 manual, each skill has performance criteria to describe performance quality and mature pattern of the skills, and varied in number from three to five among different motor skills. If the child performed the criterion correctly, a score of one was recorded and if performed incorrectly zero was recorded (Ulrich, 2000).

Some important terms in the TGMD-2 tests are Raw score (RS), Standard Score (SS), Age Equivalent (AE) and Gross Motor Question (GMQ). The Raw Score is the total mark that is obtained in each sub-test (locomotor skills and object control skills). The Raw Score shows the total score for true performance criteria in the sub-test. The Standard Score gives clear identification of the child's performance in the sub-test. The Standard Score can be used to make comparison in the sub-test. Table 1 presents the standard score of locomotor skills and Table 2 shows the standard score of object control skills among children.

Table 1 Standard score of locomotor skills

Standard	**Age**								**Percentile**
Score	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Rank**
1	0	0-3	0-3	0-4	0-5	0-8	0-9	0-13	
2	1	4	4-6	5-6	6-7	9-12	10-12	14-16	<1
3	2	5	7	7	8-10	13-15	13-16	17	1
4	3	-	8-9	8-10	11	16-17	17-18	18	2
5	-	6	10	11-12	12-15	18	19	19	15
6	4	7	11-12	13	16	19-20	20	20-21	9
7	5	8	13	14-15	17	21	21	22	16
8	6	9	14	16	18-19	22	22	23	25
9	7	10-11	15	17	20	23	23	24	37
10	6-9	12	16	18-19	21	24	24	25	50
11	-	13	17	20	22	-	-	-	63
12	10	14-15	18-19	21	23	25	25	26	75
13	11	16	20-21	22-23	24	-	-		84
14	12	17	22-23	-	25	26	26		91
15	13	18	24	24	26				95
16	14	19	25-26	25-26					98
17	-	20-46							99
18	15								99
19	16-26								
20									

Table 2 Standard score of object control skills

Standard Score	Age								Percentile Rank
	3	4	5	6	7	8	9	10	
1				0-1	0-3	0-4	0-5	0-6	
2			0	2	4	5	6-7	7	<1
3		0	1	3	5	6-9	8-9	8-12	1
4		1	-	-	-	10	10-11	13-14	2
5	0	2	2	4	6	11	-	15	15
6	-	-	3	5	7-8	12	12	16	9
7	1	3	4	6	9-10	13	13	-	16
8	-	-	5	7-8	11	14	14-15	17	25
9	2	4	6	9	12-13	15	16	-	37
10	-	-	7	10	14	16	17	18	50
11	3	5	8	11	15	17	-	-	63
12	-	6	9-11	12-13	16	-	18	-	75
13	4	7	12-13	14	17	18	-	19	84
14	5	-	14-15	15	18	-	19		91
15	6-8	8	16-17	16-17	-	19			95
16	9-10	9	18	18-19	19				98
17	11-12	10-12	19						99
18	13	13-15							99
19	14-19	16-19							
20									

After assessment, the raw scores of each gross motor skill were obtained by summing the scores of the criterion of the two trials. The raw score of two trials for each skill range from 6 to 10 points. The total raw scores for each of the locomotor and object control skills are obtained separately by summing the scores of the six skills of the two trials which would range from 0 to 48 points. They would be used to find the age equivalent for both locomotor and object control skills. Also, the two-subset raw scores would be used to find gross motor quotient (GMQ). Raw scores of locomotor and object control skills would be converted to standard scores; and the quantity resulted from summing standard scores could be converted into the GMQ.

The TGMD-2 score that is the most meaningful is the Gross Motor Quotient (GMQ) which is the combined result of the two sub-tests (locomotor skills and object control skills). Thus the GMQ is the better score to represent the gross motor ability. Age Equivalents (AE) score provides a rough estimate as to how the raw score on a subtest relates to age. For example, a raw score of 33 on the locomotor subtest yields an age AE of 5-6, this means the child has locomotor skills which are equivalent to those of an individual who is 5 years 6 months of age.

The study subjects consist of 217 children (n=115 Malay, n=69 Chinese, n=33 Indians) aged between 6 to 9 years from Kuala Lumpur, Selangor and Johor who have been chosen as a random sampling from selected schools.

Procedure

The researcher obtained permission from the school authorities in the respective schools to get study subjects aged 6 to 9 through a simple random sampling technique. With the consent of the headmasters of each school, the researcher conducted the tests on the chosen subjects. Written parental consent was required for children to participate in this study. Parents or guardian of the children were informed about the study, in the case they did not allowed their children to participated in this study, their children were excluded from participation.

The TGMD-2 test was conducted in an enclosed hall on a level cemented ground to avoid disturbance to others while the tests were in progress. Recording was done with a video-camera for the convenience of doing the analysis of the data. Besides that, the study subjects were instructed to wear appropriate sports attires and a briefing with demonstration was done at the time of the TGMD-2.

DATA ANALYSIS

Data that was collected was to be analyzed using the Statistical Package for Social Sciences (SPSS) version 21.0 program. Data analysis included descriptive analysis, a one-way analysis of variance (ANOVA) and Analysis of Co-variance (ANCOVA) together with comparison of score means are used to determine whether there are differences in the levels of motor development among Malay, Chinese and Indian students aged between 6 to 9 years old. Mean and standard deviation were calculated for all the variables and results were considered significant at a level of $p<0.05$.

FINDINGS

From the 217 study subjects, 57.6% of the respondents were males and 42.4% were females. Malay children made up 53.0%, Chinese 31.8% and Indians 15.2%. In terms of location, 29.5% were from urban areas and 70.5% were from rural areas.

Descriptive Analysis

The descriptive analysis is shown in a Table 3. For the raw score (RS) of locomotor skills, the Chinese children showed the highest mean (M=39.19, SD=4.15) followed by Indians (M=37.67, SD=4.0) and Malays (M=36.62, SD=4.04). From the comparison of means among the three races it was found that the Chinese showed better motor development compared to the Malays and Indians.

Table 3 Descriptive analysis of motor skill performance

Variable	Malay		Chinese		Indian	
	M	SD	M	SD	M	SD
Locomotor Skills RS	36.62	4.04	39.19	4.15	37.67	4.0
Locomotor Skills SS	7.3	1.66	8.23	1.87	7.42	1.6
Object Control RS	35.03	4.19	38.16	3.70	35.45	4.15
Object Control SS	7.25	2.38	8.36	2.33	7.15	2.02
GMQ	83.62	10.25	89.83	9.61	83.64	9.87

* RS = raw score, SS = standard score, GMQ = Gross Motor Quotient

The standard score (SS) of the Chinese children for locomotor skills showed the highest mean sores (M=8.23, SD=1.87) followed by Indians (M=7.42, SD=1.60) and Malays (M=7.3, SD=1.66). This showed that the locomotor skills among Chinese children were better than those of the Malays and Indians.

Simultaneously, the raw score (RS) for object control of the Chinese children also showed the highest mean scores (M=38.16, SD=3.70), followed by the Indians (M=35.45, SD=4.15) and Malays (M=35.03, SD=4.19), which means that object control skills of the Chinese were better than the Malays and Indians.

The standard scores (SS) of the Chinese children for object control also showed the highest mean scores (M=8.36, SD=2.33) followed by the Malays (M=7.25, SD=2.38) and the Indians (M=7.12, SD=2.02). This showed that the motor ability levels of the Chinese children were better compared to the Malays and Indians.

Consequently, the Chinese children also recorded the highest mean score for Gross Motor Quotient (GMQ), that is, (M=89.83, SD=9.61), followed by the Indians (M= 83.64, SD=9.87) and the Malays (M=83.62, SD=10.25) which showed that the gross motor skills of all three races were below average according to the classification by Ulrich (2000).

Analysis of Variance (ANOVA) is applied to measure the existence of differences in the motor ability levels of Malay, Chinese and Indian children. The analysis of the locomotor skills showed a significant difference in the locomotor skills among children aged 6 to 9 years of the three races, $F(2, 214) = 6.500$, $p < .05$.

The results of the analysis of object control skills showed a significant difference in the ability levels of object control skills among the Malay, Chinese and Indian children, $F(2, 214) = 5.681$, $p < .05$.

In addition, the findings of the study also showed a significant difference in the gross motor quotient (GMQ) among the three groups of children aged 6 to 9, $F(2, 214) = 9.068$, $p < 05$.

The results of the ANOVA analysis showed that Chinese children had motor ability levels, object control skills and gross motor quotient (GMQ) which were better compared to the Malay and Indian children.

The findings of the ANOVA analysis are presented in Table 4.

Table 4 ANOVA analysis– Difference in the motor skill performance levels among malays, chinese and indians children

Variable	Mean	F	Post-Hoc Scheffe
Locomotor Skills	Malay (M=7.30) Chinese (M=8.23) Indian (M=7.42)	6.500*	C > M, I*
Object Control Skills	Malay (M=7.25) Chinese (M=8.36) Indian (M=7.15)	5.681*	C > M, I*
GMQ	Malay (M=83.62) Chinese (M=89.83) Indian (M=83.64)	9.068*	C > M, I*

* $P < 0.05$

Analysis of Covariance (ANCOVA) was conducted to compare the differences in the motor ability levels of Malay, Chinese and Indian children. Income factor were used as the covariate in this analysis.

Preliminary checks were conducted to ensure that there was no violation of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes, and reliable measurement of the covariate. The results of the analysis showed a significant difference in the gross motor quotient (GMQ) among the three groups of children aged 6 to 9, $F(2, 214) = 8.297$, $p<.05$ while control for the effect of income factor. The findings of the ANCOVA analysis are presented in Table 5.

Table 5 ANCOVA analysis– Difference in the motor skill performance levels among malays, chinese and indians children

Variable	F		Post-Hoc Scheffe
	Ethnic	Income	
GMQ	8.297*	.456	C > M, I*

* $P < 0.05$

The post-hoc scheffe test showed that there were differences in the motor abilities for gross motor quotient (GMQ) among Malay, Chinese and Indian children of 6 to 9 years old. For gross motor quotient (GMQ), Chinese children had better skills level compared to the Malay and Indian children.

DISCUSSION

Based on the results of the ANOVA analysis for difference in locomotor skills, object control skills and gross motor quotient (GMQ), the study supports the hypothesis that there are differences in the levels of motor ability among Malay, Chinese and Indian children while control of income factor. Thus this study is in line with earlier studies that showed that differences in genetics among races or ethnic groups can influence the motor abilities of children (Malina and Bouchard, 1991). This study has shown that Chinese children have better motor abilities compared to Malay and Indian children. Similar findings were obtained in studies by Sekiya and Sakate (1996) on the effects of racial factors, living standards and motor development training. Comparisons were conducted on school children in the Republic of Honduras and Japan. Studies in Honduras showed that children of Negro descent, had the best results, followed by mixed races (Mongoloid, Caucasoid and Negroid) and Mongoloid in physical aspects and motor abilities. However, in terms of living standards, it was shown that children from wealthy families studying in private schools had better motor abilities compared to children in public schools.

In view of the fact that Chinese children possibly come from families with higher incomes compare to Malay and Indian Children so they probably have nutrition that is sufficient and balanced also they were involved in physical activity lessons and also practices, Analysis of Covariance (ANCOVA) to control the effect of income factor was conducted. The differences in the gross motor development among Chinese, Malay and Indian children could be because of differences in the level of physical activities. The findings of this study support the view of Sinclair (1978) which states that social economy also influences maturity and motor development of children.

Interestingly, children with better-developed motor skills are more physically active than children with less-developed motor skills (Williams et al., 2008). Children who are more physically active have better motor performance compare to those are not active. Physical activities improve and enhance motor performance of children and make their movements more competent and skillful.

CONCLUSIONS AND IMPLICATIONS

Due to the lack of studies in the field of motor ability levels among races in this country, further studies are needed to assess activities done by Malay, Chinese and Indian children in order to get a clearer picture of the differences in motor abilities among races or ethnic groups in our country.

Haywood and Getchell (2009) stated that there are various factors that affect the motor development of children such as social factors, surrounding environment, economy, culture, ethnic factors and race. However it is difficult to state a main or dominant factor that affects motor ability in children. Consequently, we are unable to conclude that the genetic difference of the various races in our country is the most important factor that determines the motor abilities of children in Malaysia.

Studies to identify the differences in motor development in children are required in our country so that knowledge on differences in motor ability levels among children is continuously increased from time to time. Existing knowledge can be used as a guide for educationists such as teachers, lectures, trainers/coaches, instructors and others for the planning of teaching sessions or training appropriate for children of a particular level of motor development in Malaysia so that these children are able to master the motor skills in accordance to their developmental age.

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The Exploration of Adolescents' Perception on the Issues of Mental Health in Malaysia

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ABSTRACT

Mental Health issue is a global concern. It is now ravaging younger children who are the hope of future, if the mind is sound and well. It is known to be common among adults, but nowadays young children as well as adolescents are victims of mental illness. Therefore, the present study explores adolescent awareness about mental health in Malaysia. The purpose is to know whether the adolescents are aware of the issue of mental health as it affects them, what types of steps they take to remedy the problem and the effect on the nation at large. The present study is qualitative, whereas a semi-structured interview was staged and conducted with three adolescents from a department of psychology and counseling respectively. The major findings from the study reveal that information on mental health reaching adolescents in Malaysia is inadequate. Equally, the Family problem such as divorce between parents of the adolescent could also contribute to the problem of mental health in Malaysia. Therefore, effort should be made by the government to create more awareness as well as invest more on the issue of mental health lest it becomes societal malady.

Keywords: Mental Health, Mental Illness, Adolescence, Depression And Stress

INTRODUCTION

Mental health issue is one of the growing concerns to the world both the developed and developing countries. There many definitions of the concept. One of them is that mental health is a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community,(WHO) While in Malaysia's context it could be defined as the capacity of the individual, the group, and the environment to

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interact with one-another to promote subjective well-being and optimal functioning, and the use of cognitive, affective and relational abilities, towards the achievement of individual and collective goals consistent with justice (Malaysian National Policy, Cited from Nottingham University Project, 2011).

Meanwhile, the major way that man could contribute to his country is to be psychologically and emotionally sound and able to adapt to the situation he finds him or herself. According to World Health Organization (WHO) statistics from 2001, mental disorders affect at least 25% of adults once during their lives. This point to the fact that those affected will contribute less to the development of their country. The mental-health problems comprise, anxiety, followed by depression, bipolar disorder and schizophrenia. The number of mental health patients is high in Malaysia, most especially among the youth.

The Star online Malaysian news of Saturday June 2009 states that more Malaysian students are suffering from mental-health problems now, with nearly half of them showing emotional and aggressive symptoms. According to the same source, it was discovered that, the number of mental health patients aged 18 and below has also increased from 13.7% in 1996 to almost 20% in 2006. Health Minister Datuk Seri Liow Tiong Lai said 400,227 mental patients sought treatment at the government hospitals last year, an increase of 15.6% compared with 346,196 people in 2007. Looking at the issue and the predicament of the citizens, one will discover that drastic measures must be taken by all the stake holders on the issue, thereby finding a way to rectify the situation. Therefore, the objectives of this study are to explore adolescents, perception on the issue of mental health in Malaysia, to explore adolescents' understanding concerning mental illness in Malaysia and to investigate the preventive measures that adolescents could take on the issues of mental illness in Malaysia.

LITERATURE REVIEW

What is Mental Health?

Malaysian national policy defines mental health as the capacity of the individual, the group, and the environment to interact with one another to promote subjective well-being and optimal functioning, and the use of cognitive, affective and relational abilities, towards the achievement of individual and collective goals consistent with justice (Malaysia National Policy). Therefore, the defining characteristics of mental health are, well being, ability to cope with normal stress of life and productivity. All these qualities are what every nation demand from its citizen. Meanwhile, the opposite of mental health is mental illness which is known as mental health problems. This problem is an umbrella word that comprises some other concepts. This paper will next identify some mental health problems.

Mental Health Problems

Mental illness is the opposite of mental health. It is one of the problems that every nation is facing till today. Examples of these problems are depression, stress, mood disorder, schizophrenia, etc. Tahir et al (2009) point out that, out of all types of mental disorders, depression is the most prevalent. It was ranked as the fourth leading cause of global disease burden in 1990 and is expected to be second to ischemic heart disease by the year 2020. The World Health Organization (2003) has declared depression to be the leading cause of disability because of its physical, psychological and social impacts, cited by Muray and Lopez (1997), Students have been found to be more susceptible to depression, probably caused by stress during and over examinations and relationship problems with partners, parents, siblings, lecturers, course mates and loved ones (Zaid, Chan & Ho, 2007). While studies also correlate the prevalence of depressive disorders among students majorly with stressful educational environment (Peterlini et al, 2002).

However, lack of knowledge of and nonchalant attitudes towards depression are other important concerns that can be focused by evaluating students' level of mental health literacy, (Naeem, Ayub and Izhar et al, 2005). Mental health literacy is defined as the knowledge and beliefs of the public about mental disorders which aid their recognition, help-seeking behaviors and prevention, (Jorm et al, 1997). Despite the high level of health care provided in Malaysia (Jamaiyah, 2000), studies have given evidence that some Malaysia citizens believe in the supernatural cause of mental illness most especially spirits and black magic (Kashim, 1997). Therefore they go to traditional healers for treatment. Studies also show that high percentages of those who visit the traditional healers are mostly among the adolescents (Adlina, Ayub & Izhar, 2005). Although studies have been undertaken to determine the level of knowledge about mental health among the students in Malaysia (Tahir et al, 2010) none has taken the pain to explore adolescent perception on it. Therefore the present study intends to fill the vacuum in knowledge by exploring adolescent perception on the issue of mental health in Malaysia.

METHODOLOGY

Design

This study employs a grounded theory research design. This form of research is a qualitative procedure used to generate a theory that explains at a broad conceptual level, a process, an action of an interaction about a substantive topic (Creswell, 2005). It is effective in obtaining culturally specific information about the values, judgments, and behaviors of a particular population (Denzin & Lincoln, 2000). This is why this study is embarking on an exploratory study of adolescents' perception on the issues of mental health in Malaysia.

Data Collection

In this study, data was collected using the interview method, whereby some Malaysians adolescents between the ages of 17 to 20 were interviewed. The interviews were recorded using an MP3 recorder which was later listened to repeatedly, transcribed and

read as well, to obtain an overall understanding of the respondents' views. In fact, in the words of Lodge, cited in Gorman and Clayton (2005: 5), the aim of interviews is to identify with the subjects, to experience the milieu as they experience it. Thus the data collection was achieved through staging interviews, using the available archives and publications as well as searching for materials by the websites. Below is the summary of the issue, central research question, sub-research questions and interview questions.

Data Analysis Procedure

Semi-structured interviews were conducted with the aim of gaining insight into and unraveling answers to the questions which the research is raising. The questions were first drafted and presented to a qualitative specialist who suggested some input to be added before the interview was finally conducted. The themes in these particular interviews were extracted and analyzed according to the research questions and issues identifiable from the literature as well as on the field revelations (thereby inculcating the participants' view).

Inter-Rater Reliability

Inter-reliability is an important part of qualitative research method. The significance of this inter-rater reliability test is to test the trustworthiness data analysis. It is also to ensure whether the themes generated were generally related to the issue and question raised by the study. Therefore, two experts from the institute of education was given a chart containing some of the research questions, interview questions, the main ideas extracted by the researcher as well as the themes generated. All the information was assessed by the two inter-raters and arrived at the final result. The formula to calculate the inter-rater reliability test is written below:

$$\text{Reliabilty} = \frac{\text{Number of Agreement}}{\text{Total number of agreement + Disagreements}}$$

Table 3.3 Calculating the % of Agreement between Researcher and Raters for the Reliability of the coding template

% of Agreement between Researcher/Author & Rater 1	**% of Agreement between Researcher/Author & Rater 2**	**Mean Average % of Agreement**
No. of 'I' for Author: 10 No. of 'I' for Rater 1: 10 Total no. of Responses: 10 +10 = 20 % of Agreement = Total no. of 'I' x 100 Total no. of Responses = 10 + 10 x 100 10 + 10 = 20 x 100 20 = **100%**	No. of 'I' for Author: 10 No. of 'I' for Rater 2: 10 Total no. of Responses: 10 +10 = 20 % of Agreement = Total no. of 'I' x 100 Total no. of Responses = 10 + 10 x 100 10 + 10 = 20 x 100 20 = **100%**	% of Agreement between Author & Rater 1 = 100% % of Agreement between Author & Rater 2 = 100% ** Mean Average of % of Agreement = 100% + 100% 2 = **100%**

Establishment of Credibility and Trustworthiness of the Instrument

The establishment of credibility and trustworthiness were carried out through the designed interview questions. The necessary modifications were made by a Professor in the Department Of Educational Psychology, of the International Islamic University Malaysia. In addition, the checking of the interview protocol was carried out by an expert at the Institute of Education, International Islamic University Malaysia before the actual research was conducted. The pilot interview was done to test the correctness of the interview questions; hence necessary modifications were subsequently done on each item that the participants were expected to respond to.

DISCUSSION

Discussion of the Emergent Themes

This section is concerned with the discussion of the themes generated from the study. In all the interviews conducted, there were nine themes generated altogether from the main points. The themes were arranged in terms of similarity under four headings. Each

theme shall be discussed under its main heading. These headings were decided, based on the research questions, themes and the main points from the interview. Past studies were also considered in forming the headings. The headings under this study are as follows:

1. Adolescent conception of mental health issue
2. Causes of mental illness
3. Precaution against mental illness
4. Negative effect of mental illness

Each generated theme shall be discussed under each heading.

Adolescent Conception of Mental Health Issue

This heading tries to answer the first research question that was raised on the level of awareness and understanding of mental health among adolescents in Malaysia. This aspect explains what they understand by the concept of mental health. The main theme from this part is "total well being management".

Total Well Being Management: The general conception of the adolescent concerning mental health is total well being management. This theme was deduced and coined from the statements of the respondents when they explained what they understand about the concept of mental health. One respondent states that mental health is "*personal mental life management"* (DU 2), others said *"it is the psychological well being"* (DU 65), "*ability to cope with everyday activities"* (DU 3, 6) and *"the ability of the mind to function well"* (DU 114). The theme derived as the meaning of mental health as expressed by respondents is consistent with the meaning given by WHO (2001) as the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The word 'complete' connotes total wellbeing. This shows that the meaning given by WHO is in total agreement with the theme derived from the interview. In order to further strengthen the study, Scottish Executive (2003) also states that mental health is described as underpinning all health and well-being, because of growing research evidence of the impact of how people think and feel on their physical health. These points to the fact that some adolescents clearly aware of the mental health issue based on the premise that the explanations given by the respondents are coherent with academic definitions. The present theme highlights the conception and understanding of adolescent on the issue of mental health. Hence, according to order of the research questions, the next heading to be discussed is the likely causes of mental illness.

Causes of Mental Illness

According to the interview, the likely causes of mental illness, as expressed by the respondents fall under research questions one and two. There are four themes under this heading. They are as follows: Erroneous Conception, Information breakdown, Heredity and social factors and Self destructive attitudes.

Erroneous Conception: This aspect is about the misconception people have concerning mental illness. This prevents them from taking proper precaution against it. According to the informants, many adolescents believe that sharing the problem of mental health with others cause stigma and embarrassment when they say *"Malaysian people see mental health patients as crazy"* (DU8), Therefore, instead of the victim going for consultations, they take obscure steps which may worsen their situation due to preconceived ideas. Some even keep the problem out of shame (DU 144). The majority of people are keeping the problem out of shame, confirming the statement made by the Director General of the Department of Mental Health and Substance Dependent of World Health Organization in a published book titled 'investing in Mental Health' (2003) that "Mental health has been hidden behind a curtain of stigma and discrimination for too long. It is time to bring it out into the open". This shows that there are many people suffering from this problem but keeping it to themselves. For this reason effort should be made to remove the barrier of misconception and expose the danger of keeping it. One of the main causes of this misconception could be inadequate information about mental health issue reaching the public. Therefore another cause identified from respondent responses is information break down.

Information Break Down: Some of the respondents explained that one of the causes of high level of mental illness among adolescents is inadequate information reaching them. Most people are not well informed on the pros and cons of mental health issue. Some of them said *"information is too low among adolescent"* (DU 73). Another posits that *"the information reaching people on MH is through news"* (DU 10) which off course is inadequate. Another respondent said that *"adequate information on MH could only reach those in the relevant field of studies"* (DU 67) such as counseling, psychology and others. The issue of information barrier in mental health is very crucial because it affects both the victims and the public. The victims need information for personal development, precaution and protection while the public need information for their unfavorable disposition towards the mentally ill person, such as discrimination and the likes. The task of reducing structural barriers for mental health and introducing policies which protect mental well-being will benefit those who do and those who do not currently have mental health problems, and many people who move between periods of mental health and mental illness (Department of Health, 2001). The structural barrier could only be reduced through appropriate and adequate information for both ends.

Heredity and Social Factors: As mentioned by the participants, another factor that could cause mental illness is heredity and social factors. That is, they can inherit the problem from their parents. One of the participants mentioned thus:
"The likely causes of mental illness are genetic, overburden responsibilities and societal pressure" (DU 97).

While some suggested that *"it could be as a result of overburden workload, which could lead to stress" (*DU 16), family pressure could also cause mental illness (DU 99). Some

even affirm that *"divorce could cause children to have personality disorder"* (DU 154). Being, *jilted in relationship* (DU 44) may also contribute to mental health problem. This theme is in line with one of the major findings of the ethnographic study carried out by Kirmayer (1997) at Inuit Nunavik Northern Quebec, that there are four broad types of causes of mental health problems: (1) physical and environmental; (2) psychological or emotional; (3) demon or spirit possession; and, (4) culture change and social disadvantage. The above mentioned theme is related to the issue of social disadvantaged.

In many cases, multiple causes were offered for the same problem. The respondents emphasized on the aspect of divorce and male female relationship. This could be peculiar to Malaysia. So it can be concluded that, family setting as well as male-female disappointments could serve as one of the strong causes of mental health problem in Malaysia. Some of the respondents mentioned that the rate of divorce is very high in Malaysia (DU 156), this could cause emotional imbalance for the children of divorced parents. A research suggests that problematic parent-child relations associated with divorce persist throughout the life course (Amato and Booth, 1996). A study carried out by Mathews (1998) a human development specialist; found that some specific short-term effects of parental divorce on children may include the following: anger, sadness, depression, opposition, impulsivity, aggression, non-compliance, perceived parental loss, interpersonal conflict, economic hardship and life stress. These points show that parental divorce is a factor to be reckoned with in mental wellbeing of adolescents.

Self Destructive Attitudes: Personal attitude could also contribute to mental health problem. Based on the findings from the interview, one of the respondents state that, "the *thought process of individual could affect other aspect of human life"* (DU83), that is, negative thinking may affect other parts of our body, which could lead to mental illness. This is affirmed by Beckham and Beckham (2004) that Negative thinking can be triggered by almost any type of circumstance and usually involved depression, anxiety, anger, and relationship problems. Similarly, Freeman et. al (2006) assert that negative thoughts play an important part in influencing our feelings. These thoughts tend to make us unhappy, make us physically uncomfortable and stop us from doing the things we want to do. More so a respondent pointed out another self destructive attitude, she opined that, *the act of disobedience create new problems*, (DU 130). It could be disobedience to the Supreme Being, delegated authority, or deviation from social rules and regulations. They are considered as being detrimental to human mental health, most especially adolescent. Therefore it is suggested that one should learn how to think positively, because thinking negatively can be destructive. According to the study, the likely causes of mental illness is known, hence what could be the preventive measures that was suggested to be taken based on the explanations of the participants.

Precautions against Mental Illness

This heading is concerned with how individuals and the government prevent mental health problems in the society. This aspect answered research questions two and three. Based on the conducted interviews, the themes generated from the main ideas are as

follows: Strong Religious Attachment, Positive Attitudes to Life and Public Orientation and Support.

Strong Religious Attachment: Taking precautions against mental illness could involve three parties, the victim, public and the government. Each party must pay its role before the problem of mental health can be minimized in the society. Hence the interview question asked under this theme was how could an individual take precaution to prevent the problem of mental health? Some of the respondents tilted toward religious remedy, of which the summary is that strong religious attachment could prevent the problem of mental health. One of the participants opined that, "*Quran provide preventive measures to mental illness"*(DU75), another said " *reading it brings peace of mind*" (DU81), while a participant conclude that it only solves mild problem of mental health (DU79). Meanwhile, one participant posits that, patience (*sabur*) could solve the problem of mental health, (DU128). This discussion has brought spiritual dimension to the issue of mental health.

Therefore effort should be made to review what past literature has to say on this. Corneh, (2006) in a study administered by Mental Health Foundation on the impact of spirituality on mental health found that a collaborative approach to religious coping (i.e. the individual collaborates with 'God' in coping with stress) is associated with the greatest improvement in mental health. In recent time, emerging evidence generally points towards a protective or beneficial effect of religious or spiritual activity for mental health (Fosket et. al, 2004). The issue of general religiosity has been discussed. It is also important to find evidence from the Islamic worldview due to the fact that the area of the study is predominantly occupied by Muslims. Youssef and Deane (2006) state that there is a belief that comfort can only be found through obedience to God's will. There is also a belief that Allah is All-Forgiving and that repenting can lead to forgiveness and cure of depression (Al-Abdul-Jabbar & Al-Issa, 2000). Self-care and cleanliness are recognized as religious duties, and spiritual purity and self-acceptance may be linked to physical cleanliness (Fonte &Horton-Deutsch, 2005). All these evidence as well as the theme on the issue of religion show that religious attachment is one of the strong factors that can influence mental health positively.

Positive Attitudes to Life: Another means that can be used to prevent mental illness, according to the participants, is positive attitudes to life. This means when an individual has hope as well as purpose for his action, and believes that good things will come out of the action. Such a person interprets situations in optimistic way. The mind is free from evil thoughts and negative feelings towards the self and others. The participants mentioned the following as the characteristics of positive attitude to life: *"self consciousness" (*DU14), *"living healthy life is a precaution to mental health"* (DU95), *"positive thinking"* (DU150) as well as the *"awareness of the consequences of personal act*" (DU 124). In support of this, the Ottawa Charter for Health Promotion (WHO, Geneva, 1986) explains that mental health is a positive concept emphasizing social and personal resources as well as physical capabilities. Similarly, the Health Education Authority (1997) in their quality framework assert that mental health is a positive sense

of well-being and an underlying belief in our own, and other's dignity and worth. Moreover, mental health involves how we improve the way individuals, families, organizations and communities think and feel, factors which influence how we think and feel individually and collectively and the impact that this has on overall health and well-being (Friedli, 2000). It is discerned from this discussion that the main focus of mental health is how to develop positive attitude to life.

Public Orientation and Support: As it has been mentioned before that the responsibility of preventing mental health problem in the society in placed on three parties. Therefore, the question asked in this aspect was, how could the government prevent the problem of mental health in Malaysia. One of the ways in which mental health could be prevented, based on the findings from the interview are to create public awareness, give adequate information on mental health issues to the adolescents and the general public. It is mentioned that government should provide public support by putting all necessary things in place that help to promote mental well being of the citizen. Some of the efforts that can be made by the government as mentioned by the respondents are "*enlightenment campaign for students*" (DU28), "*increase in health care facilities*" (DU 56) as well as "*collaboration with NGO to create awareness*" (DU101).

It has been discussed earlier that the issue of information is very important for the promotion of mental well-being of the citizens. Many sources from the literature suggest that laymen normally have little understanding of mental illness. They are incapable of identifying correctly mental disorders, do not comprehend the essential causal factors, are scared of those who are perceived as mentally ill, have inaccurate beliefs about the effectiveness of treatment interventions, are often reluctant to seek help for mental disorders, and are not sure how to help others. Hence, all these made it incumbent on the government to provide enlightenment services for people. In this context, enhancing health literacy is expected to improve population health outcomes, just as improving education and general literacy influences the overall health and well being of populations (Kickbush, 2002). According to Mental Health Foundation Tasmania, (2009) government support should be based on three major types of prevention. Primary prevention interventions are targeted to population groups according to the level of risk. Secondary prevention targets those who are showing early signs of symptoms of mental illness or disorder and seeks to lower the prevalence of the illness through early detection and treatment. Tertiary prevention seeks to reduce the negative impact and associated disability of existing mental illness. Equally they projected that, Public mental health services and community sector organizations play a key role in creating supportive environments for people who have a mental illness and their careers. Reorienting services to be recovery focused is the vision of the Mental Health Services Strategic Plan 2006 – 2011. Furthermore, considering this, government has a prominent role to play in preventing the problem of mental health in the community. It is assumed that if the concerned parties do not pay attention to their responsibilities and ready to implement them, they should be ready to face the consequence of the negative effect of mental illness.

Negative effect of Mental Illness

In response to the interview question which goes thus: how could mental health problem affect the country if most youth is having mental health problem? This question came from research question 2 on the likely suggestions of how mental health problem could be solved. From these, if people in charge refuse to implement the suggestion what will be consequences to the country? The theme that was derived from this heading is thus:

Nation Building is Hampered: Some of the participants argue that, youths are the future of tomorrow, and the future of the country depend on the well being of the youths. Therefore, if most youths in the country have the problem of mental health, it means nation building is hampered. One of the respondents asserts that, it will bring about *"unproductive country"* (DU107), while another said *"youths having mental illness prevent nation building*" (DU 162). This is related to the finding from a 2011 study conducted by Risk Analytica for the Mental Health Commission of Canada that, absenteeism and presenteeism (being physically present but otherwise too unwell to be fully productive) due to mental health problems cost Canadian businesses $6-billion annually. If a country looses 6 billion dollars annually, and such country is not economically strong, it will soon run bankrupt and later affect the whole progress of such country. In addition, according to the Mental Health Council Australia MHCA (2006), the cost to the community of severe mental illnesses such as schizophrenia and bipolar disorder has recently been calculated by Access Economics on behalf of SANE Australia. It was estimated that the financial cost of schizophrenia treatment and cost of productivity in Australia totaled $1.85 billion. Therefore, serious mental illness has a very significant social and financial impact on the Australian community. Hence, it is apparent now that a nation's well-being will largely depends on human well-being.

FINDINGS FROM THE STUDY

Based on the themes generated and the literature reviewed on this study, the researcher comes up with the following findings:

1. Most adolescents in Malaysia do not have adequate information on the issue of mental illness. This is because the only medium that most of them receive information from is through the news which is inadequate.
2. Family problems such as divorce between parents of the adolescents could also contribute to the problem of mental health in Malaysia.
3. Government efforts on how to reduce the problem of mental health among the adolescents in Malaysia is not strengthened with public support.
4. Most people having mental health problem are ashamed to reveal it to others based on their preconceived misconception, of stereotyping and stigmatizing of someone that has such problem.
5. Religious upbringing of children could serve as prevention as well as early intervention to prevent the problem of mental health.
6. Mental health problem could affect the economic and social progress of the country.

LIMITATION TO THE STUDY

The focus of the present study, which is adolescent in higher institution enlightened in the area of mental health, has restricted its chances to explore other avenues for valuable information. More so, the present research only restricted itself to mental health issues in Malaysia. Therefore, the issue here only based on the perception of Malaysian adolescents on the cases of mental health problem. Another core area of limitation is the time and financial constraints which have prevented the researchers to explore more on the issue.

CONCLUSION

Mental health problem is a serious problem to the worlds as it affects national and personal productivity. It makes an individual useless and not able to contribute positively to nation building. Therefore the public as well as government should rise up to face the challenge, by making adequate financial commitment against mental problem eradication among adolescents. In order to create more awareness among them more social workers counselors and psychologists in all levels of education as well as among the public should be employed. Equally, the mentally ill people should not always keep the problem to themselves, because, problem shared is half solved therefore they should go to appropriate quarter to complain about their situation. Lastly, the present study will like to recommend that a further study should be carried out on how divorce could affect adolescents' mental health. This is because the present study could not delve into the issue thoroughly and it has been mentioned as one of the salient issues causing adolescent mental illness.

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Appendix

Research Questions	Main ideas from the interviews	Themes	Headings for Themes
1	Personal mental life management	Total well being management	Adolescent conception of mental health issue
1	Mental disorder is inability to cope with everyday activities		
1	Malaysian people see mental health patients as crazy	Erroneous conception	Causes of Mental Illness
1	Awareness created through the News	Information breakdown	Causes of Mental Illness
1	Rate of mental illness in Malaysia is high		
3	Self consciousness	Positive attitude to life	Precaution to Mental Illness
2	Overburden work load lead to stress	Hereditary and societal factors	Causes of Mental Illness
3	Obscure steps due to preconceived idea	Erroneous conception	Causes of Mental Illness
1	Keeping Mental illness is harmful		
3	Enlightenment campaign for student	Public orientation and support	Precaution to Mental Illness
3	Self consciousness		
2	Family pressure could caused Mental illness		
2	Divorce could cause children to have personality disorder		
2	High level of divorce		
2	Jilt in relationship		
2	Moderate level of the case of jilt		
3	Increase health care facilities and personnel		
1	Mental health is psychological well being		

Research Questions	Main ideas from the interviews	Themes	Headings for Themes
1	Awareness is based on relevance field		
1	High level of mental health problem occur among adolescents		
3	Personal and societal strategies		
1	Awareness on mental illness is low		
2	Quran provide preventive measures to mental illness	Strong religious Attachment	Precaution to Mental Illness
2	Quranic recitation could solve mild mental illness		
2	Quranic memorization brings peace of mind		
3	The thought affects other aspect of the human personality	Self destructive attitudes	Causes of Mental Illness
2	Consult specialist		
2	Living healthy life is a precaution against mental illness		
3	The likely causes of mental illness, are genetic, overburden responsibilities and societal pressure		
3	Expectation from significant others increase pressure		
2	Creating awareness and collaboration with NGOs		
2	Unproductive country	Nation building hampered	Negative effect of mental illness
1	The ability for the mind to function well		
1	Self harmful action		
1	Awareness is attained through Coursework		
1	Lack of awareness among adolescent		

Research Questions	Main ideas from the interviews	Themes	Headings for Themes
2	Positive thinking is remedy to mental illness		
2	Awareness of the consequences personal acts		
2	Religion provide guidelines for problem prevention		
2	Patience could solve mental health problem		
2	Disobedience creates new problems		
3	High level of challenges lead to mental illness		
3	Psychological imbalance hinders productivity		
3, 2, 1	Keeping mental illness out of shame		
2	Positive thinking		
2	Positive thinking is preferred way to prevent mental illness		
3	Divorce is a latent cause of mental illness		
3	Divorce rate is relatively high		
2	Creating awareness		
3	Youth having mental illness prevent nation building		

Employing Classroom Debate and Socratic Method to Enhance Critical Thinking

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ABSTRACT

The objective of the present study is to find out whether the two approaches of classroom debate and Socratic Method can help promote and enhance critical thinking skills. In addition, the study tries to determine which of these two treatments is more effective in promoting critical thinking skills. An experimental design was employed to study the effects of these two approaches on thirty two Malaysian undergraduate ESL learners who were randomly assigned to the two treatment groups. The study took one entire semester, and the students went through nine and ten classroom debates and Socratic discussions respectively. The data analysis and results revealed that classroom debate and Socratic approach have the potential to help learners improve their reasoning and critical thinking skills.

Keywords: Critical Thinking, Reasoning, Classroom Debate, Socratic Method

INTRODUCTION

Academic journals and high profile mass media have introduced critical thinking skills as being essential skills for the growing workforce of the 21st century. There are more demands for superior critical thinking skills for instance problem solving and negotiation skills as well as highly developed communicative competence (Gervey, Drout & Wang, 2009; Halpern, 2004). Critical thinking skills have been identified as a logical, purposive deep thinking approach (Rudd, 2007) and/or as a doubtful or skeptical approach (Mason, 2007) which can be employed for making decisions, mastering concepts as well as solving problems. People who possess critical thinking skills demonstrate behavioral dispositions which is welcomed and appreciated in both academic and vocational contexts, such as promoting habits of inquisition, showing

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aspirations to get informed, and getting involved in constant assessment of understanding and knowledge (Mason, 2007; Rudd, 2007; Kosciulek & Wheaton, 2003). Training the prospective employees in the area of critical thinking skills though is a controversial issue which is still very much open to question (Lord, 2008). Considering the augmented attention to critical thinking and the greater need for it in the developing workforce, educationalists have started to study different techniques and methods for improving and promoting critical thinking skills in the classroom context (Halpern, 2003). Browne & Freeman (2000) suggested that classrooms which practice critical thinking need to incorporate a great quantity of evaluative learning. It is suggested that bringing controversial issues into the classroom produces an atmosphere of developmental pressure that maintains reflection, rational judgment, and also necessitates considering various viewpoints.

Several researchers and experts recommend debates as a way for developing and sustaining critical thinking skills among students. As an example, Paul & Elder (2007) made use of debates to encourage controversial conversations and discussions, and discovered that these techniques helped improve awareness and admiration for multiple positions. Besides, preparing for debates helped improve superior mastery of the material in promoting active learning. Debate preparation fosters the talent of articulating an argument in its important terms, acquire and utilize data and evidence to sustain a principle, categorize and communicate information in a comprehensible approach, and think about, assess and rebut contrasting arguments; these abilities are in line and also consistent with critical thinking skills (Rudd, 2007; Kosciulek & Wheaton, 2003).

Besides, Socratic Method (Socratic questioning/Socratic discussion) is a teaching tool also known to be helpful in promoting critical thinking skills. Unlike the conventional method, this approach does not require the learners to memorize the information that are presented by an instructor or a textbook. Nowadays, instructors utilize questions as a tool to assist learners to build up productive thinking skills and comprehend different issues and notions. Through this method, teachers raise questions that have no ultimate answers. As a matter of fact, the one who asks these types of questions is not looking for such answers. The idea behind this method of instruction is to inspire the thinking. Socrates believed that learners are able to develop reasoning skills and eventually progress toward more reasonable thoughts more easily supported with logic (Byrne, 2011). Socratic dialectic is a useful tool which can assist individuals to differentiate rational and reasonable beliefs from unfounded and irrational beliefs.

However, members of different organizations have expressed their concerns regarding students' failure to think critically. Moreover, business and vocational organizations have demonstrated concerns regarding students' incapability to incorporate competencies, such as, communication, group work, and oral presentation skills with critical thinking (Roy & Macchiette, 2005; Gokhale, 1995). Bissell & Lemons (2006) claimed that those faculties who teach at universities syllabus identify critical thinking as the most important objective. Unfortunately, the sad truth is that the majority of university students do not think critically and only a very limited number of courses and subjects embrace critical thinking. University lecturers tend to focus and

spend more time on teaching discipline-specific content knowledge, but they struggle over and over again with the required resources and time to plan efficient strategies to teach critical thinking (Goodwin, 2003). Even though conventional pedagogical approaches such as lectures and tests focus on knowledge attainment, they fail to improve, develop and support students' critical thinking. Nonetheless, it is suggested that classroom debate and Socratic Method are two approaches which have the potentials to effectively facilitate the learning and development of critical thinking skills (Paul & Elder, 2007; Roy & Macchiette, 2005). Therefore, the present study is an attempt to find out whether these two approaches can promote and develop critical thinking skills of Malaysian undergraduate ESL learners. In addition, the study tries to determine which of these two treatments is more effective in promoting critical thinking skills. Such being the case, the study seeks answer to the following research questions:

1. How do classroom debate and/or Socratic Method affect students' critical thinking?
2. Which approach is more effective in developing critical thinking, classroom debate or Socratic Method?

LITERATURE REVIEW

Defining Critical Thinking

Critical thinking is defined in many ways. The renowned educationalist Dewey (1933) refers to critical thinking as reflective thinking, and proposes that it be one of the aims of education. One of the most frequently referred to definitions of critical thinking is one used by Ennis (1987), who has similar views to Dewey. Ennis defines critical thinking as "reasonable reflective thinking that is focused on deciding what to believe or do" (p. 10). Norris (1985) in much the same vein defines critical thinking as deciding rationally what to or what not to believe. For Dewey, Ennis, and Norris, critical thinking is about being careful and reflective when making decisions to believe something or do something. A more recent perspective on critical thinking involves the use of intellectual standards. Paul and Elder (2002), for example, refer to critical thinking as an art through which an individual can make sure that he/she make use of the best thinking in any kind of situations. "The general goal of thinking is to figure out the lay of the land. We all have choices to make; we need the best information to make the best choices" (p.7). Paul and Elder (2002) believe that critical thinkers have a basic ability to take charge, to develop intellectual standards, and to apply them to their own thinking. They suggest there are nine criteria generally used: Clarity, Relevance, Rationality, Accuracy, Depth, Significance, Precision, Breadth, and Fairness. Critical thinkers should apply these criteria as minimal requirements when they reason.

Other experts in education consider critical thinking to be about skepticism. McPeck (1981), for example, suggests that the essence of critical thinking is "the propensity and skill to engage in an activity with reflective skepticism" (p.8). Similarly, Sofo (2004) believes that thinking critically is about doubting and stopping to reconsider what we normally take for granted. Sofo (2004) sees critical thinkers as people who evaluate their habits to improve the way they do things. They are people who are open-

minded and who take into consideration other perspectives. Lipman (1998) distinguishes between 'critical thinking' and 'ordinary thinking'. The latter is simple and lacks criteria; while the former is complex and based on criteria such as objectivity, usefulness and consistency. In addition, Ennis (1985) presents a prominent framework for teaching critical thinking skills. He offers thirteen characteristics of individuals who benefits from critical thinking skills. Such people are more likely to be:

1. "Open minded,
2. Take or change position based on evidence,
3. Take the entire situation into account,
4. Seek information,
5. Seek precise information,
6. Deal in an orderly manner with parts of a complex whole,
7. Look for options,
8. Search for reasons,
9. Seeks a clear statement of the issue,
10. Keep the original problem in mind,
11. Use credible sources,
12. Stick to the point, and
13. Exhibit sensitivity to others' feelings and knowledge level" (p.46).

Furthermore, as Brooks & Brooks (1993) stated, in order for 'deep' learning to take place, students cannot passively accept information but must actively internalize, reshape, and transform the information they are receiving so that it has meaning for them as individuals. Whimbey & Lochhead (1986) also argued that if students are exposed to teaching situations which focus exclusively on the transmission of facts, they will "have difficulty in defining and resolving problems, changing focus, considering alternatives, and defining strategies" (p.73). In tertiary education, students need to be granted the opportunities to develop these skills, which are subsumed under the umbrella term 'critical thinking' and the present study assumes that this opportunity can be provided for students through debate technique as a teaching and learning tool.

Critical Thinking in English Language Teaching (ELT) Context

The term 'critical thinking', as Day (2003) notes, began to appear in ELT literature in the 1990s. However, a discussion of aspects of critical thinking in language learning probably started earlier than that, in the late 1970s when the communicative approach was introduced to the field of English language teaching.

Critical thinking in the ELT literature may have emerged, at least partially, from the fact that the number of international students studying in English speaking countries were growing fast. In Australia (Thompson, 2002), as in North America and the United Kingdom (Briggs, 1999), international students needed a high level of language proficiency, but they also needed to adjust their discourse style to suit their new

situations and cultural contexts. They needed to apply their critical thinking in new and different ways.

With more linguistic and rhetorical conventions to consider, the use of L2 to communicate can be very challenging for students. English teachers often hear students complain that they know what to say but cannot put it into English. The students may have a wide vocabulary and theoretical knowledge but they may not be able to construct grammatically correct sentences. This seems to be primarily a linguistic problem. When students have to use L2 to present their ideas and feelings, as they do when undertaking a number of the tasks that are required of them in an academic context, they need to use the ability to think critically as well as their linguistic skills. While developing their L2 competency, students face tremendous challenges in exercising critical thinking in L2. From the socio-cultural perspective, when learners express their thoughts in L2, either through spoken or written language, they are not only translating their thoughts from L1 to L2, but also redefining their identities (Lantolf, 1993; Kramsch & Lam, 1999). Expressing one's critical thinking in L2 may require that one adjust one's ways of saying things. In short, it requires both lexico-grammatical competence and socio-cultural competence, which is in accordance with the aims of Communicative Language Teaching (CLT).

CLT as a major research area contributes to our assessment of the significance of critical thinking in language learning. The communicative approach in ELT has been practiced in Malaysia since 1977 (Chan & Tan, 2006). Nunan (1981) described some characteristics of communication in the real world. He stated that, first, individuals communicate for many reasons, to find out information, give vent to their emotions, describe their world, and get things done and so on. Very rarely do they communicate to display their linguistic or rhetorical virtuosity. In other words they communicate to fulfill certain needs, and this is achieved, partly through linguistic and partly through non-linguistic means. Another consideration is that the communicative act is intimately tied to its setting.

The teaching of English for communication necessarily includes many elements of critical thinking because it focuses on form as well as meaning. Jacobs & Farrell (2003) propose a model of communicative language teaching that consists of a number of interconnected aspects, among them the social nature of learning and thinking skills. In other words, the communicative language learning environment can provide a useful venue for students to gain and use thinking skills. Group activities within the communicative language learning environment require students to communicate with their peers, to provide each other with help and constructive criticism, and to challenge each other's views. In short, critical thinking is an integral part of communicative language teaching.

Debate and Critical Thinking

Protagoras of Abdera, the father of debate, is credited for implementing debates in an educational environment over 2400 years ago in Athens, Greece (Darby, 2007). Debate was first incorporated in American higher education in the 19th through 20th century, but

did lose its popularity till 1980s as a teaching/learning instrument (Freeley, 2009; Redding, 2001). However, it became popular again in the United States and has been practiced over the last three decades. Previous surveys show that intercollegiate debaters consistently value and highly rate the development of speaking skills, communication skills and critical thinking skills (Hall, 2011; Gervey *et al.*, 2009; Williams et al., 2001). Colleges in the United States also promote debate across the curriculum in order to help students learn better. Teachers employ debate as a classroom activity in content area classes to enhance different disciplinary learning as well as academic skills, such as critical thinking skills, research skills, and communication skills (Bellon, 2000). Debate has the potential to enhance critical and creative thinking as well as reasoning, communication skills and problem-solving skills (Park *et al.*, 2011; Kennedy, 2009; Darby, 2007). The relationship between debate participation and critical thinking is strong. Johnson & Johnson (1994) stated that,

> "At least three elements of teaching make a difference in students' gains in thinking skills: students' discussion, explicit emphasis on problem-solving procedures and methods using varied examples, and verbalization of methods and strategies to encourage development of meta-cognition" (p. 57).

Brembeck (1949) attempted to determine if a semester's course in discussion and argumentation improves critical thinking. The results of his study indicated that the students in argumentation group as a whole out gained learners in control group in critical thinking scores. It was also concluded that in all but one of the schools the students in the experimental group had an average test score higher than the control group students. Omelicheva (2007) conducted an action research among her undergraduate students majoring political science to examine the influences of classroom debate on the development of learners' critical thinking skills and understanding of complex political issues. Analysis of the data shows that classroom debates helped the learners get involved in the intellectual practices which illustrate critical thinking skills. The author proposed an argument in the study in which it is claimed that academic debate can be incorporated with the courses of college and university students to promote a variety of affective, intellectual, and practical skills, which include critical thinking skills, deeper comprehension of the issues being debated, communication and teamwork skills (Omelicheva, 2007). Worthen & Pack (1992) believe that, as the debater critically views the facts, hypotheses, beliefs, and assumptions of arguments systematically, many goals of critical thinking are achieved. In competitive debate, the participants have a topic to which they must debate both sides. Critically looking at two sides of an issue creates a greater tolerance and awareness to controversial issues. Debate fosters this versatility which forces the participant to synthesize arguments and analyze the logical connection they have to the evidence presented (Worthen & Pack, 1992). Mercadante (1988), another advocate of debate, claims that debate can and should be used in college classrooms to courses in nearly all disciplines to help students develop their critical thinking skills. Mercadante (1988) believes that whether we are teaching courses in political science, history, English, philosophy, natural science or business, we constantly deal with issues that lend

themselves to debate. Debate functions to develop skills in critical thinking, analyzing, synthesizing, and impromptu speaking.

Krieger (2005) states that, many students had obvious progress in their ability to express and defend ideas through practice in debate. Moreover, the students often quickly recognized the flaws in each other's arguments, and this ability is considered to be a component of critical thinking skills in which students are expected to evaluate and critically assess the information they receive. Nisbett (2003) states, "Debate is an important educational tool for learning analytic thinking skills and for forcing self-conscious reflection on the validity of one's ideas" (p. 210). According to Facione & Facione (2008), analytic thinking skills and conscious reflection or monitoring one's own opinions are components of critical thinking skills.

In the traditional way of teaching, for instance using chalk and talk, the students stay passive and receive lectures form their instructors. This way, the learners are provided with little (if any) opportunities to play an active role in the learning process, express their opinions, and practice and/or develop their thinking skills. Through these types of educational systems, according to Paul (1990), learners do not get higher order learning but lower order learning which is associative, in which they are required to memorize the course content that eventually result in prejudices, misunderstanding, confusion. Consequently, students would be discouraged and lose their motivation in learning and start to build up strategies for short term memorization and performance. Finally, learners' thinking will be blocked seriously and they stop thinking about what they learn as a result of using these techniques. On the other hand, many experts and researchers (Doody & Condon, 2012; Yang & Rusli, 2012; Hall, 2011; Rear, 2010; Kennedy, 2009, 2007; Darby, 2007; Tumposky, 2004) agree that classroom debate is an approach which involves learners in the learning process, give them the chance to express themselves, develop the higher order thinking, prevent rote memorization, misunderstanding, motivate the learners, and assist them to stay away from prejudice, and make informed decisions and judgments based on valid sources of data. Besides, the above mentioned studies among others suggest that these are the characteristics and attributes of individuals who benefits from critical thinking skills (Lipman, 1998; Ennis, 1985).

Debate helps students to learn about the evidences supporting both sides and reasons behind individuals' beliefs and actions. Critical thinking skills are honed in all levels of the debate process (Scott, 2008). In preparing for rebuttals, the students are required to gather relevant evidence of support while thinking critically to put forth a strong argument. Students also needed to learn to use evidence and data to support their argument and viewpoints (Yang & Rusli, 2012; Munakata, 2010; Omelicheva, 2005). Doody & Condon (2012) states that debate helps learners employ critical thinking skills in which they try to define the problem, evaluate the reliability of resources, identify and challenge assumptions, recognize contradictions, and prioritize the relevance and importance of different points in the overall discussion.

It is stated that debates help instructors to reach one of the most important goals of education which is developing critical thinking skills. For instance, it helps students realize that issues and problems can be complicated, and it is an essential skills to take

every points of view into consideration and examine them all objectively. Besides, debates stimulate and promote higher order learning, such as analysis, synthesis and evaluation (Park, *et al.*, 2011; Galloway, 2007). In addition, more advantages of debates consist of the possibility that "debaters come to realize that positions other than their own have value, and that reasonable minds can disagree on controversial issues" (Galloway, 2007, p. 12). Besides, debate can teach learners to recognize that every now and then professionals disagree on a particular matter and many problems and issues might not have a right or wrong answer. These features have been identified as attributes of critical thinking skills by Lipman (1988) and Ennis (1985), well known figures in the area of critical thinking.

All in all, research findings clearly indicate that using debate as a teaching tool helps students develop critical thinking skills. In other words, students learn to synthesize, analyze, and evaluate statements and arguments. Debate also promotes active leaning which allows students to participate in the learning process actively. Last but not least, findings also confirm that students reported to like the debating experience and identified it as a new and interesting approach as well. They also believed that debate increased their critical thinking skills, helped them to learn new knowledge, to gain an understanding of the topic, and to gain additional knowledge on the subject.

Socratic Method and Critical Thinking

As mentioned before, Socratic Method is well known for promoting critical thinking. Socrates who is known as one of the most famous creators of western philosophy engineered this model of education based on questioning. Through this approach, there are no ultimate answers for the questions that are raised. Actually, the person who raises the question is not looking for such definitive answers. The goal of raising and discussing these types of questions is to stimulate and inspire the thinking process. Socrates believed that in the course of dialogue and discussion, where everyone is required to clearly explain their viewpoints and positions, the ultimate product of the discussion could be a clear statement of what was meant (Byrne, 2011). Socratic seminars date back to very old times and apparently based on Socrates' idea that lectures were not a very useful way to teach every learner. Socrates appreciated the understanding and knowledge that people have already gained and believed that making use of that knowledge has the potential to develop understanding. Socrates believed that learners are able to develop their reasoning skills and eventually progress toward more reasonable thoughts supported with logic (Byrne, 2011).

Sigel (1979) stated that Socratic questioning technique supports the foundation of cognitive development as they stimulate representational thinking. Socratic questioning method is neither an indirect talk nor recital-method of education through which the instructor raises a question, the learner provides a response and the teacher lastly gives a feedback via his or her concluding statement. Socrates believed that the accurate job of any instructor is to assist the students to accumulate their thoughts and construct novel and innovative understanding based on earlier knowledge. Socratic approach is a useful method to assist individuals to differentiate logical and reasonable beliefs from unreasonable and groundless beliefs. This method of instruction lead

students to new discoveries, as the function of this questioning technique is not limited to measuring the students' total knowledge but building new stages of understanding to discover contradictions. Socratic Method requires instructors to put away and leave their role as deliverer of the course content and get the students involved with the material.

Paul & Elder (2007) emphasize on the importance of questioning and the kind of questions in Socratic approach in order to cultivate the disciplined mind and critical thinking skills. They state that raising analytical questions is very important and foundational to probing reasoning and comprehension. To be successful in thinking, one should be able to identify the elements of thinking by bringing up questions focused on those elements. Paul & Elder (2007) state that when instructors regularly employ the tools of critical thinking, the Socratic discussions get more productive and disciplined in which the students get to know the significance of questioning in learning, and then they would be able to create and follow deep and important questions in other classes and in various parts of their lives.

In addition, Elder & Paul (2007) believe that disciplined and skilled critical thinkers explicitly use intellectual standards on a daily basis. These thinkers recognize when others or they themselves are failing to use these standards. They routinely ask questions specifically targeting the intellectual standards. Yet, most people are unaware of them. These standards include "clarity, precision, accuracy, relevance, depth, breadth, logicalness, and fairness" (p.32). Focusing on these standards, Elder & Paul (2007) provided taxonomy of Socratic questions based on assessment of reasoning which can actually serve as a guide to promote and develop reasoning and critical thinking skills as a result of discussing these questions in classroom. The taxonomy which categorizes Socratic questions into six types is:

1. Questioning clarity: the questions require the individual to elaborate, illustrate, and exemplify his or her viewpoints.
2. Questioning precision: the questions invite the participant to be more precise by providing more specific details.
3. Questioning accuracy: these questions focus on and argue the accuracy and/or trustworthiness of viewpoints and beliefs; determining whether the viewpoints or beliefs represent things as they really are.
4. Questioning relevance: these questions focus on the relevance and try to make sure that all considerations used in addressing any though are genuinely relevant to it.
5. Questioning depth: these questions try to examine the depth of thinking in raised questions and determine whether the questions involve complexities that must be considered.
6. Questioning breadth: these questions argue breadth of thinking and require the thinker to think insightfully within more than one point of view or frame of reference and take multiple perspectives into consideration. The goal is to ensure that the individual tries to be broad-minded, take all possible viewpoints into account, and leave no perspective unconsidered.

According to Paul & Elder (2007), the art of Socratic questioning is intimately connected with critical thinking because the art of questioning is significantly related to the brilliance of thinking. "What the word Socratic adds to the art of questioning is systematicity, depth, and an abiding interest in assessing the truth or plausibility of ideas" (p.36). Both Socratic questioning and critical thinking have the same purpose. Critical thinking makes the necessary instruments available for understanding how the mind works (in its search for meaning and truth); Socratic questioning makes use of those tools in structuring questions necessary to the pursuit of meaning and truth. The purpose of critical thinking is to set up an extra and further stage of thinking, a dominant inner voice of reason. Socratic discussion cultivates that inner voice through an explicit focus on self-directed, disciplined questioning.

METHODOLOGY

Research Design and Participants

The present study aimed to find out if the treatments employed in the study (classroom debate and Socratic Method) can be helpful in developing and fostering critical thinking skills. Improvements were expected to occur at the end of the treatment period. In this regard, an experimental approach (pre-test, post-test design) was employed to determine this causal relationship. An intact class of 32 undergraduate students majoring in Teaching English as a Second Language (TESL) at the Faculty of Educational Studies, University Putra Malaysia (UPM) was selected as the subjects of the study. The participants were in their third year of their study, and the class was selected based on the purposive sampling. Creswell (2014) explained that experimental studies usually do not practice random selection of participants for a number of reasons. Research participants are usually those who are either accessible or volunteer to participate in the study. Though, the most sophisticated type of experimental studies practice random assignment. Such being the case, the students in the class were randomly assigned to the two experimental groups. Through random assignment of the participants, the researcher provides control for extraneous variables that might influence the outcome (Creswell, 2014). It is also worth mentioning that the same instructor did the teaching in both classes to control the variable of teacher differences.

The Treatments and Instruments

Classroom Debate: The procedures of classroom debate in the present research were adopted from the British Parliamentary Debate. Speeches are usually between five and seven minutes in duration for every speaker. The debate consists of two teams (Government and/or Opposition) on either side of the case. In the present study, first, the students were randomly divided into the two groups. Then, one group was randomly assigned to represent the government and another to the opposition side. The government usually takes the affirmative stance which is in favor of the resolution, and the opposition takes the negative stance which is against the resolution. Afterwards, the first speaker of the government starts the debate by introducing and defining the debate topic (The motion), declaring their stance, and presenting their

speech/statement/argument. Next, the first speaker from the opposition side starts his/her speech by declaring the motion again and presenting their stance. Then the speaker can rebut (optional) the statements of the government's first speaker, and present their speech. Next, the second speaker from the government takes turn and reaffirms the teams' first speaker stance, rebut the statements of the opposition's first speaker, and present his/her argument and speech. The debate continues in the same order until all the speakers from both sides present their cases. Finally, if the time allows and the participants still want to continue, the procedure goes on. Furthermore, during the debate, all speakers and participants are expected to offer Points of Information (POIs) to their opponents, but never to a member of the same team. POIs are features of debate in which a member of the opposing team stands up and offers a brief point during the current speech to argue the speaker. The speaker can choose to accept or deny POIs, but they are usually encouraged to accept them. If the speaker chooses to accept the POI, he/she will be asked a question, or possibly be given a statement, that he/she must then respond to. Then the speaker continues with his/her speech. Students are always reminded to support their POIs and/or rebuttals by providing evidence.

In the case of the present study, first, the format and rules of debate (discussed above) were presented to the participants. They were completely familiarized with debate procedures and its rules. After explaining and illustrating the process and answering students' questions, they were provided with a debate topic (motion), and they were given enough time to get ready to take part in the first classroom debate. The debate took about 45 minutes, and it was videotaped. At the end of the first session, the topic of the next debate was given to the students. Therefore, they had enough time to do research on the topic, find enough information, and get ready for the next round. The students were instructed to conduct research on both sides of the debate topic and find evidence, resources, and relevant data that can be used to support their statements. The debate sessions were conducted once a week for the whole semester. In total, nine sessions of classroom debate were conducted throughout the study. It is worth mentioning that the students in debate group were provided with the topic (motion) one week in advance. Therefore, they had time to do research, find enough information, and get prepared for the debate.

Socratic Method: As discussed, the Socratic Method was another treatment of the present research study. The procedures of Socratic approach were based on the Socratic discussion and questioning technique developed by Socrates. Simply stated, as used in the current study, this method requires learners to read a text and then generate questions and explore their ideas and questions in an open discussion (Queen, 2000). Such being the case, the students were first provided with a one or two-page text. Then, they took turn and every student read a part of the text till it was finished. Next, the students were invited to raise questions regarding the text. The class moderator wrote the questions on the board and then read them one by one and students provided their answers and discussed every single question. It is worth mentioning that the course lecturer moderated the discussions only for the first, second, and third session. From the fourth session to the end of the semester, every week one student volunteered to be the moderator of the class. Besides, students' sitting arrangement was formed in a U shape,

so all of them could have eye contact with each other during the discussions. The Socratic Method was administered for the whole semester, and totally ten sessions of Socratic discussions were conducted during the entire study.

Instrumentation: Students' critical thinking was assessed via two different approaches and assessment tools of pre-test and post-test by the New Jersey Test of Reasoning Skills (NJTRS) and a content analysis rubric developed by Newman, Webb & Cochrane (1995). NJTRS was administered at the beginning and the end of the study as pre and post-test. The test measures a wide variety of critical thinking skills. It is a standardized test developed by Dr. Virginia Shipman (1983), a Senior Research Psychologist in the educational department in New Jersey and a member of the Educational Testing Service (ETS). It is a 50 item multiple-choice test of reasoning skills. Every question is with three responses, and the test generally allocates one hour to be completed. The reliability coefficient of the test is reported to be 0.84 (Burns, 2009). It is also reported that its reliability ranges from 0.84 to 0.91 and compares favorably with other thinking tests such as the Cornell Critical Thinking test and the Whimbey Analytical Skills program (Rosnani Hashim, 2003; Morante & Ulesky, 1984).

Critical thinking content analysis rubric (Newman *et al.,* 1995) was the second tool to assess the development of research participants' critical thinking. To do the content analysis, all debate sessions were first video recorded and transcribed. Then, the transcripts were coded, rated, and scored using a qualitative software program (*Atlas ti*.) and the rubric. The scoring criteria were prepared based on the content analysis method proposed by Newman *et al.,* (1995). Since this method was used to assess students' critical thinking in a computer and face to face environments, it was also used in the present study to analyze the transcripts in order to see if the students had developed their critical thinking skills. To avoid the biases and reduce subjectivity in scoring, two other experts in the field were invited to sit with the researcher and do the scoring. After the transcripts were rated, the total number of + or - were counted for each indicator. A critical thinking ratio was calculated based on the following formula, as suggested by Newman *et al.,* (1995). X ratio= (X+ - X-)/ (X+ +X-), converting the counts to a -1 to +1. This formula measures the overall level of critical thinking of every single session. It allows the researcher to compare and contrast the development of critical thinking.

DATA ANALYSIS AND FINDINGS

First, an independent *t* test was run on the scores which were obtained through pre-test of NJTRS for both groups to see if they are homogeneous in terms of thinking skills. The results (Table 1) show that there was no statistically significant mean difference between the two groups ($t = -1.044$, $df = 27$, $p > 0.05$). In other words, it can be concluded that both groups were equal or comparable in reasoning skills at the beginning of the experiment.

Table 1 Independent *t* test between the treatment groups for pre-NJTRS

Treatment	N	Mean	m.diff	SD	t	df	p
Debate	16	34.88	1.43	3.10	-1.044	27	.306
Socratic	13	36.31		4.29			

To answer the first research question, a paired sample *t* test was run on the scores obtained from NJTRS of the two treatment groups, namely the debate and Socratic. The results (Table 2) show that there was a mean difference and/or improvements in students' reasoning skills and/or thinking scores measured by NJTRS in both treatment groups. However, the mean difference of the pre and post- NJTRS tests in the thinking skills of participants was not statistically significant. As shown in table 2 below, neither debate group ($t = -.843$, $df = 15$, $p > 0.05$) nor Socratic ($t = -1.044$, $df = 12$, $p > 0.05$) made statistically significant improvement in post test scores obtained from NJTRS.

Table 2 The paired sample *t* test for the thinking skills of treatment groups

Treatments	Mean	m.diff	N	SD	t	df	p
Debate- Pre	34.87	-.94	16	3.10	-.843	15	.413
Post	35.81		16	3.54			
Socratic- Pre	36.31	-1.30	13	4.29	-1.044	12	.317
Post	37.61		13	3.71			

To answer the second research question, an independent two-tailed *t* test was employed to analyze students' scores in reasoning skills collected in pre and post-tests by NJTRS. The purpose was to compare the two treatments of classroom debate and Socratic Method to determine which of these two approaches have been more effective in improving students' scores in critical thinking and reasoning skills. The result of the *t* test is shown in Table 3 below.

Table 3 Independent *t* test between the treatment groups for post-NJTRS

Treatment	N	Mean	m.diff	SD	t	df	p
Debate	16	35.81	1.80	3.54	-1.33	27	.193
Socratic	13	37.61		3.71			

As illustrated (Table 3), the *t* test shows that there was no significant mean difference between the debate and Socratic group in thinking scores which was measured by NJTRS ($t = -1.33$, $df = 27$, $p > 0.05$). In other words, both treatments have been equal in improving students' reasoning skills, and none of the treatments have shown to be superior to the other one. However, students in both treatment groups made progress in critical thinking based on the mean scores obtained through NJTRS. But, the progress was not statistically significant in both groups.

As mentioned before, students' critical thinking skills were also monitored and assessed through a different method (in-depth content analysis) to see if they progress and make improvements. To do so, debates and discussions in both groups were video recorded and transcribed for in-depth content analysis. However, to be able to run the *t* test and see the difference (if any), only the scores obtained through the first and last transcripts were analyzed to compare the students' critical thinking ratios in each group before and after going through the treatments, and also compare the two treatment groups. In this regard, a paired sample *t* test was run on the scores obtained from content analysis of the two treatment groups. The results show that (Table 4) there was a mean difference and/or improvements in students' critical thinking scores in both groups. In other words, students in both treatment groups have made significant progress in critical thinking skills. The results (Table 4) show that a statistically significant mean difference exists in the pre and post-tests of participants' critical thinking skills in debate ($t = -5.317$, $df = 9$, $p < 0.05$) and Socratic group ($t = -2.681$, $df = 9$, $p < 0.05$), as well.

Table 4 The paired sample *t* test for the Critical thinking ratios of treatment groups

Treatments	N	Mean	m.diff	SD	t	df	p
Debate- Pre	10	0.52	-.24	.079	-5.317	9	.000*
Post	10	0.76		.122			
Socratic- Pre	10	0.49	-.18	.260	-2.681	9	.025*
Post	10	0.67		.117			

* Significant $\alpha = 0.05$

In addition, an independent *t* test was run on critical thinking ratios to compare the two treatments of the study and see which approach has been more effective in developing students' critical thinking. It was also to determine whether there were significant differences in the critical thinking scores after going through the two approaches of the study. The result of the *t* test is shown in Table 5 below.

Table 5 Independent *t* test between the treatment groups for the critical thinking ratios

Treatments	N	Mean	m.diff	SD	t	df	p
Debate	10	0.76	0.09	.122	1.740	18	.099
Socratic	10	0.67		.117			

The results (Table 5) show that there was no significant mean difference between the debate and Socratic group in improving students' critical thinking scores ($t = 1.740$, $df = 18$, $p > 0.05$). In other words, the results suggest that both approaches have been almost equally effective in promoting and developing critical thinking skills. Students in both treatment groups made significant progress in critical thinking based on the mean scores obtained through content analysis method.

DISCUSSION, CONCLUSION AND IMPLICATIONS

The study provided significant results, conclusions, and implications which can be helpful for research and practical purposes as well as measurement and evaluation. The results suggest that classroom debate and Socratic Method are both beneficial and helpful approaches for students as they offer a practical and helpful foundation for development of critical thinking which is considered one of the most important goals of higher education. The data analysis and results generally showed students' critical thinking skills have made progress after going through debates and discussions. The results of the previous research, consistent with the present study, also confirm that the classroom debate and Socratic discussion are helpful in enhancing critical thinking skills (Rear, 2010; Kennedy, 2009; Paul & Elder, 2007; Boghossian, 2006). During the debate and discussion, the students get involved in critical thinking skills in a practical manner. They face different and also opposing opinions regarding an issue. They need to listen to contrasting opinions, take different opinions into account, defend their own points, assess peers' points of view, and judge other students' statements. Accordingly, they practice all these skills in debate and discussions, and as a result they gradually learn how to use these skills in an efficient and practical manner. Classroom debate is a practical approach which exposes students to critical thinking skills in the context of the classroom and help students to learn these skills in a practical manner, so the students will apply these skills in everyday social, professional and academic situations. Socratic dialogue as practiced today is a thorough inquiry into a question and our own thinking about it, aiming to investigate our assumptions in a joint process. It enhances students' critical thinking as it raises basic issues, pursues problematic areas of thought, helps students discover the structure of their own thoughts, helps students develop sensitivity to clarity, accuracy, relevance, and finally helps students arrive at judgment through their own reasoning. As Elder & Paul (2007) states, Clarity, accuracy, precision, depth, relevance, breadth and logic are the most significant universal intellectual standards which must be applied to thinking and students can learn to use them when they

participate in the Socratic Dialogue. The studies suggest that students can adopt deep and surface learning methods. Surface learning methods include memorizing, skimming, regurgitating for a test, while deep learning require critical understanding of the materials. Deep learning is supported and encouraged by active participation of the learner in the learning process in a social context (Newman, *et al.*, 1995). In addition, psychologists believe that cognitive skills are developed in a social context (Newman, et al., 1995). Lipman (1991) also highlighted the significance of social contexts and stated that the improvement of a community of inquiry is necessary for the development of critical thinking skills within students. In this regard, classroom debate and Socratic approach can provide a desirable context where students are involved in deep learning tasks, actively participate in learning process and have high interaction with each other which fosters deep learning and develop cognitive skills including critical thinking skills.

In addition, the present study asserts that the assessment of critical thinking skills or any other construct is of significant importance as different findings might be obtained via different assessment tools. It is argued that multiple-choice tests measure only recognition or level of knowledge, yet fail to capture adequately the dispositional characteristics of individuals, and do not truly reveal test-takers' ability to think critically under unprompted situations (Ku, 2009; Halpern, 2003; Ennis, 2003). Therefore, as practiced in the current research, it was attempted to assess critical thinking skills not only by utilizing a thinking test, but also an in-depth content analysis method. As a matter of fact, these assessment methods measure critical thinking skills in two different ways. The test which uses multiple-choice format mainly focuses on deductive reasoning, inductive reasoning, and syllogism (reasoning skills). On the other hand, as discussed before, the content analysis method calculates critical thinking by assessing the authentic statements and arguments produced by the candidate during classroom debates and Socratic discussions. Every single statement is examined and assessed based on the elements and indicators of critical thinking skills developed by Newman *et al.*, (1995). For instance, the relevance, importance, novelty, new idea, and bringing in new solutions to problems are among the factors in assessing how critical a statement is. Other indicators include bringing outside knowledge and experience to bear on the problem, clarified or confused statements, linking ideas and interpretation, justification (providing proof or examples, justifying solutions or judgments, setting out advantages and disadvantages of situation or solution), critical assessment of own or others' contributions, uncritical acceptance or unreasoned rejection. Consequently, the differing results obtained through the two assessment tools might have something to do with the measurement approach. In the content analysis approach, the students' critical thinking was assessed based on their authentic communicative performances during the debates and discussions. In fact, as Messick (1996) states, negative washback effects are minimized through this mode of assessment since it is a kind of performance assessment. Morrow (1986) also suggested that a test's validity should be assessed by the degree to which it has a positive or negative washback on teaching and learning. Messick (1996) states that assessments of performance as opposed to multiple-choice evaluations support teaching and learning. Performance assessments are likely to be

systematically valid as they bring about instructional and curricular changes in education system and these changes can promote the development of cognitive skills. Besides, in evaluating a skill, assessment instruments which have positive washback are likely to be criterion samples. In this regard, the test needs to embrace direct and authentic samples of the communicative behaviours (Messick, 1996). Therefore, the significant difference between the results obtained from multiple-choice assessment and content analysis might be related to the above-mentioned factors, since the content analysis method is a performance assessment tool with almost no negative washback effects. Accordingly, it can be concluded that both classroom debate and Socratic Method had significant effects on the improvement of students' critical thinking skills. Moreover, it must be stated that determining students' level of critical thinking can hardly be measured via one single assessment tool. Practitioners, experts, and researchers in the area need to view and measure the construct of critical thinking in various ways and divers situations.

The findings of this study can be helpful and effective in practice and research for both instructors and learners, as well. The results show that classroom debate and Socratic Method are two interactive and students-centered approaches that can be used to help learners and individuals improve and promote critical thinking skills. It is also indicated that in developing critical thinking and reasoning skills, students and instructors need to be patient and spend enough time employing techniques that involve students in real critical thinking practices. Regarding the research purposes in the field of critical thinking, researchers need to consider that the critical thinking is an abstract, complex, and multi-nature construct to be defined and assessed (Rear, 2010; Facione & Facione, 2008; Paul, 1985). Accordingly, taking this issue into consideration, critical thinking need to be approached from different angles with enough caution. As it was demonstrated in the present research, critical thinking was assessed in two different approaches, and reached different results. Therefore, as (Ku, 2009) stated, it would be more appropriate and reliable to measure learners' critical thinking by more than one single data collection technique and try to assess this construct via different tools and methods. Finally, since this study has been one of the first attempts to approach the issue of critical thinking measurement via two different methods, and also examine and compare two approaches of classroom debate and Socratic Method, both methodology and findings could be helpful for future research studies.

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Relationship between Demograhic Varriables and Job Satisfaction among Academicians in Nigerian Public Universities

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ABSTRACT

The main aim of this study is to determine the relationship between demographic variables (age, gender and academic qualifications) and job satisfaction among academicians in Nigerian public universities. This study is quantitative study, wherein a total of 217 academicians from Nigerian public universities studying in three research universities in Malaysia are the data for the present study. This study utilized simple random sampling method to select the academicians in the universities. The data were collected employing questionnaires. The results revealed that there was no significance difference between academician's job satisfaction and the demographic variables tested in this study (gender, age and educational qualifications). A number of recommendations have been placed which, it is hoped, can be used to further enhance the important of demographic variable in job satisfaction of the academicians in Nigerian public universities.

Keywords: Demographic Variable, Job Satisfaction, Nigerian Universities, Academicians

INTRODUCTION

A satisfied and happy staff is required in the workforce of an organization to be able to achieve her goals and objectives (Oshagbemi and Gill, 2000). Importantly is the fact that for any university to take off and achieve its strategic goals would strongly depend on her capacity to attract, retain and maintain competent and satisfied staff in its employment. The university being an institution of higher learning that provides manpower needs to advance national development through both the public and private sector must itself be capable of ensuring adequate manpower planning and development she could therefore not afford to neglect need and the essentials of workforce satisfaction.

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Lecturers are the heart of educational institutions in which all instructional process concentrates on. They are key players in the education system. They also play critical roles in advancing economic and technological development through educating human resources (Awang, 2010). To achieve educational goals, lecturers can design and formulate curriculum, perform teaching -learning activities and also have interaction in academics studies, be a part of academic and community service activities, preserve a high level of institutional standards and be active in teaching –learning strategies in the classroom with students.

Lecturers are expected to provide professional consultations, publish their findings, and conduct academic research, so that the community could benefit, gives lectures and be committed to the goals, values, vision and mission of the tertiary institutions in Nigeria. To do this, lecturers needs to keep up with new technologies, new techniques and new knowledge in order to give the students the best (Awang, 2010). In addition studies have shown that employees who are highly satisfied will stay longer and perform their job better.

Many studies on factors that affected job satisfaction have been done. Among the factors is job autonomy, working environment and leadership styles. (Jafar, 2006) broadly categorized the factors into work and work related variables. Due to its importance, many research have been done pertaining to job satisfaction in various professions such as the library, construction (Jaafar, 2006) and education (Chimanikire, Gadzirayi, Muzondo and Mutandwa, 2007). There is a dearth of research on the subject interest in Nigeria, importantly in relation to the demographic variable and academicians job satisfaction, hence, why this study is considered necessary at this time.

1.1 Objectives of the Study

This study thus aims to explore the relationship between the demographic variables and job satisfaction among academicians in Nigerian public universities

1.2 While the Specific Objectives Are to-

a) Examine the differences between job satisfactions of the academicians based on gender.
b) Examine the difference between job satisfactions of the academicians based on age.
c) Examine the difference between job satisfactions of the academicians based on educational level.

LITERATURE REVIEW

Overview of Job Satisfaction

Job satisfaction appears to be what most workers crave for and work towards in their various endeavors. It is a key to corporate success and a subject of discourse in work and organizational literature. Job satisfaction is one of the methods used to establish and

maintain a healthy organizational structure (Abdulla, Djebarni, and Thomas, 2008). Nowadays, organizations believe that employees are important assets and they strongly desire job satisfaction of their employees (Oshagbemi, 2004). Absence of job satisfaction often leads to worker's lethargy and reduced organizational commitment. Much of the brain-drain in many of the organizations has been attributed to job dissatisfaction. Little wonder then, while Olowokere, (2002) reiterated that job dissatisfaction is a great predictor of quitting jobs. Adeyemo, (2006) considered the movement of the people from one occupation to the other for greener pasture has not been satisfied within their job as a result of poor condition of service. Diaz- Serrano and Cabral, (2005) corroborated this assertion as they considered job satisfaction as a strong predictor of intentions of overall individual well-being as well as predictor to leave on a job (Gaziouglu and Tansel, 2002). Job satisfaction has been described in various ways by different scholars. It was perceived as a fulfillment acquired with experience of various job activities and rewards, and it also said it is the feeling about, or effective responses to aspects of the work situation, it was also supported that job satisfaction is an individual's general attitude towards his or her job, (Robins, (2001).

Factors Affecting Job Satisfaction

The search for an understanding of factors contributing to job satisfaction or dissatisfaction has been an ongoing area of interest for social scientists and managers around the world for a considerable time. These interests stem from the researchers' belief that job satisfaction represents an important theme in understanding organizations and the individuals within (Spector, 2008). Researchers have examined several factors that correlate with job satisfaction, whether in a positive or a negative way. However, the importance of the various factors appears to change from one situation to another. That is, individuals who perform the same job in the same environment and at the same time do not all derive the same degree of satisfaction. The multi-aspect feature of job satisfaction becomes obvious when trying to determine the relevant dimensions of job satisfaction. Although the main concern for researchers in this field is to identify the factors that affect the level of satisfaction of employees in work organizations, there is no uniform agreement among researchers about the factors that determine job satisfaction (Spector, 2008). While several studies in this field are limited to just a few dimensions or factors, a larger number of dimensions have been identified (Adeyemo, 2006).

Although scientists have discovered many factors that relate to job satisfaction, nearly all these four elements could be arranged into two broad groups: (a) personal or demographic factors, which concentrate on individual characteristics and qualities and (b) environmental factors, which have to do with factors connected using the work itself or even the work atmosphere. Scientists like Olowokere (2002), Jafar, 2006, indicated the significance of demographic variables in identifying the amount of job satisfaction, and for that reason, regard environment and private factors as noticeably competing models. Fields (2002) signifies that personal qualities, for example age, sex and academic level, don't lead incrementally to explaining the variance in work satisfaction beyond that described through the variables explaining the task situation. Likewise,

other scientist, for example Ellickson and Logsdon (2001) discovered that demographic variables were relatively poor predictors of job satisfaction.

Relationship between Demographics Variables and Job Satisfaction

Gender

The relationship between gender and job satisfaction has been extensively researched. However, the results have been mixed. Factually, it has commonly been implicit that females express lower levels of job satisfaction than males (Spector, 2008). Spector (2008) offered some reasons for this: (1) females were not likely to have managerial/professional jobs, (2) females may be happier with lower pay and less responsibility than men, and (3) females have lower expectations about what they will receive or because they compare themselves to other women who are in similar situations. However, some studies reported no relationship at all between sex and overall job satisfaction (Oshagbemi, 2000; Donohue and Heywood, 2004). The past view of men as the main providers of family income no longer exists since the high cost of living means that men can no longer be the only source of financial support. As a consequence, it is important to examine the relationship between sex and job satisfaction afresh (Oshagbemi, 2000).

In spite of some findings that, as discussed earlier, indicate that there are no differences in job satisfaction between men and women, a more in-depth analysis of the factors that constitute job satisfaction reveals differences in the impact that they have on the level of satisfaction according to sex (Robbins, 2003). The 'interpersonal relations' factor, for instance, was shown to influence job satisfaction in men, whereas this dimension was shown to be not significant in determining levels of job satisfaction in female workers. Contrarily, the 'work conditions' dimension was found to affect the level of job satisfaction in women, but had no impact in men (Robbins, 2003). This may be explained by the notion of value-percept proposed by Locke (1976). That is, the important job facets for women are different from those for men, and the discrepancies between what is desired and received in the important job facets for men are bigger than those in the important job facets for women (Spector, 2008). Human resources policies, according to Crossman, (2005), should consider these differences in the determinants of job satisfaction between men and women in the workplace since the levels of job satisfaction in facets differ between these two groups. Indeed, studies are needed to re-test the effect of sex on work values, especially because of the differences between Middle Eastern and Western cultures in relation to work values of working women.

Age

Studies based on life cycles and work stages suggest that determinants of job satisfaction change depending on the particular stage of the career. Although many studies have examined the relationship between age and job satisfaction, the results are

contradictory. For instance, while numerous studies have reported a positive relationship between age and job satisfaction (Okpara, 2004; Ellickson and Logsdon, 2001), others have identified either no relationship (Ting, 1997) or even a significant negative relationship (Gaziouglu, 2002).

The question is, 'Does job satisfaction change over the career lifespan?' Researchers like Clark et al. (1994) refer to a U-shaped relationship between age and job satisfaction. That is, the U-shaped curve results when the relation between job satisfaction and age starts high, declines and then starts to improve again. More specifically, when a worker joins an organization, he might possess some impractical presumptions of what he's going to be a consequence of his work. These presumptions lead him to be happy. However, when these presumptions are unsuccessful of reality, job satisfaction goes lower. It begins to rise again because he begins to evaluate the task within the right perspective and corrects his presumptions.

Two large studies, one conducted in England Clark et al, (1994) and the other in nine countries including the United States, found a curvilinear relation between age and job satisfaction. Although it would seem tenable to suggest that there is consistent empirical evidence to show that there is a positive association between age and job satisfaction, Oshagbemi (2003) stated that the trend of this association, whether it is linear or curvilinear, remains unsettled.

Educational Level

Another common personal factor that has been investigated is educational level. Indeed, research to examine the relationship between the level of education and job satisfaction has shown different findings. Some researchers found a positive relationship between education level and job satisfaction while others identified a negative connection. Other studies have shown little or no relationship between education and job satisfaction. Several studies have reported that relationships between educational levels and job satisfaction are positive, Okpara, (2004).

Scott (2005) point out those employees with a higher educational level would tend to be more satisfied with their job than would employees with a lower educational level. For instance, workers who held a school certificate reported the lowest level of overall job satisfaction, whereas workers with a college certificate reported the highest level of overall job satisfaction. Researchers have given various reasons, such as a lack of pay, fringe benefits and less favorable treatment by management, as contributing to lower satisfaction levels among those who hold a school certificate.

On the other hand, the findings of other studies have been that no significant relationship exists between job satisfaction and educational level (Crossman and Abou-Zaki, 2003 and Scott et al, 2005). It also found that in both groups, the better educated employees were the least satisfied with their jobs. Researchers like Janssen (2001) and Johnson (2000) argue that one possible reason why more highly educated employees show less satisfaction might be that highly educated people have very high expectations for their jobs, which usually remain unmet. Based on Maslow's (1970) hierarchy of needs theory, those people are likely to have higher-order needs and the deprivation of

these higher-order needs, such as esteem needs and self-actualization needs, can seriously affect their satisfaction level. Another investigation into how education affects job satisfaction found that average job satisfaction scores declined with education, although indirectly, education did have beneficial effects upon job satisfaction because of the greater pay involved.

METHODOLOGY

Research Method

This research employed a quantitative correlational design. The purpose of a correlational study is to determine the relationships between variables or to use these relationships to make predictions.

Population of the Study

The study population consisted of Nigerian public university lecturers currently undergoing post-graduate studies in three Universities in Malaysia, namely Universiti Putra Malaysia, (UPM) Universiti Malaya (UM) and Universiti sains Malaysia (USM). These three universities were selected for this study because this university is a research university and they have the highest concentration of Nigerian lecturers doing their post graduate program in Malaysia.

Sample and Sampling Technique

This research utilized Simple random sampling techniques; in which the populations of the study were given an equal chance of being selected. The selection of sample size was based on formula by Krejcie and Morgan (1970). It was suggested that since there are about = 500 (N population), Nigerian public university lecturers studying in the three Malaysian public universities mentioned above then the true sample size is = 217 samples. Thus, the sample size of the study is about 217 Nigerian public university lecturers currently studying in selected universities in Malaysia. A table of random numbers was used to select the 217 based on the recommendation of a formula by Krejcie and Morgan (1970).

Instrumentation

The Minnesota Satisfaction Questionnaire (MSQ) developed by (Weiss & Dawis, 1967) was used to measure job satisfaction of lecturers. And the leadership style of the head of department was measured by the multifactor leadership questionnaire. The MLQ was developed by (Bass & Avolio 2000).

Procedure for Data Collection

The instrument was administered by the researcher with the help of Nigerian coordinators in each school.

Data Analysis Technique

Data collected were analyzed using mean, standard deviation and Pearson product moment correlation statistics.

RESULT AND DISCUSSION OF FINDINGS

Objectives No 1: Examine the differences between job satisfactions of the academicians based on gender.

T-Test Results Showing Significant Difference between Job Satisfaction of Academicians Based On Gender

Variable	Gender	N	Mean	SD	t	p-value
Job satisfaction	Male	132	3.7637	.53938	1.329	0.185
	Female	67	3.6660	.37255		

Significance level, .05, df = 199

The results reveal independent sample t-test on job satisfaction on gender among lecturers in Nigerian universities. Findings show that there was no significant difference in the job satisfaction level between male and female lecturers. (t (199) = .185, p > .05). The mean scores indicate that the job satisfaction level of male lecturers (M=3.7637, SD= 0.53938) and female lecturers (M= 3.6660, SD= 0.37255) are more or less the same. Therefore, the research fails to reject Ho, which says that there is no significant difference between job satisfaction among male and female lecturers in the Nigeria universities.

Objectives No 2: Examine the difference between job satisfactions of the academicians based on age.

The results of one-way ANOVA to determine the differences between job satisfactions based on educational background.

Variable	Qualification	N	Mean	SD	F	Sig-t
Job satisfaction	Bachelor	199	3.7844	0.41592	0.661	0.517
	Masters	199	3.6897	0.46130		
	Ph.d	199	3.7370	0.55418		

The table displays the ANOVA results that show there is no significance difference between job satisfaction and educational qualification among the lecturers in Nigerian universities. The mean scores of bachelor, master and doctorate lecturer is as follows (M= 3.7844, M= 3.6897 and M= 3.7370 respectively) on their various job satisfaction in the university. The ANOVA test showed that there was no significant differences in the mean (sig-t > .05) for job satisfaction among bachelor, master and PhD lecturers (F (0.661), = 0.517 > .05). The findings show that academicians with bachelor, master and PhD show no significance difference in their job satisfaction.

Objectives No 3: Examine the difference between job satisfactions of the academicians based on educational level.
The table shows the result of a one – way ANOVA to compare job satisfaction by age as required by research objectives three as follows:

HA: There is a significant difference between job satisfaction of academicians based on age.

ANOVA test of Job Satisfaction by Age Groups

Variable	Age group	N	M	SD	Source	Sum of squares	df	Mean square	F	Sig t
	26-30	40	1.83	0.747						
	31-35	35	1.80	0.868						
	36-40	46	2.04	0.698	Between group	4.344	5	.869	1.732	.129
Job satisfaction	41-45	39	1.95	0.647						
	46-50	28	2.11	0.786	Within group	108.410	193	.562		
	51-55	11	2.36	0.809						
	Total	199	1.96	0.755	Total	112.754	198			

The table presents the analysis done to determine the differences by age on lecturer's job satisfaction. The analysis of variance or ANOVA shows no significant differences between the mean values of the groups of age of the lecturers. The means scores of the groups of the ages is as follows (M= 1.83, M=1.80, M=2.04, M=2.11, M=2.36 and M= 1.96) respectively on their job satisfaction. The analysis shows no significant as sig> 0.05. For job satisfaction among the age group (F (1.732) = .129 >0.05. Therefore we fail to reject H0, which say that there are no significant differences.

DISCUSSION OF FINDINGS

This study was to determine mean differences between gender, age and educational level. Based on previous findings, demographic features have significant effects on job satisfaction (Mullins, 2005; Spector, 2008). However, Spector (2008) states that although demographic variable has been shown to have a connection with job satisfaction, the reasons are not well delineated. Therefore, investigation is clearly needed to determine if personality characteristics (age, gender and education level) relate to job satisfaction (Spector, 2008).The findings of the current study showed that different demographic variables have different perception towards job satisfaction.

In terms of gender, some studies indicated a discrepancy in gender and job satisfaction. The findings of the current study showed no significant difference in the job satisfaction level between males and female lecturers. These findings concurred with the work of Oshagbemi, 2000 and (Donohue & Heywood, 2004) which also support the findings that there is no significant relationship between gender and job satisfaction.

In spite of some findings that, as discussed earlier, it was discovered that there are no differences in job satisfaction among men and women, a more in-depth analysis of the factors that constitute job satisfaction reveals differences in the impact that they have on the level of satisfaction according to sex (Robbins, Odendaal, & Roodt, 2003). The frequencies on gender indicated that the majority of academicians (66.3%) were male and only (32.2%) were female lecturers in Nigerian universities. The explanation for this is that men play a key role in the workplace, while women play a key role in their homes and their power is not popular in the workplaces.

In terms of age group, the findings of this study show that there is no significant difference between the age group of the lecturers and job satisfaction. These findings were supported by Okpara, 2004; and Ellickson and Logsdon, 2001), Studies based on the life cycles and work stages suggest that determinants of job satisfaction change depending on the particular stage of the career.

Another possible explanation is that older aged groups have a greater degree of satisfaction of their job. It can also be that lecturers who are in 51 years age and above have shown more satisfaction, this was noticed from the result of the Mean, which is M= 2.36. Showing the highest from the other age group. Another important issue is that younger and older employees view work and self basically in different ways. As a result the higher the lecturers age the lower the possibilities of leaving the universities.

For educational qualification, data showed no significant differences among the three groups (bachelor, master, and PhD) and lecturers job satisfaction. Some researchers found a positive relationship between education level and job satisfaction while others identified a negative connection. Other studies have shown little or no relationship between education and job satisfaction. On the other hand, the findings of other studies have been that no significant relationship exists between job satisfaction and educational level, which support the current studies, for example, (Crossman & Abou-Zaki, 2003) and (Scott, Swortzel, & Taylor, 2005) studies support this study. In conclusion, educational institution such as universities and schools has teaching staffs that are satisfied with their job. In order words the vitality of all educational

organizations lies in the willingness of lecturers to contribute to the development of their organizations (Joolideh & Yeshodhara, 2008). If lecturers are satisfied with their job, it will bring all round developments to the universities in Nigeria.

CONCLUSION

This study was intended to investigate the relationship between demographic variables and job satisfaction among academicians in Nigerian public universities. The primary concern was to look into the relationship between selected academicians on their job satisfaction in relation to the demographic variable, which have not dealt with in prior studies in Nigerian universities. The research yields several important results and contributes to the fillings an empirical and conceptual gap in the organizational literature nationally and internationally. Based on the findings, the following conclusions have been drawn.

It was concluded that there is no significance difference between the age group of lecturers and their job satisfaction**.** It was discovered from the findings that the lecturers within the age group 36-40 yrs are most age groups found in the universities, which indicates that more youth are being employed in the educational settings in Nigeria. With the principles of catch them young. This indicates that lecturers within 36-40yrs had an inclination to remain in their universities than the other age group.

From the findings it was discovered that there was no significant relationship between educational qualifications and job satisfaction. The study also indicated that lecturers with master holder are more in the university than other degree holders, which shows that the minimum qualification for entering into a lecturing job in Nigeria universities is master's holders. There was no gender wise significant difference regarding job satisfaction of the lecturers in Nigerian universities. Whereas male lecturer had higher mean scores, which indicates that men are more process oriented and care more about how goals are achieved not only that they are achieved.

RECOMMENDATIONS

This study provided the foundations for future research to increase the understanding in the roles of demographic variables and academicians job satisfaction. Replication of this study with other samples of academicians from other provinces and universities in Nigeria to confirm the results of this study or detect factors of job satisfaction are recommended.

The findings of this study, makes an important contribution to our understanding of academicians job satisfaction in tertiary education. It is hoped that the results will stimulate further investigation into other equally important aspects affecting employee relations. This study was restricted to one construct of work related behaviors- job satisfaction, hence further research in the area could extend to cover other constructs which also relate to employee organizational effectiveness and outcomes. For instance of organizational citizenship behavior and employee commitment as other aspects of

work-related attitudes. Much more research is needed at higher education. It could be replicated in different categories of tertiary education.

Further studies could also be conducted using private institutions from a wider variety of backgrounds as well as a comparative analysis between full time faculty staff and part time or adjunct academic staff within higher education. Yet another area that demands attention is leadership and academic performance or student outcomes. It is expected that higher levels of satisfaction will exert on student learning and raise academic performance. In this sense studies on assessing leadership impact on student performance would be invaluable. Finally, further studies could be conducted to look at how job satisfaction can improve the performance of either public or private institutions in Nigeria.

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Development of Critical and Creative Thinking among Kindergarteners

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ABSTRACT

Learning to think critically since young sets the corner stones for children to view themselves as critical thinkers and problem solvers in their lives and the world around them. There are a number of thinking skill programs developed to support educators, practitioners and school programs. Nevertheless, the difficulties on teaching thinking skills effectively to young children are widely documented. Thus, the proposed study attempts to identify critical and creative thinking among kindergarten children. Qualitative methods such as observation and interview were implemented in this study for data collection. The observation checklist was used to record student's daily learning activities while the interview with 19 open-ended questions was directed to the teachers and principal in a preschool. The results showed that the educators and the management team were unable to practice critical and creative thinking skills effectively in the classroom due to the limitations which included teachers' experiences, parents' focus on children' self-learning, and classroom environment. This proposed study is expected to contribute to the education community in terms of enhancement on young children's learning through a natural process to develop their capacity and skills to learn critically and creatively.

Keywords: Critical And Creative Thinking, Kindergarten, Early Childhood

INTRODUCTION

Natural Learners

Children are born as natural learners and conceptualizers to have ability to construct their own learning based on the information received. They are also able to express their creativity in a natural and spontaneous ways such as play, sing, create stories, dance, and make up riddles (Alfonso-Benlliure, 2013). Natural way of learning such as play nourishes every aspect of children's development and fosters creativity and flexibility in

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thinking (Hewes, 2006). They learn in a setting which makes sense to them and allows them to practice on what they have known (Smidt, 2007).Children must be encouraged to experience the real world in order to promote the brain growth and development. At the same time, children are spending substantial time that focuses on structured educational in the school. According to Kretzschmar, (2011), when learning process take place naturally within the brain it is the best achievement of learning among children. Children should be exposed to the learning environment with opportunities in stimulating their intellectual capacities and curiosity (Ginsburg, 2008). Sharpening and refining of the thinking process should be the primary goal of learning and teaching in education. Furthermore, students are expected to be trained as independent thinkers, effective thinking which is critical and creative, should be taught during their school years (Zahra, Yusooff&Hasim, 2012).Activities in school should meet children's cognitive needs for critical and creative thinking in their early years (Smildtstein, 2011).

Early Childhood Education in Malaysia

In the past, the focus of early childhood education in Malaysia had been on the acquisition of basic literacy. Many of the preschools applied didactic-teaching. In recent years however, the early childhood landscape has seen perceptible changes of embarking on more progressive approaches. To spur transformation of education system, Malaysia Ministry of Education with Agensi Inovasi Malaysia (AIM) started i-Think project to impart thinking skills to students, allowing them to be problem solver, lifelong learners, and creative thinker.Seen as a continuing journey to re-gear our education, the wife of Prime Minister of Malaysia, Yg.Bhg. Datin Paduka Seri Rosmah Mansor has launched The Permata Early Childhood Education and Care (ECEC) programme aims to provide integrated quality care and early education.The initiatives provided the basis of positive learning environment that children should be exposed to the development of key skills such as critical thinking in the schools (Preschool Curriculum Standard Document, 2010). Therefore, Preschool Curriculum Standard Document (2010) aims to integrate creative, critical and innovative thinking in all teaching resources and learning environment.

LITERATURE REVIEW

Critical and Creative Thinking Skills

Thinking skills can be capitalized by teachers in the classroom to develop natural learning among children. Children strengthen their thinking skills through reading and writing in the school. They are capable to think, observe and reason for the truth (Smilkstein, 2011). However, children are not provided sufficient challenges in creative and critical thinking by teachers. Ministry of Education and local higher education institutions in Malaysia are trying to foster critical and creative thinking in teaching since 1990s (Rosnani & Suhailah, 2003). Teachers should believe that each student even for a kindergartener is able to perform critical and creative thinking. Natural learning process should start from an early age in order to create a learning environment of

fostering critical and creative thinking. Theory of classical conditioning by Pavlov and Watson has provided significant role in the early development of psychology which eventually affected on later learning development (Lefrancois, 2012).

However, children today are placed in the new media age and became victim in non-verbal community which eventually limits their ability in thinking skills included reasoning, creativity, decision making and problem solving (Hopkins, 2010). Formal education still practice over-regulated activities such as endless worksheet, passing tests and focusing on textbooks scripts. Furthermore, common practices of transferring knowledge in traditional classroom settings are still happening in the school (Smilkstein, 2011). Educational process should support the learners to develop themselves naturally and effectively as suggested by adherents of natural learning (Puangtong & Chaijaroen, 2013). Dunst & Bruder (1999) reiterated "natural environments are not simply locations, but the numerous kinds of activities taking place in various settings."

Critical and Creative Thinking Skills in Kindergarten

Early childhood education practices should include the critical and creative thinking skills (Lin, 2011; Adam, 2013). The relationship between creativity with pedagogical practices and the categories of creativity nurtured within education are based on a creative pedagogical framework which consists of creative teaching, teaching for creativity and creative learning. (Lin, 2011). Therefore, teachers' practices and experiences with critical and creative thinking are important to implement these thinking skills in the school.

In order to foster critical and creative thinking skills, educators should first apply these thinking skills in his or her own life for greater practice (Tok, 2012). A study was conducted by Cheung & Leung (2014) on fostering creativity among children and cultivating the creative personality on preschool teachers. Results showed that teachers' personalities bring a great impact on children's creative learning and classroom practices. Hence, students' achievement and skills are strongly influenced by teacher's belief and self-efficacy in their teaching (Jenkins, 2013). According to a case study, teachers' personal belief was found to affect their choices of classroom management approaches (Eveyik-Aydin, Kurt & Mede, 2009). Teachers can enhance student learning in powerful ways that extend beyond memorization and tests by helping students learn and apply the attitudes and practical tools of effective problem solvers. On the other hand, creative thinking refers to creation of new ideas which eventually important to solve problem. Teacher as a model of problem solver is to be emulated by the children in the classroom. Teachers are encouraged to involve students to attain challenges of problem solving and help them to progress gradually become independent thinker and problem solvers instead of memorization-dependent (Hamza & Kimberly, 2006).

Teacher-centered and student-centered approaches mainly used as teaching approach around the world. Strategies to practice critical and creative thinking skills in the classroom are those that involve student-centered activities, the use of multimedia technology, the connection of content to real-life experience and open-ended questioning are the effective instructional strategies (Horng, Hong, Chan Lin, Chang, and Chu , 2005). Furthermore, educators should understand the needs and characteristics

of the students to enable the success of teaching-learning activities by promoting collective working and collaboration among students with similar interests and skills (Kayikci, 2009). Although teacher is mainly responsible in the learning environment however it is important for the students ready to play an active role in their learning by virtue of their participation and activities (Azizah, Fariza & Hazita, 2005).

Apart from good teaching, the application of curriculum subjects is an alternative approach to develop young children's thinking and problem solving skills (Taggart, Ridley, Rudd and Benefield, 2005). Children need to be provided with reading materials helping them to raise questions and encourage them to think or to be creative in the school (Rosnani&Suhailah, 2003). Study has shown the importance of relationship between critical thinking, creative thinking and the study of mathematics (Aisikovitsh-Udi and Amit, 2011).

Supportive environments in an educational setting were found significant impact in fostering children's creative thinking skills (Lin, 2011). Supportive environment includes leader, school administrative and parents. School administrative and authority must establish the atmosphere for educators to do creative work, in order to promote creativity among learners (Adam, 2013). Creative leaders are the key person to create the critical and creative thinking environment and opportunities for children (Temperley and Stoll, 2009). Therefore, the school principal or administrative leader should be at the front line to develop a new paradigm in the school system (Rosnani & Suhailah, 2003). Recent literature shows that classroom instruction and student achievement increases when schools provide structured opportunities for teachers to collaborate and learn new skills (Gallimore, Ermeling, Saunders, & Goldenberg, 2010). On the contrary, parental involvement is critical to a child success in school in term of academic performance, learning behaviour, self-concept, test scores, attendances and aspiration (Lynch, 2005). On that account, parental involvement is positively associated with children' performance in the classroom includes critical and creative thinking.

However, the issue of how best to foster thinking skills in learning environments remains problematic. Conventional approach to help students in completing syllabus, memorizing materials and focusing on the examination are still practiced in the school (Rosnani & Suhailah, 2003). Learning activities that foster higher order thinking skills such as creativity will be eliminated if teachers continue with conventional approach rather than the brain compatible strategies.(Adam, 2013).There are significant effects on teaching method and teachers' behaviour in increasing creativity among school students (Zahrin, 2003 & Joseph, 2009). In addition to that, research has discovered the educators' lack of belief and knowledge in creative and critical thinking (Rosnani & Suhailah, 2003; Smilkstein, 2011). Consequently, educators are unable to execute thinking skills in the classroom.

In order to gain better understanding on the integration and incorporation of creative and critical thinking in daily lessons, the proposed study was conducted to investigate the limitation of developing critical and creative thinking among kindergarteners. Hence, this study aims to discover the teachers' experiences and practices of creative teaching and critical thinking among kindergarten children.

Besides, the management and administrative personnel are also considered in the study of how to improve the teaching of critical and thinking in the school.

This preliminary study aims to identify the natural learning process through critical and creative thinking among the kindergarten children. The main purpose of this study is to investigate the kindergarten teachers' teaching practices on critical and creative thinking skills.

Purpose of Study

The purpose of this study is to identify the factors that affect the natural development learning process of the students in creative and critical thinking skills. The main concern of this study is to discover the procedures of a natural learning process through critical and creative thinking in the learning environment among the kindergarten children.

METHOD

Qualitative methods through observations and interviews were used as data acquisition approach. Observation and interview were employed to collect and analyse the critical and creative thinking skills practice in a kindergarten.

Participants

A preschool in Johor Bahru was participating in this study with a total of 100 students, a school principal, and three teachers. Principal and teachers were interviewed individually to identify the current practices of critical and creative thinking skills in the kindergarten. The observation was categorized into four levels of classes: preschool (3 years old), middle preschool (4 years old), K1 (5 years old) and K2 (6 years old).

Data Collection

Semi-structured interviews and classroom observations were used for data collection.

Interview

Each participant was expected to respond verbally to the proposed 18 open-ended interview questions. MaxQDA analysis tools were utilized to categorize the information according to the research questions. The information in each category was coded, and the themes were identified. Analysis of the interview transcripts were revealed in three main categories according to the participants' comments, they are: teachers' practices and experiences, classroom practices, and school environment supports. A complete coding analysis of interview transcripts, including the frequency of responses for each theme and subtheme, is shown in Table 1.

Table 1 Coding Analysis of Interview on Critical and Creative Thinking Skills

Coding Analysis of Interview on Critical and Creative Thinking Skills							
Category	**Themes**	**No. of Respondents**	**Comment frequency by Respondent**				
			T1	T2	T3	T4	Total Comments
Teachers' practices and experiences with critical and creative thinking	Effectiveness of creative teaching	4	1	4	1	1	7
	Teacher's personal view on critical and creative thinking	3	3	3	2		8
	Promote problem solving	3	1	2		1	4
Classroom practices on critical and creative thinking skills	Classroom strategies and teaching approach	4	5	4	5	3	17
	Students' readiness	4	5	4	5	2	16
	Sufficient times for critical and creative thinking	3	1	1	2		4
School Environment Supports	Administrative and management supports	3	2	1	2		5
	Facilities, materials (realia) and books	3	3	2	2		7
	Parents' cooperation	4	2	1	3	2	8

Observation

Several aspects such as students' activities, teachers' instructional strategies, media, and materials that are capable to foster the creative and critical thinking skills in the classroom are focused. The observation method was based on the scale of *0 - No evidence; 1 - Very little evidence; 2 - Some evidence; 3 - Much evidence and 4 - Considerable evidence.*

RESULTS AND FINDINGS

The study was conducted in a kindergarten by interviewing a number of female teachers. The teaching experiences of the interviewed teachers are between 6 months and 10 years period of time.

The findings are beneficial to educators by providing an insight in developing critical and creative thinking skills among children. The instruments also provide useful information about the methods and classroom settings to solve the challenges in promoting critical and creative thinking skills.

Critical and Creative Thinking Skills Practice in a Kindergarten as Reported by Teachers through Interview

The qualitative data were acquired to support critical and creative thinking skills based on the teachers' practices and experiences, classroom settings and school environment.

Practices and Experiences

This section discussed teachers' practices and experiences towards creative and critical thinking such as teachers' practices of creativity on teaching, teachers' personal view on the creative and critical thinking, and teaching methods and strategies that foster the creative and critical thinking.

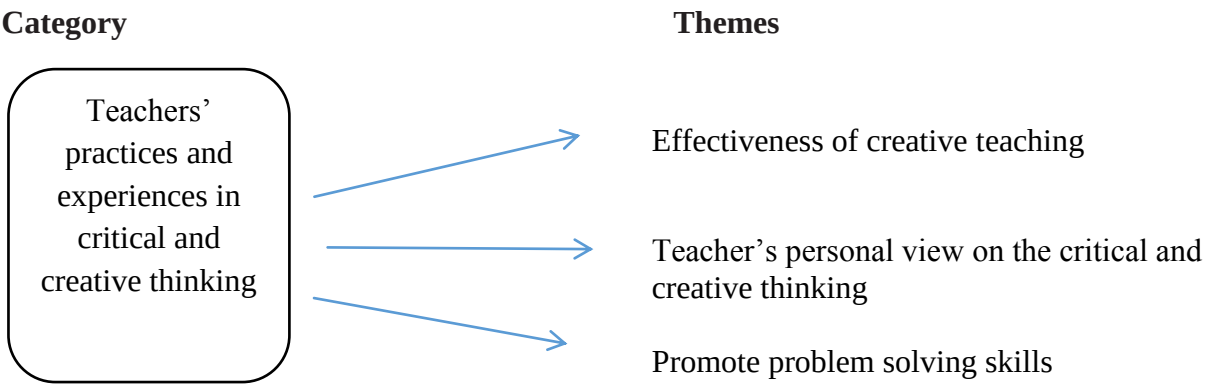


Figure 1 Theme from interview teachers' practices and experiences in critical and creative teaching

As shown in Figure 1, teachers commented that creativity was an important element to enhance learning among kindergarteners. Most of the teachers could not define and differentiate the meaning of critical and creative thinking. Generally, teachers seldom apply critical thinking in the school. Principal commented that most of the

teachers do not have early childhood knowledge background and lack of training. Generally, teachers only learned through their teaching experiences in the school only. Critical and creative thinking were applied by some teachers in the lesson, however, they are not aware with the teaching terminology involved. This phenomenon strongly shows that teachers are lack of formal knowledge in applying creative and critical thinking in their teaching. This is what the principal said "Some teachers know the term, but do not know how to apply it, and some teachers applied it without knowing the term of creative and critical thinking skill".

Most of the teachers emphasized creative thinking rather than critical thinking. Art and craft strategies are the preferred method used by teachers to enhance learning skills, as well as to generate motor skills among the children. Although they understand the importance of engaging creative teaching to develop creativity among students, however, the critical thinking approaches are seldom provided by the teachers to students. The principal said "Teachers themselves are without critical thinking, hence unable to produce critical thinking students". Teachers with 10 years teaching experiences commented that "I am not sure about the meaning of critical thinking".

Classroom Practices on Creative and Critical Thinking

This section discussed the practical level of current creative and critical thinking among kindergarteners applied in the classroom. This category of respondents was commenting their thoughts on appropriate strategies and teaching approaches in the classroom.

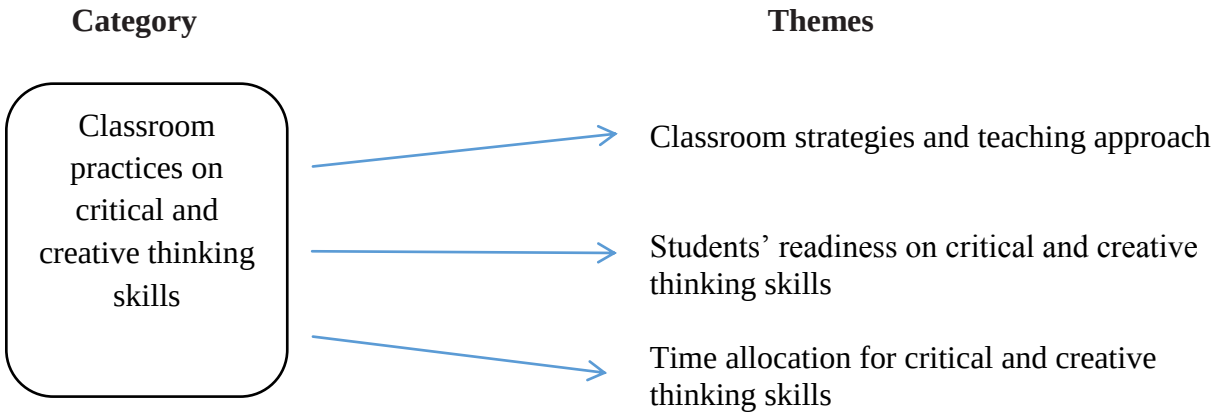


Figure 2 Themes from interview teachers' on classroom practices

Figure 2 shows the strategies and teaching approach such as supported materials, group work or project, computer aided teaching (CAT) and activities actively which involved by students. Teachers commented that the supported materials and resources are important to improve the students' learning. CAT such as songs, story and games

were frequently used in the classroom to enhance students' learning. . Teachers had stated that the interactive pictures and song in the CAT are able to attract students' attention if compared to regular workbook. In activities wise, students are actively involved in gardening, cooking, singing, dancing, playing games, storytelling and drawing.

Students' readiness in learning affected their performance. Teachers commented that some children are fast learner and able to work independently, while some are weak and may not ready for learning. Some children were unable to follow the instruction in the classroom due to their family background, language proficiency and ability in learning. Hence, teachers should understand each student's needs in order to deliver knowledge to them accordingly. Time constraints posed a big challenge to teachers and students. Teachers are unable to produce effective teaching on critical and creative thinking in a short time. Most teachers followed the classroom schedule fixed by the school management without much personal inputs.

School Environment Support on Creative and Critical Thinking

This section discussed the school environment that supports the creativity and critical thinking among children. The supports involved the parents, the school management team and facilities.

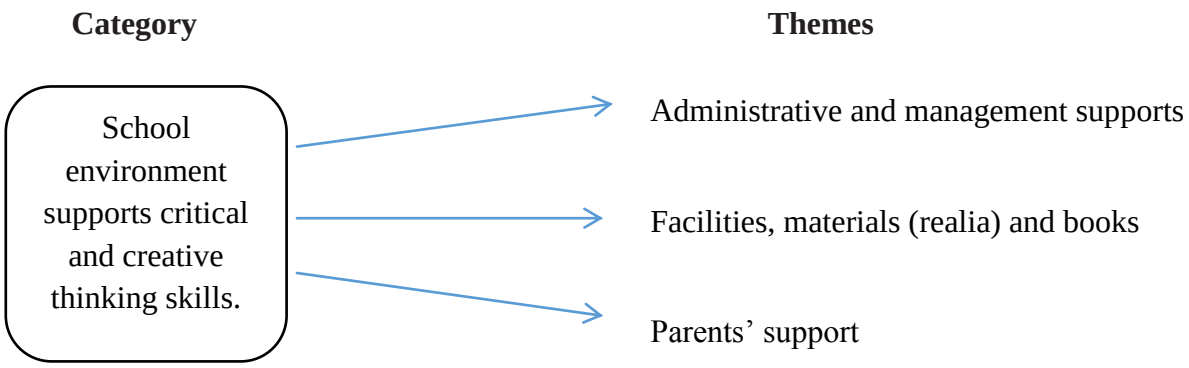


Figure 3 Themes from interview teachers' on school environment

Figure 3 shows that parents' expectation and different views in education may affect teachers' performance. Comparisons were most likely made by parents on academic achievements among students and this narrow focus has become a twisted school culture. In fact, parents' personal judgement and question on teachers' performances has caused teachers unwilling to make new changes in teaching.

School authority always supports teachers to develop creative and critical thinking skill through motivation, supporting material and school activities program. However, the material resources and facilities are limited in order to support creative and critical thinking skill efficiently. Hence, trainings are important component for teachers to develop creative and critical teaching methods, but the current practices and

in-house training in the school are not sufficient to enhance teachers' knowledge of creative and critical thinking skills. Engagement of professional trainers to train their teaching staff could be an important option.

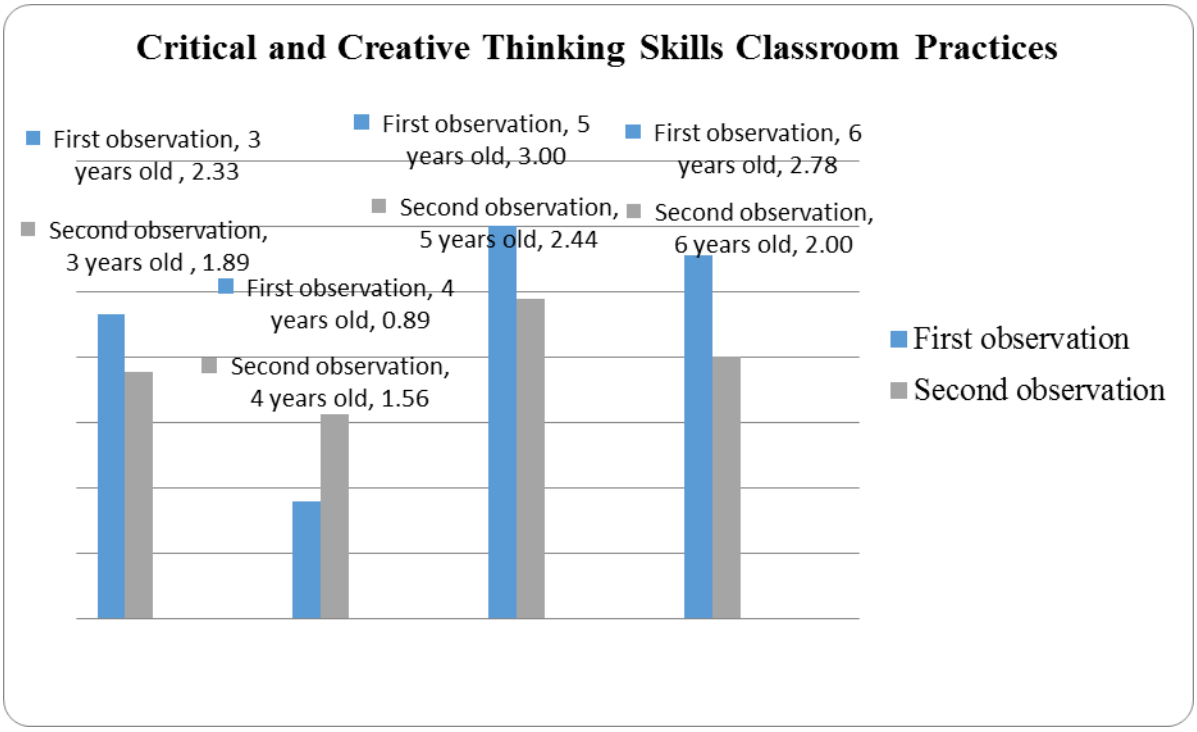
Critical and Creative Thinking Skills Practice in a Kindergarten through Observation

Observation in the classroom was done to examine the application of critical thinking skills in teaching and learning. A checklist was used to record the practice. The response recorded was analysed by using observation checklist by researcher.

Teacher Observation Chart for Creative and Critical Thinking in classroom

The bar chart shown in Table 1 shows the Learning and Thinking Skills applied in the classroom. The 3-year-old group had a mean score of 2.33 (SD=0.87) in the first observation and mean score of 1.89 (SD=0.60) for the second lesson observation. This has shown some evidence of the thinking skills applied by teachers in both observations. In the 4-year-old group, first observation identified very little evidence of the thinking skills with mean score of 0.89 (SD=0.78) and very little or some evidence with mean score of 1.56 (SD=0.53) in the second observation. However, there are evidences in both observations in 5 years old group with mean score of 3.0 (SD=1.22) and mean of 2.44 (SD 0.88) respectively. Lastly, the first observation shown some evidence or much evidence (M=2.78, SD=1.09) and some evidence in second observation (M=2.00, SD=0.71) of 6 years old group.

Table 1 Classroom practices on critical and creative thinking skills



From the finding, only one observation found much evidence of thinking skills in classroom practices fall in first observation of 5 years old students with maximum mean score of 3.00 (SD=1.22). In this observation, researcher found that teacher is able to provide opportunities for students to ask questions. Students are excited during the question and answer session. On the other hand, most observation found only some and very little observation of thinking skills being practice in the classroom with minimum mean score of 1.56 (SD=0.53). Therefore, there are minimum practices of thinking skill being found in the classroom. Students are unable to learn and practice with less opportunity to expose to critical and creative thinking skills environment. Thinking skills are unable to be taught once (Aizikovitsh-Udi and Amit, 2011; H.N, 2014) but should be embedded in an on-going process of learning. In order to maximize the opportunities for student thinking, classroom approaches including resources and techniques are helpful in developing thinking skills (Taggart *et al.*, 2005).

DISCUSSION

The purpose of this study is to identify the natural learning process through critical and creative thinking among the children. Overall, creative and critical thinking skills were seldom applied in the daily lessons. There are a number of negative responses regarding on the definition and experiences towards critical and creative thinking skills. Teachers are unable to differentiate the meaning of critical and creative thinking skills. However, teachers have mentioned a number of creative teaching methods such as art and craft making, real material or pictures presenting, singing and dancing. Due to the limitation of thinking skills, teachers may not be able to educate the children effectively. In order to become a model for the students (Tok, 2012), an educator is encouraged to possess good thinking skills to help students in applying the same on daily lessons.

In this study, critical and creative thinking skills were not fully applied in the classroom. Students were not educated effectively on creative and critical thinking, problem solving and decision making. Teachers were more inclined to provide information and knowledge to students directly, instead of letting them to think critically and creatively. Students' discipline, learning attitudes and behaviours also affect the learning ability in the classroom. According to Cheung & Leung (2014), traditional Chinese cultural values also appeared in "Discipline" dimension that caused teachers a dilemma in choosing between creativity and traditional education.

The proposed observation checklist chart was focused and examined the qualitative data of the classroom setting, strategies and teaching practices of creative and critical thinking skills in the lesson. Teachers are making an agreement that creative and critical thinking skills are fostered significantly in the classroom.

In order to foster creative and critical thinking among children, parents, school management teams and the appropriate facilities provided are playing the important role. However, most parents concerned more about academic achievements rather than the implementation of natural learning activities such as thinking skills and learning abilities of students. In addition, main concerns such as the students' abilities to cope with the

syllabus, examination scores and the chance to pick the famous schools for their children become the norm for most of the parents. Due to Malaysia's education culture that focused on academic achievements for long, motivation and initiative from management team is important to support the teachers, especially those who are lacking of adequate knowledge, experiences or abilities on thinking skills.

CONCLUSION

This purpose of this study is to investigate the natural learning process through critical and creative thinking among the children. The findings of the research are extremely significant for teachers and kindergarteners. Several factors emerged from this study's interviews and classroom observations of students and teacher at a kindergarten that contributed to a greater understanding of learner, teachers and the sphere of creative thinking. Constructions that emerged from this study show that thinking skills are not fully applied in the daily lessons. Teachers are not equipped with proper skills to improve the thinking skills among students. This study has been able to identify the current practice limitations in the kindergarten and the importance of fostering thinking skills in the early years of learning. Educators should be well-trained in order to integrate effective thinking skills into their teaching practices (Burke & William, 2008). When thinking skills are taught in early years, young children are able to gain the abilities to think critically and creatively at present and their adulthood in the future. With the understanding that critical thinking is a desired result of education, we will need to find solutions to help students improve their skills to think critically and their nature to use these skills.

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Effect of Social Support and Race on Resilience among International Student of UPM

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ABSTRACT

This study was conducted to examine the relationship between social support, race and resilience among international students. 291 undergraduate students of university Putra Malaysia (UPM) were involved in this study. The Multidimensional Scale of Perceived Social Support MSPSS was used to measure the level of social support among international students and Connor-Davidson Resilience Scale (CD-RISC) was used to measure the level of resilience among international students. One-way Anova was used to investigate the mean difference between three different races, including Asian, African and Middle East regarding resilience. As well, linear regression was employed for analysis the relationship between social support and resilience. The result of one-way anova showed that there is a significant difference between the levels of resilience in three kinds of races. Post-hoc test revealed that this difference is significantly higher between Middle East. There was also a significant positive relationship between social support and resilience. The findings of the study will be useful in assisting educators, counselors, psychologist, and researchers develop strategies to enhance students' academic excellence.

Keywords: Resilience, Social Support, Race, International Student

INTRODUCTION

The continuing increase in the number of international students studying in Malaysian universities is a strong indication of the growing importance of the internalization of education in Malaysia. Obviously, students attending university and staying away from the safety and familiarity of home can be stressful primarily because they find themselves in a new and strange environment that is socially and educationally different.

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For students studying internationally in another country, the probability and level of stress are even greater (Mori, 2000). Based on Talebloo and Baki (2013) the challenges were reported by international student are a lack of sufficient facilities, different social environment (cultural shock, English language difficulties and communication problems), academic problems (the academic system, teaching methodology and faculty supervisor), and lack of international service programs.

The consequences of all these pressures are a high anxiety level, confusion and even depression, which adversely impacts the psychological well-being of international students (Yeh & Inose, 2003). It is important to understand the problems that international students faced and how they can overcome them. It seems the factors which lead to decreased levels of stress and anxiety should recognize. In this regards, the concept of resilience refers to the individual tendency to cope with the stressor and deal with adversity. Related literature has indicated that the level of resilience has an impact on the ability to cope with stress. For example, Friborg, Hjemdal, Rosenvinge, and Martinussen (2003) view resilience to be of great significance in adjusting adequately to the stress. Also, Tusaie and Dyer (2004) stated that students are perceived resiliency if they are able to cope with the challenges that they face in the transition to a university in a foreign country. Moreover, it is well supported in the literature that resilient students are academically successful (Compas, Wagner, Slavin, & Vannatta, 1986; Gall, Evans, & Bellerose, 2000; Pike, Cohen, & Pooley, 2008). Furthermore, in the Asian context, Chan (2000) discovered that students who are high resilient are more likely able to adopt challenges faced as compare to low resilient students. Also, there is a significant relationship between resilience and levels of stress; in other words, higher resilience scores predict lower levels of tension (Hjemdal, Vogel, Solem, Hagen, & Stiles, 2011). Moreover, the study in Malaysia by Lee (2011) revealed that people who have low level of resilience will fail to cope with stressful situations.

Resilience varies from one individual to another and therefore is deemed as a variable depending on many other variables. Related literature supports the relationship between variables. For example, perceived social support (PSS) such as support from extended family, siblings, teachers, schools, mentors and peers have been found to be beneficial in helping individuals positively adapt to the transition to university (Urquhart & Pooley, 2007). Also,researchers have suggested the contributory influence of race and ethnicity on resilience. Clauss-Ehlers, Yang, and Chen (2006) found that robust race identities predicted resilience in responding to stress, pointing to the possible significance of cultural resilience in coping for some ethnic communities.

In fact, the lack of a comprehensive study on the resilience issue as an empirical subject among international students in Malaysia motivated researcher to study on this topic. On the other word, there is a need to more investigate the concept of resilience and its related factors in the field of educational psychology.

The objectives of the study are investigating 1) the relationship between social support and resilience and, 2) difference in resilience level across races among international students. Importantly, the extent to which students are able to cope with stressors during their study has important implications not only for their social-emotional adjustment and well-being, but also for the likelihood of academic success

and persistence in postsecondary education (Andrews & Wilding, 2004; Pritchard & Wilson, 2003; Zajacova, Lynch, & Espenshade, 2005) The result of this study will contribute to the education field in psychology, especially in Malaysia and also enhance the level of education. Below figure shows the framework of the study.

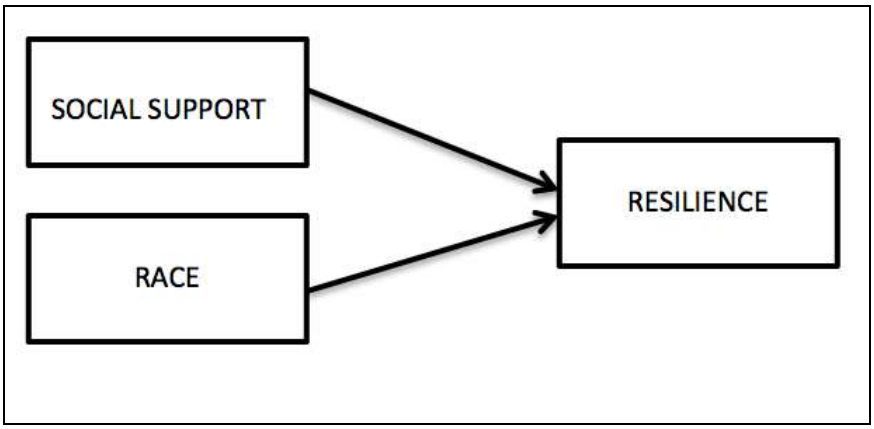


Figure 1 Conceptual framework of the study

LITERATURE REVIEW

Resilience

In this research resilience was studied as a dependent variable and referring to an individual's ability to cope with stressful situations. Resilience, or the ability to bounce back from misfortune, has received a great deal of attention in a number of domains. Originally, resilience was conceptualized as a personality trait; but, in recent years, it has been more often been thought of as a series of protective factors, which a person can draw upon in difficult times. According to the construct of resiliency, people who are resilient have high expectations, positive relationships with others (or social support), flexibility, a sense of humor, and a solid sense of self-efficacy. An antecedent to resiliency, moreover, is previous experience of adversity, while the most notable result of resiliency is having good coping skills to manage repeated adversity in life (Earvolino-Ramirez, 2007). Resilience can be better explained as the opportunity and capacity of individuals to find psychological, social, cultural, and physical resources that will provide for their well-being, and their prospect and ability alone or with others, to benefit from these resources and in culturally meaningful ways (Ungar, 2008).

The ecological model however has been increasingly accepted in resiliency research and greater attention has been given to the role of context and environment in behavioral outcomes, especially the complexity of the interrelationship between family, school, peers, neighborhood and society in general. There is no denying the role of genetic factors in this context, but what is of greater significance in the study on resiliency the nature of interpersonal connections and the availability of support networks such as demographic factors.

The recent studies not only show that it is difficult to eliminate all college

stressors, but it is important to examine how students cope (Pritchard, Wilson, & Yamnitz, 2007). Also, there is a direct relationship between resilience and levels of stress; in other words, higher resilience scores predict lower levels of stress (Hjemdal et al., 2011). The implication is that highly resilient youths are better placed to face the challenges than those with low resilience. There is empirical evidence that people adjust to stress in various ways: many are resilient following a stressor; others suffer long-term negative effects Students display varying levels of resilience in their ability to have positive outcomes in the face of such a transition. Empirical research studying international students going to another country and encountering a new culture has revealed that there are many factors that affect resilience, such as gender, age, cultural distance, proficiency of language, duration of stay, social support, education level, status, self-esteem, coping styles, acculturative stress, spirituality and many others (Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004; Rosenthal, Russell, & Thomson, 2007; Yeh & Inose, 2003; Yusoff & Chelliah, 2010).

Social Support

Social support in this research is described as a belief and actuality of being cared for, and has others ready to assist when necessary, and belonging to a supportive social network. These supports can be emotional (nurturance), real (financial support), informational (advice), companionship (belongingness) and intangible (personal advice).

Social support refers to the experience being valued, honored, cared about, and loved by others who are present in one's life (Gurung, 2013). It may come from different origins such as family members, peer group, teachers, community, or any social groups to which one is associated. Social support can come in the form of noticeable help provided by others when needed, which includes an assessment of different positions, effective coping strategies, and emotional support. Social support is an element that can help people to cut the amount of pressure experienced as well as to help individuals cope better in dealing with challenging situations.

Some research specified that supportive relations correlate negatively with symptoms and psychological disorder such as stress, depression and other psychiatric disorder, and positively correlate with physical and mental health. A study by Osseiran-Waines and Elmacian (1994) for instance, revealed that social support keeps people in life disasters such as sadness, illness, and other major stress, and has an impact on the effect of stressors on psychological well being.

Yadav (2010) indicated the satisfaction that can come from social support while hope had a significant correlation with quality of life; but the greatest impact of social support was on environmental functioning, while the lowest was on social relationships, and emotional support was comparatively less of a predictor of social relationship than other types of support.

In a study to examine the impact of perceived social support and stress on the coping capability and the level of depression of foreign and local students in Malaysia Faleel, Tam, Lee, Har, and Foo (2012) revealed that perceived social support is closely related to their coping capability.

In a study that examined the relationship among four constructs related to international students life stress, academic stressors, reactions to stressors, and perceived social support. Misra, Crist, and Burant (2003) findings showed that higher levels of academic stressors for international students were associated with higher levels of life stress and by lower levels of social support. Yeh and Inose (2003); Moreover, discovered that social support network satisfaction was a significant predictor of acculturative distress. In the same way, Poyrazli et al. (2004) mentioned that students with higher levels of social support faced lower levels of acculturative stress. Regarding the use of supported networks by Asian students, Ye (2006) studied the relationship between sociocultural and psychological aspects of cross-cultural adaptation of Chinese international students in the U.S. They focused on the perceived support from traditional supported networks and online ethnic social groups. Their findings showed that perceived support of interpersonal networks in the host country and from online ethnic, social groups had a negative relationship with social difficulties. Also, Mittal and Wieling (2006) reported that greater familial and graduate social support were able to reduce international students' stress levels. Atri, Sharma, and Cottrell (2006) discovered in their study that emotional support, had a close association with the students' mental health while Dao, Lee, and Chang (2007) found that "Taiwanese international students who were at risk of depressive feelings were more likely to be those who had the perception of limited social support" (p. 287). Johnson, Batia, and Haun (2008) study revealed that changes in international graduate students' levels of social support at graduate school stage prevented them from using it as a means to cope with stress. Finally, Sümer, Poyrazli, and Grahame (2008) indicated in their study that social support contributed significantly to predicting depression.

Resilience and Social Support

Resilience varies from one individual to another and therefore is deemed as a variable depending on many other psychological variables. Related literature supports the relationship between variables. A review of previous literature indicated a clear relationship between social support and resilience. For example, Dent and Cameron (2003) found that a supportive relationship with a teacher, other family members, and peers were directly related to higher levels of educational resilience. These findings indicated that resilient youths expressed a sense of belongingness to individuals, groups, and institutions more often than their non-resilient counterparts. Resilient youths also revealed a sense of autonomy and personal organization when they talked about their lives, and had positive views and definite plan about the future when compared to their non-resilient colleagues (Weidong et al., 2012).

Bonanno, Galea, Bucciarelli, and Vlahov (2007) by using the survey design revealed the resilience was positively associated with social support. Social support is an important factor of resilience in middle school students. Social support is defined as the provision of psychological and material resources of a social network intended to enhance the ability of an individual to cope with stress (Atri et al., 2006). Elliott and Gramling (1990) pointed out that social support from family, friends, teachers, and social groups can help college students lessen psychological problems. Lack of social

support is found to be related to various psychological problems such as depression, loneliness, and anxiety (Eskin, 2003).

Social support is a buffer against life stressors (McCorkle, Rogers, Dunn, Lyass, & Wan, 2008). As such, a supportive relationship with a teacher, other family members, and peers had a direct relation to increased levels of educational resilience. These conclusions have been proven to be true of various studied groups. Dent and Cameron (2003) discovered that resilient youths showed a sense of belongingness and connectedness to individuals, groups, and institutions more frequently than their non-resilient counterparts. Such resilient youths also showed a greater sense of independence and personal agency when talking about their lives, and had clear ideas and positive future outlooks in comparison to non-resilient youths.

Resilience and Race

Review of the last studies revealed relationship between different races and resilience. For example, in the study of Campbell-Sills, Cohan, and Stein (2006) clearly found a significant relationship between ethnicity and resiliency. Moreover, the study of Widom, DuMont, and Czaja (2007) on abused and neglected children indicated African Americans who have abused more resilient than their white colleague during adolescence.

In addition, Johnson (2011) revealed some significant differences among different race groups in their resilience level. For example, this study demonstrated African Americans were more resilience than their White and Hispanic counterparts when exposed to risks. Furthermore, Ziaian, de Anstiss, Antoniou, Baghurst, and Sawyer (2012) pinpoint middle eastern students and South Africans got greater resilience and it had associated with their religious believes.

METHODOLOGY

The sample consisted of 291 international students of University Putra Malaysia (UPM). The participants were selected using multistage sampling. Through multistage sampling, researcher calculated sample size based on the sampling ratio for each main category. In the next step, researcher uses a stratified sampling and divided faculties in 5 main categories. Therefore, through a cluster random sampling, one faculty was selected from each category. Finally, with using random sampling method questionnaires distributed among international students.

Research Instrument

Connor-Davidson Resilience Scale (CD-RISC) comprises of 25 items that aims to determine the ability to deal effectively with stress and adversity. Items are rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agreeing) of respondents. Reviewed by the previous study showed many research used (CD-RISC), for example, Peng et al. (2012); Souri and Hasanirad (2011). Alpha Cronbach of the scale in the current study was 0.924.

Multidimensional Scale of Perceived Social Support MSPSS used to assess the social support scale. The MSPSS is a 12-item scale by which perceived social support from three different sources, namely family, friends, and a significant other will be assessed. To rate the MSPSS, a 5-point Likert-type scale is used (1 = Strongly disagree to 5 = Strongly agree). Past several research employed MSPSS in their study which clearly showed validity and reliability of the questionnaire, such as: (Dawson & Pooley, 2013). The MSPSS had very good internal consistency with Cronbach Alphas 0.921.

DATA ANALYSIS

Descriptive statistics used in this study were frequencies, percentages, means, and standard deviations. Linear regression employed to ascertain the intensity and direction of the relationship among the variables; resilience and social support. Also, one-way Anova used to compare the mean differences of races and resilience.

Pearson correlation was utilized to investigate the relationship between resilience and social support among students. As stated in Table 1, the result illustrates a significantly strong relationship between resilience and social support (r =. 523, p<. 01). In regards of checking assumption of normality, linearity, outliers, multicolinearity and homogeneity of variance preliminary testing has been performed to ensure no serious violation. Skewness and Kurtisus less than ±2 indicated to normal distribution of data (Lomax & Schumacker, 2012). As definite in table1 skewenes and kurtisus are less than ±2.

Table1 Descriptive statistics and Pearson Correlation between variables

	Variables	Mean	S.D	Skewenes	Kurtisus	1	2	3
1	Resilience	3.82	.496	-.778	1.3	-	-	-
2	Social support	3.81	.741	-.648	.021	.523*	-	-

* Significant at the 0.01 level (2-tailed),). Values on the diagonal are Cronbach's alphas>0.7 (Cronbach, 1951, Hair et al., 2010). Skewness and kurtisus <2

As stated table 2, a linear regression used to evaluate the ability of social support to predict the level of resilience among international students. The result shows social support was significantly related to resilience scale (P<0.001). This model indicated that social support explain and predict 28 percent of resilience. Beta value is significant unique contribution to the prediction of resilience.

Table 2 Results of the Moderated Hierarchical regression analysis

Variables	R	R^2	*B*	t-value	p-value
Social support	.53	.28	.533	10.69	.000

* Note: p<. 001, N=291

The result of one-way Anova revealed there is a significant difference in level of resilience at the p< 0.01 among the group of Middle Eastern, Asian, and African. Therefore, as stated in table 3, a Post Hoc test- Tamhane comparison reveal a significant difference between: 1. Middle East and Asian, 2. Middle East and African. As a result, Middle East showed higher resilience to comparison with African and Asian.

Table 3 Post Hoc test of resilience and race multiple comparison

Race		Mean Difference	Std. Error	Sig.
Middle-east	Asian	-4.43	1.56	.015
	African	-5.67	1.76	.005
Asian	African	-1.23	1.76	.863
	Middle-east	4.43	1.56	.015
African	Asian	1.23	1.76	.863
	Middle-east	5.67	1.76	.005

* The mean difference is significant at the 0.05 level

DISCUSSION

The aim of the current study was to investigate the relationship between social support, race and resilience among international students. 291 undergraduate students from different races were selected in this study. There are two hypotheses 1) there is a relationship between resilience and social support among international students and 2) there is a difference in the resilience level across race among international students.

Linear regression was conducted to test this hypothesis and the analyses yielded anticipated results. The finding showed there is a relationship between resilience and social support; it means international students' resiliency affected by friends, family and their relatives, special person in their life same as their owner, neighbors, supervisor and lecturers who support them financially and mentally.

As previous studies, according to Weidong, j. Guoquan, z. Yaosheng, p. Shumin, z. Daoliang, y. Guangyao, l. Yongyong, s. (2012) resilience was positively correlated with social support. Similarly, in a study of first year students in Australia Dawson and Pooley (2013) indicated resilience has strong relationship with social support.

The result of comparison the resilience of students by their race (Middle East, African, and Asian) with ANOVA test showed that there is a relationship between race and resiliency among students. Also the result of Post Hoc test, demonstrate that the mean of the Middle East is significantly different with Asian and African. One way to interpret this finding is by thinking of culture as an adaptive mechanism that helps groups of people (different cultures) develop strategies to cope with adversity. Students seem to take their cues from their culture and incorporate these unique approaches into their own resilience strategies for dealing with difficult circumstances. Some research indicates a significant relationship between race and resilience as well. Based on research of Weaver (2009) revealed cultural/ethnic identity and resilience have a positive significant relationship with each other.

CONCLUSION

This study provides empirical evidence with respects to the positive effects of social support in managing psychological resilience among students. Obviously the result recommended that increase in the level of social support might lead to enhance the level of resilience between students. Moreover, the finding revealed a relationship between differences in race and level of resilience. By having an understanding and awareness in this area, it could help psychologist, counselor, educators to organize some plan enhance coping and resilience level of students which has a direct effect on students' performance and educational level. In addition, the finding of the study might also provide social and psychological researchers and students with some features of personality and behaviors among individuals that need to be searched further. Information and concepts gained from this study could help students to manage and deal with their challenges.

Limitation and Recommendation

This study has several limitations that should be addressed. First, the geographical area limited this research because the study was done in a local public university. It does not include the other public and private universities. The teaching approaches used in every institution and the examination systems and the environment are different as well. Thus, it might not be suitable to generalize the result of the study to the population of international students in Malaysia. It is recommended that for further research it may

involve more universities and respondents. Second, there was a limitation in relative factors and just considered two variants. It is recommended further study should include more internal and external factors as independent variables and also more demographic factors that might relate to resilience.

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Counselor's Efficiencies: A Qualitative Research among School Counselors

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ABSTRACT

Objective of research was to identified counselor efficiencies in client's statement of problem, counseling process goal, client's belief systems, and categories of case. This research was qualitative design by content analysis techniques using open ended questionaire. Analyse of qualitative data was done using Nvivo 7. Population in this research was 125 people of school counselors and only 62 sample was been used in this research in Malaysia. Results show that element of counselor efficiencies in client's statement of problem, counseling process goal, client's belief systems and categories of case were very significant. Discussion of finding was focus on solution of counselor's efficiencies.

Keywords: Efficiencies, Client's Statement of Problem, Counseling Process Goal, Client's Belief Systems, Categories of Case

INTRODUCTION

According to *Dewan Bahasa dan Pustaka* (2002). transformation means changes in form (nature, appearance or condition). In other words, it is the process of moving from one dimension to another dimension other than the existing scenarios that are hovering in space thinking back to a different, better or more perfect. Transformation is also happens in counseling field. Based on the circular (Num. 3/1996), starting on 1996, Guidance and Counselling Services have been established in the school to address student discipline.

As such, many consider counseling session is a solution to behavior problems in school. However, counseling services is not merely to solve clients' behavior problems, but counseling is the space for the client to diagnose their thought through rationalization and improvement of Wrong Belief System so that they can respond positively (Beck,2005).

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The problem faced by most individuals is due to irrational thoughts and negative thinking. Therefore, the task of the counselor is treating the clients' irrational thinking by looking at the Statement of Problem (SOP) and diagnose the clients' problem based on affective, behavior and cognitive (Beck, 2005; Bhar, Beck & Butler, 2012). Thus, the efficiency of counseling teachers in carrying out the counseling process is very important. Counseling teachers need to identify the cause of the problem. Intervention and counseling goals are difficult to identified if the clients do not sure about the plight (Othman, 2005). The goal of counselling is important to determine the direction of the counselling process. Clients often experience confusion between the root causes and causes side (Bhar et al, 2012). It is possible for the client to assume the side problem as the main problem. When it happens, the client is more focused on trivial matters and not the client's primary problem.

According to Zainal (2004), after hearing all the problems of clients, counselors need to identify the main causes of clients' problem. Counsellors need to assess the problems and try to talk with the client. As a counselor, can not put a value on the client, do not have bias and balme one hudred percent to the client. Next, the advantages of efficiency set of Category of Case is a client problem can be characterized in more detail, the session becomes more clear, effective and this method can enhance the professionalism of counseling teachers. While, from the client perspective it is to easy for them to get insight on the counseling session in order to set goals, be aware of the problem, the clients become more confident and rational to act (Beck, 2005). Meanwhile, the effect by not having category of case is that the client will difficult to achieve the goal of counseling, client is slow to make decision, difficult to get insight in order to resolve the issue and counseling session will become less focused. (Bhar et al, 2012). This information is based on the feedback conversation conducted indirectly with counseling colleagues.

The importance of the efficicency in categorizing the Wrong Belief System(WBS) is that the client will be able to promote clients rational thinking and positive attitude, stabilize the client's emotions, encourage clients to make positive moral of negative events ever experienced, open minded and self reflection (Bhar et al, 2012). Thus, for a counseling session in which does not perform Wrong Belief System (WBS), it will cause the clients to face hardship in making decision and setting goals, it also cause possibilities for them to repeat the same mistakes in the future by not trying to learn from mistakes (Culley & Bond, 2005). This information is based on conversation carried out indirectly with counseling colleagues. Establishing the client's primary problem is very important to see client's trustworthy. According to Corey (2011), individuals with financial problems are due to the irrational belief that they have learned from significant people during childhood. Then, the individual actively incorporate this destructive belief in themselves. Therefore, it is not rational thinking indoctrinated from early life by yourself that makes somebody to be negative.

According to Cherrington (1994) in his book *'Organization Behavior: The Management Of Individual And Organizational Performance"* the key elements that determine the success of the counseling process involves counseling teacher's ability to handle the counseling process with clients and be able to rationalize the thought in

which can make the goals measurement of the counseling process well. It can be proved that a counseling teacher should have adequate training to achieve the set goals.

LITERATURE REVIEW

Counseling process is the essence of the counseling. To perform a process of self-transformation for the individual, the counselor must first learn and apply knowledge of human behavior first. By knowing the ins and outs of this knowledge then counseling can benefit fully client (Der Pan, Chang, & Lin, 2007). However, the process of conducting counseling is not easy because it requires a systematic way through the process of movement from one phase to the other phase (Heesacker & Harris, 1993).

The Proses of Counseling

The process of counseling is to help clients who have psychological problems such as stress. An approach to the counseling process commonly used in the counseling process is a cognitive approach (Beck et al., 2001; Bhar, Beck, & Butler, 2012; Bhar, Brown, & Beck., 2008). This study examines the cognitive approach using belief system as a tool to help clients reduce and eliminate stress inner self of client. The members of counseling and counseling psychology has divided the process into several stages based on assumptions, approaches and their theoretical. According to Okun (1976, 2002) there are eight stages and overlaps in two parts of the relationships and strategies to help the process. But it is cleared by Stewart et al (1978) with established it to a few steps. The work of Stewart et al (1978) adopted by Macclean and Gould (1988).

Eisenberg and Delaney (1977) divides the process into six stages of counseling, initially started with meeting introduction (ice-breaking), the exploration of client problems and building relationships that help, set goals, identify and evaluate factors related to achieve goals, develop and implement a approach to achieve the goals, assess performance and ends with termination. Loughary and Ripley (1979) states that there are three stages in the helps process in which to identify the problem, guidance and problem resolution and termination. Meanwhile, according to Lewis and Elizabeth (1994), the counseling process has five stages of determining client goals counseling services, describes the definition and process of counseling to be traversed, an explanation and understanding of client needs, progress towards achieving the goals, and draw conclusions as well as planning future client experience through the process of counseling. According to Brammer and Shostrom (1996), the counseling process has eight stages to go through that of the preparation and entry, an explanation need to counseling clients, structured counseling process, building relationships, exploring client problems, strengthening when the client practice new skills, rational planning and appropriate, and ends with the termination of or the formulation of achievement.

Gilbert (2000) states that there are eight stages of the counseling process, but in contrast to the counseling process introduced by Brammer and Shostrom (1996). Eight stages include making contact with the client until the client can tell about himself voluntarily to a counselor, the relationship of counselor empathy to be able to feel the

real situation the client, allowing the client to realize that counselors ready to assist its clients, offering a coherent emotional and methods that are understood by the client to solving client problems, develop a therapeutic bond that allows clients more open to new experiences, forming a common goal, guiding clients to transform and develop counter-resistance to prepare for the next problem.

According to Culley and Bond (2005) an integrative counseling process counseling model covers 3 stages of early, middle and final stages. Named as the initial stage is the exploration, contract and evaluation, mid-level named as a revaluation and challenging stage and the final stage is named action and finish. From time to time the study of counseling process is constantly evolving and numerous additions and reductions in the counseling process is done to ensure that counselors are able to help clients to solve psychological problems. But most of the counseling process that formed was more focused on client problems and communication skills (Eisenberg and Delaney, 1977; Lewis and Elizabeth, 1994; Brammer and Shostrom, 1996), still less study or formation process focusing on client self and wrong thinking within the client.

Various models have been introduced in the counseling process to ensure that counseling services can be provided in more effectively and efficiently. Among the early model was introduced by Carkuff human relations training (1986), interpersonal process by Kagan (1980), and skills mikrokaunseling by Ivey (1991). Meanwhile, the latest model is like the helping skills model Egan (1998) and three levels of Hill (2004) (discovery, enlightenment and action). But most models are introduced, do not emphasize the skills in diagnosing belief system, although this skill is a skill that is very significant in the counseling process.

Belief System

For the prevention of emotional problems, counselors need to have good skills in diagnosing the irrational belief system and negative, thus helping clients to form a rational belief system and positive. Counsellors who have problems in detecting and having the right systems and rational belief, will lead to problems during the counseling process conducted (Ellis & Dryden, 1997, Ellis, 1996). In the counseling process, the best method of diagnosis is to identify one belief system that causes the student to be stress (Beck, 2005). Counselors need to assess exactly one belief system to help students gain awareness of the belief system and change the belief system to be rational thus can reduce stress faced by students (Kuyken, Kurzer, Derubeis, Beck, & Brown, 2001; Ellis, 1994). However, if a counselor who has a belief system that is not accurate and is not rational, it causes counselors are more likely to diagnose and provide recommendations to the client based on the counselor's own belief system. Counseling process can not be carried out smoothly and might lead to a client becomes severe and endemic (Basco & Rush, 2005).

PROBLEM STATEMENT

For counseling session that does not implement session reference frame, it will be difficult, not directed, the client does not get satisfaction with the services provided,

counseling sessions difficult to achieve goals, client slow to make decisions, difficult clients gain insight to resolve the issue and conducted a counseling session be lack of focus and client problems repeat the same mistakes in the future will happen and client dependency on the counselor will also exist (Bhar et al, 2012). In addition, the counseling session also lengthens. Meanwhile, counseling sessions that are not set the SOP, the counselor may make a mistake in diagnosing problems of the client and to implement the Category of Case (COC) and Wrong Belief System (WBS) of the client.

PURPOSE OF THE STUDY

The purpose of this study was to identify the extent of counselor competence in analyzing client problem statement, objective counseling process, the client's belief system and categories of cases. Moreover, based on this qualitative study the researchers also introduce a transformation of the counseling process (Model Shafiras) that emphasizes on the client problem statement, objective counseling process, the client's belief system and categories of cases in order to facilitate and improve the effectiveness of the counseling process.

RESEARCH METHODOLOGY

According to Azizi et al., (2007), qualitative research methodologies are classified through the selection, independent orientation of the hypothesis and the implicit acceptance of the natural occurrence of an event that is commonly used to identify a social problem. In this study, researchers used a survey method of data acquisition in a certain time. According to Corey (2011) subjects were in qualitative research methods because this method describes the event as a holistic, naturalistic, non-traditional and artistic implemented in real events occur without any manipulation by the researcher. Qualitative methods also emphasize the differences between individual humans. The design of this qualitative study to understand the phenomenon in depth. Through a qualitative approach, the researcher will be able to learn more about the differences counseling teacher competence in carrying out the counseling process. The research design is "Grounded Theory" using "Content Analysis". Method of data collection is through open questionnaires where respondents were free to answer the questions. The findings of the respondent's answers conceptually analyzed through NVivo 7 software.

The population of this study covers a total of 125 Guidance and Counselling Teachers in secondary schools in one district in Malaysia, based on the enrollment of all earned Master of Counselling and Career Counselling Officer Students at the District Education Office. The respondents involved in this study are 62 counseling teachers who served in the District. Regional identity is kept secret to protect the confidentiality of ethics while doing research.

RESEARCH FINDINGS

The result of this study is based on qualitative research themes that are problem statement, the goal of the counseling process, the wrong belief system and categories of cases.

Statement of Problem (SOP)

Statement of the Problem (SOP), which according to Othman (2005), counseling teachers need to identify the cause of problems and goals of clients as intervention counseling will be difficult if the client is not sure about problems. Clients often experience confusion among the main causes of problems and side cause problems (Bhar et al, 2012). Generally counseling teachers gave almost exact answer but most teachers focus on the second counseling that of not in the client's own self. Counseling teachers should focus on the client's problem not the problem of the second 'invisible' client as a counselor's role is to solve the problems that happen to the visible client in front of the eyes instead of the second people with no problem at the time. As in the first case the following example:

" Parents want something good for exams but the client feel useless because he could not accomplish his parents' wants." (Respondent 40, line 13-14)

" Family too expect the best performance (PMR) when the client always gets the bottom spot. " (Respondent 62, line 13-14)

"Family has high expectation of the client until the client was in depressed because did not feel confident to achieve the goal" (Respondent 13, line 13)

Moreover, most respondents did not answer correctly when the counselor is not focused on the client psychological problems (stress), but focus on the problem situation just like the first case as the following:

" Family too expect the best performance (PMR) when the client always gets the bottom spot." (Respondent 61, line 13-14)

" No focus in the classroom learning due to disturbance at home." (Respondent 5, line 13)

" Achieve good and outstanding academic results." (Respondent 45, line 13)

Next few of the counselor gives their own perception of client states rather than focusing on the client's primary problem as the first case of the following:

" Client feels lazy to learn." (Respondent 11, line 13)

" Clients want to be successful because of their families, teachers and friends but do not want to give more effort." (Respondent 50, line 13)

"Can not manage themselves well." (Respondent 9, line 13)

Objective Of Counselling Process

Goal Measurement is that the counseling setting goals is in line with Statement Of Problem (Bhar et al, 2012). Goals agreed upon by experts in the first case is to reduce the stress even though cannot meet the requirements of parents that do not excel in memorization and PMR while the second case is to reduce the pressure faced by the client even though mom loves younger brother of the client more than the client.However, some counselling teachers or respondents focused on the second party during counselling session. Counselling teachers should be observed that the real goal of the client is required for the session, not to change the second party because second party does not exist physically during the session, and the one who need to change is the client itself as the first case as follow:

" Strategies to meet the needs of parents." (Respondent 24, line 17)

" Expectations of family / teacher to succeed." (Respondent 30, line 18)

" Meet the family hopes to succeed in study." (Respondent 3, line 17)

" To fulfill the dream / expectations of family." (Respondent 4, line 17)

" Meet the needs of parents." (Respondent 56, line 17)

" To achieve the desire of parents." (Respondent 60, line 17)

The goal of the client also needs to be identified properly by the respondent or teacher to gain a basic counseling in carrying out the counseling process (Culley & Bond, 2005). Some counselors have a wrong picture of goal during counseling sessions conducted, counseling teachers do not connect the problem statement with the objective required by the client, resulted in ambiguity in the counseling session as the first case of the following:

" Getting good results in PMR." (Respondent 10, line 19)

" Client wants to get good results in PMR." (Respondent 11, line 19)

" Getting good results in exams." (Respondent 12, line 19)

" Clients want to get excellent results and do not want to disappoint his parents and a quiet learning environment." (Respondent 13, line 19-20)

The majority of respondents stated counseling get excellent results in the PMR is the client goals while counselors need to explore the real goal at that time (here and now) (Culley & Bond, 2005) that of reduce stress faced client though still not successful in PMR and memorization. This shows that counselor focused more on the thing that not necessarily will come in future. The question will arise and will be a serious problem if the clients are not getting the results PMR with flying colors. So obviously the real goal should be focused by teacher counseling is to reduce stress even though their parents do not meet the requirements of not excel in memorization and PMR. This is also repeated in the second case in which the real goal is to reduce the client's stress faced by the client even though the client's mother still love client's brother than the client. Here is the answer from a counselor:

" Boost spirit despite not getting the love from mother."
(Respondent 13, line 19)

" Enhance the self-spirit" (Respondent 15, line 19)

" Receiving mother's anger does not mean mother does not love."
(Respondent 16, line 19)

" Improve client spirit." (Respondent 19, line 19)

" Want to feel loved by his mother." (Respondent 21, line 19)

Wrong Belief System

Wrong Belief System (WBS) in this study is to see the efficiency of counseling teachers to categorize that client's belief system either included in the Value (Value), Education (Education), Social Economics Status (Status Economics) or Experience (Experience). Wrong Belief System (WBS) or one belief system that exists in a person that caused by education, experience, environment and individual behavior.In this Syafiraz Model it looks forward the Wrong Belief System that had caused the client to unable to act rationally. According to Beck (2005), a person with negative emotions tend to do negative behaviors. Cognitive therapy consider psychological problems are caused by negative thinking or Wrong Belief System (WBS), make inaccurate assumptions and failed to distinguish between fantasy and reality (Beck, 2005).

Beck, (2005) focuses on the importance to modify thinking when treating mental disorders. Here are the errors in individual assumptions (Ellis & Dryden, 1997). a) Taabiran adulation (arbitrary inferences) refers to conclude without appropriate support and evidence. These include bad thinking (catastrophizing). B) Selection of the fuzzy selective abtraction) concluded that based on isolated facts in an event. In this process

other information aside and the whole context of significance not included. c) Make an extreme generalization (overgeneralizing) that hold the extreme beliefs based on one incident and apply to events that are not similar and inappropriate. d) Enlarge exaggerating or underestimating things (Magnification and minimizing) means assuming a thing or situation as large or smaller than it should be. e) Customizing an item (Personalization) means the tendency of associating individual events outside himself, although there is no basis for doing so. f) thought the opposite (dichotomous thinking). Based on a qualitative study conducted many counseling teachers can not identify the precise belief system "I need to excel in PMR to give back to the parents." Example responses from counselors from the wrong belief system in terms of the following values:

"Much work will stress." (Respondent 10, line 21)

" I do not see clearly the value of client - learn much pressure on self." (Respondent 11, line 21)

" Not wanting to disappoint their parents and want to excel in exams." (Respondent 13, line 21)

" Must succeed in the exam to equal with the others, maybe a sibling." (Respondent 14, line 21)

" Did not disappoint his family and must / should be for him to get excellent results." (Respondent 15, line 21)

The majority of respondents did not identify the WBS accurately in terms of value. Similarly, in terms of education as "I need to excellent in PMR if I need to be successful in life, if not successful, life is not happy." For example, as follows:

" Learning ensure good results." (Respondent 25, line 22)

"Learning is stressfull." (Respondent 26, line 22)

"Must be able to get excellent result – all A's." (Respondent 27, line 22)

" more and more to learn, more difficult to grasp." (Respondent 28, line 22)

" Revise a lot but still not getting good results." (Respondent 29, line 22)

The majority of respondents could not identify precisely WBS from educational part. Similarly, in terms of the experience of "I have to follow all the footsteps of younger siblings who excel to make sure I can be successful like them". For example, as follows:

" People who read a lot, it will be a lot of knowledge."
(Respondent 16, line 23)

"Seniors are less learn, but can excel." (Respondent 17, line 23)

" Looking at the success of our friends and clients compare themselves with their friends / people who fail will last forever." (Respondent 18, line 23)

" Much responsibility to make themselves feel more depressed."
(Respondent 1, line 23)

"memorization program is burdened me." (Respondent 20, line 23)

" Studying in the hostel must be clever and successful." (Respondent 22, line 23)

The majority of respondents did not identify the WBS accurately in terms of experience. Similarly, in terms of socioeconomic status, namely "My family is very poor, so I can not excel because I do not get enough facilities like other friends". For example, as follows:

" Client thinks that there should attain a position of excellence in family."
(Respondent 13, line 24)

" Client felt himself to be excellent as others." (Respondent 15, line 24)
" Educated person, that person will be respected." (Respondent 16, line 24)

" Have to work hard to excel in studies." (Respondent 18, line 24)

" Friends and siblings are more successful (not sure)." (Respondent 22, line 24)

" Many brothers and sisters, so much disruption to study." (Respondent 25, line 24)

Category of Case

Category of cases in this study is divided into four sections, namely adaptation, decision making, understand and accept and expand the potential (Culley & Bond, 2005). But there is only one category only to a case. The findings are translated in the following table:

Table 1 Frequency and percentage of counselors' answer on category of case

Category of Case	Case 1 Frequency Percent%	Case 2 Frequency Percent%
Adaptation	19	23
	30.6%	37.1%
Decision Making	12	0
	19.4%	0%
Understand and Accept	12	30
	19.4%	48.4%
Expand the Potential	18	3
	29.0%	4.8%

Table 1 shows there were 19 respondents categorize cases to adaptation (30.6%), 12 respondents categorize cases to decision making (19.4%), 12 respondents categorize cases to understand and accept (19.4%) and 18 of them categorize cases to expand the potential (29.0%). The right answer is to expand the potential, as the client needs to increase self-confidence in the face of pressure exist. Only 18 respondents choose it accurately.

THE IMPORTANCE OF RESEARCH

This research will provide information to the Guidance and Counselling Teachers, schools, District Education Office, State Education Department, the Ministry of Education to create and implement their continuing improvement and transformation of Guidance and Counseling Service Teachers in schools. In addition, review the scope of duties of Counselling Teachers in schools with a focus on helping students to become people who have high self-awareness. This study is to help teachers to evaluate the effectiveness of guidance and counseling services counseling session conducted. Through effective counseling session will raise awareness and insight for students to think and act positively. If a lot of behavior change among students, then to indirectly reduce disciplinary problems occurring at school. Next, the school management is also will do smooth and good. Therefore, the support and cooperation from the school management is highly desirable to understand the needs of guidance and counseling sessions to students. Burden of many programs and other assignments has caused teachers to not focus on the task of counseling counseling session. The findings of this study can enlighten Counseling Teachers to increase efficiency and maintain the accountability of Counselling and Guidance profession. Where as, previously largely underestimated by school administrators and teachers with issues regarding Guidance and Counselling Teachers that do not teach full time. Therefore, if the enhanced effectiveness of the counseling process to client, they can show the importance of guidance and counseling services in schools.

Efficiency in carrying out the counseling process is very important. Thus, by the findings of this study, it is responsible for the management to plan and implement any suitable programs for Teachers of Guidance and Counseling in strengthening the counseling process knowledge. Such as by conducting a training course on the disclosure of appropriate counseling process by inviting the skilled and high educated counseling practitioners. Through this research may also help counseling teachers to assess their own efficiency in having counseling session with the students. Teacher's awareness is very important to increase their own knowledge by not merely expect that the government alone to organize courses related to counseling. Guidance and Counselling Teachers must be willing to sacrifice time and money to buy and read books on counseling and counseling courses organized by external parties in increasing the efficiency during the counseling session. This study also helps teachers to create awareness and to rationalize clients' thinking in order to face life tests that lead to a more mature life journey.

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Teachers' Perceptions on Transformational Leadership in Primary Schools in Malaysia

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ABSTRACT

Transformational leadership emphasizes emotions and values sharing and aims at fundamental reform of individuals and the whole organization capacity. It has contributed to development in terms of motivation and commitment in problem solving as well as implementation of reform initiative.The purpose of this study was to determine the level of transformational leadership in primary schools in Malaysia. 144 primary school teachers from 24 schools in six district of Selangor were selected based on stratified random sampling. Data were collected based on survey method and were analysed using descriptive and independent t-sample test. The findings illustrated that primary school teachers rated six out of eight transformational leadership dimensions: develop a shared vision, building goal consensus, Holding high performance expectations, Role model behaviour, Providing intellectual stimulation, and Strengthening school culture at high level; and two dimensions: Participation in school decisions and Providing individualized support, were rated at moderate level. Differences in transformation leadership by location illustrated that teacher perceptions in urban area have higher holding high performance expectations and building goal consensus than the rural teacher's perceptions. The findings of this study have implications for how close or far the schools move towards 2010 Malaysia vision and which transformational leadership factors need to be focused on more.

Keywords: Transformational Leadership, Primary Schools, School Locations, Malaysia

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INTRODUCTION

Leadership has been described as necessary in all levels of any organization. Bass (1985) believed that leadership is not just the province of people at the top. In the past much attention has been placed on the development of leaders at the upper hierarchical levels of the organization. However, Lowe *et al.,* (1996) stated that new organizational paradigms that include the sharing of information, decentralization of decision-making authority, and widespread use of teams make the development of leaders across organizational levels really important to the success of organizations. Therefore, as a result of reform there is need leader who are capable of driving the process system to be effective and sustainable, empowering others to take responsibility. This is called transformational leadership (Bush, 2011; Dolence and Norris, 1995).

Based on the results of the research regarding to transformational Leadership in Malaysia and other countries, schools can be autonomous and effective so that it has a significant effect on improving students' outcomes (Sammons et al., 1997; Busher and Harris, 2000., Leitwood, 1994). According to Malaysia Education Blueprint (2013-2025) for the transformation of the Malaysian education there is need high performance school leader in improving quality of education and transforming school visions and goals. The main problem according to transformational leadership is that, numerous studies carried out in Malaysia and other countries, focused on the relation between transformational leadership and student achievement (Hallinger and Heck, 1998). However, few works has been done on determined level of transformational leadership based on the location (Gopala, 2008; Ghani, 2011, Salleh & Parvina Saidova, 2013) school competency and Head teachers are always seen as transformational leaders in successful schools, yet there is less evidence on practicing transformational leadership effectively.

Furthermore, Malaysia Education Blueprint (2013-2025) emphasises on demographic features such as school location (urban and rural) are important as well when it comes to school effectiveness and improvement. Since rural schools are mainly located in isolated areas, applying transformational leadership in relation to school effectiveness in Malaysia rural schools is not an easy task (Marwan et al., 2012; Malaysian digest, 2011). According to Malaysia Education Blueprint (2013-2025) the ministry aspires to halve the current Urban-Rural gap by 2020.

LITERETURE REVIEW

Transformational Leadership

Transformational leadership defined by Burns (1978) as a process in which "leaders and followers raise one another to higher levels of morality and motivation, the wants and needs, the aspirations and expectations" (Smith, B., 2011). Bass (1985) added to the initial concepts of Burns (1978) to help explain how transformational leadership could be measured, as well as how it impacts follower motivation and performance. The leader transforms and motivates followers through his or her idealized influence, intellectual

stimulation, and individual consideration (Avolio *et al*, .2009). Based on Bass and Avolio (1995) theory, followers can be motivated and encouraged by leaders in order to obtain unexpected goals and achievement. As a result of transformational leadership, followers feel confident and strong enough to overcome challenges and difficulties (Avolio and Yammarino, 2013).Ttransformational leadership has four components; idealized influence (vision that the leader conveys), inspirational motivation, intellectual stimulation (focuses on creativity and innovation), and individual consideration (Bass, 1985; Lunenburg and Ornstein, 2012).

The research on transformational leadership in educational settings has been widely carried out by Leithwood and his colleagues (Leithwood, 1994; Leithwood and Duke, 1999; Leithwood and Jantzi, 1999, 2000; Leithwood, Jantzi and Fernandez, 1994; Leithwood, Jantzi, and Steinbach, 1999). Leithwood's (1994) model is a modification of Bass theory focusing on the effects of transformational leadership on schools. In this model, attention is paid to building productive community relationships, which is not addressed in earlier models (Leithwood and Sun, 2012). According to Leithwood *et al*., (2006) transformational leadership describes a particular type of influence process based on increasing the commitment of followers to organisational goals and Leaders seek to engage the support of teachers for their vision for the school and to enhance their capacities to contribute to goal achievement. Its focus is on this process rather than on particular types of outcome (Bush, 2011).

Transformational leadership model by Leithwood (1994) include 8 dimensions that are categorized in 3 groups as follows: 1. Setting direction: focuses on a clear school vision, school goals, and high performance expectations 2.Developing people: motivating teachers through individual support, intellectual stimulation, and modeling important values and practices.3.Redesigning the organization: establishing a productive school culture, and fostering collaborative decision making. According to this model, in a successful transformational leadership in schools, all the aspects have to be considered (Hoy and Miskel, 2013; Bush, 2011; Leithwood, 2011).

1. Building school vision: behaviour on the part of the principal aimed at identifying new opportunities for his or her school staff members and developing, articulating, and inspiring others with his or her vision of the future (Leithwood and Jantzi, 1994).
2. Establishing school goals: behaviour on the part of the principal aimed at promoting cooperation among school staff members and assisting them to work together toward common goals (Leithwood and Jantzi, 1994).
3. Holding high performance expectations: Behaviour that demonstrates the principal's expectations for excellence, quality, and high performance on the part of the school staff.
4. Providing an appropriate role model: behaviour on the part of the principal that sets an example for the school staff members to follow consistent with the values the principal espouses. Modelling is the best practices and important organizational values (Leithwood and Jantzi, 1994).
5. Providing individualized support: behaviour on the part of the principal that indicates respect for school staff members and concern about their personal feelings and needs.

6. Providing intellectual stimulation: behaviour on the part of the principal that challenges school staff members to re-examine some of the assumptions about their work and rethink how it can be performed.
7. Productive school culture: Leithwood et al., (1999) acknowledge that there is much evidence to suggest that the culture of a school plays a big role in the success of the school. The culture of a school is the shared "norms, beliefs, values, and assumptions" of the members of the school (Leithwood, Jantzi, and Steinbach, 1999).
8. Fostering participative decision making: The formal and informal opportunities for school staff to give their professional input for the purpose of making decisions (Leithwood, 1999). When teachers feel engaged in making significant decisions they develop new beliefs in their capacity to not only make a difference in the classroom, but across the whole school as well (Sun and Leithwood, 2012).

Importance of the Transformational Leadership in School Setting

As result of transformational leadership, leaders and follower can share values, schools teachers become more responsible and committed to changes in school and can identify factors that are more effective in school changes. Teachers become more committed to the mission of learning for all. Transformational leadership strategies helped improve teacher collaboration in schools if teachers feel appreciated by their principals. Furthermore, schools need administrators who can manage the daily process of school and who are able to lead teachers through the current school change and reform efforts. In such a complex and changing environment, a school administrator must be able to articulate a vision for success, inspire others to embrace the vision, and have the ability to make the necessary changes happen (Hallinger and Heck, 1998; Leithwood and Jantzi, 1999). Moreover, transformational leadership studies has shown that, it has positive effects on several variables such as job behaviours, leadership behaviours and positive cultural ratings, positive perception of organizational, school culture, organizational commitment, organizational performance, effectiveness, job satisfaction, changed teacher practices, planning and strategies for change, pedagogical or instructional quality, organizational learning, and collective teacher efficacy (Bass and Avolio, 1993; Lowe *et al*., 1996; Leithwood, 2005; Piccolo and Colquitt, 2006; Holtz and Harold, 2008; Robert.S, 2012; and Colquitt ,2012). Therefore, the occurrence and implementation of transformational leadership in school should contribute to organizational performance and effectiveness.

In addition, the results of study on transformational leadership could be significant to educators and researchers moving toward Malaysia 2025 vision. The ministry of higher education has an important role to improve school management, organizational effectiveness and national development toward achievement of vision 2020 (Muniapan, B., 2008). Its contribution occurs through: 1. creating a productive school culture 2.Creating a structure of school decision-making 3.Results in academic optimism 4.Results in group processes 5.Results in the conditions across the organization.As a result of this, the findings will illustrate how close or far the schools move towards 2010 Malaysia vision and which factors need to be focused on more.

Moreover, according to the findings we can compare the level of transformational leadership factor in Malaysia context with other countries context. Furthermore, these days we can consider as result of school reforms rural schools can be more like urban schools particularly in developing countries (Freeman & Anderman, 2005) Based on the more attention on urban schools policy makers discussed the way can help rural schools to be improved (Arnold, 2004). Therefore, more research in this area viewing at issues immediate rural schools need to be done (Valentine, G,et al,. 2008).

Transformational leadership in this research is defined as a form of principal leadership that moves individuals toward a level of commitment to achieve school goals by setting direction, developing people, redesigning the organization, and managing the instructional program (Leithwood et al., 2006). In order to examine the teacher's perceptions on transformational leadership this research aims to investigate:

1. What is the level of transformational leadership dimensions in Malaysia primary schools based on teachers' perception?
2. Are there differences in teachers' perception toward transformational leadership dimensions based on school location (urban or rural)?

METHODOLOGY

Participants and Sampling

For this study, this research was carried out in National primary schools located in 6 districts (Gombak, Hulu Langat, Hulu Selangor, Klang, Kuala Langat, and Kuala Selangor) in Selangor, Malaysia. The target population of this study was teachers of primary schools, which included 15560 teachers in 277 national elementary schools in 6 districts in Selangor. According to Cochran formula, the sample size 375 teachers are enough for the data analysis.The respondents of the study were selected using by stratified random sampling method. First, all primary schools were divided into two urban and rural and 2 schools were selected for each 6 district. As a result, 12 schools in urban and 12 schools in rural areas were selected. Thus, the total number of schools that were chosen as sample was 24 in 6 districts of Selangor. For each school six teachers were selected randomly so in total the respondents include 144 teachers.

Instrumentation

The research instrument was a questionnaire developed by Leithwood and Jantzi (2006) .The questionnaire was divided into two sections; Demographic data and TLQ. This questionnaire consists of contained 50 items measuring the eight dimensions of principals' transformational leadership (1) Vision Identification, (2) Modelling, (3) Goal Acceptance, (4) Individualized Support, (5) Intellectual Simulation, and (6) High Performance Expectations. A 5-point Likert scale was be used with the responses ranging from 1=Strongly Disagree to 5=Strongly Agree. The Cronbach's alpha value was 0.97 and this showed that the questionnaire has a high reliability (George and Mallery,2001and DeVellis,1991).

DATA ANALYSIS AND FINDINGS

To analyse data, both descriptive analysis (mean, standard deviation, and levels) and inferential analysis (independent t-test) were employed to answer research questions one and two. For first research question, in order to categorize data based on three levels of low, moderate and high, the following process has been utilized. Based on five point liker scale of the questionnaire, the lowest possible mean score is one and the highest possible mean score is five, so the subtraction is four. To calculate the range, four is divided by three (low, moderate and high) the result is 1.33. Therefore, the lowest is one while the highest for low level is 2.33. The moderate level is 2.34 to 3.66 and the high level is 3.67 to 5.

Demographic of Respondents

Table 1 show the frequency distribution of respondents based on gender, age, educational level, teaching experience, and school location. The demographic data shows that out of 144 participants in this study, the majority, 101 (70.1%) were female and 43(29.9%) were male. Majority of teachers (n=37, 25.7%) had experiences of teaching from 5 year to 10 years and only 18 teachers (12.5%) had 20 years and above of experience, 35 teachers had (24.3%) between 0-5 years' experience, 30 teachers (20.8%) between 10-15 and 24 (16.7%) between 15-20 years of experience respectively (M=2.67; SD=1.34). The demographic data shows that the majority of respondents were from 35 and above years (n = 67, 46.5%), followed by 30 to 35 (n = 38, 26.4%), 25 to 30 (n = 34, 23.6%).In terms of educational level the result showed that majority of respondents had bachelor degree (n=92, 63.9%) and only one teacher (n=1, .7%) had doctorate degree.

Table 1 Distribution of Demographic

Variable	Category	Frequency(n=144)	Percent
Gender	Male	43	29.9
	Female	101	70.1
Educational	Certificate	5	3.5
Level	Diploma	36	25.0
	Bachelor	92	63.9
	Master	10	6.9
	Doctorate	1	.7
School Location	Rural	72	50.0
	Urban	72	50.0

Table 2 Distribution of Demographic

Variable	Category	Frequency(n=144)	Percent	*M*	*SD*
Age	21-25	5	3.5	3.15	.905
	25-30	34	23.6		
	30-35	38	26.4		
	35 <	67	46.5		
Teaching Experience	0-5 years	35	24.3	2.67	1.34
	5-10 years	37	25.7		
	10-15	30	20.8		
	15-20	24	16.7		
	20 <	18	12.5		

Research question1: What is the level of transformational leadership dimensions in Malaysia primary schools based on teachers' perception?

Results in table 2 indicates that the teacher' perception on TL dimensions. The findings revealed that majority of respondents perceived their principals practiced high level of TL in the 6 dimensions and moderate level in 2 dimensions. The six dimensions that showed high level are dimension 1," Develop a shared vision", (M=4.20, SD=.549) followed by dimension 3, "Holding high performance expectations", (M= 4.37 ,SD=.60) ,dimension 7 "Strengthening school culture" (M= 4.21,SD=.539), dimension 6 "Providing intellectual stimulation" (M=4.15,SD=.729), and dimension 2"Building goal consensus" (M=4.06,SD=.492). Respondents ranked 2 dimensions at moderate level, dimension 8 "participation in school decisions" (M= 3.66, SD=.596) and dimension 5 "Providing Individualized support" (M= 3.60, SD=.766) .Overall, the level of transformational leadership in Malaysia is high (M=4.09, SD=.434). Thus, this data means that the primary teachers in Malaysia viewed that the transformational leadership at high level in their schools. The high dimensions were "develop a shared vision, "holding high performance expectations, strengthening school culture", providing intellectual stimulation, and building goals by consensus. However transformational leadership is at medium in the dimensions of "school decisions and providing individualized support to their teachers.

Table 2 Level of Transformational Leadership based on Teachers' Perception

	Dimension	M	SD	Range	Rank
1	Develop a shared vision	4.20	.54	High	1
2	Building goal consensus.	4.06	.49	High	6
3	High performance expectation	4.37	.60	High	2
4	Modeling behaviour	4.18	.54	High	4
5	Providing Individualized support	3.60	.76	Moderate	8
6	Providing intellectual stimulation	4.15	.72	High	5
7	Strengthening school culture	4.21	.53	High	3
8	participation in school decisions	3.66	.59	Moderate	7
	Overall	4.09	.43	High	

Note: Low (1-2.33), Moderate (2.34- 3.66), High (3.67-5),N=144

Research question2: Are there differences in teachers' perception on transformational leadership dimensions based on location (Urban-Rural)?

According to Table (3) test of homogeneity of variances, the significant value for Levene's test was bigger than 0.05, therefore, the homogeneity of variance assumption was met. Independent samples t-test was conducted to determine differences in 8 dimensions of transformational leadership by location. Table (3) illustrate the result of independent samples t-test between rural and urban area on Develop a shared vision, Holding high performance expectations, Strengthening school culture, providing intellectual stimulation, Building goal consensus ,participation in school decisions and Providing Individualized support based on teachers perception. The result indicated that, there was significant difference (t=20.19, p=.045) in mean scores for Urban (M=4.15, SD=.47) and Rural (M=3.98, SD=.50) for Building goal consensus. Likewise, finding revealed significant difference for Holding high performance expectations (t=2.58,SD=.011) in mean score for Urban (M=4.50,SD=.51) and Rural (M=4.24,SD=.65).Whereas, finding showed no significant difference (t=.787, p=.432) in mean scores for urban (M=4.23, SD=.49) and rural (M=4.16,SD=.59) for Develop a shared vision .Similarly, for role model behaviour the result of t-test showed no significant difference (t=-.875,p=.383) in mean scores for urban (M=4.22,SD=.53) and rural (M=4.14,SD=.55).Likewise, ,the results of t-test revealed no significant difference for Providing Individualized support (t=-.452,p=.652) in means scores for Urban (M=3.82,SD=.96)and Rural (M=3.76,SD=.50),for Providing intellectual stimulation (t=.033,p=.974) in means scores for rural (M=4.16, SD=.53) and urban (M=4.15,SD=.88), for Strengthening school culture t=.867,p=.387)in means scores for Rural (M=4.25,SD=.52) and urban (M=4.17,SD=.55),for participation in school

decisions t=.023,p=.982) in means scores for rural (M=3.74,SD=.59) and urban (M=3.74,SD=.59) respectively. For overall transformational leadership, the results of t-test also illustrate no significant difference in mean score (t=.79, p=.431) for rural (M=4.12, SD=.402) and urban (M=4.06, SD=.465).

Table 3 Means differences between TL level and school location

Variables	Location				Levene's Test for Equality of Variances		t-test for Equality of Means		
		n	M	SD	F	Sig.	t	df	Sig
Develop a shared vision	Urban	72	4.23	.49	1.64	.202	.787	142	.432
	Rural	72	4.16	.59			.787	137.701	.432
Building goal consensus.	Urban	72	4.15	.47	.116	.734	2.01	142	.045
	Rural	72	3.98	.50			2.01	141.394	.045
Holding high performance expectations.	Urban	72	4.50	.51	3.95	.049	2.58	142	.011
	Rural	72	4.24	.65			2.58	134.102	.011
Modeling behaviour	Urban	72	4.22	.53			-.875	140.504	.383
	Rural	72	4.14	.55	.170	.680	-.875	141	.383
Providing Individualized support	Urban	72	3.82	.96			-.452	107.775	.652
	Rural	72	3.76	.50	2.58	.110	-.452	142	.652
Providing intellectual stimulation	Urban	72	4.16	.53	2.53	.114	.033	142	.974
	Rural	72	4.15	.88			.033	117.400	.974
Strengthening school culture	Urban	72	4.25	.52	.078	.781	.867	142	.387
	Rural	72	4.17	.55			.867	141.535	.387
participation in school decisions	Urban	72	3.74	.59	.070	.792	-.023	142	.982
	Rural	72	3.74	.59			-.023	141.996	.982
Overall	Urban	71	4.12	.402	2.87	.092	.790	141	.431
	Rural	72	4.06	.465			.791	138.631	.430

DISCUSSION AND CONCLUSION

The result of the study illustrated that majority of primary school teachers in six district in Selangor had a high level of transformational leadership perception in their schools. This could mean that the school had a positive attitude toward the importance of transformational leadership dimensions. According to the results, the dimensions of holding high performance expectations, creating productive school culture and develop a shared vision were found high level. The current research findings have consistent with research by Salleh & Saidova (2013) in Malaysia. Similarity, Selamat et al., (2013) illustrated that develop a shared vision and holding high performance had high level in Klang area. Moreover, the result of this study supported by Geijsel et al.(2003) and Leithwood & Jantzi (2003) and Leitwood &Sun (2012) in Netherlands and Canada where the dimension of developing shared vision to be the most significant dimensions of transformational leadership in school. According to Leithwood & Jantzi (1997), the principals make an effort to explain school vision and goals to teachers and support them in achieving school vision and goals. However, the finding indicated that teacher's perception on transformational leadership in their school was at moderate level for practiced providing individualized dimension and collaborative. The findings of this study were supported by Yu, Leithwood & Jantzi (2002) which indicated the level of providing individualized support was lower compared to the other dimensions of transformational leadership as perceive by teachers Likewise, Saidova (2013) Selamat et al., (2013) remarked that have moderate level of teacher perception in Malaysia schools.

Result of analysis on the level of TL based on–the location of the schools, indicated that there was a significant difference between rural teachers and urban teachers' perception in just two dimensions of transformational leadership, "holding high performance expectations and building goal consensus". According to the finding by Saidova (2013) there is a difference between schools location in Urban and Rural in Malaysia. In summary, based on this study transformational leadership in primary school as teacher perception has high level except on collaborative and individuals support. Although, there was no significant difference between urban and rural, as perceive by teachers building goal and high expectation for future research, it is suggested that the perceptions of other stakeholders such as parents and students should be considered. Moreover, other district should be considering for purpose of compare this result.

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The Relationship between Flow Experience, Organizational Citizenship Behavior and Work-Family Conflict: An Exploratory Study among Hotel Employees

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ABSTRACT

Flow concept was founded by Csikszentmihalyi in 1960s and defined as a state in which people are so intensely involved in an activity that nothing else seems to matter. Previous finding revealed that flow correlated with work performance enhancement in the field of scientific, artistic, teaching, learning, sport, music and higher motivation level associated in all work activities. The doubt on the statement by Csikszenhmihalyi (2003) that employee who are highly engage in their works could give positive outcomes. It is why this study should be conducted in hotel industry as this study would explore new arena in the hotel industry in Sarawak, Malaysian context. Thus could improve toward positive service climate in the hotel industry through enhancement in psychological capacities among the hotel employees. A thorough understanding about flow experience of the hotel employees, however, is still wanting. The objective of this paper is gain better understanding the relationship of flow with work-family conflict and organizational citizenship behavior. This cross-sectional study using self-administered questionnaire, the data (n=293) are collected from hotel employees in Sarawak, Malaysia. Confirmatory factor analyzing using SEM via AMOS 21 tested and validates the measurement model prior to test the hypothesized model. The result revealed that flow has a positive and significant relationship with organizational citizenship behavior. Employees who experience the state of flow likely find their work enjoyable and intrinsically motivating. In addition, this phenomenon encouraged employees to performed extra role beyond the requirement of the formal duties and could keep them stay longer with the organization. However, this present study revealed that flow has no significant correlation between flow and work-family conflict. Top hotel management team could develop a working environment to facilitate flow experience among the hotel employees. In sum, new finding providing from this study and other related outcomes on the relationship

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with state of flow in a non-Western context. The context used in this research is Malaysia hotel industry and it is influenced by the context culture of Malaysia and to be exact the state of Sarawak and also in context of the hotel industry itself.

Keywords: Flow, Organizational Citizenship Behaviour, Work-family Conflict, Hotel

INTRODUCTION

Csikszentmihalyi (1996) described flow is the intense and deep concentration in an activity that resulted in rewarding outcomes. Flow is positive experience in order to improve work performance resulted in satisfying achievement and produce intense feeling of enjoyment (Csikszentmihalyi, 1988). Flow has a strong impact and proven to be correlated positively with performance enhancement especially in the area of artistic and scientific creativity (Perry, 1999; Sawyer, 1992), teaching (Csikszentmihalyi, 1996), learning (Csikszentmihalyi et al., 1993), and sport (Jackson, Thomas, Marsh, & Smethurst, 2001).

The outcome variables for this study are organizational citizenship behavior and work-family conflict. Organizational citizenship behavior defined as those extra role behaviors beyond the formal duties. (Bateman & Organ, 1983). Another outcome variable is work-family conflict referred as a form of inter-role pressure from work and family domains in some respect both roles at work and family domain which are mutually incompatible (Greenhaus & Beutell, 1985).

So far, no known research on flow in hotel setting have been conducted in Asia (for exception: Chen, Ye, Chen, & Tung, (2010) in Taiwan) or Malaysian context. Thus, it raises a question whether Western findngs can be generalized to our local context; due to socio-cultural differences. In addition, flow is relatively a new field to explore (Bakker, 2005; Demerouti 2006) and limited knowledge about flow phenomena. The only nearest construct which is similar to flow is job engagement (Schaufeli, Salanova, Gonzales-Roma, & Bakker, (2002). On the construct of work-family conflict in relation with flow; according to recent study by Martin (2013), even some literature discussing on employee engagement to work-family conflict is virtually non-existent and therefore with this flow construct on the relationship with work-family conflict would provide the need for the lacking. Thus, this study could fill the gaps of the lacking on the relationship between flow and organizational citizenship behavior and work-family conflict. This study will give a whole new idea of the research finding in a sample of Malaysian hotel industry. An exploratory study in nature, a sample of full time hotel employees will be drawn from hotels in Sarawak, Malaysia.

LITERATURE REVIEW

Based on previous literatures, flow definition consists of three elements that integrate with each other. Firstly, refers as a sense of deep involvement and concectration (Chen, 2006; Moneta & Csikszentmihalyi, 1996; Ghani & Denshpande, 1994). Secondly, involving the feeling of ultimate enjoyment while doing the task (Hedman & Sharafi, 2004; Moneta & Csikszentmihalyi, 1996) and lastl refers as a person who with highly instrically interested in doing the task for its own sake and not due to the external pressure or demands (Salanova, Bakker & Llorens, 2006). Past research has documented that flow gave positive impact on individual's subjective well-being and improve happiness, life satisfaction and positive affection among employee in the USA (Chen, Wigand & Nilan, 1999); positive mood, task interest, willing to perform extra role among the sale employees in large discount electronic and appliance retailer in north eastern USA (Engeser, Jone, Stglhamber, Shanock & Randall, 2005); life satisfaction among acrobatic performers in Taiwan (Chen, Ye, Chen & Tung, 2010). In addition, a study of flow in China revealed could increased motivational level among adolescent in online gaming (Chin-Seng & Wen-Bin, 2006). Thus, flow is considered as motivating process phenomenon (Bakker & Demerouti, 2008) and as an approach to enhance effectiveness of human resources.

Flow is relatively a new construct and still in need more studies about this phenomenon (Bakker 2005; Demerouti 2006) in the relationship on organizational citizenship behavior. The only nearest concept and share similarities with flow is job engagement (Bakker, 2008) which is defined as the positive fulfilling and work related state of mind and share the affinity with the flow variables (Schaufeli, Salanova, Gonzales-Roma, & Bakker, 2002). According to Csikzsentmihalyi (2003), flow phenomenon in the organization can keep the employee to stay longer with the organization and also encourage in promoting the well-being and engagement in the workplace.

The nearest similarity of flow is job engagement (Schaufeli, Salanova, Gonzales-Roma, & Bakker, 2002). Based on the recent study by Martin (2013), some literature discussing on employee's job engagement to work-family conflict is virtually non-existent and therefore with flow construct on the relationship with work-family conflict would provide the need for the lacking.

RESEARCH STATEMENT

This study is relatively a new perspective on flow experience in Malaysian context of hotel industry. Flow may be good way for hotel employees to improve their motivational level and other positive characteristic in their job. A career in hotel industry is challenging and its impact could determine the objectivity the sustainability in the challenging business environment. The present study sought to investigate the correlation of flow on organizational citizenship behavior and work-family conflict among the hotel employees.

Taking into consideration the objectives of this study, it is hypothesized that:

Ho1 There is no significant relationship between flow and organizational citizenship behavior.

According to Bakker (2005) and Demerouti (2006), flow construct is relatively new and the knowledge on flow phenomenon on the relationship with organizational citizenship behavior is still limited knowledge. Based on the other similar study, the nearest to flow construct is job engagement (Bakker, 2005) and was mentioned to have potential predictor in organizational citizenship behavior (Rich et al., 2010). Therefore, the above hypotheses has been constructed to examine the relationship between flow and organizational citizenship behavior.

Ho2 There is no significant relationship between flow and work-family conflict.

Based on empirical finding that the nearest construct to flow is job engagement (Bakker 2005) and on the basis on the literature discussion that job engagement to work-family conflict is virtually non-existent. Thus with the study of flow construct on the relationship with work-family conflict would provide the need for the lacking. Due to the lacking in this area of study, the above hypotheses was been developed to investigate the relationship between flow and work-family conflict.

METHODOLOGY

The purpose of the study is to examine the relationship of the flow on organizational citizenship behavior and work-family conflict among the hotel employees. The present study is conducted among the hotel employees working in Sarawak (Kuching, Sibu, Bintulu and Miri) in East Malaysia and convenience sampling method was chosen. After approval from the respective hotel's top management, meeting with the person in charge in respective hotels will be conducted to seek for cooperation about the study. The confidentiality and anonymity of their answers remain secured as well as protection of the respondent privacy and rights. Questionnaires will be send to targeted population sample through Human Resource Department and every respondents will be given a duration of two weeks to complete the questionnaires and return it to the researcher. Questionnaire distributed to the population based on permission given by the respective Human Resources Manager. Hence the completed set of questionnaires collected by the researcher two week after the distribution using an adopted self-administered quantitative survey questionnaire developed and validated by earlier studies. All measures were in English and Bahasa Melayu.

A total of 293 usable completed questionnaires out of 500 questionnaires distributed represented 58.6% consider as sufficient for the purpose of confirmatory factor analysis and structural model test (Hair et al., 2010; Byrne, 2001; Malhotra, 1999) and sufficient sample size table for research activities (Krejcie & Morgan, 1970). There

were 194 (66%) male respondents and 99 (33%) female respondents in the study. The respondent's age ranges between 20 to 29 years of age and the majority are from the total respondents; with Iban race total of 101 (34%) and 189 (64%) have qualifications in Middle Certificate of Education/Sijil Pelajaran Malaysia. Majority of respondents were single and represented 54% while the length of service ranges between 1 to 5 years represented 60% from the total respondents.

Research Instruments

Flow will be assessing with the work-related flow instrument (WOLF; Bakker, 2008). The WOLF will be includes 13 items measuring absorption (4 items; eg. "when I am working, I forget everything else around me"), work enjoyment (4 items; eg., "when I am working very intensely, I feel happy'), and intrinsic work motivation (5 items; e.g., "I get my motivation from the work itself, and not from the reward for it"). The respondent will be ask to indicate how often they have each of the experienced of flow during the preceding days or weeks on a seven point scale (0 = never, 7= always)

The 3 facets of Work-Family Conflict will be measured with the scale developed by Carlson et al. (2000). This scale consists of 3 items for each facet of work interface family (WIF) conflict and total are 9 items. Sample items include: "My work keeps me from my family activities more than I would like" and "I have to miss family activities due to the amount of time I must spend on work responsibilities." This questionnaire rating will be obtained using a six-point scale. (1 = strongly disagree, 6 = strongly agree). According to Carlson et al. (2000), the internal consistency reliability was .83 for work-family conflict.

The item 8 items Organizational Citizenship Behavior scale developed by Podsakoff, et al. (1990) will be utilized to assess the 5 dimensions of Organizational Citizenship Behaviour proposed by Organ (1988). These dimensions were altruism, conscientiousness, courtesy, sportsmanship and civic virtue. The item ratings will be obtained from a 6 point Likert scale that have responsiveness ranging from 1= 'Strongly Disagree' to 6= 'Strongly Agree'. The ratings indicate the extent that each of the behavior is a characteristic of the employee's behavior.

DATA ANALYIS AND RESULT

A total of 293 usable completed questionnaires out of 500 questionnaires distributed represented 58.6% consider as sufficient for the purpose of confirmatory factor analysis and structural model test (Hair et al., 2010; Byrne, 2001; Malhotra, 1999) and sufficient sample size table for research activities (Krejcie & Morgan, 1970). There were 194 (66%) male respondents and 99 (33%) female respondents in the study. The respondent's age ranges between 20 to 29 years of age and the majority are from the total respondents; with Iban race total of 101 (34%) and 189 (64%) have qualifications in Middle Certificate of Education/Sijil Pelajaran Malaysia. Majority of respondents were single and represented 54% while the length of service ranges between 1 to 5 years represented 60% from the total respondents.

In this study, AMOS version 21 and SPSS version 19 was used to conduct the data analysis, which included two steps. Firstly, the confirmatory factor analysis was conducted by specifying the causal relationship between the observed variables and their theoretical construct (Arbuckle, 2005). Thus, measurement model for each factor was independently tested and was tested for validity and reliability. Construct validity is being utilized on the proposed measurement model. To ensure the construct validity in this study is met; is to measured items that are the indicators of a specific variables that should converge or share a high proportion of variance in common and known as convergent validity. Validity was established when each indicator variables arrived at a minimum value of 0.5 for standardized regression weight (Hair et al, 2010). For reliability test, Cronbach's alpha is been utilized and this test is a commonly used measure to test the extent to which multiple indicators for a latent belong together. A general rule is that the indicators should have a cronbach's alpha value of 0.70 or above to indicate the internal consistency exists and that the measures consistently represent the same variables (Hair et al, 2010). According to Hair et al (2010), it is not sufficient to use coefficient alpha as an estimate of the reliability of a multidimensional composite scale score and therefore, construct/composite reliability value are recommended to use whereby the value computed were from the sum of factors loading for each construct and the sum of error variance terms. Composite reliability is taught to be more precise compare to Cronbach's alpha value and by convention, the value should be at least 0.70 (Raykow, 1997). The standardized loadings, average variance extracted (AVE), Composite reliability (CR) and Cronbach's Alpha values are listed in Table 1. All standardized loadings are larger than 0.5, all the AVE values exceed 0.5 and the CR values exceed 0.70. Thus the scale has a good convergent validity (Gefen et al., 2000) and all Alpha values as well as the Composite Value showed a good reliability (Nunnaly, 1978).

Table 1 Standardized item loadings, alpha values, CR and AVE.

Variable indicator		Construct	SIL	Cronbach's Alpha	Composite Reliability	AVE
Benchmark			≥0.5	≥0.7	≥0.7	≥0.5
Work-family Conflit						
WFC1	<---	WFC	0.809			
WFC2	<---	WFC	0.950			
WFC3	<---	WFC	0.922			
WFC4	<---	WFC	0.855			
WFC5	<---	WFC	0.641			
WFC6	<---	WFC	0.573	0.923	0.914	0.646
Organizational Citizenship Behaviour						
OCB1	<---	OCB	0.769			
OCB2	<---	OCB	0.909			
OCB3	<---	OCB	0.880			
OCB4	<---	OCB	0.793			
OCB5	<---	OCB	0.579	0.890	0.893	0.631
Flow						
FLOW2	<---	FLW	0.516			
FLOW4	<---	FLW	0.690			
FLOW5	<---	FLW	0.705			
FLOW6	<---	FLW	0.843			
FLOW7	<---	FLW	0.880			
FLOW8	<---	FLW	0.802			
FLOW9	<---	FLW	0.611			
FLOW12	<---	FLW	0.503	0.896	0.885	0.501

Secondly, we examined the structural model to test the research hypotheses (Anderson and Gerbing, 1988). The result is shown in Table 1 of the factor loading of Flow, Organizational Citizenship Behavior and Work-Family Conflict were found to be good fit with the χ^2 of 419.326 (df = 128, p = 0.000, χ^2/df = 3.276), IFI of 0.926, CFI of 0.926, TLI of 0.911 and RMSEA of 0.080. It was revealed that the models met the minimum level of goodness-of-fit.

As Table 2 show, mean, standard deviation and inter correlations revealed that Flow higher mean than organizational citizenship behavior and work-family conflict. Organizational citizenship behavior has significant relationship (r = .327, p< .05) with Flow while there is no significant relationship between Flow and Work-family conflict (r = -.099, P > .05).

Table 2 Mean, Standard Deviation, alpha reliability and inter-correlations among variables

	Variables	M	SD	α	1	2	3
1.	Flow	4.28	.966	.91	1		
2.	Organizational Citizenship Behavior	3.73	1.07	.89	.327**	1	
3.	Work-Family Conflict	3.67	1.04	.92	-.099	-.214	1

Note: M = means; SD = standard deviations; α = reliability; *, $p < .05$; **, $p < .01$, ***p<0.001.

To address the common method variance, the three different scales that were used in the questionnaires have been tested for Harman's one factor test. In this study, Harmon's single factor to test all variables in the study that are loaded into an factor analysis to determine if all the variables load on a single factor or if one factor accounted for a majority of the covariance of the variables/construct. The Harmon's single-factor test results are given in the Table 3 in comparison between standardized regression weight before and after adjustment of the model. The differences of greater than 0.200 mean that there is a common method variance and therefore in structure modeling should retain the common latent factor (Padsakoff, Mackenzie, Lee, & Podsakoff, 2003).

For this study, the result differences in the coefficient for all items is small or below 0.200 and revealed that there was no general factor that accounted for a majority of the variance. For this study, it was concluded that common method variance was not present in this study.

Table 3 Variances of Harman's test for Common Method Variance

Comparison Standardized Regression Weights **Before Adjusting**				Standardized Regression Weights **After Adjusting**				**Differences (≤0.200)**
			Estimate				Estimates	
WFC1	<---	WFC	.806	WFC1	<---	WFC	.776	**0.030**
WFC2	<---	WFC	.940	WFC2	<---	WFC	.913	**0.027**
WFC3	<---	WFC	.947	WFC3	<---	WFC	.917	**0.030**
WFC4	<---	WFC	.822	WFC4	<---	WFC	.789	**0.033**
WFC5	<---	WFC	.638	WFC5	<---	WFC	.613	**0.025**
OCB1	<---	OCB	.771	OCB1	<---	OCB	.742	**0.029**
OCB2	<---	OCB	.907	OCB2	<---	OCB	.880	**0.027**
OCB3	<---	OCB	.875	OCB3	<---	OCB	.840	**0.035**
OCB4	<---	OCB	.803	OCB4	<---	OCB	.772	**0.031**
FLW4	<---	FLW	.704	FLW4	<---	FLW	.656	**0.048**
FLW5	<---	FLW	.781	FLW5	<---	FLW	.745	**0.036**
FLW6	<---	FLW	.909	FLW6	<---	FLW	.876	**0.033**
FLW7	<---	FLW	.808	FLW7	<---	FLW	.769	**0.039**
FLW8	<---	FLW	.744	FLW8	<---	FLW	.708	**0.036**
FLW9	<---	FLW	.589	FLW9	<---	FLW	.544	**0.045**
OCB5	<---	OCB	.585	OCB5	<---	OCB	.536	**0.049**
FLW2	<---	FLW	.553	FLW2	<---	FLW	.493	**0.060**

HYPOTHESES TESTING

To test the two hypotheses, Structural Equation Modeling via AMOS V21 was utilized. The main objective of this study was to predict the relationship with flow and organizational citizenship behavior.

Hypotheses 1 proposed that flow is correlated with organizational citizenship behavior and was supported. Result revealed that flow was correlated with organizational Behavior, $\beta = .413$, $p < .05$.

Hypotheses 2 proposed that flow and work-family conflict would be correlated. Hypotheses 2 was not supported. Result revealed that flow not correlated with work-family conflict, $\beta = -.128$, $p > .05$.

In sum, results suggest that flow have significant relationship with organizational citizenship behavior while there no significant relationship between flow and work-family conflict as flow did not give any impact on work-family conflict as outcomes but flow do give an impact on employees organizational citizenship behavior within the hotel organization, given the result produced in this current study.

DISCUSSION

The objective of this study was to provide evidence the outcome of flow experience of hotel employees in Malaysia. The two findings for this study were as follow: firstly, flow has significant relationship with organizational citizenship behavior. From the viewpoint of the organization, employees who experience flow likely find their work enjoyable and intrinsically motivating. Flow encouraged employees to performed extra role beyond the requirement of the formal duties as well as be able to attract the most talented individuals into the organization. In addition, this phenomenon can keep them stay longer with the organization as well as promoting well-being and engagement in the workplace (Csikzsentmihalyi, 2003). Thus, this study revealed that flow in the hotel industry indeed has significant relationship with organizational citizenship behavior.

Secondly, finding indicate that flow have no significant relationship with work-family conflict. It is also relatively a new construct of flow to investigate the relationship outcomes of work-family conflict in the context of Malaysian hotel. To the nearest similarities of flow construct is work engagement (Schaufeli, Salanova, Gonzales-Roma, & Bakker, 2002) and according to recent study by Martin (2013), some literature discussing on employee engagement to work-family conflict is virtually non-existent. Thus, the result finding of this study is consistent with a study done by Martin (2013) whereby work engagement was not significantly related to work-family conflict. Other studies have noted negative relationship between work-family conflict and work engagement (Halbesleban, 2011; Lawrence, 2011).

STRENGTHS AND LIMITATIONS

The uniqueness of this study revealed that flow experience existed among Malaysian employees. Result revealed that flow has higher mean (m = 4.24) than organizational citizenship behavior and work-family conflict. This is the new area in human resources in Malaysia because flow has positive influence on employees through the organizational citizenship behavior. This could be good tool especially in motivating the generation Y employees in Malaysia especially for employees of generation Y in Sarawak.

Secondly, generation Y represented 52.6% were the largest respondents in this study. Thus, this study revealed the need to understand the generation Y employees' characteristics and would emphasize the important of work life balance at the workplace in Sarawak context.

There are few limitations to consider when interpreting the result in this study. This limitation of this thesis could be considered from the perspectives of the context as well as the method. Firstly, the cross-sectional research design was used has the disadvantages such as difficulty to confirm the direction of the relationship between the variables. Therefore, longitudinal study might be a good procedure in describing the patterns of change and the direction of the relationship between the variables of interest.

Secondly, from the contextual perspectives this study focuses on investigating flow experience in the Malaysian hotel industry. Thus, the findings of this study may be affected by specific industry-related events such as increase in pricing, increases or introducing new taxes and fees, differences in service quality and standard and other events which cannot be validated over time (Sharmma, 2007).

In the aspect of sampling strategy, this research selected sample from Sarawak for quantitative studies. Therefore, this may has some likelihood of negative affecting results in term of generalizability of the findings because it does not reflect the view of all Malaysian.

IMPLICATION

Top hotel management team could develop a working environment to facilitate flow experience among the hotel employees as high level of flow phenomenon would increase proactive working behavior (Salanova & Schafeli, 2008). In addition, job redesigning, job enrichment, job rotation as well as job enlargement could be further enhance in a positive way to be as another approach in facilitating state of flow experience in the hotel industry toward improve employees job motivation, job satisfaction, commitment and minimizing employee turnover rate.

It revealed that the hotel employee's value and demand work-life balance and this could actually help the hotels to understand the importance of work-life balance in hotel industry. This study can be used as a basis for hotel management to develop policies to help the hotel employee's in dealing with work-family conflict toward organizational success. Based on this research finding, eventhough in this study is not correlated but the top management of the hotel can develop and implement work policies that address family needs as 52.6% of the respondents' majority are from the generation Y age ranging from 20 to 29 years old. Work-life balance is one of the fundamental value and important factor for generation Y employees and less willing to make sacrifices for the sake of their jobs (Barling & Loughlin, 2001).

Research finding from this study can be beneficial and relevant to the practice in the hotel industry. This study found out that there is a negative relationship between flow and work-family conflict. It revealed that the hotel employees demand or value more work-life balance and this could actually help the hotels to understand the importance of work-life balance in hotel industry. This study can be used as a basis for hotel top management to develop policies to help the hotel employee's in dealing with work life balance.

CONCLUSION

In sum, new finding providing from this study and relates with the outcomes on the relationship with state of flow in a non-Western context. The context used in this research is Malaysia hotel industry and it is influenced by the context culture of Malaysia and to be exact the state of Sarawak and also in context of the hotel industry itself. Thus, hotel management team could develop a working environment to facilitate flow experience among the employees. Through job redesigning, job enrichment, job rotation and job enlargement may further enhance in a positive manner to facilitate the flow experience. The experience of flow could promote the feeling of organizational citizenship behavior. On the contrary, flow was not correlated with work-family conflict. Thus, it is difficult for the hotel employees to experience the state of flow and top hotel management might need to revisit their policies or enhance the work life balance at the workplace.

FUTURE RESEARCH

Future research should be done in longitudinal study and conducted in other states within Malaysia. This may be a good procedure in describing the patterns of change and the direction of the relationship between the organizational citizenship behavior and work-family conflict. Further replication of the study in different industries in Malaysia and also be replicate and to be conducted in any other ASEAN countries as well. The objective of this replication is to improve generalizability of the findings as well as offers a clear hint of the applicability of the flow theory in Malaysian context.

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Procedural Understanding in Physics Practical Work

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ABSTRACT

Physics is a domain of science which is much related to everyday life but is always considered difficult due to the abstract physical laws and theories. Practical work in the physics laboratory helps to enhance learning through a series of scientific investigations. This paper discusses the concept of procedural understanding in practical work which is the ideas of how valid and reliable evidence can be collected through scientific methods. Procedural understanding is incorporated in every process of science inquiry, from the planning of an investigation to concluding the evidence and communicating the findings of the investigation. However, procedural understanding is not an aspect in the Malaysian secondary school physics laboratory. In order for Malaysian students to have better reasoning skills, procedural understanding should be integrated into the school curriculum.

Keywords: Procedural Understanding, Concepts of Evidence, Reliability and Validity, Scientific Investigation, Physics Practical Work

INTRODUCTION

Physics is a domain of science which forms the basis of the technological and industrial world (Duit, Niedderer, & Schecker, 2007). The subject of physics is offered to higher secondary school students (Form 4 and Form 5) in the science stream in Malaysia. However, concepts of forces, energy, materials and technology are introduced as early exposure to the science of physics through primary school science education (MOE, 2003).

Physics is considered difficult by many students due to its high level of abstraction. Students need to understand theories and laws which are represented by complex mathematical formulae (Pattar, Raybagkar, & Garg, 2011). Physics concepts cannot be formed through observations of the natural world but need to be reconstructed under certain theoretical assumptions (Duit et al., 2007).

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Practical work is important in the learning of physics as it allows students to experience physical phenomena in the laboratory and hence provide concrete evidence for abstract ideas in physics. Khaparde (2010) considers physics as the most quantitative science where the foundation is set from continuous observation, measurement, data collection, analysis and interpretation. In other words, physics concepts are better learnt through practical work that involve scientific investigation in the laboratory.

The Malaysian physics syllabus introduces students to analysing scientific investigation through a series of scientific inquiry skills such as identifying a problem, forming hypothesis, design experiment to test the hypothesis, recording and interpretation of data (MOE, 2005) so that students have the ability to conduct quality practical work in the laboratory. However, practical work in secondary school laboratory seldom involve open-inquiry type of scientific investigation as it is time-consuming (Moeed & Hall, 2011; Ottander & Grelsson, 2006). Instead, most laboratory activities are done by following a prescribed manual or cookbook recipe type of practical work (Abrahams & Millar, 2008) to confirm a theory or to get familiar with certain laboratory instrument. Students are not thinking and conceptualising what they do in the laboratory. There is 'hands-on' but no 'minds-on' thus does not help students in the learning of physics.

Students need to think before practical work is done, to relate the work to theories and laws as well as to consider how real scientists will plan and carry out the investigation. Khaparde and Pradhan (2002) claimed physics as an experimental science where quantitative measurements play an important role. They believed that the laboratory is a place to improve conceptual understanding and to practise experimental skills. On the other hand, they also suggest that procedural understanding is an aspect that is always neglected in the physics laboratory, which actually involve the 'thinking behind the doing' of practical work (Roberts, 2001).

PROCEDURAL UNDERSTANDING

Procedures are series of action or steps to complete certain task. Procedural knowledge is the knowledge associated with how to perform these procedures. Procedural knowledge is a common aspect in problem solving especially in mathematical problems. In mathematics, procedural knowledge can be defined as the algorithms or rules to be followed to complete a mathematical task (Hiebert & Lefevre, 1986). It is the understanding of how to solve a mathematical problem through a series of steps. With procedural knowledge students will know the correct method or procedure to solve problems not only in the mathematics, but also in the domains of physics and chemistry as they involved formulae and mathematical applications (Heyworth, 1999). Students can be trained in these procedures without relating them to conceptual knowledge as they can just memorise formulae and process without having to understand the concepts (Surif, Ibrahim, & Mokhtar, 2012).

Procedural understanding in scientific investigations however is more sophisticated as it involves data collection as well as interpretation and analysis of data

collected (Khaparde & Pradhan, 2002). According to Almekinders, Thijs, and Fred (1998), the expression of 'procedural understanding' was first introduced in 1984 in a report by the Assessment of Performance Unit (APU) and had since been used interchangeably with 'procedural knowledge'. They defined procedural understanding as the understanding of methods and procedures used in inquiry-type of scientific investigations and pointed out that this understanding is actually more complex than procedural knowledge, as comprehension (understanding) is at a higher level in the Bloom's Taxonomy compared to knowledge.

Roberts (2001) explained procedural understanding as 'the thinking behind the doing' of science and is seconded by Gott and Duggan (2002). Practical work in the school science laboratory allows students to act like real scientists through a series of open-inquiry type of investigations. Yet, apart from learning the processes of what do scientists do, students should also be trained to think like how the scientists would think (Roberts, 2001) before they conduct experimental work. Hence, the thinking or ideas behind the doing of experiment that involves planning and judgement of experimental procedures mark the concept of procedural understanding.

Millar, Lubben, Gott, and Duggan (1994) identified three areas of procedural understanding. The first area is the understanding of framework for scientific investigation which is the consideration on the objective of the practical work. The second area involves understanding of the process of carrying out the investigation which includes manipulative skills on the operation of instruments and apparatus. Lastly, the understanding of the issue reliability of empirical evidence that involves procedures of how reliable evidence can be collected.

Gott and Duggan (1996) explained the aspect of procedural understanding through concepts of evidence. They suggested that experimental skills that are developed in the school science laboratory are not solely formed through the process of doing but are also knowledge based. The cognitive knowledge that they refer to is knowing what steps and experimental procedures should be followed to gather valid and reliable evidence, by giving consideration to the design, measurement and data handling in scientific investigation. Therefore, students should be taught the concepts of validity and reliability scientific evidence while developing experimental skills.

One example which implies the validity of evidence is the concept of 'fair test' which is associated with the validity of investigation design (Roberts & Gott, 2003). Hammann, Phan, Ehmer, and Grimm (2008) found in their study that children have poor control-of-variables strategy and change more than one variables when investigating relationship between the variables. In a fair test, variables in the test need to be controlled so that the responding variable is affected by the manipulated variable alone, to ensure that the relationship deduced between the variables is valid (Gott, Duggan & Roberts, 2003).

Using the case of a physics experiment for instance, while deducing the relationship between the forces applied on an object and its acceleration, the force applied on the object is manipulated and how the acceleration of the object changes in respond to the manipulation of force is observed and measured. However, other factors might affect the acceleration, such as mass of the object, its shape, and the existence of

frictional force. In order for the investigation to be a fair test, variables of mass, shape and frictional force need to be controlled and fixed so that the data obtained only show how the acceleration (responding variable) of an object is affected by the force applied (manipulated variable).

Table 1 shows the concepts of evidence associated with each stage of scientific investigation as suggested by Gott and Duggan (1996). Continuous researches (Gott & Duggan, 1996; Gott & Duggan, 2002; Gott & Roberts, 2008; Roberts & Gott, 2003) had been done to determine the applicability of the concepts of evidence in the science curricula. The list of concepts of evidence is continuously being reviewed, refined and improved. Gott et al. (2003) introduce a list consisting 21 concepts, as shown in Table 2. They introduce the fundamental idea that all investigation must be handled critically as there is always errors and uncertainty in the process of investigation. It is important for students to know how to judge and decide which kind of data can be used as valid evidence.

Table 1
Concepts of evidence suggested by Gott and Duggan (1996)

Stages of scientific investigation	Concepts of evidence
Associated with design	• Variable identification • Fair test • Sample size • Variable types
Associated with measurement	• Relative scale • Range of interval • Choice of instrument • Repeatability • Accuracy
Associated with data handling	• Tables • Graph types • Patterns

Notes. Adapted from "Practical work: its role in the understanding of evidence in science" by R. Gott and S. Duggan, 1996, *International Journal of Science Education, 18(7)*, pp 796-797.

Table 2
Concepts of evidence by Gott, Duggan and Roberts (2003)

1. Fundamental ideas
2. Observation
3. Measurement
4. Instruments: underlying relationships
5. Instruments: calibration and errors
6. Reliability and validity of a single measurement
7. The choice of an instrument for measuring a datum
8. Sampling a datum
9. Statistical treatment of measurements of a single datum
10. Reliability and validity of a datum
11. Design of investigations: variable structure
12. Design: validity, 'fair test', and controls
13. Design: choosing values
14. Design: accuracy and precision
15. Design: tables
16. Reliability and validity of the design
17. Data presentation
18. Statistics for analysis of data
19. Patterns and relationship in data
20. Reliability and validity of the data in the whole investigation
21. Relevant societal aspects

Notes. Explanation and examples related to each of the concepts can be retrieved from http://www.dur.ac.uk/richard.gott /Evidence/cofev.htm

Analysing the concepts listed in Table 2, it can be seen that this later version of concepts of evidence are still associated to components of design, measurement and data handling in scientific investigations as compared to the earlier version suggested by Gott and Duggan (1996). However, the concept of accuracy and precision of the design by the use of suitable apparatus is included and tables are suggested to be used as organiser in designing the investigation. Component associated with measurement is refined with the more details in the choice of instruments for collecting evidence. Much more ideas are added in the component of data handling, especially in the analysis of data, in terms of the type of statistical treatment that can be used to determine the quality of data. Consideration is also given to the suitable type of statistical analysis that can be used to obtain results. Another important aspect here is the understanding of reliability and validity of the data in the whole investigation which suggest the concept of triangulation.

Glaesser, Gott, Roberts, and Cooper (2009) explained procedural understanding as the grasp of knowledge on procedures to collect valid and reliable evidence by considering procedures used, calibration and measurement error, data collected as well as ideas of how evidence or data should be deciphered. Thus, it can be said that procedural understanding is actually the understanding of ideas in how to obtain

scientific evidence which is reliable and valid to be shared through careful planning and interpretation of practical work so that it is recognised. It includes the validity and reliability in the procedures designed for investigation, the instruments used in the investigation, the measurement taken, the data handling as well as evaluation on the results from the analysis of data. Concepts of evidence by Gott et al. (2003) will be used as the reference for procedural understanding in this paper.

INTERPRETING THE CONCEPTS OF EVIDENCE BY GOTT ET AL. (2003)

Glaesser et al. (2009) described the concepts of evidence as a "toolkit of ideas integral to planning and carrying out practical investigations with understanding". The fundamental idea of concepts of evidence is to create awareness and understanding on the importance of reliability and validity of evidence from a scientific investigation. Gott et al. (2003) had pointed out that investigators should know the differences between opinions and data as opinions such as personal view and belief cannot be used as evidence in scientific investigation. Data that are valid must be collected using scientific methods.

Concepts related to collecting evidence through observation suggested by Gott et al. (2003) includes the observation on objects and events by using certain keys or conceptual framework. From observations, questions can be generated and problems can be identified for further investigations. Investigators need to know the techniques in recording observation such as map drawing and use of taxonomies. The concept of measurement incorporates the idea of inherent variation when there is repeated measurement. Human error may occur every time measurement is done and should be taken into consideration.

The concepts of evidence by Gott et al. (2003) also creates awareness of underlying relationships in instruments, which consists of linear, non-linear, complex and multiple relationships. Reading a measuring instruments such as thermometer is an easy and straight forward task. However, there should be awareness that what is being read on the thermometer is actually the length of the mercury column, which results from the increase in the volume of mercury due to temperature rise. As an investigator, one needs to know that length of mercury is directly proportional to temperature when using the thermometer instead of just reading the thermometer. This is an example of linear relationship in the instruments.

Explanations regarding calibration and error by Gott et al. (2003) point out that investigators must have understanding on how calibration and error of instruments affect the investigation. Attention has to be given to the end points of measuring instrument as certain instruments (such as thermometer and Bourdon gauge) do not start from zero. Instruments have limitations thus maximum value that can be measured by the instrument need to be considered so that it is not overloaded. Instrument of suitable sensitivity and range must be chosen for measurement. The ideas involved include end points, intervening points, zero errors, limit of detection, sensitivity, resolution and error, and human error involved when choosing instruments.

Concept of reliability and validity on a single measurement requires investigators to think of ways to obtain valid and reliable measurements, such as repeated the measurement to obtain an average value using different measuring instruments and have random checks on the readings to detect unexpected human error (Gott et al., 2003). When measuring a datum, instrument had to be chosen carefully by considering the precision and reproducibility of the data obtained. Any outliers or anomalous values must be examined to find out the causes.

According to Gott et al. (2003), as an investigator who applies scientific methods, one needs to understand the concept related to the sampling of a datum, particularly the size of the sample that is how many times measurement should be taken in order for the data to be representative and not bias. Statistical treatment that can be used include range, mode, median, mean, frequency distributions, standard deviation, etc. to make desired inference from the data.

Understanding on the design of investigation begins with the variable structure. Important variables that need to be identified are the independent and dependent variables. Independent variables are variables which can be manipulated and change by the investigator while dependent variables are those variables that act in response to the change of the independent variable. Other variables that might affect the investigation need to be identified and controlled. A fair test should be established whereby only the independent variable is allowed to affect the dependent variable (Gott et al., 2003). Other variables need to be maintained as constant or at least change in the same way.

From the concepts of evidence by Gott et al. (2003), choosing of values is another important concept of obtaining evidence. If time allows, trial runs should be conducted to determine the most appropriate sample size, range, interval, and number of readings to be taken so that a pattern can be deduced from the data obtained. Table can be used as organiser during planning and designing of the investigations. Investigators should be aware of different methods of presenting their data, either in the form of tables, bar charts, line graphs, histograms, etc. Analysis of data can be done using statistical analysis such as analysis variance and regression and hence determine whether the pattern of data is a linear relationships, proportional relationship or exponential curve. Line of best fit is an alternative way to illustrate underlying relationship.

To evaluate the reliability and validity of the whole investigation, Gott et al. (2003) suggest triangulation can be done by comparing the results of the investigation with results obtained using other methods. To reach an overall solution for the problem or question investigated, other experimental procedures can be used. A series of experiments or investigations can be carried out to obtain secondary data. Results or values obtained can also be compared with known values.

Final aspects in concepts of evidence by Gott et al. (2003) are related to societal aspects such as credibility of evidence, practicality of consequences, experimenter bias, power structures, paradigms of practice, acceptability of consequences, status of experimenters and validity of conclusions. However, not all these concepts are suitable to be used at secondary schools. Instead, these concepts are more relevant to investigations done at higher level in education.

Gott and Roberts (2008) created a bulls' eye model for the concepts of evidence related to scientific investigation, as shown in Figure 1. They emphasized that the reliability and validity at each layer of the model has to be confirmed in order to obtain meaningful evidence from the investigation. At the bulls' eye, the quality of a single datum had to be consider when making measurement. At the second layer which is the data set, sufficient repeated readings had to be taken in order to improve the trustworthiness of the data. The third layer reminds the investigators to check on the validity of the design so that valid patterns can be deduced from the data. Apart from that, validity of external sources of data for comparison and issues of biasness as in the outmost layer also need to be considered as they will influence the quality of the evidence.

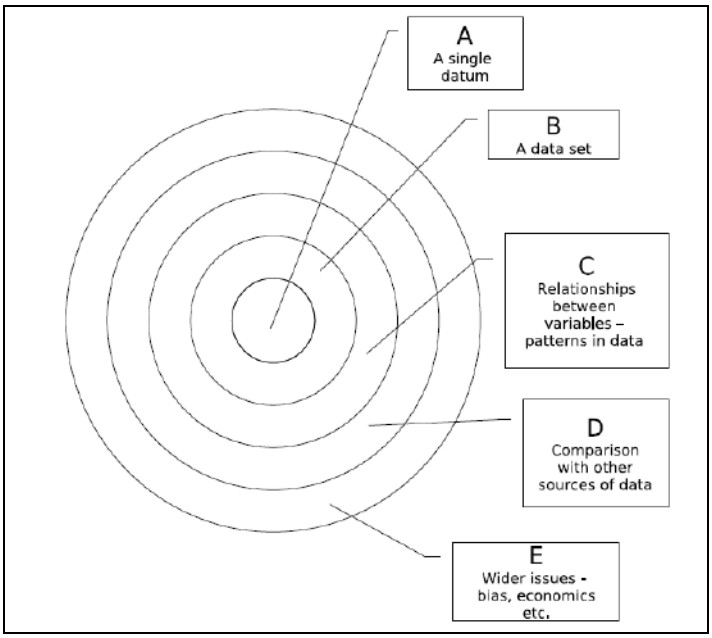


Figure 1 The Bullseye Model by Gott & Roberts (2008)

PROCEDURAL UNDERSTANDING AND SCIENCE INQUIRY

Development of experimental skills is part of science inquiry. Science inquiry is commonly understood as the process of doing science, or doing science practical work as how scientists would. Science is best learnt through the process of inquiry where students learn how scientific concepts are discovered through questioning, investigating and solving problems that arise in daily life (Atkin & Black, 2007). Science inquiry that focus on complete investigation is considered as an important area in the science curriculum of the United Kingdom, alongside with biology, chemistry and physics (Gott & Duggan, 2002). Science inquiry in UK consists of two main components: ideas and evidence in science and investigative skills.

The National Science Education Standards by National Research Council (NRC, 1996) defines scientific inquiry as: "Scientific inquiry is diverse ways in which scientists study the natural world and propose explanations based on the evidence derived from their work. Inquiry also refers to the activities of students in which they develop knowledge and understanding of scientific ideas, as well as an understanding of how scientists study the natural world." (p.23)

It can be inferred that science inquiry involves a series of steps and procedures of before, during and after conducting experiments and investigations. NRC (1996) illustrates that a complete inquiry cycle include identification of question, design of investigation to address the question, examination and analysis of empirical data obtained from investigation and drawing inferences and conclusions and lastly justifying them. Thus, an open-inquiry investigation refers to scientific investigation that includes all the processes in the inquiry cycle, and there should not be a 'correct' answer (Glaesser et al., 2009). Wenning (2007) suggested a series of fundamental scientific inquiry skills which are suitable to be employed by secondary school students in the school science laboratory, as shown in Table 3.

Table 3
Fundamental scientific inquiry skills

- Identify a problem to be investigated.
- Using induction, formulate a hypothesis or model incorporating logic and evidence.
- Using deduction, generate a prediction from the hypothesis or model.
- Design experimental procedures to test the prediction.
- Conduct a scientific experiment, observation or simulation to test the hypothesis or model:
  - Identify the experimental system
  - Identify and define variables operationally
  - Conduct a controlled experiment or observation
- Collect meaningful data, organize, and analyse data accurately and precisely:
  - Analyse data for trends and relationships
  - Construct and interpret a graph
  - Develop a law based on evidence using graphical methods or other mathematic model, or develop a principle using induction
- Apply numerical and statistical methods to numerical data to reach and support conclusions:
  - Use technology and math during investigations
  - Apply statistical methods to make predictions and to test the accuracy of results
  - Draw appropriate conclusions from evidence
- Explain any unexpected results:
  - Formulate an alternative hypothesis or model if necessary
  - Identify and communicate sources of unavoidable experimental error
  - Identify possible reasons for inconsistent results such as sources of error or uncontrolled conditions
- Using available technology, report, display, and defend the results of an investigation to audiences that might include professionals and technical experts.

Notes. Adopted from "Assessing inquiry skills as a component of scientific literacy" by C. J. Wenning, 2007, *Journal of Physics Teacher Education Online, 4(2),* p.22. Copyright by Illinois State University Physics Department.

Procedural understanding is incorporated in every steps of science inquiry. With knowledge based on the concepts of evidence, students will be able to produce better quality practical work and prepare them for the future, either furthering their studies or enter the job market in science related fields. Procedural understanding based on the concepts of evidence are associated with four main components in scientific investigation: design, measurement, handling of data and evaluation (Khaparde & Pradhan, 2002). Scientific inquiry skills can be classified in similar way: skills in planning and designing an investigation; conducting the investigation to collect data; analysing and making inferences from the data; and evaluating the findings of the investigation.

Using the list by Wenning (2007), the skills in the design of investigation include identifying a problem to be studied, form a hypothesis or generate a prediction of the problem identified and then plan the procedures. While planning procedures, the variables involved need to be identified and defined operationally. Experimental set-up need to be designed by taking into account what are the instruments and apparatus that are going to be used. Thus, referring to Gott et al. (2003), concepts of evidence associated here are the concepts of observation, sampling of data, understanding of variables, fair test, choosing of values, accuracy and precision in choosing of apparatus and using table as organiser. Based on the understanding and application of these concepts, the reliability and validity of the design can be evaluated and improved.

Measurement is a key feature in conducting the investigation. From Wenning (2007), scientific inquiry skills associated with the process of conducting investigation consist of skills in controlling the variables, collecting meaningful data, organizing them accurately and precisely. Based on interpretation on the concepts of evidence (Gott et al., 2003), students who act as investigators need to have procedural understanding on the instruments used for measurement. They should realise that there is inherent variation and error in measurement, take suitable precautions when taking the readings, and judge critically whether the data collected is reliable or not. Organizing of data correlates with concepts of data presentation that is how to present the data to other interested personnel such as their peers, teachers or the general public. In the case of secondary school physics, data are more suitable to be presented in the form of tables.

Collected data are then analysed to deduce relationships. Wenning (2007) listed the skills of constructing and interpreting graphs, and use graphical methods or other mathematical model to develop a law or principle as fundamental inquiry skills. This is in line with concepts of evidence associated with data handling (Gott & Duggan, 1996). Students need understanding on suitable statistical treatment to be used on the data, and the type of analysis to be performed in order to obtain the relationship. However, only simple statistics such as determining the mean value is suitable at secondary school level. While analysing the data, conceptual knowledge in the related field, such as formulae and equations related to the concept, is necessary to compute the results. Hence, for handling and analysis of data, both conceptual understanding and procedural understanding are of equal importance to deduce appropriate inference and conclude the evidence, and therefore solve the problem which is being investigated (Gott & Duggan, 2002).

Final stage of the investigation is to evaluate the experimental procedures based on the results obtained, which involve skill of applying numerical or statistical methods to the data to come to a conclusion (Wenning, 2007). This can be achieved through error analysis on the data or comparing the results with renowned scientific tests. Factors that cause inaccuracy in the result had to be identified so that the design of the investigation can be improved and remodelled, if necessary. Procedural understanding incorporated at this stage is the concept of reliability and validity on the whole investigation, especially the idea of triangulation since data can be obtained through different methods and sources (Gott et al., 2003). Thus, it can be concluded that procedural understanding is incorporated in science inquiry skills.

PROCEDURAL UNDERSTANDING IN THE MALAYSIAN PHYSICS SYLLABUS

Physics is learnt as a subject at higher secondary school level in Malaysia. Measurement is an important concept in learning physics and is introduced to the students at the beginning of their learning. Students are first introduced to physical quantities and their units followed by how to measure these quantities. In the Malaysian physics syllabus, apart from choosing suitable instrument to measure certain physical quantity, students are exposed to the concepts of accuracy, consistency and sensitivity. Students are expected to explain the meaning of accuracy and consistency for a series of measurement by using suitable examples (MOE, 2005).

A set of readings which is consistent should have small deviation among the readings. If there is an outstanding value which is inconsistent with the others, this outlier should be checked by repeating the measurement, or omitted. Allie, Buffler, Kaunda, Campbell, and Lubben (1998) use nine pencil and paper probes to determine physics students' procedural understanding on reliability of data and found that although most students have high level of understanding, few are able to judge what to do with anomalous data. This shows that concept of consistency is in line with the understanding of sampling of data as explained in the concepts of evidence by Gott et al. (2003). They explain that the existence of any outliers should be examined to determine the possible causes. Students are expected have to determine appropriate measuring instrument to be used for measurement based on their accuracy and sensitivity.

The Malaysian physics syllabus also requires students to have basic knowledge on experimental error. Students are expected to explain the concepts of systematic errors and random errors and hence recommend appropriate techniques to reduce these errors (MOE, 2005). These concepts related to measurement correspond to the concepts of evidence of Gott et al. (2003). This implies that Malaysian students are exposed to the ideas of procedural understanding. The concept of random error reveals the fact that there is always variation in measurement, either due to human error or other factors. This is in line with the idea of inherent variation in the concepts of evidence. However, the term 'procedural understanding' is not familiar to both teachers and students.

Realising the importance of practical work in the form of scientific investigation in the learning of science, students are taught the basic of scientific inquiry skills at early stage of learning physics. Among the skills that the students are expected to master for conducting scientific investigation in physics are:

- To identify variables in a given situation
- To identify a question suitable for scientific investigation
- To form a hypothesis
- To design and carry out a simple experiment to test the hypothesis
- To record and present data in a suitable form
- To interpret data to draw a conclusion
- To write a report of the investigation (MOE, 2005)

These skills are only part of the list in basic science inquiry skills suggested by Wenning (2007). There is no emphasis on checking for the accuracy and precision of the result of investigation and hence students are not exposed to the concept of validity and reliability of the procedures, data and results of investigation. Format of report that the students need to write is based on assessment scheme of science practical assessment (MOE, 2009) which does not include the discussion of experimental errors. Thus, teachers are more concern on cultivating science process skills in the students to prepare them for examinations while students focus on getting the 'correct answer' in their practical work and produce a 'perfect' report for the investigation.

The learning of physics often involve more quantitative aspect of relationship, and physics practical work are normally planned to help students in learning to deduce a relationship between two variables (Tiberghien, Veillard, Le Maréchal, Buty, & Millar, 2001). In these activities students have to analyse the data obtained to come to a conclusion. Due to the limitation of time and laboratory equipment, practical work in the Malaysia secondary school physics laboratory are often limited to simple activities which can be completed in an hour. When the activity is too simple and the students know what to expect, they tend to modify their data in order to fit the expected results (Moeed & Hall, 2011), in order to get the right answer.

Students in Malaysian classrooms do not have much chance to generate their own ideas regarding practical work in school as most laboratory activities are conducted to verify theories and planned according to the syllabus (Che Nizam, Kamisah, & Lilia, 2010). Thus, students are not given the opportunity to discuss what should be done if there are anomalous data or outliers in their measurement. Students are also not opened up to an atmosphere where they can question the suitability of the experimental procedures to obtain data. There is little chance of developing procedural understanding through practical work. This might be one of the reasons that students have insufficient skills in scientific reasoning while answering questions in PISA and TIMSS (MOE, 2012).

Measurement is an important concept in the learning of physics as the concepts of accuracy and precision are introduced in the syllabus. Students should be given opportunity to practise these concepts. Hence, procedural understanding should be given attention in the learning of physics. Understanding the concepts of evidence will occupy students with more meaningful practical work (Roberts, Gott, & Glaesser, 2010). Students should be given the chance to decide when and how data should be collected so that they learn to filter large amount of available information and decide what they need for accuracy (Dudu & Vhurumuku, 2012). Hence, it is highly recommended that procedural understanding should be given more attention and incorporated into practical work in Malaysia physics syllabus.

EXAMPLE OF INCORPORATING PROCEDURAL UNDERSTANDING IN PHYSICS PRACTICAL WORK

Gott and Duggan (1996) suggested that validity of scientific investigation can be judged through concepts of evidence which are associated with the design, measurement and data handling in the investigation. Procedural understanding based on concepts of evidence that students need in order to complete practical tasks in the school physics laboratory can be classified into four main stages in practical work: associated with design; associated with measurement; associated with data handling; and associated with the evaluation of the complete task (Kharpade & Pradhan, 2002). Roberts et al. (2010) equipped students with procedural understanding through the use of module. This paper tries to discuss how these concepts of evidence can be incorporated into a common simple experiment for Form 4 physics students in Malaysia.

The idea of inertia is introduced to students in the Form 4 physics. Students are expected to explain inertia as the nature of an object to resist change to its initial state and explain the relationship between mass and inertia (MOE, 2005). Suggested learning activities related to this topic include a series of demonstrations or activities to expose students to the concept of inertia. Through observation in these activities, students are expected to identify the problem statement: inertia of an object is affected by its mass. Students are expected to set-up an experiment to study the relationship between mass and inertia by using plasticine, jigsaw blade and stopwatch. The expected set-up is shown in Figure 2. Students are supposed to attach different mass of plasticine to the jigsaw blade and determine how the mass of the plasticine influences the oscillation of the blade. Information on this activity can be found in any reference book for Form 4 Physics. The discussion here focuses on how to incorporate the concepts of evidence into the activity so that students develop procedural understanding.

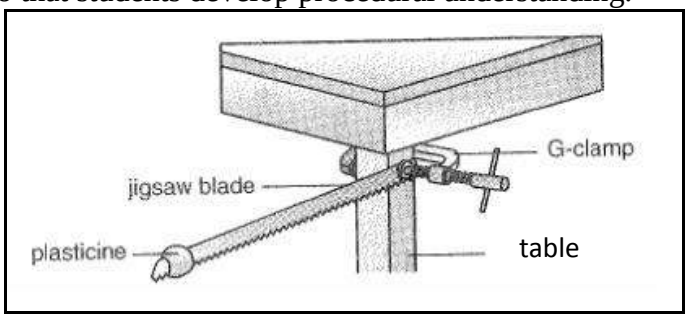


Figure 2 The set-up of apparatus for experiment to determine relationship between inertia and mass

Concepts of evidence (by Gott et al., 2003) associated with design of this experiment include variable structure, validity, fair test, choosing values, and tables as organisers. In designing the experiment, students first need to identify the variables: mass as the independent variable and inertia as the dependent variable. Inertia is not measureable hence should be defined operationally. Period of oscillation of the loaded jigsaw blade is used to represent inertia. The understanding on the concept of fair test should lead students to control other variables that might affect the period of oscillation,

such as length of the jigsaw blade and angle of oscillations. For the choosing of values, students need to know the suitable sample size, range, interval between values and sufficient number of readings that need to be taken for the variables. Table can be used as an organiser of values.

While design and planning for the experiment, students need to consider the stiffness of the jigsaw blade to determine the mass of plasticine that can be used to produce measurable time of oscillations. Gott et al. (2003) suggested trial runs to be carried out to determine the most suitable parameters for the experiment and choosing of instrument and apparatus. Hence, students can be reminded to try attaching different values of mass of the jigsaw blade to decide the minimum and maximum mass to obtain a recordable time of oscillation. Students also need to consider what suitable instrument should be used to record the time, either analogue or digital stopwatch, and reason why wristwatch is not used.

Second stage of practical work is associated with measurement, which requires the understanding of instruments and also the concept of reliability and validity of the measurement. Concepts related to measurement are inherent variation and human error while those correlated to instruments are calibration and error. According to Gott et al. (2003), measured values are subjected to human error and never duplicate unless all possible variables are controlled, which is unfeasible. Understanding of inherent variation and human error should create the awareness in students to be cautious while taking measurement to eliminate possible errors. Students should also check the instruments to detect possible error such zero error and determine the limitation of the instruments. Understanding on the concepts of reliability and validity can be exhibited through repeated readings and detection of outliers in measurement.

Stage associated with data handling and evaluation of the complete task comprise the understanding of data presentation, statistics for data analysis, patterns and relationship that can be deduced from the data, and reliability and validity of data in the whole investigation (Gott et al., 2003). To demonstrate understanding of these concepts, students can plot a graph of period of oscillation against mass of plasticine to determine the relationship between the two variables, whether it is a proportional or a linear relationship. To determine whether their result is valid, Gott et al. (2003) suggest triangulation where students can compare their findings with their peers or refer to existing laws and theories. There are more room for discussion if the findings differ from existing law as students would have the opportunity to review their procedures and detect the factors that might lead to the inaccuracy of results. In doing this, students learn to evaluate their work and learn to reason scientifically. Table 4 simplified the concepts of evidence associated with each stage of the practical work discussed here.

Table 4

Concepts of evidence associated with stages of practical work

Design	Measurement	Data Analysis	Evaluation
• Variable structure • Validity • Fair test • Choosing values • Tables as organiser	• Inherent variation • Human error • Calibration and error of instrument • Reliability • Validity	• Data presentation: line graphs • Patterns and relationships: linear relationship, proportional relationship	• Reliability • Validity • Series of experiment • Triangulation

Notes. Concepts of evidence are adapted from "Concepts of evidence" by R. Gott, S. Duggan and R. Roberts.

ASSESSMENT OF PROCEDURAL UNDERSTANDING

Learners had to be assessed in order for the educators to know how well they had learnt. Roberts and Gott (2004) suggested that procedural understanding can be assessed through paper-and-pencil test. Roberts et al. (2010) had used a 17 items written test as evaluate whether students' knowledge on procedural understanding and the concepts of evidence, especially the ones related to measurement, experimental design and data analysis, had improved after going through a module on procedural understanding. However, whether students apply these concepts of understanding they learnt in actual practical work or not need to be determine through hands-on sessions in the laboratory. Thus, in addition to written test, assessment should be done continuously through teachers' observation during practical sessions. This will inculcate the habit of practising procedural understanding in the students so that quality practical work can be executed.

CONCLUSION

Procedural understanding is an important concept in practical work, especially when it involves an open-inquiry investigation. This concept exposes students to importance of obtaining reliable and valid evidence for their investigation so that their results can be presented, communicated and accepted. The concept related to procedural understanding which is the concepts of evidence should be incorporated in the school syllabus especially physics as measurement and ways to improve accuracy is important especially in data collection in physics related field. The advancement of technology to nanotechnology nowadays shows that the unit of measurement had reduce to nano or even pico scale. This means that a small change can produce a big impact. Thus, knowledge of concepts of evidence should be induced at an early stage so that students are aware of its importance.

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A Study on Academic Cheating among Final Year Undergraduates in Faculty of Education, Universiti Teknologi Malaysia

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ABSTRACT

This research aimed to find the academic fraud among final year undergraduates in Faculty of Education, Universiti Teknologi Malaysia (UTM) and seek for the solution of the fraud problem. The respondents involved in this study were 130 students, specifically from Science and Mathematics, Social, and Technique and Vocational Education courses in Faculty of Education, UTM. A set of questionnaire was used as the research instrument. The collected data was processed and analysed by using SPSS software (Statistical Package for Social Science) version 16. The data were presented in descriptive statistics: mean, percentage and frequency; and inferential statistics: t-test, Pearson r and ANOVA. Overall, the findings indicate that the level of academic fraud is low. There is a significant difference between males and females in cheating rate. Males have high tendency of cheating compare to females. There is negative correlation between the rate of cheating and academic achievement. That's mean students with lower academic achievement have the higher tendency of cheating. However, there is no significant difference between students with difference courses in their cheating rates.

Keywords: Academic Cheating, Examination, Assignment

INTRODUCTION

The concept of academic integrity and academic misconduct vary so that the suitable for audience and publishing outlet. The common terms that synonymous with misconduct included "academic dishonesty", "cheating", "fraud", "falsification" and "plagiarism". While, the terms of "honour" and "honesty" synonym with academic integrity (Gallant, 2008). As mentioned, the word of "cheating" is synonyms to "academic dishonest" and

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"academic misconduct" in context of academic. However, the term of cheating has defined as an intellectual property violation which against an academic integrity of higher institution education policy as in the institution's rule code (Etter, Cramer, & Finn, 2006).

This study also focuses on the plagiarism as a type of cheating or academic dishonest. The word plagiarism is come from Latin word 'plagiarius' which means 'kidnapper' or 'abductor'. It also called as the theft of someone's creativity, ideas or language (Babalola, 2012). As the terms of "cheating", the term of "plagiarism" is always used in not specific sense (Amsberry, 2010).

In higher education, the measurement and evaluation is needed before the students successfully complete their diploma, bachelor, master, and doctorate degree. There are two different activities in assessment, which are specifying of collecting information, and the information was used to evaluate institutional and individual improvement (Astin & Antonio, 2012). According to Walvoord and Banta (2010), there are three steps of assessment included goals, information and actions. Finally, assessment helps the higher education to examine the method to achieve a goal and propose effective improvement.

The important of assessment as stated by Joughin (2009), assessment encourage learning through feedback, where the definition of feedback is a process of determination of gaps between the actual and ideal performance. In other, students should act by bridging the gaps. The examples of assessment tools in education are examination, portfolio, oral presentations, peer review, laboratory report, innovative projects and assignment. Usually, the assignments, portfolio and projects will be marked as coursework mark. In University Technology Malaysia, majority of the courses were evaluating based on 60% of coursework and 40% of final examination. However, the research will be focused only on the assessment tools in higher educations such as examination, laboratory reports, and assignments.

However, the purpose of assignment is not achieving target as students involve in academic fraud. The fraud is not acceptable behaviour because it is not only affected the students' themselves but others. This is unfair for honest students by giving advantages for students that involve in fraud.

Nath and Lovaglia (2009) stated that fraud started after instructing a large introductory-level course. They gave a short writing assignment in class by providing a break between short lecture segments and offered a way to assess progression of student. Cheating on examination remained. Honest students complained that others benefit unfairly from fraud. If majority of the students cheating, they consider students are not learning much.

The effects of fraud in higher education will defeat the student benefit to have the skills needed for their profession. It also leads into various levels of damage if degree is awarded to them (Teixeira & Fatima Oliveira Rocha, 2010). Indeed, the posting of less quality professionals in the labour market make them not be able to perform properly will damage to other professionals and institution to train them. This was called as "social illness". Mohd Yahya (2012) argued that students whose practising fraud in their academic possible to cheat other people in the future. When they are in

work field, this bad habit become a culture, for example imitate other people products and admit the products are their work. In addition, Nasir and Aslam (2010) stated that situation turns to more severe when student apply the same dishonest behaviours during their professional life will influence the negative culture in organization performance.

A lot of assessments to evaluate UTM students have been done, either they achieved the criteria of university or not. These assessments do not only evaluate the cognitive domain of UTM Students but to assess the affective domain. The holistic assessments in UTM may produce the professional balance in all physical and spiritual. This also guaranteed UTM as the best university in Malaysians. However, this trust has been betrayed when a few students involved in academic cheating so that they can graduate from university. There are a lot of literatures studies about the academic cheating in others higher education institution, but there is no study that have been done on the perception of academic cheating among UTM students and how to overcome this misbehaviour.

The aim of research is to find the perspective of UTM students regarding academic cheating and to find out what are the solutions of this problem. This paper objectives are 1) to find the frequency of type of cheating, 2) to investigate the reasons of cheating in assessment 3) to obtain the idea on how to overcome academic cheating among UTM students from the perspectives of final year students Faculty of Education, UTM students, 4) to compare the level of cheating between students with difference gender, students' CGPA and field of study.

LITERATURE REVIEW

Types of Cheating

Every type of assessment has different types of cheating. For example, multiple choice questions (MCQ) are one of the easiest ways for the students to cheat during the examination through one glance to get their friends' answer. There are several types of cheating based on previous research.

In higher education institution, there are many ways of cheating when doing assignment such as plagiarism. Some of the students plagiarise their assignments by copy and paste the text without paraphrase the words or do not acknowledge the writers. Besides that, the students do not cited their reading sources whereby they treat the sources as their own idea. McCabe (2005) did a research over 80,000 students in North America especially the United States and Canada as the sample of this research. There is 62 percent of the undergraduate reported 'cut and paste' and plagiarise from the written and Internet sources. Other than that, there are 20 percent of the students perpetratedd 'cut and paste' and plagiarism using written sources.

For example, if the students cited from other reading sources, they fabricate the citation to fulfil the criteria of assignment. This is proven by Lin and Wen (2007) when 9.2 percent of 2,068 Taiwanese college students confessed that they had always falsification of data, information, or citations. They said that they never use material as

reference without read it properly. Besides, the research was done by Yang (2012) in the same country, 13.5 percent of the students committed in typing reference in an assignment at the wrong place.

In another way of academic cheating of assignment is by copying their friend assignments. The evidence is shown when fifty-nine per cent of nursing students in United Kingdom agreed that they use their friend's assignment as part of their assignment. There are 77 percent of sample using friend's works in a task without permission (Arhin, 2009). In addition, Lin and Wen (2007) reported the percentage of student have copied other people's assignments is about 17.2 percent.

The other type of assessment of nursing student is laboratory report. Usually, the cheating on laboratory report always done by doing create experiment result after did not get satisfied result. According to Arhin (2009), about 44 percent commits' were cheating the laboratory result after their experiment not produces result. After that, 27 percent passing laboratory reports to students in lower classes. In addition, Yang (2012) reported that the percentage of students' responds that has their peers had fabricated results and hide research or experimental data is about 48.8 percent.

The examination or test is one of the assessment types. There are several reports concerning the cheating behaviour in examination. The example of cheating behaviour in examination is bringing crib notes, copy from friends and stare on friend's paper. The evidence of cheating in examination is eighty-five per cent mentioned that, during a test, they copied more than once. The percentage of students confessed always passed answers to other students during examination was 30 percent. There are about 12 percent of students reported they always utilise crib notes illegally during an examination (Lin & Wen, 2007). Other than that, the common methods in Faculty of Medicine at Firat University in Turkey reported that the students were talking to the person who sits next to them and peeking other's paper answer. This was respectively contributing 41.1 percent and 38.4 percent response (Semerci, 2006).

Factors of Cheating in Academic Assessment

Several of reasons students tend to cheat in academic. The factors are affected by the students' background such as personalities, gender, institute environment and awareness. Assignment is one of the types of assessment tools in higher education that usually bring carry mark before the final examination. Typical students always assigned their writing academic paper works. However, the academic dishonest on assignments among college students always occur by plagiarised their academic paperwork and copy assignment from others. There are several factors that students tend to plagiarise the assignment in aspect of habits and skills. In aspect of habits, the laziness of students is the main factor of plagiarism. The proof is seventy-five per cent of respondents agree that the laziness is the main factor of tend to plagiarize the assignment (Batane, 2010). Then, the lack of time to finish assignment is the factor of plagiarism as part of academic cheating. Comas-Forgas and Sureda-Negre (2010) proved that 58 percent of the students agreed that limited time to complete academic work is one of the reason why they cheat in doing assignment.

Other habits that lead the students to cheat are doing the assignment in last minutes. When this happened, the students may stress and then tend to plagiarized because not enough time to paraphrase all sentences before the assignments are submitted to instructors before due date. Badejo and Gandonu (2010) reported that, 53.4 percent of respondents agreed that doing tasks at last minutes as their habit. In addition, they reported that many assignments have to send before near due date.

Nowadays, the reading sources are easy to access anytime and anywhere especially by surfing Internet. If desire to find the information, just type any keyword on search engine like Google, Yahoo and Bing. However, the Internet facilities are abused by students to plagiarize their assignment without changing the sentences. As a result, this behaviour becomes a factor of plagiarism among college students. Fifty-two percent of students agreed that the plagiarism occurred because the information is easy to access (Comas-Forgas & Sureda-Negre, 2010). On the other hand, the less skill of writing becomes a factor of students involve in plagiarism. Batane (2010) argued that the lack of writing skills on academic paper properly lead to 6.7 percent of participants tend to plagiarize their work.

In the examination, there are several factors that need to be considered in context of individual psychology and management of examination. In context of individual psychology, the reason is arise is the lack of time management. The evidence shows by Ahmadi (2012) reported 49.24% of Iranian students in programme of TEFL (Teaching English as a Foreign Language) agreed that insufficient time of study becomes a reason why they tend to cheat in exam. After that, the lack of preparation before sit the exam is the factors of students tend to cheat. More than 60 students stated that their not ready for the examination (Ahmadi, 2012).

The anxiety to get low marks makes the students turn to cheat in examination. If they not cheating in the exam, the students think that they will be failed in the courses and will extended their study. Semerci (2006) reported that 42.4 percent of students afraid to get low marks and 40 percent agreed that they tend to cheat to avoid losing a year. Another research also done by Gbadamosi (2004), he reported that 81.6 percent of the students mean percentage agreed that they must pass in examination. To get certification, they should avoid from fail the courses or extend year of study, and they also tend to cheat in examination. The mad rush for certificate promoted respondents from Lagos University to cheat contributes 87.5 percent (Badejo & Gandonu, 2010).

The lack of management of examination makes the students turns to cheat in examination. The example is when the staff helps students to answer the question when the examination is in progress. Badejo and Gandonu (2010) reported that 83.3 percent of the respondents in Lagos University strongly agreed that collaboration between staff and students can lead to examination malpractice.

Demographics

There are several types of demographic were discussed in reports such as gender, year study, study programme and country. This diversity of demographics considered as factors of cheating because it related to culture and motivation. Theories and models

motivation nowadays emphasized on the components of the motivational process such like cognitive and affective on the personal variables (Ghazvini & Khajehpour, 2011).

The gender plays as important role in motivational of cheating. According to recent researches, every type of assessment tool is reported the most frequently cheat based on gender. Almost of research papers discuss that, males are significantly cheat more frequently than females during examination such as bring crib notes, glare on their friends' paper, bring prohibited gadget, and copy from friends. Chapman and Lupton (2004) reported that 66.1 percent of the American males' business students cheat while females reported 44.2 percent. In context of socially acceptance, males and females of two-year community college in the University System of Georgia, reported 55 percent and 39 percent respectively. However, Lin and Wen (2007) did not mention the type of assessment but they reported that males have dominated and agreed to these cheating practices.

The year of study also one of the influence factors of cheating. Senior students usually reported more dishonest academic practice during their examination compared to the new students in higher education institution. This is because, they have more experience sitting in the examination and they know that how instructors conduct them in examination. According to recent researches, engineering and abroad students in US especially in the fifth year (or more) are more likely to cheat in the exams than first-year students (Passow et al., 2006). Smyth and Davis (2003) reported that 51 percent of sophomores (two year students) agreed that cheating to be socially acceptable while only 39 percent of freshmen on the same way.

Ways to Overcome the Cheating Problems

Although cheating is typical among students in assessment, this is the serious problem for students themselves, education institutions, and country because it is involve in academic integrity. If academic integrity collapses, the education institutions will produce low quality graduate students in aspect of morality. It would be the challenge for the lecturers to cope the cheating among students. There are several ways to cope the cheating among students in following assessment.

The college should legislate strictly the rule of examination to those who involved in cheating. Those who involve in cheating, they should receive punishment to aware themselves and other students. The opinion from the students to legislate the rule was reported in recent studies. Bernardi, Baca, Landers, and Witek (2008) reported that students those who study in Ireland highly recommend the strong penalty for those who being caught cheating. The small percentage of students agrees the course should be automatically F when caught in cheating although most students reported needs harsher punishment in overcome of cheating. Another study was done by Semerci (2006) related to punishment, about 27.4 percent of the students from Faculty of Medicine at Firat University in Turkey agreed that a student suspected in cheating of examination should be expelled of the university.

To overcome the cheating in examination, it is not enough only punish students who get caught cheating in examination. Students from United State suggest that on the same test, scrambling the questions and using writing tests (Bernardi et al., 2008). In

context of management of examination, 35 percent of the students of 450 undergraduate business students of the Universities of Botswana and Swaziland response that if invigilation were strict and systematic, students would not cheat in examination. This is also known as the harsher disciplinary action those who cheat in examination. There are 5 percent of respondents agreed that in classrooms should have installed cameras to observe on the students who turn in cheating behaviour (Gbadamosi, 2004).

When assessing the assignment, plagiarism always occurred. Therefore to solve plagiarism among students, lecturers would apply in Turnitin® software that can detect the percentage of plagiarism of students work. The effectiveness of Turnitin® was proved by (Batane, 2010), 65% of the University of Botswana students (UB) responded to welcome Turnitin® that would give support them to struggle into their studies and finish their assignments correctly. However, 35 percent of students respond that they dislike this application because it would make them fail. The effectiveness also proved when level of plagiarism among UB students fell to 4.3 percent.

Like Turnitin®, JISC Plagiarism Detector can detect the level of plagiarism on assignment. From study, in initial small-scale trial in that year, the rate of detection was 2.06 percent representing 18 percent of the total plagiarism among biological sciences students at University of Leicester cases detected. The detection rate increase to 2.73 percent representing 40 percent of the total number of cases detected in the first year of use. From representing seventy-one per cent of total number of cases detected, the both of total cases number and the detection rate descended to 0.94 percent in second year of used. As a result, this software is an effective means of both detecting and preventing plagiarism (Badge, Cann, & Scott, 2007).

RESEARCH METHODOLOGY

The research design that used in this research is descriptive observation form to achieve the research objectives to explain the cheating phenomenon among students and the prevention step of cheating were conducted by instructors. This research is suitable by using the quantitative methods in same populations. The questionnaire will be used to collect the data according to research objectives. The questionnaire contains all of important aspect.

The population of final year undergraduates in Faculty of Education excluding the extended year is 244 people. From this population, the sample of undergraduates in Universiti Teknologi Malaysia (UTM) Johor Bahru that chosen is about 130 students. The number of sample chosen based on the table for determining sample size from a given population (Krejcie & Morgan, 1970) .The method used in sampling is random sampling. This research sample consists of students that have variety of races such as Malay, Chinese, India, and others are from different backgrounds.

The research instrument that used in this research is a questionnaire that contains 45 questions for students. The totals of 130 sets of questionnaire were distributed to final year students. All items were divided into four sections according to study objectives. The following sections were asked in questionnaire namely: 1) Section A: Background of Students, 2) Section B: The frequency of cheating, 3) Section C: The

reason of academic cheating, and 4) Section D: Overcome the academic dishonest. This questionnaire was adapted from DuPuree, and Sattler (2010) report, where they conduct survey in Texas Tech University.

The items in Section A related to students background. The aspects of students' background including gender, programme of study, and the students' CGPA. Items in Section B questioned on the frequency of academic cheating which admitted by students during write assignments, answer the examination question, and write up laboratory report. The items were asked to check on a five-point Likert Scale on their frequency of students committed in cheating in all assessments. The following descriptions and their score are shown in Table 1.

Section C contains the method of academic cheating were used in the assessment based on type of assessment. Respondents will tick the answer based on the following statements reflect to themselves. Sections D were asked the reason of academic cheating among students from aspect the individual and management reason for examination. For the assignment, the questions were asked on the individual reason. Other than that, Section D asked the opinion of students to overcome of academic dishonest among students. This part also has open-ended questions to get the suggestion to overcome cheating among students. All parts asked questions in form of Likert Scale.

Table 1 Likert Scale for Section C and D

Description	Score
Strongly Disagree	1
Disagree	2
Moderate	3
Agree	4
Strongly Agree	5

The pilot study was done towards final year students in Faculty of Education, UTM to determine the reliability, validity, and comprehensible of all items. There are about 15 students involved in the pilot study. The Cronbach's Alpha for Section B, Section C, and Section D were 0.838, 0.836, and 0.834 respectively. The mean and the values of Cronbach's Alpha for all items were good.

RESULT AND DISCUSSION

The Frequency of Academic Cheating

In general, the highest frequent type of academic cheating among final year students was paraphrasing or copying a few sentences of material from a written source without footnoting or referencing it in a paper (m = 2.58). Most of students were not aware the importance of acknowledge others idea by citing their publications. Only nine per cent of students never commit to do this behaviour. This situation supported by Lin and Wen (2007) reported that, the highest type of cheating among Taiwanese students in category of plagiarism was copied reading sources without footnoting (mean = 2.35).

On contrary, the lowest frequency of behaviour of academic cheating was using electronic crib notes such as personal data assistance (PDA), smartphone and calculator to cheat in a test or examination (m = 1.34). This was shown when 105 (80.8 %) final year students confessed never bring the prohibited electronic crib notes. This shows that the invigilators were strictly monitoring the students' activities during examination. In addition, the invigilator was not only among academic staffs but involve support staffs so that the number of invigilator increases. Related to previous research, McCabe (2005) reported that, from his observation, about 5% of undergraduate students perpetrated academic cheating by brings in electronic crib notes. This behaviour became the lowest of cheating frequency among undergraduate students in 83 campuses in US and Canada.

The Reason of Cheating

Most students responded to time management problem. Twenty-two per cent of students strongly agree that doing assignment in last minutes (m = 3.53) was the factors of students tend to cheat. It become the highest mean in context of reason of cheating although the mean in level of medium. Then, the second highest mean of factor of cheating was lack of time to finish assignments. In the data shows that 56 % and 12 % of students agreed and strongly agreed respectively to lack time to finish assignments was the factor students turn to cheat.

The time management is the key of success to get higher pointer. If the students fail to manage their study time, the work is not done properly and the productivity was disappointed. When the students feel stressed, they prefer to cheat in the assignment or examination. Comas-Forgas and Sureda-Negre (2010) reported that, the highest reason of cheating was lack of time management. Fifty-five per cent of respondents strongly agreed that the time constrain made them prefer to cheat in assignments. For the doing assignments in last minutes, 53.4% students responded to high relevance. Thus, the lack of time management is the main factor of students tends to cheat in assignments. In general, the lowest mean of reason students tend to cheat was personal pride is (m = 2.00). There are 64 students (49.2%) chose strongly disagreed to personal pride that makes them turn to cheat. The second lowest factor that student tend to cheat was not feel unfair to honesty students (m = 2.75).

The Prevention of Academic Cheating

Most students agreed and strongly agreed that all papers or books, except exam papers and blue books, must be stowed during the exam, unless open book" (m = 4.16). The mean is 4.16 and this item was the highest mean. The second and third highest mean of students opinion towards to overcoming of academic cheating were "space students at least one seat apart", "use Turnitin software" and "have at least one proctor per 20 students and remind them of the importance of monitoring students carefully for the duration of the exam". The top three ranking were based on management of examination and assignments. However, the findings of Bernardi, Baca, Landers, and Witek (2008) found that, respondents from Ireland, Australia and China preferred to choose punishment to prevent from academic cheating such as give grade F for those caught in examination, harsher punishment and expelled from education institution. While, the lowest mean was belong to "using written test only in examination" (m = 2.66).

Gender

The following t-test analysis results differentiate the level of cheating between male and female students.

Null Hypothesis 1: There is no significant different between male and female in mean of frequency of academic cheating.

Table 2 Different between male and females student in mean of academic cheating.

Gender	N	Mean	Std. Deviation	df	T	Significance
Male	32	2.3749	0.85362	128	5.543	0.00
Female	98	1.7080	0.47723			

Table 2 shows the result of comparison between males and females in academic cheating. The analysis were done by using t-test demonstrate that has significant difference between male and female students is academic cheating. The proof is significant value, $p = 0.00$ ($p < 0.05$), thus the hypothesis is rejected. Based on the t-test, similar findings were done by Lin and Wen (2007) when found that the male and female show significant differences ($p = 0.00$) in all academic malpractice. According to their finding, they reported that male more agree to these malpractices. This research also

supported by Molnar and Kletke (2012) when there are significance difference between male and female (p = 0.00) in agreeable to cheat in academic.

Null Hypothesis 2: There is no significant different between male and female in mean of frequency of cheating in assignment.

Table 3 The different between male and females students in mean of cheating in assignment

Gender	N	Mean	Std. Deviation	df	T	Significance
Male	32	2.2411	0.85594	128	6.060	0.00
Female	98	1.4422	0.56493			

The t-test analysis compared the mean of cheating in assignment between genders is shown the Table 3. There has significant difference between male and female in cheating in examination when p = 0.00 (p < 0.05). As a result, hypothesis is rejected. Male is more perpetrated in cheating of assignments.

Null Hypothesis 3: There is no significant different between male and female in mean of frequency of cheating in examination.

Table 4 Different between male and females student in mean of cheating in examination

Gender	N	Mean	Std. Deviation	df	T	Significance
Male	32	2.5097	0.95005	128	3.854	0.00
Female	98	1.9650	0.58940			

The t-test analysis also compared the mean of cheating in examination between genders as shown in Table 4. For example, cheating in assignment, there has significant difference between male and female in cheating in assignment when p = 0.00 (p < 0.05). Therefore, hypothesis is rejected. The male dominated more cheating in examination compared than female. However, Ahmadi (2012) showed that no significance difference between genders in cheating of examination (p = 0.488, p > 0.05).

Students' Performance

The following the result of correlation analysis determine the relationship between frequencies of academic cheating towards to students' CGPA.

Null Hypothesis 4: There is no correlation between frequency of academic cheating with CGPA

Table 5 The correlation between mean of frequencies of cheating with students' performance (CGPA)

		CGPA
Frequency of Cheating	Pearson Correlation	-0.213*
	Sig. (2-tailed)	0.015
	N	130

*. Correlation is significant at the 0.05 level (2-tailed).

The findings from this correlation analysis demonstrate that there a significant relationship between students' performance to type of cheating. The correlation between mean of frequency of cheating with CGPA is significant negative relationship ($r = -0.213$) and $p = 0.015$ ($p < 0.05$). Thus, the null hypothesis is rejected. The finding of Teodorescu and Andrei (2009) is different with this finding because they found that different between college's GPA with number of cheaters. However, the college's GPA still influence the number of cheaters. When the college GPA is poor, the number of cheater was greater.

Field of Study

The following the result of ANOVA analysis the significance difference between fields of study.

Null Hypothesis 5: There is no significant different between fields of study in frequency of academic cheating.

Table 6 The ANOVA test the difference between the mean of frequency of cheating with field of study

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.659	2	0.830	1.960	0.145
Within Groups	53.748	127	0.423		
Total	55.407	129			

The F-test is equal to the critical F-value = 1.96. The significance of 0.145 is greater than 0.05, then the null hypothesis is accepted. There is no significant difference in the mean for frequency of cheating between the three groups.

CONCLUSION

The academic cheating should not be neglected in education system. This is because, from the academic cheating, it will produce the graduates less integrity when they have a career especially for students who study in Faculty of Education. When the integrity among the students have been disintegrated, the generation also will be worse in attitudes especially related to integrity.

In this research, the mean frequency of cheating among final year students is low. This is show that, the awareness of academic integrity is higher. It also supported by students' opinions agreed to prevent and neglect academic cheating.

LIMITATION AND FUTURE STUDY

This research is conducted only in Faculty of Education, Universiti Teknologi Malaysia (UTM). Besides that, this research also limited to final year of undergraduates in the Faculty of Education and not included the part time study students and the students who have extended their study.

The recommendation is the scope of study need to be wider to other faculties. This is because, the personality of those students in Faculty of Education and others faculty are different. Researchers also should study the age of respondents and year of study. As mentioned, both of age and year of study is related to maturity of respondents toward to academic cheating. On the other hand, the researchers also have to consider the type questionnaires that distributed to the respondents. When designed the

questionnaires, researcher have to consider about the time frame they perpetrated in academic cheating. To prevent academic cheating, researcher should find the respondents among staff academics to get higher validity.

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Perceptions and Attitudes of Youth towards Education Level Attained for Sustainable Employment

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ABSTRACT

The aim of this study is to capture youth's perception towards sustainable employment to build a youth employment education framework. A pilot study was conducted by distributing a quantitative questionnaire online to 80 youth respondents between the ages of 15 to 40. Likert Scale of 4 points was used to rank the statements given to the respondents regarding education level attained for sustainable employment. Data gathered from the survey later were analysed descriptively in frequency and percentage with the access of Statistical Program for the Social Science (SPSS) Version 22. The outcome of the study shows that lifelong learning, education level one attained and academic qualification are perceived to be the three most important factors in obtaining sustainable employment by the youth.

Keywords: Sustainable Employment, Education, Lifelong Learning, Qualification

INTRODUCTION

Youth are the capital for a nation building because they are known as a priceless asset of a country development in terms of economy, social and politic. The National Youth Development Policy of Malaysia defines youth as people aged between 15 and 40 years. In 2000, there were 10.1 million youth aged 15 to 40 years in Malaysia, an increase of 2.7 million since 1991 (ESCAP 2000 and DOS 1995a). According to Survey of Malaysian Youth Opinion (2012), youth constitutes 43% of the total population in this country and underline the fact that this group is the critical demographic group to be engaged with human capital development.

However, youth employment has its own scope of challenge globally which leads to youth unemployment. The common problems faced by youth who are entering the world of employment are education level attained, academic qualification and training which is exclusive from the demand of the labour market (Coenjaerts, Ernst, Fortuny and Rei, 2009). The youth unemployment has become a contentious issue. The

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rate of unemployment among youth is soaring and they are finding it more challenging to find careers that match their skills, the education levels and academic qualification they attained. A survey carried out by The Malaysian Government revealed that one of the reasons why about 60 000 local graduates fell into unemployment was because they obtained studies that is unrelated to the labour market demand (Malaysia Today, 2005).

Empowering youth and generating encouraging environment for them to widen their knowledge and to develop their skills to work is vital for the sustainable employment among these young people. Looking at employment, education plays an important role for young people's transitions into the labour market and to obtain sustainable employability. Hillage and Pollard (1998) see employability as "having the capability to gain initial employment, maintain employment and obtain new employment if required". In other words, employability is referring to individual's capability to get and keep the desired jobs. But, with the scenario where a number of young people leave education systems at the lower level and without having acquired the skills needed in labour market, disturbed the smooth transition into employment. This situation leads this young population to face unemployment problem and lacking in employability skills demanded in the labour market. A research revealed that the higher the level of education the more productive the employee, wherever he or she is employed (Groeneveld and Hartog, 2004; Voon and Miller, 2005). Based on Yue et al. (2004), her survey data showed the level of education has a significantly positive impact on successful job seeking. The higher the education level, the greater the probability of success to be employed. Yue et al. (2004) and Li (2005) also stated the effects of education level on initial salary. The higher the education level, the higher the initial salary is.

Throughout the earth, youth face serious problems in entering the world of employment. It is always believed that a permit to a good job and sustainable employment depends on one's education attainment. One can be more productive and performed better with better education and skills compared to those with lack of skills (Pages and Stampini, 2007). The statement is also supported by Maarten (2000), by stating that people with low level of education are vulnerable to unemployment than people with higher level of education. Integration between education and training system with labour market demand ease the transition process to enter the world of work among the young people. By failing to supply the workforce required in the market, limited the employment opportunity among the youth (Coenjaerts, Ernst, Fortuny and Rei, 2009).

Besides, vocational education and skill training are seen as vital education elements for youth to enter the labour market and posses a sustainable job because they are the combination of general skills with employability skills demanded in the modern labour market (Biavaschi, Eichhorst, Giulietti, Kendzia, Muravyev, Pieters,...Zimmermann, 2012). In Malaysian context, the nation is moving towards Vision 2020 and is changing to become a developed country. Globalization has brought in extreme changes in economy and technology and almost every job needs professional skills to compete with current world of employment (Gurvinder Kaur and Sharan Kaur, 2008). Young people should be prepared to enter the labour market and to be ready to

carry on their education throughout their lives, for their personal development and employment sustainability. Globalization demands them to upgrade their skills into sustainable employability skills with the ability to learn and adapt the new skills and training needed through lifelong learning (OECD, 2007).It is necessary for employees to participate in the lifelong learning due to the change in the world economy and they need to be retrained for the skills required for the modern jobs (Louise, 2003).

Basically it is understood that the level of education and academic qualification one attained, determine sustainable employment. Sustainable employment is defined as satisfactory job opportunities, job security, meaningful, rewarding and safe employment for those who wish to be employed (Nicholas A.; Ralph P and Robert H, 2012). Sustainable employment also can be seen as the employees' ability to be in paid work until they are entitled for pension (Netherlands Working Conditions Survey, 2010).This study is focusing on youth's perception of education level, lifelong learning in determining employment sustainability and how they perceived their readiness to the world of work with the academic qualification they obtained.

LITERATURE REVIEW

Education

The National Education System, as set in the The Education Act of Malaysia (1996), covers pre-school, primary, secondary, post-secondary and higher education. Pre-school consists of one to two years and primary school includes Grades 1 to 6. Secondary school is separated into lower secondary and upper secondary. Post-secondary is a two-year education, where students are trained for higher education in colleges, polytechnics, universities and other institutions of higher education. The Education Act also declares that a child is to be enrolled as a pupil in a primary school if the child attained the age of six years on the first day of January of the current school year and also remain a pupil for the duration of the compulsory primary level education. Malaysian National Education Policy has been prepared with the aim of the country to reach the status of developed nation by 2020. The education system has been transformed to produce well educated and skilled professional labour force (United Nations, 2002).

Education Attainment

Formal education at the highest level that one has completed or attending at present in public or private educational institution (Department of Statistic Malaysia, 2012). According to Malaysian education system, education attainment is divided as follow:

Table 1 Education levels and qualifications in Malaysian Education System

Level	Qualification
Primary	UPSR- *Ujian Penilaian Sekolah Rendah* or equivalent
Lower Secondary	PMR- *Penilaian Menengah Rendah* (Lower Certificate of Education)
Upper Secondary	SPM- *Sijil Pelajaran Malaysia*
High School	STPM- *Sijil Tinggi Peperiksaan Malaysia* (Higher School Certificate)
Skill Training	Certificates- gained from college, polytechnic or other institutions which offers formal education and should not be less than six months and covered 45 credit hours.
Graduates	Diploma- obtained from university, college or polytechnic and should not be less than 6 semesters or 90 credit hours. Degree- 120 credit hours in 6 -8 semesters full time obtained from public or private higher institution
Postgraduates	Masters- 40credit hours in 2 – 4 semesters full time obtained from public or private higher institution PhD- 80 credit hours in 6 - 10 semesters obtained from public or private higher institution.

Source: Department of Statistic Malaysia: Malaysian Educational Statistic (2012)

Education Level

According to Howard 1986; Trusty & Niles 2004, education level is the academic qualification, certificates or degree one has achieved. Brenner 1982, categorised individuals with four levels of education, which are 8 years or less, 9 to 11 years, 12 years, 1 to 4 years of college. He also suggested that, one's achievement increased as well as level of the education increased. Cappelli 2000; Howard 1986; Lazear 1981; Ng, Eby, Sorensen and Feldman 2005 see level of education attainment related with sustainable employment outcomes, counting salary level, promotions, opportunities to develop and job mobility.

Moreover, Berry, Gruys and Sackett, 2006 explained in a research that educational attainment is used as a selection by several organizations because education level reflects good values of individuals. Gracie (1998), suggested that attaining a degree develops one's economic path in the sense of employment and salary compared with one not attaining a degree. This suggestion is also agreed by Vondracek and

Porfeli, 2003 by stating that non- college going youth are tend to undergo extra years of unsustainable employment compared to the college going youth. In another research, it is identified that unemployment rates increases among those who left school system earlier and do not attained a post school qualification (Skills Australia, 2010). Whereby, Malaysian researchers found that in Malaysia graduates who attained good education level and have qualification in soft skills become the demand among the employers (Nurita, Shaharudin and Ainon, 2004).

Lifelong Learning

Lifelong learning covers the learning process that takes throughout life, whether formal learning at school or in daily life (Maruyama, 2009). Subsequently, this takes account of all types of social education activities (Ogden, 2010). The conception of lifelong learning refers to the performance people carry out during their life to upgrade their knowledge, skills and competence in a particular field, given some personal, social or work related motives (Field, 2001; Aspin and Chapman, 2000 and Griffin, 1999). Tissot (2004) describes that lifelong learning as the combination of formal, informal and non-formal learning. She further defines the core concepts as follow:

i) Formal learning - consists of learning that occurs within an organized and structured context (formal education, in-company training), and that is designed as learning. It may lead to formal recognition (diploma, certificate).
ii) Non-formal learning - consists of learning embedded in planned activities that are not explicitly designated as learning, but which contain an important learning element such as vocational skills acquired at the workplace.
iii) Informal learning - defined as learning resulting from daily life activities related to family, work or leisure. It is often referred to as experiential learning and can, to a degree, be understood as accidental learning.

Referring to Harper Collins Dictionary, lifelong learning is the exercise of both formal and informal learning occasions all over people's lives in order to cultivate the continuous development and improvement of the knowledge and skills needed for employment and personal fulfilment. Besides, there are some definitions of lifelong learning on the web such as the continuous development of skills and knowledge to enhance quality of life and employment prospects (CSEP, 2011). Tempus (2002) defines lifelong learning as continuing education, including in company schemes - an essential means of accelerating assimilation of new technologies. Malaysian Ministry of Education MOE (2007) has suggested lifelong learning as an essential learning process by establishing public and private universities, university colleges, open universities, polytechnics, community colleges and private colleges. These education institutions are the opportunities to access lifelong learning, especially for adult learners.

Job Readiness/ Employability

The term employability shows one's competence to be prepared and engaged in the world of work. These are intended to pertain to the stages for job search, working and developing one's skills in the labour market (Clemas, Newton, Guevara and Thompson, 2012). According to Dearing Committee (1997), employability is the capability of one to achieve sustainable employment suitable to their education qualification. At another point, Mason, Williams and Cranmer (2006) refer employability as "job readiness" with possession of skills and knowledge. Robison (2000) sees job readiness as the basic skills obtained to get sustainable job, to keep and to develop on the job.

METHODOLOGY

Samples

This study stands of 80 samples, covered the youth from the age range from 15 to 40 years old and they were divided into 3 strata. First strata was those aged from 15 to 23 years old, second age strata was ranged from 24 to 31 years old and the last strata was those aged from 32 to 40 years old. These samples were chosen randomly including male and female participants. The participants were both from rural and urban areas.

Instruments

First phase

At this first phase, qualitative questions were used to gather the youth's perceptions of barriers and opportunities in entering the labour market. An open-ended questionnaire was designed for the research purpose. All together 30 youth respondents participated to answer the questions on barriers and opportunities in employment. Open-ended questionnaire was chosen as the method in this research because respondents could respond on their own ways and expressive their point of view freely. This method also provided freedom for the respondents to elaborate on the employability skills needed in the labour market and how they perceived these demands as the barriers and opportunities of being employed. There was no time limitation set to the respondents in completing the questionnaire to make sure the exactness in the responses given. Though, respondents did not go above 30 minutes in completing the questionnaire.

Besides, employers were also interviewed face-to face on their perceptions of youth's employability skills. 15 employers were interviewed individually to ensure the flexibility and accuracy and to avoid distractions in giving their point of view. Qualitative method was used in this preliminary study since the study only involved a small number of respondents. According to Phellas, Bloch and Seale (2011), face-to-face interview method has its own benefits such as allowing the respondents to explain in detail on the complex questions and researcher could ask open questions in bigger scope since the respondent does not need to write in the answers. In addition, researcher

could ensure that the interview session is being held in a suitable setting which is favourable to accurate responses. The interview sessions in this research were carried out in the employers' offices and it took less than 30 minutes for each respondent to respond.

Finally, the data collected from youth and employers through open-ended questionnaires and interview sessions were used as the guidance to construct a quantitative questionnaire to analyse youth's perceptions and attitudes towards education level attained for sustainable employment. Literature review based on education factors needed in sustainable employment were also used as the variables to construct the quantitative questionnaire.

Second Phase

Moving from the first phase, the researcher continues the study in the second phase by designing quantitative questionnaire consists of two parts. First part was designed on demographic variable such as gender, age, place of residence and academic qualification. Part two focused on youth's perception towards education level attained in obtaining sustainable employment, youth perception on their readiness to the world of work with the academic qualification they obtained and finally youth's perception towards lifelong learning in employment sustainability.

Procedures

Researcher used online survey method to develop the survey forms. Researcher shared a specific link through participants' *Facebook*, online e-mail system and *WhatsApp* application to gather the data for the study. Google Document was used to create the quantitative questionnaire online. The questionnaire contained of two parts, Part A and Part B. Part A was designed on demographic variables such as gender, age, place of residence and academic qualification. Respondents were asked to choose the variable that suits them. Next, Part B was designed to focus on youth's perception towards education level attained in obtaining sustainable employment, youth perception on their readiness to the world of work with the academic qualification they obtained and finally youth's perception towards lifelong learning in employment sustainability. At this part, Likert Scale of 4 points was provided for each question (1=Strongly Agree, 2=Agree, 3=Disagree, 4=Strongly Disagree). Respondents were asked to rate the statements given according to their perception on educational attainment towards sustainable employment. Likert Scale was used as the method to gather the data because respondents may rate their perceptions. A Likert Scale is commonly used to measure attitudes, knowledge, perceptions and behavioural changes (Vogt, 1999).

Besides, online survey method was used by the researcher due to the time limitation in completing the study. Since online is a big social networking system to get the participants, it only took two days to collect the data. Each respondent took approximately 10 minutes to complete the survey form. However, only 80 respondents were finalised for this study and the online data collected were analysed in SPSS.

Statistical Analysis

Data gathered from the quantitative method were later analysed by switching the rare data into numeric values. The data obtained from the survey were analysed using frequency and percentage with the access of Statistical Program for the Social Science (SPSS) version 22. At the end, each variable was presented in tables and graphs and were summarised in research findings.

DATA ANALYSIS AND FINDINGS

Profile of Participants

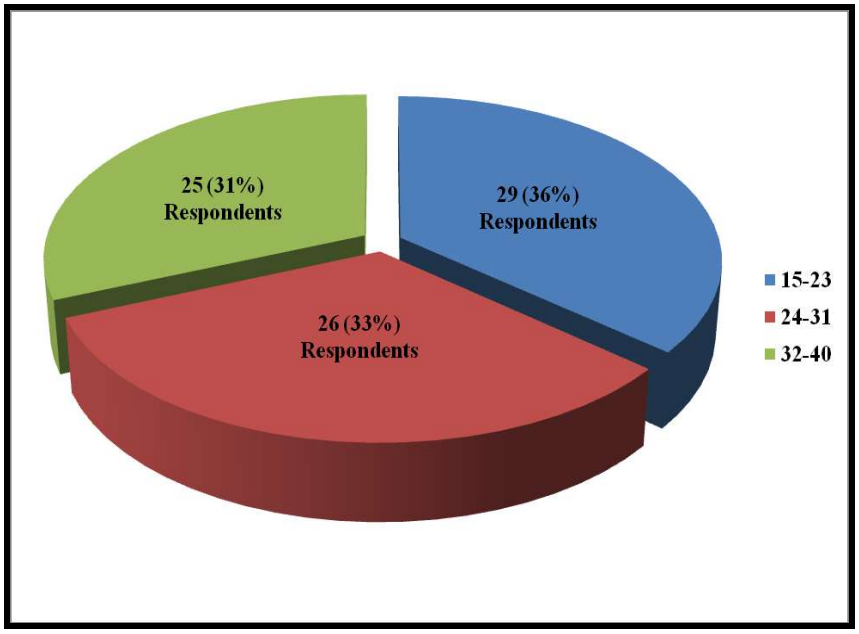
From the survey conducted, 80 useable questionnaires were collected by the researcher. This research has used descriptive analysis on respondents' profile consists of gender and age. Highest academic qualification attained by the respondents was also analysed descriptively in this part. As presented in Table 2, 48% or 38 respondents were male and the survey was conquered by the female respondents with the percentage of 53%. With that the total number of participants responded to the survey reached 80.

The respondents were youth of the age of 15 to 40 and were categorised into three strata of ages to get a clear understanding on youth's perception of education level attained for sustainable employment based on their age groups. This was relevant to the definition of youth as people aged between 15 to 40 years, declared by The National Youth Development Policy of Malaysia. The first age group were those between the ages of 15 to 23. 36 % or 29 respondents belonged to this group and the respondents were mostly students of secondary school and higher education institutions. Total of 33% or 26 respondents were aged from 24 to 31and they were the second age group in the strata. Respondents from this group were completely out from the school system. They were the students from higher education institutions, working adults or unemployed personnel. The last age group in the strata was the respondents from 32 to 40 years old. They were the least to respond to this survey with the percentage of 31% or 25 respondents and they were more likely engaged to a job. The age strata are shown clearly in Pie Chart 1.

Looking at the respondents' academic qualification, there were ten levels of academic qualifications highlighted. However, degree holders were the most participated in this survey with the percentage of 25% or 20 respondents out of 80. It was understood that in this 21st century one should at least complete degree as the highest qualification before entering the world of employment. The next in the ranking were diploma and postgraduate (Masters) qualification. 14 respondents or 16% of the respondents were degree holders and 15% of the respondents were Masters holders. 13% or 10 respondents were those attained STPM as the highest qualification followed by 11% of certificate holders. Only a few respondents obtained UPSR, PMR and SPM as their highest academic qualification. However there was no respondent with PhD or other qualification in this survey.

Table 2 Frequencies of demographic respondents and highest academic qualification

Demographic	Frequency	Percentage (%)
Gender		
Male	38	48
Female	42	53
Age		
15-23	29	36
24-31	26	33
32-40	15	31
Highest Academic Qualification		
UPSR	3	4
PMR	5	6
SPM	7	9
STPM	10	13
Certificate	9	11
Diploma	14	16
Degree	20	25
Masters	12	15
PhD	0	0
Others	0	0



Pie Chart 1 Frequencies and percentage of respondents by age group

Youth's Perception of Sustainable Employment

Analysis at this part covers the youth's perception of sustainable employment according to the three different age groups. These groups were asked to perceive on lifelong learning, education level attained and finally job readiness based on their academic qualification towards sustainable employment.

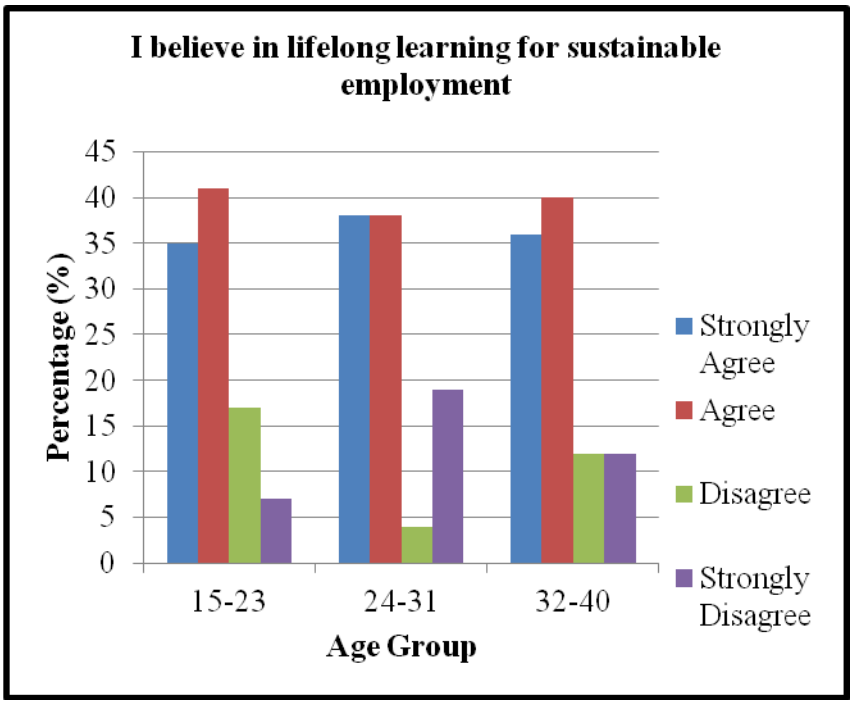
Lifelong Learning for Sustainable Employment

From Graf 1 it is shown that 41% of the respondents from the first age group agreed that lifelong learning leads to sustainable employment. 35% of the respondents from the same age group strongly agreed to this statement. With that, 76% or 22 respondents out of 29 from this first age group perceived lifelong learning as an important factor for sustainable employment. Moving to the second age group, 20 respondents or 76% of the respondents perceived lifelong learning as the main element in sustainable employment. Table 3 showed that 10 respondents chose strongly agreed and another 10 respondents has chosen agree for this statement. From 26 respondents in this age group, only 6 respondents perceived lifelong learning as less important for sustainable employment. The last age group stands of 32 to 40 year old youth. Like the two other groups, respondents from this group too, see lifelong learning as essential factor for being in sustainable employment. It is proved in Graf 1, by showing that out of 25 respondents in the third group, 10 chose agree and followed by another 9 respondents choosing strongly agree to this statement.

From this result, it can be concluded that respondents from all age ranges perceived that lifelong learning is important for them to develop themselves and to learn new skills to be employed in the modern labour market. Besides, this young generation sees the need of lifelong learning to get, keep and maintain the job in their hands. It is proved from a past literature review, that lifelong learning leads to employability and also estimated as a path to develop one's capability to get and maintain in a job (Australian Bureau of Statistic, 2008). At the same time, lifelong learning is an ongoing process to acquire the employability skills needed at the work place. It is clearly shown in Graph 1 that majority of the respondents perceived lifelong learning as essential factor for sustainable employment because only a small percentage of respondents disagree or strongly disagree with lifelong learning process for sustainable employment.

Table 3 I believe in lifelong learning for sustainable employment

Age	Strongly Agree		Agree		Disagree		Strongly Disagree		Total	
	N	%	N	%	N	%	N	%	N	%
15-23	10	35	12	41	5	17	2	7	29	100
24-31	10	38	10	38	1	4	5	19	26	100
32-40	9	36	10	40	3	12	3	12	25	100



Graf 1 I believe in lifelong learning for sustainable employment

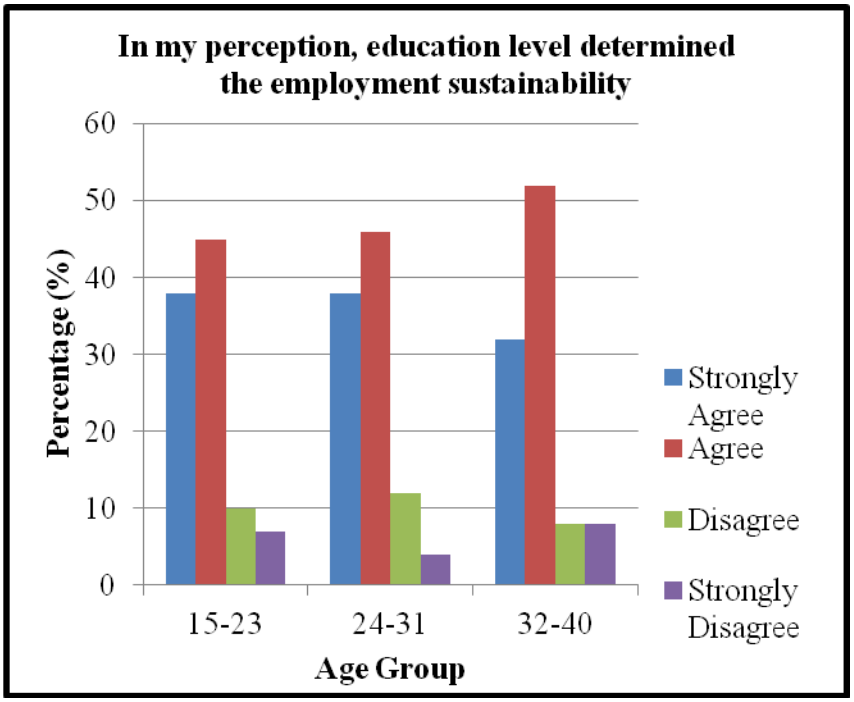
Education Level Determined the Employment Sustainability

For the second statement, "In my perception, education level determined the employment sustainability", 45% or 13 respondents from all 29 respondents in age group one, chose agree. Where, 11 respondents chose strongly agree for the same statement. From there it is shown that 83% of the total respondents in this age group perceived education level as a key determinant for sustainable employment. Looking at the second age group, from all 26 respondents, 42% of the respondents chose agree and 38% chose strongly agree to this statement making the total number of respondents perceived education level as an important element for sustainable employment as 22. The youth from the third age group also perceived education level towards sustainable employment in the same way as other two age groups. 10 of the 32 to 40 year old respondents or 40% of them chose agree and 36% chose strongly agree to the second statement. From this result, it can be explained that, youth see education level as vital element to get employed and to compete with their peers with different education levels to hold the job. Previous research by Herman (2012) stated that the higher the level of education one obtained, the better they serve the needs of the labour market.

In addition, higher percentage of respondents perceived in this way because they have an assumption that the higher their education level the higher is their salary. This concept is revealed in a research by Sunil Pillai (2012) when the participants in that research indentified higher education as an important factor in obtaining a good income job. At another point of view, it is understood that, the young people now tend to complete their higher education for getting a job their desired plus good income. The study on The Youth Factor Survey (2012) suggested that Malaysian youth presume that a bachelor's degree or diploma or a certificate determine a sustainable and good paying job. However a small group of respondents said education level is not important for sustainable employment because they were those who did not continue their studies to higher level.

Table 4 In my perception, education level determined the employment sustainability

Age	Strongly Agree		Agree		Disagree		Strongly Disagree		Total	
	N	%	N	%	N	%	N	%	N	%
15-23	11	38	13	45	3	10	2	7	29	100
24-31	10	38	12	46	3	12	1	4	26	100
32-40	8	32	13	52	2	8	2	8	25	100



Graf 2 In my perception, education level determined the employment sustainability

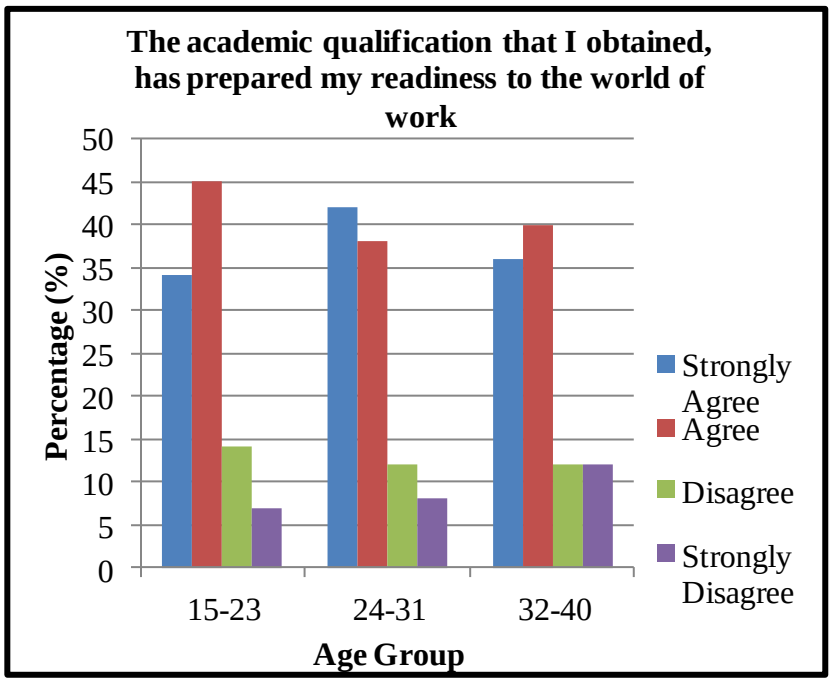
Academic Qualification and Job Readiness

Finally youth were asked to perceive on their academic qualification towards their job readiness for a sustainable employment. As shown in Graph 3, 13 respondents out of all 29 respondents in age group one chose agree and 10 respondents from the same group chose strongly agree for the last statement. All together, 79% of the respondents in age group one perceived academic qualification as the determinant factor towards their job readiness for sustainable employment. It is also shown in Graph 3, that the majority of respondents from age group two see the same factor as the important element towards their job readiness and in obtaining a sustainable employment. This is proved when 80% of the respondents of second age group chose agree and strongly agree to this statement. There is no much difference in the way of the respondents from the third age group perceived the last statement. As perceived by the respondents of the other two groups, respondents of the third group also mainly perceived academic qualification as an important component in sustainable employment. From all 25 respondents of this group, 19 chose agree and strongly agree to the third statement.

Based on a previous desk research, it was stated that job readiness refer to the attainment of skills, attitude and knowledge (Mason, Williams & Cranmer, 2006). Besides, a research by Robinson (2000) showed that job readiness means acquiring certain employability skills for reaching, maintaining and performing well in employment. However from the survey, it is shown that youth from this survey were not facing qualification mismatch at a serious level, since majority of the participants agreed that their academic qualification has prepared them to the world of employment.

Table 5 The academic qualification that I obtained, has prepared my readiness to the world of work

Age	Strongly Agree		Agree		Disagree		Strongly Disagree		Total	
	N	%	N	%	N	%	N	%	N	%
15-23	10	34	13	45	4	14	2	7	29	100
24-31	11	42	10	38	3	12	2	8	26	100
32-40	9	36	10	40	3	12	3	12	25	100



Graf 3 The academic qualification that I obtained, has prepared my readiness to the world of work

CONCLUSION

The study concludes that youth's academic qualification perceptions of sustainable employment are positive. Basically, the respondents seem to agree with all the statements given to them. This shows that youth involved in this survey are aware of the needs of the labour market and they equipped themselves with the appropriate education level and academic qualification demanded by the labour market. Not forgetting, this group of respondents are also willing to continue their studies or more suitable to say

willing to learn throughout life (lifelong learning) to progress and develop their skills to maintain the sustainable employment. It shows a positive reaction from the youth towards education level attained for sustainable employment. Although this survey has a positive finding, there is still a small percentage of youth perceived that the academic qualification they obtained failed to prepare them towards an appropriate career.

LIMITATIONS AND FUTURE RESEARCH

The study faced limitation in getting participants who obtained lower education level. This is due to online survey conducted in this research, limited to the participants with higher education qualification because; participants with higher qualification are more accessible to the internet. Besides, the sample might not represent the actual population. In future, it is important to make sure that survey forms are distributed online and manually targeting the particular sample and population.

ACKNOWLEDGEMENT

This researcher would like to thank the committee of the Long-term Research Grant Scheme (LRGS/2013/UMK-UKM/SS/04), for the support given in completing this research.

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Breadth and Depth of Vocabulary Knowledge and their Relationship with Reading Comprehension of Malaysian Undergraduates

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ABSTRACT

Reading is one of the most important language skills that ESL/EFL learners should achieve it comprehensively. Most of the learners confront some problems while learning a foreign/second language because of the lack of reading comprehension. To improve the learning process, students should try to develop their vocabulary knowledge. One hundred and eighty Malaysian undergraduate students took part in this study to investigate the relationship between breadth and depth of vocabulary knowledge and reading comprehension of learners. For collecting data, the Vocabulary Levels Test (VLT), Word Associates Test (WAT), and the TOEFL Reading Comprehension Test were administered in this study. The findings of the study demonstrated that both breadth and depth of vocabulary knowledge have significant relationship with reading comprehension of learners.

Keywords: Reading Comprehension, Breadth Of Vocabulary Knowledge, Depth Of Vocabulary Knowledge, Malaysian Undergraduates.

INTRODUCTION

Reading is a complicated process especially in the case of foreign/second language learning. The ability of individuals to understand the information of a written text is referred to reading comprehension. According to Smith (2004), reading comprehension is a cognitive process. He believed that learners can understand the written language when they store the knowledge of it in their long-term memory. If ESL/EFL learners want to acquire target language efficiently, they need to improve their reading comprehension as well as other three language skills - listening, speaking, and writing. Some scholars such as Grabe (1988) and Anderson (1999) claimed that reading process is an interactive approach between the reader and the text in making meaning. As noted

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by Barnett (1989), in reading procedure "the reader interacts with the text to create meaning as the reader's mental processes interact with each other at different levels (e.g. letter, lexical, syntactic, or semantic) to make the text meaningful" (p. 29).

Researches like Koda (1989) pointed out that vocabulary knowledge is strongly related to reading comprehension. Stahl (1990) and Nation (2001) proclaimed that since word knowledge can assist learners to understand the written texts and also reading can lead to the development of vocabulary, the relationship between these two constructs is bilateral. Laufer (1997) argued that without grasping the words in a passage, the text comprehension would not be feasible. Hence, enhancing the vocabulary knowledge of learners is an effective factor in comprehending the texts.

The most important role of vocabulary is to convey the meaning (Balota, 1990). According to Laufer (1998) and Schmit (2000), most researchers declared that ESL/EFL learners face problems while reading text, because they do not have the sufficient breadth of vocabulary knowledge. Based on what Laufer (1989) mentioned, to comprehend the texts, students are required to know approximately 5,000 word families. In the same vein, Nation and Waring (1997) claimed that in order to be a successful reader, learners should know at least 3,000 to 5,000 word families. Moreover, Hazenberg and Hulstijn (1996) proposed that ESL/EFL learners need to know 10,000 base words in order to understand the texts successfully.

The role of vocabulary knowledge in second language reading did not receive much attention until the 1980s. Many ESL practitioners such as Twaddell (1973) declared that since first language readers can understand the contents of texts by skipping the new words; therefore, second language readers should do this if they want to comprehend the texts like first language readers. So, these ESL practitioners emphasized on the developing the reading strategies rather than vocabulary knowledge. However, after passing some years, researchers understood that the lexical knowledge have a great influence on second language reading comprehension; hence, they shifted their attention from developing the reading strategies to the role of vocabulary knowledge on L2 reading comprehension.

In recent years, most of researchers, teachers, theorists, and others get motivated in the area of vocabulary acquisition and second language learning; therefore, they look at the vocabulary knowledge as a significant factor in achieving a second language. Nation (1990) argued that by observing the performance of second language readers when they face some unknown words in texts, most of researchers notice the significant role of vocabulary knowledge in reading comprehending of the ESL/EFL texts. As noted by Haynes and Baker (1993), one of the most important obstacles for ESL/EFL readers is insufficient number of vocabulary that they know rather than the absence of reading strategy.

Lack of reading comprehension is determined as one of the most important problems that students confront while acquiring a foreign/second language. It has been observed that students, who cannot comprehend the texts that they read, faced lots of problems in their educational process (Laufer, 1997). According to Proctor, August, Carlo, and Snow (2005), one of the contributors to reading comprehension is vocabulary knowledge. Hence, to understand the texts, learners should know enough words. NIH

(2000) argued that the larger a reader's vocabulary is, the easier he/she can make sense of text. Without sufficient knowledge of word meaning, it is difficult to comprehend text. According to Laufer and Sim (1985), researchers asserted that to become successful readers, the ESL students should comprehend ninety-five percent of the existing vocabularies in the passage.

There are some studies which examine the relationship between vocabulary knowledge and reading comprehension of students in different contexts; however, just a few studies investigate the vocabulary knowledge or reading comprehension of Malaysian undergraduate students especially those which considered breadth and depth of vocabulary knowledge. Hence, this study aims to investigate the two dimensions of vocabulary knowledge and their relationship with reading comprehension of Malaysian students. The current study seeks to answer the following research questions:

1. Is there a significant relationship between Malaysian undergraduates' vocabulary breadth and their reading comprehension?

2. Is there a significant relationship between Malaysian undergraduates' vocabulary depth and their reading comprehension?

LITERATURE REVIEW

Vocabulary Knowledge

Read (2000) argued that vocabulary is an individual word which associates with meaning. Most of second language learners consider vocabulary learning as matter of memorizing lots of words of that language. Word-meaning knowledge has two aspects: denotation and connotation (Anderson and Nagy, 1991). By denotation, they refer to the strict meaning of a word, and by connotation they refer to the rule that establish whether a word includes other non-explicit meaning. They added that the word's denotation may change with the real-life experiences of the learner. When learners obtain enough knowledge about the second language, they can learn more connotations of words. Therefore, words' meanings verify among learners due to their level of language experiences or backgrounds.

Richards (1976) stated seven principles to show what is involved in knowing a word. Those seven criteria are as below:

1. Frequency
2. Register
3. Syntax
4. Derivation
5. Association
6. Semantic features
7. Polysemy

Nation (1990) added other components such as pronunciation and collocation to this framework to make it more inclusive. Finally, he revised the framework in which reflect three various types of lexical knowledge: form, meaning, and use. Moreover, Nation (1990) attributed these aspects to the receptive and productive knowledge of words which should be developed in second language learners. However, Qian (1999) introduced the two dimensions of vocabulary knowledge: breadth and depth which will be discussed in more details.

Reading Comprehension

Reading is not just decoding the text and recognizing the words, but its main goal is comprehension. Singer and Ruddell (1985) stated that reading process shows us how a learner recognizes a word and comprehend a passage. Researchers categorized reading into three process models: top-down model, bottom-up model, and interactive model.

According to Barnett (1989), the reading process models are utilized in both first and second language reading. In top-down process model, the readers employ their prior knowledge and experiences to comprehend the content. The bottom-up reading model focuses on the meaning of words, phrases, and sentences in the text to understand the content. Finally, the interactive reading model, based on what Grabe (1988) and Anderson (1999) mentioned, is the interaction between reader and the text in making meaning. Barnett (1989) believed that in this model "the reader interacts with the text to create meaning as the reader's mental processes interact with each other at different levels to make the text meaningful" (p. 29). Researchers have done different studies on this model and accepted it as the best one among others (Bossers, 1991).

Vocabulary Knowledge and Reading Comprehension

One of the most important sources of knowledge that is highly related to the abilities of learners' reading is vocabulary knowledge. Read (2000) argued that most of studies in the first and second language learning have verified that both breadth and depth of vocabulary knowledge are good predictors of reading ability. As mentioned by Hsueh-Chao and Nation (2000), possessing a good range of vocabulary knowledge helps learners in reading comprehension process.

The relationship between vocabulary knowledge and reading comprehension is more than just easily teaching some words to the learners (Nagy and Anderson, 1984). Anderson and Freebody (1981) mentioned the three following types of views in order to investigate the vocabulary knowledge and reading comprehension of individuals: Instrumentalist views, Aptitude vocabulary views, and Knowledge vocabulary views. Based on instrumentalist view, vocabulary is a crucial requirement for comprehension. Hence, possessing a good level of word knowledge contributes to good comprehension. According to the aptitude vocabulary view, both vocabulary knowledge and reading comprehension are the result of having a good brain. At the end, based on the knowledge vocabulary view, knowing vocabulary indicates good world knowledge

which supports reading comprehension. In a study by Huang (1999), the results indicated a strong correlation between vocabulary knowledge and reading comprehension of learners.

Breadth of Vocabulary Knowledge and L2 Reading Comprehension

The number of words that the learner has some familiarity with their meanings is known as the breadth of vocabulary knowledge or vocabulary size. It is so important for the learners; because the more they know the meaning of words they can learn more new ones. According to Nation (1990, 2001) and Read (2000), one technique utilized to examine the breadth of vocabulary is using dictionary. In this method, the researchers choose randomly the second word of each ten pages from dictionary and select that number of words for their tests. However, for evaluating the vocabulary size of learners, this method appeared to be unreliable (Nation, 1990).

As an alternative to this method, some of the investigators proposed using a frequency-count technique. In this approach, the test items were chosen randomly from different frequency levels. The Vocabulary Levels Test (VLT) which was invented by Nation in 1980 was one the vocabulary size assessments that utilized the frequency count technique. This test uses widely all around the world to measure the breadth of vocabulary knowledge of L2 learners. Read (2000) announced that this test published in 1983 and is free for all researchers around the world.

One of the questions that come to the minds of learners is that how many words they should learn in order to understand the second language readings? In an investigation on Webster's Third New International Dictionary, Goulden, Nation and Read (1990) found that the dictionary included around 114,000 word families of English which was a great number of vocabularies for learners to achieve (Nation, 2001). L2 learners require learning 5,000 words in order to achieve fluency in English (Nation, 2003). He added that knowing about the 8,000 to 9,000 word families is required for a well-educated second language learner. According to Mecartty (2000), if the learners know English words more and more; therefore, they can obtain more understanding from their readings.

Qian (2002) asserted that for investigating the relationship between vocabulary knowledge and reading comprehension of learners, researchers can use one of the following three tests: Vocabulary Levels Test (VLT), depth of vocabulary knowledge (DVK) or Word Associates Test (WAT), and TOEFL vocabulary item measure (TOEFLVIM). After applying some studies, he found a positive correlation between size of vocabulary and reading comprehension.

Depth of vocabulary Knowledge and L2 Reading Comprehension

Depth of vocabulary knowledge pays attention to the quality of vocabulary knowledge. Depth relates to the richness of knowledge that learners have about the words that they know. It means that learners of second language require knowing more than just a superficial understanding of the meaning. Nation (1990) claimed that most of L2

students suffer from inadequate vocabulary knowledge and they need more depth in their vocabulary knowledge to complete their comprehension and production. Hence, the vocabulary instruction by educators should go beyond creating a definition for a word and provide in-depth knowledge regarding the vocabularies have been taught.

Most of investigators have not pay attention to the depth of vocabulary knowledge and its role on reading comprehension until recently. Read (1989) stated that studies which examine the vocabulary size and reading comprehension are more than ones which identify the depth of word knowledge and reading comprehension. Its reason may be due to the complexity of determining depth of vocabulary knowledge (Qian, 1999). So, he conducted some interviews with learners to measure that how well they know target words. Because of some limitations in this method, Read (1993) created Word Associates Test (WAT) in order to estimate the depth of vocabulary knowledge of students.

In one study by Qian (1998), the results revealed a positive strong correlation among the scores on vocabulary size, depth of vocabulary knowledge, and reading comprehension of learners. He concluded that depth of vocabulary knowledge made a unique contribution to the prediction of reading comprehension of participants. Therefore, he demonstrated that depth of vocabulary knowledge has important role like vocabulary size on reading comprehension.

Taken together, the above studies indicated a continuation of research on the vocabulary knowledge and reading comprehension of ESL learners. The aim of this study is to investigate whether this trend is valid for Malaysian undergraduates?

METHODOLOGY

The research design that was used in this study was correlational design. A correlational design indicates that whether the variables are related/correlated (Ary, Jacobs, Razavieh, and Sorensen, 2006). Based on the objective of the current study which was to examine the relationship between vocabulary knowledge and reading comprehension of Malaysian undergraduates, the most appropriate design that could be utilize for it was correlational design.

Sample

The current study was carried out at the three public universities of Malaysia (Universityi Putra Malaysia, Universiti Malaya, and Universiti Kebangsaan Malaysia). One-hundred and Eighty-three first-year undergraduate students were selected randomly to take part in this research. Three students did not complete the test correctly; hence their test responses were omitted from data analysis. At last, 180 participants completed the tests completely.

Instrumentation and Scoring

Three instruments had been used in order to achieve the goals of this study. According to Seliger and Shohamy (1989), tests are conducted to gather some information about the ability of learners or their knowledge in second language areas like vocabulary, reading comprehension, and other language proficiencies. These instruments were as follow:

Vocabulary Levels Test (VLT)

Vocabulary Levels Test (VLT) was designed by Nation (1990) to measure the size of the test-takers vocabulary. It is intended for ESL/EFL learners. He believed that this type of test will help teachers of second language to determine which kind of vocabulary should be taught to the learners. Most of second language researchers (e.g. Laufer, 1992, 1996; Qian, 1998, 1999; Yu, 1996) have accepted the VLT as a suitable test for measuring the size of vocabulary knowledge.

VLT has five parts which illustrate different vocabulary size levels in English such as the 2,000-word, 3,000-word, 5,000-word, University-word-list, and 10,000-word levels. As noted by Nation (1990), the two 2,000-word and 3,000-word levels include the high-frequency words in English, while the 5,000-word level includes both low-frequency and high-frequency words, and the 10,000-word level encompasses just the low-frequency words. Based on the level of participants of this study, the researcher examined the first three 2,000-, 3,000-, and 5,000-word levels.

At each level, test-takers should match 18 definitions to 36 words in order to make correct matches. These words and their definitions are arranged in groups of six and three respectively. Examinees must write the corresponding number of correct word beside to its definition.

There were 54 word-definition matching items in the test of this study, because the first three levels had been utilized. Each word that was correctly chosen got 1 point, so the maximum point that the participants could achieve was 54. According to Nation (1983), if the test-takers achieve a score of 12 or fewer out of 18, so it shows that they are not mastered in that level.

Most of researchers such as Laufer (1992) and Qian (1999) accepted the Vocabulary Levels Test as an appropriate test for measuring the size of vocabulary knowledge. Beglar (1999) achieved the reliability of .98 for the VLT. Moreover, Qian (1999) attained the reliability of .92 for this test.

Word Associates Test (WAT)

The Word Associates test (WAT) which was developed by Read (1998) was selected to examine the depth of vocabulary knowledge in the current study. As stated by Read (1995), the Word Associates test (WAT) is involving the 40 items that was designed to measure the depth of vocabulary knowledge through two aspects of word associations and collocation. For each item a stimulus word is presented with eight words that

situated in two columns. Each column encompasses four words. The left column has two synonyms for the stimulus word and the right column has collocations with the stimulus word. Students should select these four related words among the eight presented words. Therefore, for each correct answer one point is considered, so the maximum score that a participant can gain is 160 for the 40 items. According to Read (1995), in one recent trial, reliability obtained for Vocabulary Associates Test was .93.

TOEFL Reading Comprehension Test

The TOEFL reading comprehension test includes standardized multiple-choice questions in order to examine the ability and performance of ESL/EFL learners in the vocabulary knowledge and reading comprehension. The test chosen for this study was composed of four reading passages and 20 comprehension questions. The passages that were chosen were appropriate for the intermediate and upper-intermediate level based on the level of participants of this study. The students should read the passages and chose the best answer in order to what they understood from the content.

Each correct answer had earned one point; therefore, since the whole questions were 20, the maximum score were 20 from this part. Since this is an standardized test, the validity and reliability of passages have been proven by Educational Testing Service (ETS).

Procedure for Data Collection

Before performing the test, all the students were informed about the goal of this research, also the purposes of each test were explained by the researcher. Moreover, before starting the actual tests, the researcher gave some examples about the questions in order to make sure that all of the students comprehended the sections of the tests. The tests had been conducted in different days, in order to obtain more accurate results. Because the researcher believed that if students answered all the three tests (VLT, WAT, and RCT) in one day, they might become tired and their performance would affect the results of the study.

In the first day, the students had taken the Vocabulary Level Test (VLT) and the Word Associates Test (WAT). The maximum time that was needed for these tests was 45 minutes. The researcher told them to answer all the items carefully. In the second day, they should read the four passages of TOEFL test and answered to multiple-choice questions at the end of each passage. They had 25 minutes to complete the test. After completing the tests, the researcher gathered them to analyze the results of exams in order to demonstrate the amount of relationship that exists between vocabulary knowledge and reading comprehension.

The Statistical Package for the Social Sciences (SPSS) version 18 was used to identify the association between vocabulary knowledge and reading comprehension of participants. In order to receive the goal of the study, both the descriptive statistics and the Pearson Product Moment Correlation Coefficients were employed.

RESULTS AND DISCUSSION

In this section, the results obtained from the data have been discussed in details. The overall test scores of students are presented in the following Table 1. The maximum possible score for each Vocabulary level test is 18, for Word associates test is 160, and also the maximum possible score for reading comprehension test is 20.

Table 1 Descriptive Statistics of Students' Performance on VLT, WAT, and RCT (N=180)

Tests	Full Marks of Each Test	Mean	Std
VLT 2,000	18	17.80	.891
VLT 3,000	18	16.70	1.67
VLT 5,000	18	15.20	2.98
WAT	160	129.56	14.31
RCT	20	12.70	2.75

As can be seen in the above table, at the 2,000-words and 3,000-words levels the mean scores of the students were too high which indicated that these students have enough knowledge on the high-frequency words. The results regarding to the 5,000-words level, showed the inadequate vocabulary knowledge of learners at this level. Moreover, the mean scores of reading comprehension test of this group of learners were not high, because the reading passages include low-frequency words which cause misunderstanding of the passages for the students.

As shown in Table 2, which presents the correlation between the vocabulary level test and reading comprehension, a significant positive correlation was found between the vocabulary knowledge and reading comprehension at the 2,000-words level ($r = .823$, $p < .01$). Not only at 2,000-words level, but also at 3,000-words level the researcher observed a significant positive correlation with the reading comprehension ($r= .798$, $p< .01$). These two findings revealed that the 2,000-word and 3,000-word levels are the predictors of reading comprehension. The results found for the correlation between 5,000-word level of vocabulary knowledge and reading comprehension demonstrated a low correlation.

Table 2 Correlations among Scores on the VLT 2,000, VLT 3,000, VLT 5,000, and Reading Comprehension Test (RCT)
(N = 180)

	VLT 2,000	VLT 3,000	VLT 5,000	RCT
VLT 2,000	1.00	.215	.258	.823
VLT 3,000	.215	1.00	.564	.798
VLT 5,000	.258	.564	1.00	.290
RCT	.823	.798	.290	1.00

Correlation is significant at $p < .01$ (2-tailed).

Table 3 indicates the relationship between the depth of vocabulary knowledge and reading comprehension of students. A significant correlation was found between the depth of vocabulary knowledge and reading comprehension ($r = .810$, $p < .01$).

Table 3 Correlations among Scores on the WAT and Reading Comprehension Test (RCT)
(N = 180)

	WAT	RCT
WAT	1.00	.810
RCT	.810	1.00

Correlation is significant at $p < .01$ (2-tailed).

Totally speaking, the reading comprehension test was established to observe the students' reading comprehension ability and also tests their vocabulary knowledge. They should have enough vocabulary knowledge in order to understand the reading passages and had chosen the correct answer. As mentioned before, the maximum possible score of this part was 20.

The scored achieved from the reading comprehension test of students demonstrated the lack of vocabulary knowledge of Malaysian undergraduate students. Hence, the difficulty in the level of vocabulary indicated a great influence on reading comprehension of participant. In order to find responses, students were required to comprehend the information written in the texts through using their vocabulary knowledge.

Both the breadth and depth of vocabulary knowledge of students have been investigated. The obtained results indicated a significant positive relationship between the vocabulary knowledge at the 2,000-word and 3,000-word levels and the reading comprehension test of students. This finding showed that knowing the high-frequency

words is essential in reading comprehension but it is not enough for doing well in comprehension. However, the results of the low-frequency words indicated that they appear rarely in the written texts. As noted by Nation (2001), just five percent of the words in academic texts include the low-frequency words. No significant relationship that found between 5,000-word levels of vocabulary knowledge and reading comprehension test, demonstrated that students did not comprehend the text completely which resulted in the lack of vocabulary knowledge of students. Furthermore, the findings indicated the strong correlation between depth of vocabulary knowledge and reading comprehension of Malaysian undergraduates.

CONCLUSION

In this study, two questions were addressed regarding the relationship between Vocabulary knowledge and reading comprehension of Malaysian undergraduates. The findings of this study supported the complicated role of vocabulary knowledge in reading comprehension of learners. According to the Vocabulary Levels Tests results, these students had sufficient mastery of the high-frequency words. This study have supported the Qian's (1999, 2002) studies which concluded that breadth and depth of vocabulary knowledge is a principle in reading comprehension of learners. Laufer (1989) believed that learners need to recognize 95% of the vocabulary in an academic text for adequate comprehension. Furthermore, Hirsh and Nation (1992) found that a complex passage can be figured out when 95% of vocabulary are clear for readers. The low scores of the participants in this study in reading passages showed that they were not sufficiently equipped with such word knowledge. The findings of this research also proved the argument that the vocabulary problem has effect on reading comprehension (e.g. Laufer 1992, 1997; Nation 2001; Qian 2002). The words which students were not familiar with them had influence on their overall comprehension scores. Moreover, according to Alderson (2000), some variables such as the format of tasks given to students have influence on their reading performance. For example, through using the short answer questions for the comprehension section instead of multiple-choice questions different results might be obtained.

IMPLICATIONS OF THE STUDY

Several concepts have been found from the results of this study. First, the researchers encourage instructors to make words at the 5,000 level to students so that students could be exposed to these available words in their daily reading. They suggest that the students should continue to expand their learning of high-frequency words and also develop their knowledge of low-frequency words at the same time. These words are including the vocabularies that do not use frequently in any text, words that rarely occur in daily language, and technical words for other academic fields of studies. Second, students have to develop their low-frequency words and the quality of word knowledge through

reading, and replying the questions of the texts with low-frequency words, and specialized words. Hence, the texts that have been selected by the teachers from the newspapers or academic journals which contain low frequency words will be useful to develop the sensitivity of students to new words and to several ways of inferring new word meanings based on contextual or co-textual clues (Zhang 2003). Students may recognize how to guess the meaning of low-frequencies words through teachers' scaffolding (Zhang, 2003). Students will learn how the instructor solves the vocabulary problem in reading. In the long run, according to Zhang (2003), this kind of systematic pedagogical exercises will develop students' reading comprehension. Finally, the students should be encouraged by the teachers to participate in extracurricular extensive reading activities. The positive effects of extensive reading in helping students to improve reading abilities and language skills have been offered in some cumulative evidences (e.g., Krashen 2004; Nation 2001).

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The Relationship between Networking Behavior and Successful Career Transition among Practitioners Turned Academics

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ABSTRACT

Engaging in networking behaviors through maintaining contacts, engaging in professional activities and increasing internal visibility are considered to be an important factor of career transition success. This study investigates the relationship between networking behavior and career transition success (i.e., objective career success, subjective career success, and academic performance) using samples of practitioners turned academic in Malaysian research universities. Data were collected from 112 practitioners turned academic worked at Malaysian research universities. Result indicated that maintaining contacts, engaging in professional activities and increasing internal visibility were related to career transition success.

Keywords: Networking Behavior, Career Transition, Career Success, Practitioners Turned Academics

INTRODUCTION

Traditionally, individual is more likely to be loyal with a single company and only focus on obtaining promotion up the hierarchy (Kelly, Brannick, Hulpke, Levine, & To, 2003). In contrast with the traditional career, many individuals nowadays decided to change their career at least once in their lifetime. Furthermore, in the era of boundaryless career, moving from one career to another is common in order to fulfill their personal choice, aspirations for learning, development and growth, and also due to organizational changes (Vigoda-Gadot, Baruch & Grimland, 2010; Niesen, Binnewies & Rank, 2010). A boundaryless careers refers to the career that transcend boundaries (Verbruggen, 2012) or in other words is the movement of individuals from job to job, or from organization to organization. However, despite the excitement of changing career, most of the career changers realized that they have to be ready to face new challenges in their second career . In the context or practitioners turned academics, moving the career

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from industries into the academic world is a very challenging experience (Murray, Stanley, & Wright, 2014) especially for those who work at research universities. To be successful in their second career, these career changers have to adapt with their new environment, means they have to adapt with various task such as management task, teaching courses, publication and research.

Engaging with networking behavior not only helping to improve individual personal life but also very important in helping individual's to be success in their career life (Forret & Dougherty, 2004; Langford, 2000; Wolff & Moser, 2009). There are five types of networking behavior that has been highlighted by Forret and Dougherty (2001): maintaining contacts, socializing, engaging in professional, participating in communities' activities and also increasing internal visibility. In respect of the academia, Ismail and Mohd Rasdi (2007) have found that networking help the academician to develop their career. They also stated that if academics can engage efficiently in networking behavior, the win-win situations for both individual partners and universities can be created.

Career transition among practitioner turned academic in Malaysia has been a significant issue today. Attracting a practitioner to teaching and research in higher education is essential to meet the nation's human resource capital needs and transform higher education in order to make Malaysia as an international hub of higher education. However, majority of practitioners turned academics have experienced difficulty to adapt and be success in their second career (LaRocco & Bruns, 2006; Dempsey, 2007; McArthur-Rouse, 2008; Gravett & Peterson, 2007; Cruz & Sholder, 2013). Other than that, study on networking behavior mostly focused in the non-academic context (Wolff & Moser, 2009; Forret & Doughert, 2004; Mohd Rasdi, Garavan & Ismail, 2012; 2013) and did not involve the experience of individuals who encountered career transition. Hence the purpose of this study is to determine the relationship of networking behavior and successful career transition of practitioners-turned-academics. In addition, we aim to identify the best types of networking behavior influencing successful career transition success.

This paper contributes to the career transition literature in two aspects. First, we investigate the relationship between networking behavior and career transition success and we provide strong evidence that shows that there are relationships between the variables. Second, we extend existing knowledge of career success to include career success of those experienced career transition. The knowledge would provide useful information for scholars and practitioners in effort to capitalize talented human capital and to produce fruitful results due to career change.

The paper is structured as follows: we initially review the theory used in this study, then followed by the literature review that comprises the concept of career transition success and networking behavior, the importance of networking behavior for practitioners turned academics, the relationships of networking behavior and career transition success and develop appropriate hypotheses. This is followed by a description of the methodology and presentation of the results. Finally, the paper presents a discussion of the research findings and the implications of the study for human resource development and practices**.**

Theorizing Career Transition Success of Practitioners-Turned-Academics

Our study have employed Conservation of Resources (COR) theory, Signal theory and also Social Capital theory in order to explain the relationships of networking behavior and career transition success among practitioners-turned-academics. The first theory is the COR theory and has been developed by Hobfoll in 1988. This theory was invented initially as motivational theory and according to Hobfoll, Freedy, Lane and Geller (1990, p. 466) this theory was "follows from the basic motivational tenet which is people strive to obtain and protect their personal and social resources and that experiences stress when circumstances threaten or result in loss of these valued states". Resources can be categorized into object, condition, personal characteristic and energies. The main idea in this theory is, when an individual feel stress they will experience loss of energy resources and because of that they will try to use the stored energy to gain back what they loss. Halbesleben, Neveu, Paustian-Underdahl and Westman, (2014) stated that the value of resources varies among individuals and is tied to their personal experiences and situation. In academia, employee resources can be physical, psychological, social, and organizational aspects of the work role or institutional resources (Schaufeli & Baker, 2004). Experiencing transition in career life produced confusion and pressured and these things will cause practitioners-turned-academics to feel stress (Dempsey, 2007; Boyd & Lawley, 2009; Shamsir & Ismail, 2013). During the transition process, practitioners turned academics will put their efforts and use all the resources in order to meet the work requirement in their second career. Grimland, Vigoda-Gadot, and Baruch (2012, p. 1076) suggest that with abundant resources, employee felt easier to cope with their job demand and divert the resource to enhance their career progress. They specifically point out that "networking will provide information about future attractive projects". Hence, networking can be one of the resources for individual to cope with job demand. Previous studies on work-family conflict, job burnout, and career success have supported the tenets of COR theory (e.g., Grandey & Cropanzano, 1999; Gorgievski & Hobfoll, 2008; Grimland et al., 2012).

Social capital theory is used to explain the importance of networking in managing successful career transition. The social capital literatures have expanded rapidly after the Putnam's (2000) study about the social networking habits of American. According to Coleman (1988, p. 98), "social capital comes about through changes in the relations among persons that facilitate action and it is not completely fungible but may be specific to certain activities". Likewise, Putnam (1993) refers social capital as relationships of trust and reciprocity which leading to enhanced social networks, resulting to various benefits for individuals and communities. Baker (2000) also revealed that relationship with others can be a resource that can provide new ideas, up-date information, and social support.

In the context of present study, networking behavior is operationalized as social capital which provides the networks of relationships between practitioners-turned academics and people within both industries and academia. This network of relationship will facilitate the transition process and make the adaptation process more productive, hence will contribute to successful career transition. Larger networks can produced many

benefits, such as increasing organizational knowledge, information on research projects and consultation which consequently leading to career success (Morrison, 2002; Podolny & Baron, 1997).

The signal theory by Spence in 1973 (Spence, 2002) further explains the phenomenon of networking and practitioners-turned academics' successful career transition. The three important components involve in signaling theory are signaler, receiver and also the signal itself. By signaling their own quality, ability and potential these academics can increase their visibility to the university's management and enhance their opportunity for administrative positions and challenging task (Nabi, 1999; 2003). As a result, they are more likely to be chosen in selection or promotion decision.

LITERATURE REVIEW

Career transition has been referred as the period during which an individual objectively takes on different roles and/or subjectively changes orientation to a role (Latack, 1984; Louis, 1980). The three types of career transition are: (a) intra-organizational transition (e.g., moving from one division to another within the same company), (b) inter-organizational transition (e.g., moving from one company to another), and (c) inter-profesional transition (e.g., occupational change) (Latack, 1984).

This study focuses on successful career transition of practitioners-turned-academics. Following previous studies on successful career transition (e.g., Baruch & Quick, 2007; Vigoda Gadot, Baruch & Grimland, 2010) we found that it was measured using similar indicators of career success for people who did not experience career change. Such indicators are monthly income, number of promotions, subjective career success and speed of promotion. Judge et al. (1995) defined career success as having both objective and subjective components. Baruch (2004) and Ng, Eby and Sorenson (2005) referred career success as comprise both internal and external meanings. Objective career success refers to external measurable indicators such as salary level, number of promotion and status (Nabi, 2001). Subjective career success refers to individual's internal evaluation towards their own career success such as career aspiration, level of career satisfaction, and happiness (Ng, Eby, Sorensen, & Feldman, 2005). In agreement with previous studies, we took a similar approach in defining career transition success. In this study, career transition success was operationalized as having both objective and subjective success. The objective indicators are monthly gross income and number of promotion; the subjective career success was accessed using individuals' perceived success towards their career achievement as compared to others.

With regards to the context of study, i.e., academia, we further add performance in academic career as indicator of successful career transition. Career performance in academia are measured using indicators such as number of publication, total amount of research grants, number of students supervised, average of teaching evaluation achieved, number of conferences attended, involvement in administrative activities, involvement in curriculum development activities and also leadership role. Career success studies which have been conducted in the academic setting have utilized various measures of

academic career performance. For instance, Finkeistein (1984) cited from Schoen and Winocur (1988) measured academic career success using three indicators such as job security in higher education institutions, promotions and salary, and also getting recognition as a result of the contribution in a particular field of expertise. Relatively recent studies by Riordan (2007) have included student achievement, career satisfaction, contribution to society, balance between work family life and profession; and also personal value as a measurement of academic success. In short, this study employed three main indicators of career transition success, i.e., objective career success, subjective career success and academic career performance.

Networking Behavior

Forret and Dougherty (2004, p. 420) referred to networking behavior as "individual's attempts to develop and maintain relationships with others who have the potential to assist them in their work or career". They also identified five types of networking behavior which are maintaining contacts, socializing, engaging in professional activities, participating in community and increasing internal visibility. Networking behavior in this study is operationalized as activities of building relationships with colleague or other people in order to help the practitioners-turned-academics successfully managing their second career.

Networking Behavior and the Boundaryless Career

The boundaryless and protean career are emerging concepts in career studies, where individuals are taking charge in planning and managing their own career development. The two concepts are also in line with the intelligent career framework (Eby, Butts and Lockwood, 2003) specifically on the career competencies of 'knowing whom'. Knowing whom refers to career-related networks and contacts (DeFillippi & Arthur, 1994) including relationships with others on behalf of the organization and personal contacts (Parker & Arthur, 2000). Networking behavior can be classified as a strategy to success and it is crucial to develop a better understanding of how networking behaviors result in successful career transition.

In managing the boundaryless career, the career changer has to be proactive in their career. Forret and Dougherty (2004) stated that networking represent a proactive behavior where the career changer sought to build and maintain the relationship with network resources that have potential to assist them in their new career. The resources that can be used by the practitioners-turned academics in order to be successful in their second career is the contacts and relationships in the organization or outside the organization.

The Importance of Networking Behavior for Practitioners-Turned-Academics

The internalization of higher education nowadays has made networking essential among academics (Ismail & Mohd Rasdi, 2007). They also point out that (p.155) "fierce competition in academia, sophisticated technology and challenging research projects as

well as time constraints in managing the three-fold academics functions, i.e. teaching, research and services, made the interconnection within academic networking essential". Moreover, Nabi (1999; 2003) stated that networking is crucial in increasing academics' power and visibility by signaling their quality, ability and potential to the university.

Besides learning through formal courses provided by the universities, it is crucial for academics to learn from others who have succeeded. To become successful second career academics, practitioners turned academics have to cope with their new task as academics such as teaching courses, research and publishing. Thus, they have to learn a lot of new skills related to their new career even though they are classified as excellent workers in their previous career (Shamsir & Ismail, 2013). Hence by engaging with networking behavior they can gain support for their career development (Ismail & Mohd Rasdi, 2007). Many empirical studies have examined the relationship between networking and career. Literature have discussed that networking are important for individual career life starting with the job searching (Hoye, Hooft, Lievens, 2009), followed by individual career development (Ismail & Mohd Rasdi, 2007) and finally achieved a successful career (Forret & Dougherty, 2004; Wolf & Moser, 2008; Langford; 2000). Nonetheless, only few empirical studies have examined the relationship between networking behavior and career transition success.

The Relationship between Networking Behavior and Successful Career Transition

Studies on networking behaviors provide evidence of a direct relationship between networking behavior on both objective and subjective career success. For instance, Forret and Dougherty (2004) examined the relationship between networking behavior and career outcomes (number of promotions, total compensation, perceived career success) of 303 male and 115 female business school graduates from large Midwestern state university. Their study measured networking behavior using five types of networking behavior which are (i) maintaining contacts (ii) socializing (iii) engaging in professional activities (iv) participating in communities activities, and (v) increasing internal visibility. Forret and Dougherty found that four of the five networking behavior (all except socializing) were positively related to number of promotions. Maintaining external contacts, engaging in professional activities, and increasing internal visibility were positively related to total compensation and all networking behaviors except participating in community were positively related to perceived career success. Similarly, in the longitudinal study done by the Wolff and Moser (2008), they have found that networking is related to salary and career satisfaction among 445 employees.

Hypothesis 1: Engaging in networking behavior will be positively related to objective career transition success.

Hypothesis 2: Engaging in networking behavior will be positively related to subjective career transition success.

A qualitative study on high-flying women academics in Malaysia by Ismail and Mohd Rasdi (2007) found that networking help the academics to develop their career.

Academics who engaged with networking behavior shall experience a win-win situation for both individual and universities. Such advantages that can be gained from networking behavior are international recognition, professional support, and development of collaborative projects local and abroad. Collectively, all these advantages would assist practitioners-turned-academic in doing their tasks and be advanced in their new career.

Hypothesis 3: Engaging in networking behavior will be positively and significantly related to academic career performance.

METHODOLOGY

Population and Sampling

Out of 112 practitioners turned academics who took part in this study, 63 are males and 49 are females. Majority of the respondents (93%) hold a PhD degree while another (17%) hold a master degree. Most of the respondents are senior lecturer (88.4%), followed by associate professor (6.3%) and lecturer (5.4%).

Table 1 Profile of the respondents (n=112)

	Frequency	%	M	SD
Gender				
Male	63	56.3		
Female	49	43.8		
Marital Status				
Single	14	12.5		
Married	96	85.7		
Divorce	2	1.8		
Education Background				
Phd	93	83		
Master	19	17		
Rank				
Associate Professor	7	6.3		
Senior Lecturer	99	88.4		
Lecturer	6	5.4		
Age (n=102)			40.27	5.98
30-39 years old	51	50		
40-49 years old	44	43.1		
50-57 years old	7	6.9		
Number of Children			2.46	1.82
0-3	83	74.1		
4-6	26	23.2		
7-9	3	2.7		
Tenure			12.92	6.46
2 - 12 years	58	51.5		
13-23 years	48	42.9		
24-35 years	6	5.4		

Procedure

The target population of this study consists of practitioners turned academics working in the Malaysian research universities. The letters of application for data collection at the Research Universities were sent, however only four of the research universities give the permission. Information about potential respondents were obtained from the registrar from each research public university which including information such as name, department, working experience and email address. The lists were then categorized according to the year they start working as second career academics in order to make sure that all respondents have not more than five years of working as academics. We excluded the tutors because they have different key performance. The selected names

were then contacted through email and telephone calls to invite them to participate in this study.

Data were gathered through a formal survey using a structured questionnaire. Emails were sent to every potential respondent in order to get their agreement to self-administered the questionnaire, however, only few of them responded to the emails. To increase response rate, we employed the KwikSurvey, which is an online survey that was sent to those who did not responded in earlier data collection. In total, the total responses rate received from the respondents was only 51.9%.

Measure

Dependent Variables

We measured both objective and subjective career transition success and also academic performance.

Objective Career Success

The indicator of the successful objective career transition comprises of number of promotion, highest position attained and also monthly income. However in this study we combined the indicators of objective career success into a composite objective career success index because the empirical analysis on the individual objective career success item did not support the relationships.

Subjective Career Success

Subjective career success was accessed using a perceived career success instrument developed by Turban and Doherty (1994). Sample item: 'compared with my co-workers, my career progress has been..' This instrument has been used by previous scholar such as Kirchmeyer (2002) and Riordan (2007). They have reported the reliability coefficient of .92 and .82, respectively. The Cronbach's alpha in the original study was 0.87 (Turban & Doherty, 1994) and for the present study was 0.90.

Academic career performance

The indicators of successful academic career performances for the practitioners-turned academics compose number of research project, number of publications and teaching evaluation score. We also combined the indicators of academic career performance into a composite index because the empirical analysis on the individual item did not support the relationships.

Independent Variables

Networking behavior variables

Networking behavior was measured using Forret and Dougherty's (2001) networking behavior scale. This study employed only three types of networking behavior which is maintaining contacts, engaging in professional activities and increasing internal

visibility. This selection is based on the identification that these types of networking have been associated to academic career success. Considering the focus of our study on successful career transition among practitioners turned academics, participating with community is not their focus for the first five years. This is because, as a novice academia, they have to blend with the culture of the organization first, thus participating in community would take them sometimes to be involved. Socializing also not included in this study due to similarity with the other construct in this study (i.e., organizational socialization). To measure maintaining contacts, five items have been used. A sample item for this response scale is "given business contacts a phone call to keep in touch". Engaging in professional activities was measured using eight items, and the sample item is "given professional seminar or workshop". Increasing internal visibility was assessed using four items, and sample item is, "accepted new, highly visible assignment". To indicate how often the respondents engage in networking behavior, 6-point scales were used and the item were randomly arranged.

Control Variables

Demographic Variables

Socio-demographic variables include age, gender, marital status, number of children, highest level of education, position in current job, total work experience in current position, total overall work experience and tendency to do office works during the weekends or public holiday. All these demographic variables act as the control variables in this study.

Data Analysis

We conducted Pearson Product Moment Correlation Coefficient to determine whether there are significant relationship between networking behavior and all measures of successful career transition. Multiple linear regressions was conducted to determine the best networking behavior type influencing successful career transition.

FINDINGS

Table 1 shows the means, standard deviations (SD), and Pearson's inter-correlations of the networking behavior variables used in this study. Hypothesis 1 posited that networking behavior (maintaining contacts, increasing internal visibility and engaging in professional activities) would relate positively to objective career success. The result indicated that of the networking behavior variables, only engaging with professional activities (r=.250, p=.008) was significantly related to objective career success. Thus, Hypothesis 1 was partially support. However the strength of the relationship is low.

Hypothesis 2 proposed that networking behavior (maintaining contacts, increasing internal visibility and engaging in professional activities) have positive

relationship with subjective career success. The correlation analysis showed that maintaining contacts (r=.319, p=.001) and engaging with professional activities (r=.260, p=.006) were positively and significantly correlated with the criterion variable. The strength of the relationship is also low. However, activities such as increasing internal visibility (r=.196, p=.038) are negligibly and significantly related to subjective career success. Thus, Hypothesis 2 was supported.

With regard to academic career performance, increasing internal visibility (r=.426, p=.0001) and engaging with professional activities (r=.429, p=.0001) were positively and significantly related to career transition success among practitioners-turned-academics. The strength of the relationship is moderate. Maintaining contacts was positively and significantly correlated with successful career transition (r=.319, p=.001), and the strength of the relationship is small. Thus, Hypothesis 3 was supported.

Table 1 Correlations, means, and SD of study variables

	M	SD	Y_1	Y_2	Y_3	X_1	X_2
Objective Career Success (Y_1)	1.64	.41					
Subjective Career Success (Y_2)	4.80	1.08	.066				
Academic Career Performance (Y_3)	3.24	.49	.188*	.099			
Increasing Internal Visibility (X_1)	3.24	1.13	.149	.196*	.426**		
Maintaining Contacts (X_2)	3.33	1.16	.007	.319**	.359**	.622**	
Engaging with Professional Activities (X_3)	3.03	.93	.250**	.260**	.429**	.429**	.535**

Notes: ** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Multiple linear regressions were performed to identify the best networking behavior type that influence career transition success among practitioners turned academics. Result showed that only engaging in professional activities was significantly

predicted objective career success (β=0.31, p<.05) and academic career success (β=0.24, p<.05). Thus, we conclude that engaging in professional activities is the best networking behavior type that influenced objective career success and academics career performance success among the practitioners turned academics.

For the subjective career success, the result showed that only maintaining contacts (β=0.29, p<.05) was significantly related to subjective career transition success. Hence, maintaining contacts has been identified as the best networking behavior types that predict subjective career success.

Table 2 Networking behaviors as predictors of career outcomes

Predictor	Objective Career Success				Subjective Career Success				Academic Performance			
	β	*Beta*	*t*	*p*-value	*β*	*Beta*	*t*	*p*-value	*β*	*Beta*	*t*	*p*-value
Networking Behavior												
Increasing Internal Visibility	0.03	0.08	0.56	0.57	-0.09	-0.09	-0.07	0.50	0.09	0.21	1.68	0.10
Maintaining Contacts	-0.73	-0.21	-1.71	0.09	0.27	0.29	2.42	0.02*	0.04	0.10	0.92	0.36
Engaging in Professional Activities	0.14	0.31	2.51	0.01*	0.19	0.17	1.35	0.18	0.13	0.24	2.11	0.04*
R	0.30				0.34				0.48			
R^2	0.09				1.12				0.28			
Adjusted R^2	0.06				0.09				0.21			
F	3.45				4.76				10.60			

Notes: *Significant at p<.05

DISCUSSION

This study was set out to investigate the relationships of three types of networking behavior on successful career transition (academic performance, objective, and subjective career transition success). The findings indicate that few types of networking behaviors are related to successful career transition among the practitioners turned academics. We focused only on three types of networking behaviors which were: maintaining contacts, increasing internal invisibility and also joining professional activities.

Based on correlation analysis, increasing internal visibility has been found to have relationship with subjective career success and academics performance. Through activities such as accepted new or highly visible work assignment and involvement in important committee at universities shall provide these second career academics with chance to be prominent among the other faculty members. These might be the first step that can be done by practitioners turned academic for gaining access to needed information and obtain guidance and social support from new co-workers and superiors. Moreover, second career academics that accepted new highly visible work assignment become satisfied because they feel like they are being trusted by their superior to accomplish the task. Only then, satisfaction in work can be achieved. According to Forret and Dougherty (2004), through increasing internal visibility, individual could prove their capabilities in accomplishing the challenging task and also perceive their career on track.

Our study also found that maintaining contacts was related to subjective career transition success and academic career performance. This is due to the wider networking with colleague in industry, which helping these second career academics to get support and cooperation from their previous workplace in order to do research. Maintaining contacts with new people in the academic world also help them significantly in their career. They can make collaboration in research in order to help them achieve the target set by the universities for research and publication. Obtaining grants to do research and publication shall lead them to a satisfying career. In regression analysis, maintaining contacts was identified as the best networking behavior in explaining subjective career success. This is probably because practitioners turned academics that have many contacts with experts either inside or outside the university are more likely to perceive their career as secured. They always have reference that can be contacted to facilitate their academics' task. Thus, it reduced uncertainty over their new duties.

Correlation analysis indicated that engaging in professional activities was related to all three career transition success measures. Professional activities include the national and international activities such as conference, professional talks and also knowledge-sharing sessions. Ismail and Mohd Rasdi (2007) suggest that such activities, especially in international level, practitioners turned academics will be able to build a network with different and influential people that act as a supporter in order to success in their career as academician. International experiences gained from the activities could benefit them in terms of new skills, better research network and enhanced their

communication skills. It is important for them since they are still greenhorn in academic world. Being an academician is different from their previous career, in which they must hold skills in their field of expertise as well as good communication skills. When both of these criteria have been fulfilled, it is possible for them to be internationally recognized. In respect to achieve good academic performance, practitioners that turned to academic should be able to conduct a good research and publication. Active participation in conferences are one of the ways for the practitioners turned academics to promote their names and obtain wider contacts with various people that have many information and expertise. They also can keep each other informed about conference call for paper and make helpful and critical comments on each other's work. These results are also in line with Mohd Rasdi, Garavan and Ismail's (2013) study among managers whereby the respondents view engaging in professional activities as an opportunity for skill development and also for personal and professional growth. Meetings with other scholars will also motivate them to increase their research and publication skills in order to be at par with other scholars. In regression analysis, engaging in professional activities have been identified as the best networking behavior type in explaining objective career success and also academic career success among practitioners turned academics. Main explanation is by engaging in professional activities the practitioners turned academics get to know many of the experts in their field of the studies, thus, they can share knowledge and generate new ideas regarding to their field of studies and produce better research and publication. Good publication such as impact factor journal can give extra credit to their academic performances, thus will lead the practitioners turned academics to achieve objective career success.

However, our study found that maintaining contacts and increasing visibility did not influence objective career success. This suggests that, relationship with people alone will not guarantee practitioners turned academics that having less than five years in academia service to get promotion or increment in salary. Having such contacts, they need to be more proactive in planning for their career success.

IMPLICATIONS OF THE STUDY

There are two implications in this study which are implication for theory and implication for practical. First, our study supported the Conservation of Resources Theory, Signal Theory and also Social Capital Theory. These three theories have been integrated to explain the phenomena of networking behavior among the successful second career academics, thus, it provides useful information for researcher who conduct similar study in different culture backgrounds.

For the practical implication, the second career academics should be aware of the importance of networking in their career development. Therefore they have to improve their networking skills in order to assist them to encounter the difficulties in their new career. For instance, by joining conference or training activities, these second career academics can get professional support and also having a chance to exchange information with the person inside or outside the universities. For universities, since the

research universities set higher demand for their academician in research and publication, they should provide many activities for these second careers academics in order to help them build their networking among each other and also with the senior colleague.

LIMITATIONS AND FUTURE RESEARCH

Our study also has limitations that need to be acknowledged and addressed in future studies. One possible limitation of this study is the findings may not be generalized to other populations because it was conducted in four Malaysian research universities only such as Universiti Putra Malaysia, Universiti Kebangsaan Malaysia, Universiti Malaya and Universiti Teknologi Malaysia. Future research should conduct the study in other populations to reach more generalized results. The results could vary between different universities, such as non research universities or private universities. Second, since our study is a correlational study, the result obtain cannot explain causal relationship between networking behavior and successful career transition. Thus, future research can consider longitudinal and qualitative studies in order to get better understanding regarding to the phenomena of successful career transition among practitioners turned academics in Malaysia.

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Knowledge Level of Selected Noble Values among Multi-Ethnic Youths in Selangor

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ABSTRACT

Malaysia is a country of diverse races, religions, and customs where it is known as a society which concerned about moral values towards achieving unity of the nation. Younger generation are the nation assets and they should be inculcated with noble values in order to form a civilized society with ethnics and moral values. Therefore, this study aims to identify the level of knowledge among multi ethnic youth toward the inculcation of moral values. The research design for this study is quantitative research and survey method was employed by distributing questionnaires. The study was conducted in four districts (Gombak, Ulu Langat, Petaling and Klang) in Selangor. A total number of 400 youth were selected randomly for this study. Each district comprised 100 youth from different ethnic including Malay, Chinese and Indian and age category among respondent is from 15 to 25 years. Findings of this study shows that the respondents have a high level of knowledge of the noble values which was instilled in Malaysian society. Thus, these noble values need to be understood and practiced by all people regardless of ethnicity to create harmony and social cohesion between the various groups in Malaysia.

Keywords: Knowledge Level, Noble Values, Multi Ethnic, Youth

INTRODUCTION

Malaysia has a uniqueness that is closely related with the background of its multi-ethnic society. Its diverseness in terms of religion, social aspects and culture has become its strength for relationship among races, being rich in virtues such as respecting others, good behaviour and cooperation.

All religions emphasize values, morals, character and humanitarianism. Youths are important assets for the nation. They are responsible for safeguarding the values

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and culture that will build the world view of the future generation. Youths inherit the values and culture of the previous generation and play a role in passing down their inheritance for the future. According to Turiman Suandi et. al (2008) and Syed Othman Syed Omar (2005), youths need to develop further their concept of being independent while developing other virtues continuously. This is because internal and external challenges will always challenge youths who are indeed fragile, if they are not given integrated support.

In the current globalization era, the values adopted in society have become lax. Recently, local newspapers reported various criminal happenings that can be associated with the dearth of moral values, for instance the death of senior citizens after being in coma due to being battered by the own child, unemployed person's threat to kill own father, robbery, rape and other violent crimes (www.utusan.com.my, www.bharian.com). These crimes occur due to lack of religious and values teaching within the family, environmental influences, lust, pursuit of materialism and power, so much so that they refute the moral values taught by religion and local culture. The practice of noble values in everyday life that depicts the character of one is not given importance, especially among the youths. The practice of noble values in life is an important agenda to strengthen racial unity among the multi-ethnic population. Therefore, this generation has to be equipped with the appreciation of knowledge, character as well as the role that they need to play. As such, studies need to be performed to evaluate why these values are not being appreciated by the younger generation, specifically youths. This research paper focuses on the level of knowledge among youths, particularly those in Selangor, regarding moral values that are practised within the community. The scope of knowledge of moral values that is studied encompasses moderation, consideration, courtesy and mutual respect. These findings are only a portion from the overall research that was done. The values of moderation, consideration, courtesy and mutual respect foster unity among youths of various ethnic backgrounds. Values will educate its members to be good citizens and responsible to self, family, community and country. These four values are chosen because they are taken from the teachings of religions embraced by the entire community in Malaysia. In other words, this is the core value adopted by every other ethnic groups. These values are important for forming a noble personality and identity, ethics and morals are admirable to create a culture of harmony among Malaysians. Four of these values also represent aspects of living and quality of life motivated and able to enhance human civilization and way of life that is positive if it is internalized as possible.

LITERATURE REVIEW

Values are the most crucial elements in the lives of humans, determining attitude, traits, behaviour, opinions and actions of an individual and community (Mohd Rashid Md Idris, 2011). Noble values are a part of the requirements of a human being, clouting every aspect of life. An individual has to possess a sufficient amount of these values to be practised within his life so that he leads a prosperous and peaceful life, which

remains the goal of nation-building. This is because society differs in terms of culture and religion but it can be unified by proper values, attitude and behaviour (Shuhairimi Abdullah, 2009 and Mohamad Khairi Othman et. Al, 2012).The influence of culture and religion brought by a certain race is crucial in the development of the next generation in the Malaysian society. According to Sarjitt. S, Jayum. J, Lee Yok Fee, et al. (2008), the belief system, values, attitude and behaviour of youths do influence and give an impact for continued nation development in the future. Development in terms of spiritualism and character are vital to enable the country to become a developed one in 2020 (Lee Yok Fee and Sarjit S., 2008 & Huw. T, 2012). This development has to be based on the loftiness of values, culture, knowledge, custom and technological development which all need to be balanced equitably. Realization and experience of these values need to be heightened in every group of society so that the desired youth generation can be created.

Courtesy and virtues derived from civilizations have been increasingly eroded even as Malaysia marches on to be a developed nation status. The development of culture nowadays is based more on entertainment and is hedonistic in nature. The discernment of youths has been distorted and become confused without the rekindling of noble virtues, so much so that the youths seem to have lost their codes of conduct. Among others, senior citizens are not respected, teachers are antagonized, occurrences of assault and murder cases, drug addiction, betrayal, being egotistical and selfish, inconsideration on the roads, vandalism and neighbourhood hell-raising. (A. Aziz Deraman, 2002). Youths, who are considered the hope of the race and pillars of the nation are among those who commit these crimes themselves. Latest media reports on youths highlight the issue of Alvin and Vivian mocking the Islamic faith when they uploaded a video depicting food that is offensive to Muslims in their social network website (www.bharian.com.my). Child abuse cases involving youths as aggressors have also increased according to the Criminals Investigation Department of the Malaysian Police (www.bharian.com.my). The latest phenomenon of using firearms for killing has also escalated recently (www.hmetro.com.my). These crimes were not acts of robbery or hold-ups but had been personally motivated. Inculcating positive values among youths is the main thing to be done in order to create a generation rich in knowledge and culture that can contribute to the harmony of life. These positive values need to be brought back so that they can been the forerunners of national unity and integration. The practising of accepted positive values is the cornerstone in efforts to forge identity and unity in Malaysian society, which is multi-racial, with each having its own style of living. These universal values will drive people to accept and uphold noble values, many of which seem to be alien to Malaysians in current times (Fatimi Hanafi & Mohd Zamani Ismail, 2006).

According to Abd Rahim Abd Rashid (2001) and Shaver & Strong (1982), to instill values, one should be able to act in a more rational and objective in dealing with the problem. The moral crisis and conflict that can adversely affect the lives of individuals and communities will be reduced if each person can use his mind to a more rational, objective and thoughtful. Value and measurement guidance for interpreting thoughts. In everyday life, one manufacture various opinions, insights, make decisions and take actions that are performed with the affected certain values such as the

intellectual, professional, moral and ethical. Thus the value exists in the minds and shape the thoughts. The knowledge gained to create awareness to an individual about critical issues that dominate and influence the future of their lives. The knowledge also bring a change in the shape of actions, practices and attitudes of individuals and society. With noble values and knowledge about a thing, a person can behave rationally and wise in dealing with the problem.

METHODOLOGY

The research design chosen in this study was quantitative research that utilized a survey method using questionnaires. This study was done in four districts in Selangor; Gombak, Ulu Langat, Petaling and Klang. These four areas were chosen as there was rapid, stable development here and they had a high density of multi-ethnic population, compared to other districts in Selangor. A total of 400 youths were involved in this study. There were 100 respondents from each district comprised of Malay, Chinese and Indian individuals. The age category of respondents was 15 – 25 years. Research data obtained was analyzed using SPSS Version 21.0 The research data was explained through descriptive statistics.

DATA ANALYSIS AND FINDINGS

Background of Respondents

As shown in Table 1, the study respondents were 400 youths from four districts in Selangor namely, Gombak, Klang, Petaling and Ulu Langat. In this study, respondents were aged between 15 – 25, with many of them falling into the 18 – 20 age bracket (152 respondents/38.1%). Respondents in the age group of 15 – 17 comprised 133 individuals (33.4%), those in the 21 – 23 age group comprised 78 individuals (19.6%) and finally for the 24 – 25 age group, there were 37 individuals (9.3%). The rationale for the choosing of individuals between ages 15 and 25 was because it was individuals from within this age group who have the highest risk of falling into the many negative behaviours and situations that run against religion, custom, culture and value systems of the community. There were 204 males respondents (51.05%) whilst females made up 196 respondents (49.0%). There were 133 Malays (33.3%), 134 Chinese (33.5%) and 133 Indians (33.3%). The respondents came from various religious backgrounds; Muslim respondents were the majority, with 141 respondents (35.3%), Buddhists 112 respondents (28.0%) Hindus 106 respondents (26.5%), Christians 38 respondents (9.5%) and others, three respondents (0.8%).

Table 1 Background of Respondent

Demography factors		Frequency (n=400)	%
Age	15 to 17	133	33.4
	18 to 20	152	38.1
	21 to 23	78	19.6
	24 to 25	37	9.3
Gender	Male	204	51.0
	Female	196	49.0
Ethnic	Malay	133	33.3
	Chinese	134	33.5
	Indian	133	33.3
Religious	Islam	141	35.3
	Buddhist	112	28.0
	Hindu	106	26.5
	Christian	38	9.5
	Others	3	.8

Positive Values Knowledge Level among Youths

This section measures the knowledge level of youths based on their understanding of positive values practised within the society. The knowledge level of youths was measured using an instrument designed by the researcher. A score of '0' was given for wrong answers and 1 mark for the correct answers. Distribution of frequency and the mean for each item in the dimension of respondents' knowledge was depicted in Table 2.

Analysis of the research shows that knowledge of respondents for all four values, namely, Moderation, Consideration, Courtesy and Respecting Others, is at a good, high level. For example in the dimension of Courtesy, Item 7, ('P*ractising proper manner of speaking and behaviour in daily living reflect* _____.') shows that 345 respondents answered correctly. Also for Item 11 on Respecting Others, (‘*Ravi does not go against his mother's words when asked to do a certain action'. Ravi's attitude refers to* _____.) and 332 respondents answered correctly. Analysis shows that respondents' knowledge of these two items (Courtesy and Respecting Others) was at a high level. It shows that respondents understand the importance of fostering good values within themselves. Study findings also show Courtesy was the item that was understood the most by respondents followed by Respecting Others, Consideration and finally Moderation.

Table 2 Distribution of frequency of Youths' Knowledge regarding Noble Values

No.	Description	Wrong (0) n	Correct (1) n
Moderation Values			
1.	'Not extreme in judgement and action with regards to thought, speech and behaviour without neglecting self interest and those of others'. This statement refers to the value _____.	183	217
2.	'Wong continues using his old phone although his friends always change phones when a new model is introduced.'. This situation refers to the value _____.	98	302
3.	'Ehsan divides his time in a balanced way between self, family, and work". This statement refers to the value _____.	199	201
Consideration Values			
4.	The trait of showing love, compassion and sympathy/fairness such as by taking into account the needs and feelings of others when performing an action refers to the value _____.	92	308
5.	'Suresh makes a loud noise riding his modified motor-cycle without heed for the people around'. Suresh's attitude refers to a lack in the value of _____.	175	225
6.	'Siti throws rubbish down from her flat without bothering about the people passing by beneath or the feelings of peole living on the lower floors'. Siti's action show a lack of _____.	169	231
Courtesy Values			
7.	Practising proper manner of speaking and behaviour in daily living reflects _____.	55	345
8.	'Suzy speaks in a soft tone when explaining to customers at her service counter'. This refers to _____.	66	334
9.	'Mira says 'Thank You'when receiving a gift from another'. This attitude of hers shows the importance of _____.	67	333
Respecting Others Values			
10.	Differences of culture, custom and religions of other ethnicities have to be respected as it is key to a harmonious society made up of various ethnic groups". This statement refers to _____.	78	322
11.	'Ravi does not go against his mother's words when asked to do a certain action'. Ravi's attutude refers to _____.	68	332
12.	'Janet understands the cultural practices of other races and celebrates their festivals with them when invited'. This statement refers to _____.	95	305

Youths' Knowledge Score for Noble Values

The level of knowledge of respondents for the values overall can be seen in the distribution of scores as encompassing low, moderate and high. The finding in Table 3 shows 163 respondents (40.8%) have a high understanding of positive values in society. Meanwhile those who had a low score totalled 107 respondents (26.8%). Generally, research findings found that knowledge levels of youths regarding Noble values is high and this further shows that they have basic understanding of positive values to be adopted in society. This findings means that the respondents have knowledge and understanding of the value of moderation, consideration, courtesy and mutual respect in them. This may be due to they have been educated or taught good values since childhood about the importance and priority of the values that should be practiced in everyday life.

Table 3 Youths' Knowledge Score

Level	Frequency	%
Low	107	26.8
Moderate	130	32.5
High	163	40.8

Youths' Knowledge Level According to Ethnicity

Table 4 shows the knowledge level among youths based on ethnicity, namely, Malay, Chinese and Indian is high, with 163 respondents obtaining high scores. A total of 130 respondents obtained moderate score while 107 respondents obtained a low score. The Chinese had the highest knowledge level, followed by the Malays and finally the Indians. Through this research, the Chinese were found to have better knowledge than ethnic Malays and Indians is probably due to the ethnic Chinese also studied diligently through the instruction given by the family, school and religious education. Although the values are synonymous with the Malay community, but the values are also held firmly by other ethnic such as Chinese.

Table 4 Knowledge Level among Youths Based on Ethnicity

	Score		
Ethnic	Low	Moderate	High
Malay	27	58	48
Chinese	27	37	70
Indian	53	35	45
Total	107	130	163

CONCLUSION

Based on this study, the knowledge level of youths regarding noble values to be practised in society is at a high level. Values play an important role in determining the behaviour and character traits of an individual. These values have to be learnt and taught to individuals in a practical way to enable individuals to identify his position on a certain social or moral issue. Values not only show the way for one to act in relation with another but it also helps one to evaluate one's own behaviour and that of another. Knowledge of values can be gained by involving oneself in the daily living needs of the local community. The younger generation who are the heirs to the leadership of the nation need to be educated with noble values so that a civil society that is rich in morals and ethics will be formed. The inculcating of noble values among youths is in accord with Vision 2020. Among nine challenges that have been outlined, the fourth one addresses the need to form a society that is endowed with morals and ethic, with citizens steadfastly holding on to religious and spiritual values, buttressed by strong ethics. This can enhance the development of youths' personality to be more competitive in all aspects of life, without disregarding character, moral values and Eastern culture. Values have a role to play in that they can unify various ethnic groups in a society that has different cultures, religions and race. These values are of paramount importance for forging a disciplined society, bringing about progress and creating a united country.

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Parents' Understanding of Home Schooling: Refugees' Point of View

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ABSTRACT

The common issue that refugees all over the world face is the educational problem of whether they are displaced internally or internationally. Proper arrangements should exist as an immediate solution to provide proper education together with the basic and immediate needs for the sustainable development of the refugee children. One of the major problems that refugees in Malaysia face is the education for their children similar to that reflected all over the world. The purpose of this study was to find out to what extents the Sri Lankan refugee parents in Malaysia understand about home schooling that educate their children as a solution for the educational problem. Five refugee parents were interviewed and asked about their understanding towards home schooling. The interviews were transcribed and the interview transcripts were coded. Finally, the codlings were combined and useful themes were developed. Knowledge of refugee parents towards home schooling was poor. They do not know what home schooling is about and they haven't heard or come across anything about home schooling. They do not even know how the children learn in a home schooling system. Because of the respondents' limited social interaction with the locals, they are not aware if whether anyone in the area conducts home schooling and they are also unaware about the classroom setting of home schooling. What they do know about home schooling is the children learning at private tuition centers and parents helping children in home works, hence they misunderstand the term home schooling. However, the respondents are knowledgeable about the subjects taught in homeschooling and the characteristics of the teacher, in this case parents. They point out the importance of teaching the subjects such as English, Mathematics, their mother tongue language Tamil, general things that are demanding in society in order to live and contemporary subjects. This paper concludes that home schooling is an appropriate method and an immediate solution for the educational problem of refugee children while they are displaced internally or globally and can be applied among the refugees all over world. Nonetheless, the parents' knowledge towards home schooling is also a crucial factor for the best practice of home schooling. It is to attain a viable solution for the educational problem of refugee children.

Keywords: Students' Advancement, Home Schooling, Refugees, Parents' Understanding, Sustainable Education

-Requested by author not to be published as full paper-

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The Politics of Sara Suka and Youth Involvement in Bauchi State, Nigeria

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ABSTRACT

Most of the politicians in Nigeria had been seen to depend heavily on thuggery (Sara Suka) for winning elections in the attainment and maintenance of their position. Consequently, this study tends to investigate on why youth involved in Sara Suka activities in Bauchi State. So, in achieving this, the study is set to use a qualitative method based on case study approach. In contrast, the study uses interviews, observation, and secondary sources as tools in finding the data. Furthermore, the interview is obtained exclusively from the Sara Suka members, victims, civil servants, academic experts, NGOs, community heads and vigilante groups in the state. The study reveals that politicians, illiteracy, unemployment, poverty, parent role, passion, drugs and financial attractiveness accounted for the increase rate of youth involvement in Sara Suka syndrome. Therefore, based on these findings, the study recommends that government should pass a law that will sanction all politicians to sign undertakings for not utilizing Sara Suka group during campaign and election, if any found should be punished.

Keywords: Government, Youth, Thuggery, Politicians, Election

INTRODUCTION

Most developing countries of the world these days are faced with series of developmental challenges such as poverty, illiteracy, unemployment, conflict and diseases, and Nigeria is not an exception to this developmental challenges. As such, these challenges have eaten deep into the marrows of the Nigerian political space which contribute greatly to the challenges of the very existence of individuals in most societies in Nigeria (Shehu, 2012). In the year 1999, Nigerians were privileged to witness the transition of power from military rule to democratic government. The expectation from the people was that of good governance, improved standard of living, and a better life. In reality, the majority of people in the Northern Nigeria, especially in Bauchi and other places like Zamfara, Jigawa and Katsina are suffering from abject poverty and severe hardship. This is as a

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result of the increase marginalization of youth and failure to fulfill the socioeconomic needs of the people. Hence, leading to frustration, and high rate of insecurity among the people of the states, especially Bauchi state, (Wunti, 2013).

On foreseeing the effects of such marginalization tendencies among the youth in the state, Shehu (2012) opined that the effect of these unemployed youth could easily be lured into any negative tendencies and are in fact ready to be recruited for any social act. And this situation is more deserving in a state where the elites negate the values and ethics of democracy. Also, is as a result of this negation of democratic ethics that others believe that the Nigerian politics is a do or die affairs. Furthermore, (Haruna & Jumba 2011) observed that thuggery act normally led to political violence which seems to have hindered free and fair election and consolidation of democracy in Nigeria. (Ehiobhi & Ehiomore 2011) on the other hand added that the nature of violence, though started long ago has now become the only means of gaining and retaining power. They further argued that the success of the use of violence through recruitment of youth as thugs, at the period of campaign and election, has also become the real prototype for subsequent method of retaining and gaining power by political elites. And this is the same reason that led to the formation of Sara Suka that people are witnessing today in Bauchi state.

On the other hand, (Lawanti, 2009) makes it clear that 'Sara Suka' is a compound of two house words 'Sara' and 'Suka' which literally means cutting and stabbing respectively. The name was formally given to a group of unemployed youth who engaged themselves into thuggery activities in Bauchi state. Their age's falls within 8-30 years, some of them were in secondary school, and some were school dropout, while others never attended school. Similarly, there were all drug addicts and perpetrators of violent. These groups of youth are usually induced by politicians for their political gain. This means the politicians recruit them during campaigns and election to serve as political or party guards. Furthermore, their main task is to intimidate, harassed, assassinate, and kill political opponents. So, as their masters are declared winner, they get compensation. While some would be put on monthly salaries, others would be left with nothing. As time goes by, when their sponsor are done with them, they dumped them. Consequently, they become financially crippled. Hence, they turn their attention to the people by killing, intimidating, robbery, rape, and destruction of properties. Sara Suka is now the dominant criminal group in the state and their activity increases on a daily basis, basically, resulting to chaos, and doom. Since, life and properties are no longer secured. People live in fear and this restricts their movement and other activities they enjoy. The utilization of Sara Suka in Bauchi and its implication has been a source of worry in recent years among the indigenes of Bauchi at large.

Hence, (Infonaturale, 2009) added that Sara Suka group and their sponsor are not only seen as a threat to democracy, but also to the survival of the society at large. It is discouraging to see youth engaging in all sorts of criminal act that led them to a series of problems to their livelihood and its attainment consequences to the detriment of their future aspirations and dreams. The worst is the behavior of their sponsor who is whole worse than the Sara Suka members' themselves.

In summary, it is important to study such group in order to understand the real problem of our youth today. Though, there have been other attempts both by the government and academicians in trying to understand the problems associated with the said concept, but the central point of concern here is, why is it that the activities of Sara Suka on the increase, as well as high rate of youth involvement in Sara Suka on daily bases? Therefore, this study associates the Sara Suka problems with the youth marginalization of the state, as well increased level of unemployment, illiteracy and poverty which led to the formation of Sara Suka by the politicians in order to protect their political interest.

LITERATURE REVIEW

Historically, political thuggery in Nigeria is dated back as colonial rule. (Koko, 2011) opined that the history of political thuggery in Nigeria is as old as the history of modern Nigeria dating back to the late 1950s, when the British colonial masters allowed local Nigerian politician to partake in local member political activities within their geopolitical regions, all manners of political violence, political mobilization were deployed by local politicians. (Lawanti, 2009) believed that political thuggery (Yan-Daba) started in Kano in the first republic where the (NPC) recruited youth (Yan-Daba) to check the activities and election outcome of the other party (NEPU). To him, as the situation extended to other state, the exact reason that mark the emergence of Yan-Daba in Kano, accounted for the emergence of Sara Suka in Bauchi, Kalare in Gombe and Ecomog in Borno state, respectively. As regards to post democratic emergence of such group, he argued that the group was created by Yuguda (the present governor) supporters basically to counter Muazu (the immediate past governor) in 2003. Muazu administration as at then made use of the governmental powers to deny Yuguda from contesting, and this is one of the reasons why the state is experiencing a series of Sara Suka activities.

(Garba, 2009) believed that, the rate of Sara Suka activities and other crime in Bauchi are on the increase since the advent of democracy in the year 1999. The establishment of democratic institutions that provide certain fundamental rights such as freedom of expression, movement, religion and association give the room for some youth in the state to utilize this privilege and form an association called “Sara Suka”. It is important to note that this association is not a formal rather it is informal, that gain its support from the politicians during election and campaigns. The group at that period, engages in intimidating the political opponents who pose a threat to their master’s victory. Moreover, shortly after the 2003 general election, particularly in the state, these group resorts to all kinds of criminal activities ranging from thuggery, robbery, extortion, Sara Suka, drug addiction and even rape of women in order to earn a living. The situations become unbearable in this very period of 2003, until 2007 when the group lost their founding father Alhaji Abbas.

As a framework for analysis, the study uses the elite theory. The theory, analysis would be based on the works of Putnam, 1976, Bottomore, 1993, Dye, 2000, Gonzalez, 2012. (Higley & Burton, 2006) stated that, the elite theory was originated in the writings of Gaetano Mosca, Vilfredo Pareto, Robert Michels, and Max Webber. The theory emanated to challenge the Marxist theory of class in a state. The theory seeks to explain power relations within state systems. Being a theory of the

state, it points that in every state, there's always a small minority that are economically powerful, they take decisions for the state, and are always very powerful in relation to other groups in society.

Among the outstanding scholars of the elite theory is Vilfredo Pareto, who emphasized the fact that, the elite have more resources and are intellectually superior. Gaetano Mosca emphasized the characteristics of elite that makes them superior to other classes and that the elite are an organized minority, unlike the masses that are unorganized majority. Mosca, also posits that the ruling class is made up of sub-elites and ruling elite. The other theorists of the elite theory include Robert Michels, who explained that organizations are run by few individuals whose positions are stabilized by three basic principles. These are, the need for specialized staff, utilization of facilities by leaders of their organization and the fact that the elite have a lot of resources. The economic power of the elite, according to the theory affords them the opportunity to gain positions in state corporations and corporate boards; this gives them the opportunity to influence policies and policy-planning networks through donations, financial support of foundations or positions with policy makers. This affords them the power to determine policies of government.

On the other hand, the rest of the other groups in society are believed to be, or are incompetent, lack abilities to govern and less resourceful. When governments fail, the elite will lose because of their vested interests in government. Consequently, central to the elite theory is the fact that, in all societies, there is small minority groups (the elite) that do not only control the activities of other groups, but also have the power and will to compel, cajole, and influence others to do things the way they desire and to their advantage. The elite theory is thus very important in our study because, it is this minority that controls other groups like the thugs in Bauchi State, Nigeria.

METHODOLOGY

This study is based on qualitative case study method. Since the study is aim at exploring the Sara Suka menace in Bauchi. (Patton 1985) stated that a qualitative research is an effort to understand a problem in their uniqueness as part of a specific context and the interactions. This means the qualitative method will help in exploring and understanding the main reason on why youth involved in Sara Suka activities in Bauchi. Though, the reason for chosen the qualitative approach is, thus, the research question start with "why and what" this means, why youth involve in Sara Suka and what are the possible way to prevent youth from such act in the state. Secondly, the topic needs to be explored by corroborating it with theoretical assumptions. Meanwhile, on the other hand, (Zucker, 2001:1) posited that case studies are research that focus on and gather in depth information about specific phenomena. Hence, the case study method utilizes in depth data gain from different sources and provide a certain and essential approach of explaining the problem of interest to the specific topic. The reason why the study choses the case study approach is because it provide very detailed information about a particular phenomenon and it utilization of multiple sources in the process of gathering the research information. Based on this reason, the study uses the Creswell four steps in designing the case study research. Creswell (1998:39) identifies four major stages in chosen a case study approach, and

these are: The identification of the case, which is Sara Suka. The case is bounded by time and place. The time here is from 1999-2013 and the place is Makama B ward in Bauchi, Nigeria. The information gain comes from various sources (interview, observation and documents).

Sampling

A case study focuses on a system of sampling, which is bound in respect of time and place. Therefore, the boundaries of this study involved the geographical setting in Bauchi state and the time range 1999-2013. The specific setting or unit of analysis of the study is political thuggery (Sara Suka). In order to meet the research objective, the study identifies the following groups as informants. The informants involved categorically: The Sara Suka members, victims of the scenario, government officials, community head, vigilantes group (Yan Gora), youth committee (youth voluntary vigilantes), Governmental and non-governmental organization officials (GO'S/NGO'S). The sample involves these seven categories in gathering data of the Sara Suka problem in Bauchi state, in order to avoid excessive information and to advance our perspective and understanding of the topic.

Data Collection and Analysis

Data collection is conducted in this study in two formats; the primary tool and the secondary tools. The primary includes, interview and observation. The interview is conducted in face to face interaction between the researcher and the informants. The study identifies six different groups of Sara Suka in the area of the study, at this conjuncture the Sara Suka members were selected based on the position they occupied in their respective group, and they can be recognized as informants ABCDE&F. Whereas, other groups of the respondents were purposefully chosen based on their character and experience, also they can be recognized as informants 123&4 respectively. The interview was conducted in face to face interaction and each informant is interviewed alone. The second tool, involve secondary sources (journals, published and unpublished articles) which were made to corroborate and validate the interview sources.

The analysis and interpretation of the report involved a description of the context and setting. Considering this view, the context cases in this study involved the understanding of both the historical and physical setting of Bauchi. With the above point of view, therefore, it can be understood that Sara Suka is a general name given to a group of thugs in Bauchi State, as such each group of these thugs has its own name which they use to identify their members, for example, we have the Yan Kwanan Kwaila, Hungry Lion Boys, etc. Due to the limited time for the study, the study would only choose three sub wards of the state, as a case. These wards, include the Kofar Idi, Karofin Madaki and Kofar Dumi, all in Makama B ward, in Bauchi state. The study, therefore, uses case study type of qualitative research to explore and describe the Sara Suka problem in the state. (Gilham, 2000:102) concluded that a case study approach normally brings about change in regards to social and economic aspect.

FINDINGS

This area covers analysis and discussion of information gained from the individual respondents based on designed research questions, which aimed at finding out the causes on why youth involved in Sara Suka activities in Bauchi state, Nigeria. After scrutinizing and sorting the obtained information base of categories, the study comes up with the following themes of the research objectives.

Causes of Sara Suka

There is no cause without an effect, and vice versa. Our intellectual capacity demands that we view situations from all ramifications in order to arrive at a proper conclusion. As a social problem, there must be reasons on why such things happen. So, the study identified the following as the major causes on the increase involvement of youth in Sara Suka in Bauchi State for instance.

Politicians

The fundamental cause to this present situation of Sara Suka menace and the reason why youth involves in it lies in the hand of Politician's. Respondents believe that politicians play directly or indirectly to youth involvement in Sara Suka. To some extent they strongly believe that politicians are the creators of such groups. Me Anguwa believed that the real cause of youth involvement in Sara Suka are the politicians;

> *"Let me start defending my argument by giving you instance example: in recent time, some of the youth (Sara Suka boys) who are hopeless in the society began to own tangible things. And they normally gain those things before or during elections as we normally see them driving a good car, spending money anyhow, please tell me? Where do they get all these things? And remember money and resources are in the hand of the politicians (elites). Therefore, this clearly shows that the politicians give them such things, because they (politicians) want to get something in return from those youth. To me politicians are the first and fundamental causes to youth involvement in Sara Suka" (Informant 1).*

Garba also opined that

> *"Absolutely yes, and I can say this, the political elites or so called politicians turn the Nigerian democratic system into do or die affairs, and they achieved this through recruitments of unemployed youth. Because some of them (politicians) know that they are incapable of winning an election or they cannot retain their position, as such they become interested in those jobless youth so that they can instigate them into any form of social act. Believe me; the politicians are doing this all because of their selfishness, political gain and nothing more" (Informant 2).*

Adamu argued that

> *"Although the Sara suka is highly and directly connected with politicians because sometimes we often witness a situations where by, when these politicians refuse to compensate or fulfill the promise they*

made to those groups (Sara Suka), the group even turn against the politicians themselves, through verbal harassment, intimidation and even destruction of properties. Therefore, it is clearly out that it is a win-win contract or agreements between them" (Informant 3).

With the above point of view, therefore, it is clear to speculate that politicians (elites) have played a vital role in Sara Suka menace and its emergence in the state and the country as a whole. Most important thing, here is to understand the reason why the politicians create the group and how connected the Sara Suka groups are with the politicians (elites). The above assertion of the respondents demonstrated that all the blame should be on politicians for creating and sponsoring the Sara Suka towards attaining their political aim.

Illiteracy

This is one of the fundamental problems of youth in Bauchi. (Nigerian watch, 2014) stated that Nigeria is one of the highest numbers of children out of school in the world, that is about 10.5 million out of 61 million children that are not attending school are from Nigeria. This means, illiteracy has become one of the greatest challenges to both the federal and state government and this has contributed immensely to the high rate of youth involvement in Sara Suka. Also, Nigerian education data survey (NEDS) also reported in 2010 that there is a high rate of children between the ages of 6-16 years who are unable to read and write in Bauchi, with 52% who never attended school. And (UNESCO, 2012) added that only 34.1% are literate within the ages of 6 and above in Bauchi. And this clearly shows that most of youth in the state, are living under illiteracy.

Me anguwa accused the level of illiteracy among the youth as one of the major causes to their involvement in social crime

"If our street is seen, the only thing that can be sight is this youth mingling themselves up and down during school hours. On several occasions many were invited to question them on why are they not in school and they always give different excuses. I believe this situation would affect not only them, but also their junior ones" (Informant 1).

Adamu noted that

"Oh yes! The increase rate of illiteracy in the state is a serious issue that needs to be addressed, and the implication is that these youth can be convinced with little word as they don't know what is good to them as a result of their illiteracy" (Informant 3).

Shehu added

"Looking at the nature of the Nigerian society, the level of illiteracy, increases especially among youth. This is as a result of parent carelessness for not making sure that their child goes to school every day. The worse is the parents that send those children to "Talla" (small sales). And this kid would end up rooming about the street in the name of "Talla" instead of being in the school" (Informant 4).

Garba also believed that illiteracy plays a vital role in youth involvement in Sara Suka. And illiteracy is not just a problem for the youth, but also to the society as a whole (Informant 2).

Therefore, illiteracy is the total and backbone to Sara Suka syndrome and why youth participate in it. This happens as a result of the high rate of tuition fees in the governmental and private school within the state which become a problem for the parents to afford. Hence, the higher the rate of illiteracy increases among the youths, the more chances of securing a good job is blocked which led to high level of youth unemployment.

Unemployment

This is another aspect that hinders and increase youth participation in Sara Suka. As of 2012 there's a high rate of unemployment occasioned by lack of skills among youth. The national bureau of statistics (2011) reported that as of 2011 the state was among the three worst state of unemployment in the country. The state has about 41.4% of unemployed youth. And all the members of the Sara Suka interviewed, confessed that, they join the group because they want to earn a living, since they have no jobs or skills to earn money. Shehu noted that

> *"What we need to understand here, is the implication of youth unemployment. The implication of these unemployed youth as I understand is that these youth can be ready to hire themselves out for cheap to any sort of job, and can be ready to do all sorts of social vices. And this can increase their participation in social vices. As these youths are unemployed and they can no longer secure a good job, they become hopeless and reckless in the society, as they can't even afford to buy even a piece of cigarette" (Informant 4).*

Me Anguwa asserted that unemployment is another problem to youth involvement in Sara Suka and not only with their involvement but to all societal problems,

> *"I can't imagine a society where by its youth who occupied 2/3 of the population cannot secure a job. If youth cannot find themselves work to do that can keep them busy for about ten-twelve hours, then they will be ready to do anything to earn a living. And this is a very serious problem". (Informant 1*)

Garba opined

> *"I can swear to Allah, that youth unemployment gave the opportunity to the politicians or any political elites to recruit such unemployed youth as they refer it as {shortcut to employment}. And mark you, the politicians denied or refuse to give youth employment because they have a plan for youth in the future, especially within the period of campaign and election by recruiting the youth and make them to serve as thugs. Therefore, lack or inadequate policies on job creation by the government significantly damage and increase the rate of youth involvement in Sara Suka" (Informant 2).*

Adamu also added that the fact is this youth engage with Sara Suka because they don't have any valuable job in their proposal. He further blames the government for their incapable of designing policies that can at least provide a job for 2000 youth every year (Informant 3).

It is important to stress that all the Sara Suka members contacted in this study were jobless. Thus, the concept of unemployment becomes challenging among youth, the state government and the federal government. It is said, now in the country

people bought job for themselves, meaning one has to spend thousands of Naira before he can secure a job. And this is a serious challenge to the state and the country as a whole. Therefore, unemployment plays a vital role in youth involvement in Sara Suka in the state. And this in one way to other contribute their full participation in Sara Suka activities. Unemployment normally paved the way to poverty.

Poverty

This is a concept which most of the developing countries are familiar with. It is a concept that has to do with low income of persons, in relation to their inability to satisfy their necessity, coming from the angle of wants. Nigeria is a country that produces two million barrels of oil a day, and has the seventh largest oil reserved in the world. And yet poverty remains one of the striking forces of Nigerian social problems. In respect to Bauchi, youths participate in Sara Suka because of the situation they found themselves, i.e. they have been marginalized and dominated by the elites. Six (6) respondents out of six of the Sara Suka members stated that, they participate fully in Sara Suka because they come from poor backgrounds and they are in a hard situation at home, their parent cannot even feed them, talk less of other things (Informants ABCDE&F).

Garba on the other hand agrees that poverty contributed immensely to youth participation in Sara Suka

> *"Well! The present situation people are in now in the state, to me, I can say the majority live under poverty. Not to talk of the Sara Suka, but in general, this led to hardship and the great challenges of earning a living. Personally, this can contribute to their participation in Sara Suka" (Informant 2).*

Shehu stress that

> *"Yes. We cannot hide it that 99.9% if not 100% of those boys; (you know what I mean by those boys right), the fact is, they are from a poor background and hardship. Their parents are poor" (Informant* 4).

Adamu also believed that the nature of the Nigerian environment demonstrated highly that people are in poverty and hardship, which resulted in frustration and high level of security challenges in the state and the country as a whole (Informant 3).

Therefore, it is clearly understood that most of these Sara Suka members are from poor background. The reality is that they are poor and always look for a way to earn a living like other people. Hence, there is a little blame on the part of their parents, for allowing their poverty to destroy the future of their own children.

Parents' Roles

In relation to feeding, all the respondents concurred on the parent's role in youth involvements in Sara Suka. Garba outlined that

> *"Parents are to be blamed for their act of negligence on their children as they don't know their child's way about and the group they associate themselves with at a given time" (Informant 2).*

Adamu also added that parent contribute immensely towards youth involvements in thuggery (Sara suka).

> *"Definitely, parent most be blamed, as they don't pay so much attention to their children. Sometimes they don't even feed or sponsored their children to school, though with the current situation of {ba kudi} no money they can at least send them to free Arabic school which would shape their thinking and have good orientation" (Informant 3*).

Four (4) out of the six (6) members of Sara Suka validates this view, where they stated that they had not seen their parent for the last 4-5 years, one of them mentioned that his parent chase him out of the house (Informant F) and the other one posited that he doesn't want to stay with his parent as the parent, don't even care about him and are too harsh to him (Informant C), while the last two complain that their parents always ask them to bring something to them, they don't care about what they are doing but they keep pressurizing them to bring something to them. (Informant B&D) while the last two, feels staying independent to themselves (Informant A&E).

Shehu added

> *"Absolutely! To some extent blame can be impose to most of the parents. You know these days parents' are too weak in controlling their children. The worst case scenario is that some parents are even afraid of their children. Whatever the child says is final. And this is not good to the environment. It is not the children to be blamed fully; the parent should also be blame (Informant 4).*

It is against this background, Me Anguwa, concluded that the fundamental's causes of youth involvements of any social menace depend on the parent i.e. the parents are the one to teach their children towards good attitudes, "Charity begins at home" (Informant 1).

Financial Attractiveness

This could be simply be defined as the desire to earn money from all sorts of ways with such recognition and fame to the possible achievement some choice needs and wants. Human beings are born with passion, desire and wish, and all this is achieved through financial capabilities. These Sara Suka members are also humans like any other person. They always wish and want to have something that is of passion. Therefore, financial attractiveness is a major factor towards youth involvement in Sara Suka, since these youths are poor and frustrated.

Garba stated that

> *"Let me clarify this to you, do you know the situation of youths now a day, especially in this state. Oh no. Money! Money!!! It became their life and without it they cannot live. Because they are in rush to have fancy things, resulted to willingness and desire to marry beautiful wives, own a good car, good mansion to live in and also desire to travel abroad. All of these are the reasons why they hire themselves to the politicians, cultist, rituals and many other evil principal in the society, with the expectation of getting something tangible from their masters" (Informant 2).*

Adamu added that

> *"Yes, rights from the beginning, is a win-win agreement, once the Politician's declared winner they normally compensate them with some amount of money or even place them on monthly salary for some period. Meanwhile, in a situation whereby the politicians refuse to offer anything to them, the Sara Suka members do turn against their principal" (Informant 3).*

Shehu concluded that

> *"As mentioned earlir about the current situation of the Nigeria, I must say that youths are desperate to own money in the bank, so that at any time it can be used for their needs, though some of them are helping their parent in one way or the other with the little income from the said activities, while others lavished up the little they have in wrong ways such as chasing women and taken to drugs etc." (Informant 4)*

Therefore, since these youth are poor the politicians use money and other sorts of wealth to attract the attention of these youth, in order to use them for political gains, and since youth have no any way or chance of having such money or wealth they surrender themselves to these weak politicians cheaply. So, financial attractiveness contributed also to the increase rate of youth involvement in Sara Suka activities in the state.

Passion and Drugs

In recent times, when looking at Bauchi and her environs, youths are found by taking excessive and hard drugs for several reasons which are dump founded. In lieu of this, Garba lamented that

> *"In reality, drugs and passion is now the order of the day within the youth. Meaning, you cannot be respected or recognized by the fellow youth who are taking drugs unless you are part and parcel of them. So, to be one of the toughest boys, you have to be addicted to drugs. And this has become a passion for the youth in recent times" (Informant 2).*

All the Sara Suka interviewed are on drugs. They lamented that "drugs give us the zeal, power and authority above any other person or persons". They see everybody as animals that they can crush at any given time they so desire. Similarly, they added that if not because of the drugs they would not have achieved or do anything (Informant ABC&D).

Adamu added that

> *"Umm! The increase and availability of excessive, illicit drugs in the state and the country as a whole, also contributed to youth negative attitude. Although the responsible agencies are doing their duty to reduce the number of importations of this intoxicated drugs, but still youth knows their way on how to get those drugs. Sometimes, is there masters (politicians) who provided such drugs to them, so that they can work without any fear in them" (Informant 3).*

Me Anguwa believe that

> *"It's not just the passion that make them what they are today, rather the drugs, because they're insane, they can wear any sort of cloth.*

Look at the kind of dress and attitude which they consider as passion, do you realize it is totally different from our traditional and religion way, to me this is totally nonsense" (Informant 1).

To buttress further, between January-June 2014, the national drugs law enforcement agency (NDLEA) has seized about 346.5kgs illicit drugs in the state. And 117 suspects all youth were arrested while 73 convictions were recorded within the period. And most of those arrested are youth (City voiced, 2014). This has clearly indicated that youth have access to illicit drugs and they can take it for their personal motive at any time. To this point drugs can said to be another form or reason for youth involvement in Sara Suka menace.

From the foregoing discussion, therefore, it is understood that youth participated in Sara Suka due to so many reasons. And their activities include; killing, assassination, intimidation, threat, rape of women and destruction of property and all this can implicate the society either directly or indirectly. Hence, some of their activities occurred, especially when the groups were dumped by their sponsored, which lead them to turn against the other innocent inhabitants. As such, fundamental to this problem is not just the Sara Suka members rather the politicians who recruit them during campaign and sponsored their activities at election time.

More so, the informant's view (findings) on why youth participate in Sara Suka was clearly identified by the elite theory assumption. This is because, the finding shows that the Sara Suka boys' are illiterate, poor, and unemployed, this assertion was affirmed by the theory particularly by Pareto. Pareto stated that other groups apart from the minority elite are incompetent, lack abilities to govern and they are economically down (poor), this testifies why the Sara Suka members are illiterates, and poor. On the other hand, the study, understand that the Sara Suka groups are highly connected and fully sponsored by the elite (politicians), which was testify also by the elite theory, that the elite do not only control the activities of other groups, but also have the power and will to influence others to do things the way they desire, that will protect their interest. So, since the Sara Suka groups are poor, they normally hire themselves to the politicians who are more resourceful in the society.

RECOMMENDATIONS AND FUTURE WORK

As the problem of Sara Suka becomes a threat to the government and governed, intellectuals begin to debate in finding a possible solution to the problem, which would help in combating and wiping away the Sara Suka activities, to the policy makers in decision making process. Base on this the study recommended the following as a way in solving youth involvement in Sara Suka; the government should pass a law that will sanction all politicians to sign undertakings for not utilizing Sara Suka group during campaign and election, if any found should be punished by terminating him or her from contesting. The government should provide policies that would eradicate poverty by establishing employment to the youth or through any means of skills. For example the government should establish skills acquisition centers where the youth can go an acquire skills. And during the graduation the government should support this youth by providing them with equipment and machines for free or at subsidized rates, so that they can depend on their own. It is believed that job creation is one of the major cures in combating

youth's involvement in any social vices. As for future research, further research is required of the role of government towards combating or solving the Sara Suka and any other sort of criminal acts in the state. More investigation on the implication of Sara Suka menace to the society is also needed.

CONCLUSION

With regards to the above point of view, it is clearly stated that youth involvement in Sara Suka depends on certain reason, but the real cause is the politicians (elite) who uses their economic and political power to recruit such youth for their political gains. It is crucial to understand that this youth becomes reluctant not that they want to, rather the current situation they found themselves in the Nigeria political system put them in such position.

The insecurity of Sara Suka in the state is the result of several factors, including a general deficit of government and governance, political violence and within crisis that is generally instigated by the elites in striving to have control of the state power. In order to combat the worsening situation of Sara Suka and to improve security, both the state and federal government should encourage and defend the ethics of democracy at the same time fortify public and community institutions that are necessary for human life.

Subsequently, the safety of the individuals and the security of the state cannot be achieved or guarantee if the people continue to deny their maximum support to the security forces and the elites continue in one way or the order undermine democracy and good governance in the state. It is, therefore, mandatory to both elite and the citizens to join hands in struggle for peace and reassurance of good governance in the state.

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Enhancing Capacity Building in Seaweed Cultivation System among the Poor Fishermen: A Case Study in Sabah, East Malaysia

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ABSTRACT

Community development issues in the context of sustainable development has been given serious attention from all parties namely government and private sectors. In this case study, a member of the community who wants to succeed in their life through development programmes should have positive attitude and take steps to develop themselves, while being supported by the government. This paper discusses the establishment of capacity building programmes among a poor rural community. The main objective of these programmes is to enhance the socio-economic status of the community through seaweed cultivation. Based on this, capacity building programmes were conducted for enhancing the level of community participation and high skills for the long term in the process of modern sustainable seaweed cultivation. The study was conducted between 2011 and 2013. Interviews were carried out with local fishermen and data were analysed using qualitative analyses techniques. The findings revealed that, the introduction of seaweed cultivation using the Estate Mini System and Cluster System under the initiative by the Department of Fisheries Sabah exposed the community to new technologies such as using varieties of seeds, seeds and nursery management, fertilizing and tying of seeds, the activity of solar drying and using the casino table technique in the process of seaweed cultivation. The study is significant for the fishermen experiencing the process of life long learning and who can enhance their knowledge and survival skills in their respective fields of employment. Moreover, capacity building programmes could change the mind-set of the community to be more open and receive the new approaches in the production of seaweed cultivation.

Keywords: Community Capacity Building, Seaweed Cultivation, Fishermen, Capacity Building Programmes

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INTRODUCTION

Development and community are two things which cannot be separated (Ibrahim, 2007). Community development issues in the context of sustainable development have been given serious attention from all parties namely the government and private sectors. Sustainable development tend to inspire the community to enjoy all facilities and services from the aspect of social, economic and environment to live a better life and sustain. However, communities in rural areas especially the fishermen in many developing countries and underdeveloped countries commonly characterised with marginalisation in development issues such as infrastructure development and socioeconomic status (Ibrahim, 2007: 58). This situation contributes to the conflict and uncheerfulness among the community because they cannot afford to adapt themselves with the development ideas from development agencies such as the government and private sectors (Hussin & Weirowski, 2013). This phenomenon causes the rural communities especially the fishermen to face many challenges. The main significant problem presently facing by the community is poverty (Ibrahim, 2007; Roddin & Sidi, 2013).

Poverty issue among the fishermen is considered as a common problem and is known by many parties (Hussin & Weirowski, 2013). Moreover, the poverty issue is not only a common problem among the rural fishermen, but also a common problem among the indigenous groups (Roddin & Sidi, 2013). Studies on poverty among the fishermen in peninsular Malaysia are given focus by many scholars (Firth, 1966; Aziz, 1987; Shaari, 1990) who tried to identify what are the main challenges and limitations encountered by the fishing community. There were several factors contributing to fishermen living in poverty such as practising of conservative value, lack of capital and poor technologies in fish catching activity, being fully dependent on source of sea and related sea activities (Firth, 1966; Aziz, 1987; Shaari, 1990). Meanwhile in Sabah, studies on poverty and development issues among the fishermen were conducted on those who are also practising seaweed cultivation as a secondary employment which were largely carried out by Getrude (2003), Ismail (2004), Hossin (2013), Majid Cooke (2004) and Rosli (2013). The research findings revealed that serious and proactive initiatives should be taken in order to overcome these problems.

There are a number of factors which were identified as contributing to poverty and underdevelopment among the poor rural communities. There are personal factors especially attitude (Roddin & Sidi, 2013; Kamaruddin & Ngah, 2007; Omar, 2008; Abdullah, 2008; Aziz, 1987; Ismail, 2004), lack of capital and poor technology in agriculture (Firth, 1966; Aziz, 1987; Ismail, 2004) and demography factors (Getrude, 2003). To overcome these problems, relevant authorities and rural communities should be encouraged in order to increase their life to a higher level. Members of the communities who want to succeed in development are suppose to have positive attitude and take some initiatives to develop themselves. There are a number of capacity building programmes supported by the government and the communities should grab this opportunity without negligence. Changes in self especially changes in behaviour is the most important thing where they should accept the capacity building programmes as a big strategy to change (Roddin & Sidi, 2013: 663). Development programmes in the past decades were gradually developed by providing physical facilities and finance to new approaches namely on education,

skill training, and capacity building to eradicate poverty and provide a good livelihood for the community. Merino and Carmenado (2012) responded to this situation by stating as below:

> 'in rural areas, development projects have also evolved in a similar way from an economic perspective based on the ready availability of natural resources, low labor costs, and lax taxes and regulations to recruit businesses to rural areas to a broader concept in which factors like capacity and capacity building may be more important for development than the traditional technology transfer system, for their influence in projects sustainability and hence in economic growth and social development' (p. 966).

In addition, capacity building programmes were identified as a mechanism in the development of the community where this programmes have the potential to change the poverty status among the community. Studies on capacity building which focus on the rural fishermen are scarce especially in Sabah. For this reason, a study was conducted to fulfil this gap. A study regarding the capacity building involving rural fishermen was recently conducted in Semporna, Sabah. This study discusses the establishment of capacity building among the poor rural fishermen community. This is aim to bring the benefits to the community to make a better life and gain social advancement by participating in seaweed cultivation projects in their areas. Seaweed cultivation regarded as the main and secondary employment for the fishermen in Semporna, Sabah. Fishermen in this area practise seaweed cultivation as their main and secondary employment. But, there is a need to increase their livelihood to become better by introducing capacity building programmes to them. Capacity building programmes are significant in that area because the community does not have any exposure on how to gain the development. Lack of capacity building programmes in their areas lead them to poverty and thus they do not have the chance to adapt themselves with new modern development programmes. Several types of capacity building programmes are to be addressed such as programmes that increase their knowledge and skills related to the seaweed cultivation and exposure to new modern technologies. As a result, this study's main objectives are as follows: (1) to identify the forms of capacity building programmes implemented which boost the knowledge and skills among the fishermen and (2) its implications.

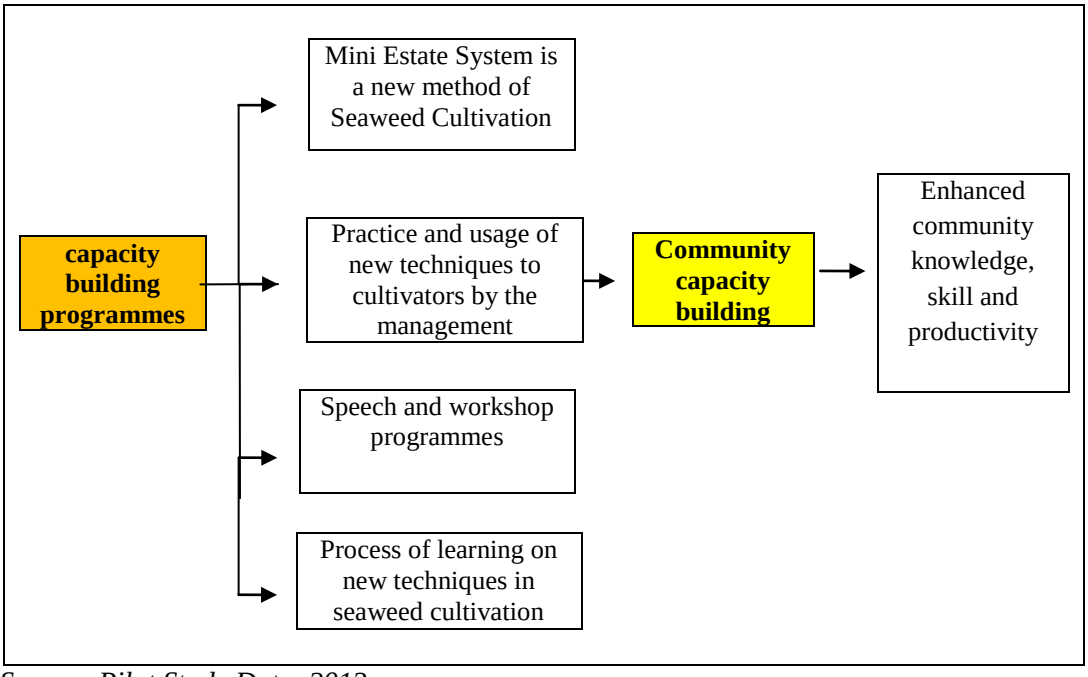
LITERATURE REVIEW

Concept of Capacity Building

The concept of capacity building is an abstract concept and has multiple dimensions (Merino & Carmenado, 2012). There were a few characteristics stated when the meaning of capacity building was examine in past literatures such as capacity, strengths to the more tangible characteristics of knowledge, technical expertise, skills, and leadership (Simmons, et al. 2011: 197). Capacity building was given the definition as an 'increasing the ability of people and instituitions to do what is required of them (Honadle, 1981: 577). According to Littlejohns and Thompson

(2001) capacity building as 'the degree to which a community can develop, implement and sustain actions which allow it to exert greater control over its physical, social, economic and cultural environments'. On the other hand, Civil Society Human and Institutional Development Programmes (CHIP) (2007) stating that the meaning of the capacity term is as having capacity to do something such as creates new ideas, implementing the new and old ideas, and implementation through action and others. Honadle (1981: 577) also gives his view on the definition of the capacity where it has several characteristics which become a core such as (1) anticipate and influence change, (2) make informed, intelligent decisons about policy, (3) develop programs to implement policy, (4) attract and absorb resources, manage resources dan (5) evaluate current activities to guide future actions. Then, what is the purpose of the capacity building generally? Simmons et al. (2011) stated that the purpose of the capacity building in general as address the primary determinants of health, enhance the quality of life, promote health and well being and to prolong the multiple health gains many times over.

The concept of the capacity building in Australia is becoming a central objective and is often widely applied in all programmes and development policy (Hounslow, 2002). According to the World Resources Institute (2008) an increasing resilience in organisation in terms of social and economic is a result of capacity building (Merino & Carmenado, 2012: 961). This study supports this view where the forms of capacity building programmes are expected to build the trust in fishermen to boost their level of life by participating in seaweed cultivation. An early model was built in this study as below:



Source: Pilot Study Data, 2013

Figure 1 Conceptual model for community capacity building

Concept of Seaweed Cultivation

Seaweed cultivation is regarded as an activity conducted near to the coastal area and it is largely environmental basis and often conducted by the community in that area. The term seaweed according to the native language is *Sayur Hijau* or green vegetables which are a source of food for the traditional people in past centuries in Asia (South, 1993 & Ruperez, 2002). Other than that, Asian Countries became important agents in producing and marketing the seaweed to other countries in the world (Rouxel, et al., 2001). In Southeast Asian countries like Philippines, Indonesia and Malaysia namely Sabah seaweed species which are commonly being cultivated are *Kappa* and *Euchema*. They are then exported to other countries (Sievanan et al. 2005: 298). There are several seaweed species which are largely being cultivated by the community in the coast of Malaysia. In Peninsular Malaysia, seaweed species like *Caulepa*, *Sarga* and *Ulva* are commonly produced by the community in the coast, especially fishermen (Phang, 1989). In Sabah, seaweed species like *kappa* and *euchema* are only cultivated by the community in the coast (Kaur & Ang, 2009: 4). Seaweed cultivation in Sabah is mainly being focused in Semporna, Lahad Datu, Kudat and Kunak which occupies 7535 hectares of the coastal area. The District of Semporna is given the focus because most of the islands' communities in that area conduct seaweed cultivation activity especially the fishermen. Seaweed cultivation activity has a big potential to contribute in boosting the income of the country as well as enhancing the socio-economic level of the community.

Forms of Capacity Building Derived from the Literature

This section explains the forms of capacity building derived from the literature. Abu Samah (2011) in his writings explained that capacity of the community is a pillar of the community's development process implementation. Shulman (1999) reviewed that, uncapacity of the development agents in promoting the community capacity building enables the community to exit from the poverty issue. Development programmes should be planned wisely so that the development objectives could be achieved. Anuar Dalam (1989) stated that the common issue which has always been encountered in the third world countries is the community is dependent towards the agricultural economic sector which is highly not productive as well as lack of capital, modern technology and expertise. Prior to this, socio-cultural and psychological problems often occurred in the community. Socio-cultural and psychological problems were namely low level of education, attitude of the community, value system, traditional practice, and the people's mentality which is not in line with the development objectives. Thus, there should be a variety of capacity building programmes to be implemented by the government in the third world countries such as training programmes for effective manpower which has the potential to enhance and increase the quality of the manpower, producing viability and income of the community.

Salim (2005) in his writing entitled 'A challenge to public intellectuals' states that through education, capacity building enhancement, health and nutritional supplement would assist to increase the productivity because the workers are part of the production. A review by Porodong (2001) indirectly discusses the poverty issue through many angles such as cultural explanation and structural explanation. Cultural

explanation gives emphasis on the poverty issue where it is often related to the community behaviour. This situation influences them to decide and relate the socialisation process in their early life. Whereby the structural explanation on poverty emphasis on the imbalance of opportunities within the society. Unbalance distribution of opportunity lead to imbalance of economy and resulted into two situations which is rich and poor.

Credit micro scheme started to be implemented in many developing countries and gives attention to effective strategies on enhancing people's incomes. It was introduced in Bangladesh in the mid year of 1970s with revolution of 'credit as a human right for people' (Mohamed Zaini Omar, 2010). This initiative was undertaken by Grameen Bank, considered as an effective way to eradicate the poverty where this scheme gives emphasis on poor people in Bangladesh. This programme has a concept which is based on self-assistance with giving loan in a smale scale and has a condition. The condition or agreement is just an easy process and mainly focuses on the people's capacity building. In Malaysia, *Amanah Iktihar Malaysia* (AIM) was set up through capital assistance by the government which enhance the people's capacity in financial management, moral support, advice, consultation and skill training. This is as an initiative to develop the small scale industries with the participation of the Bumiputeras. Research findings by Syuhada Abdul Halim, et al. (2013) indicate that sponsoring through micro credit by AIM and SAHABAT in AIM changed the participants' lives. If we survey deeply, the changes in SAHABAT participants lives are not only in the increase of incomes, but also in materials.

To enhance the people's capacity building, multiple aspects need to be given attention. According to Kadir Arifin (2009), human capital management is the most important element that should be given serious attention to ensure the quality of the management. Human resource refers to workers and staffs in an organisation including workers in low and high levels. This is because the human resource could influence the quality of the product which is based on the suitability of education, training, skills and experience. This is meaning to say that if a person has these stated elements, hence the quality of the product in the organisation will increase. Other than that, again Kadir Arifin (2009) argued that there were a few management of resources which are not really important in quality management system namely source of supply, providing of infrastructure, and working environment. Forms of capacity building which provide to the community in all development projects depend on the suitability of the needs to ensure that the objectives would succeed. For example, livestock project of catfish and processing of dry fish which involve 131 local communities in Batang Lupar, Sarawak. All the participants in the project were given assistance by the government in the form of grant, equipments, advice, training and marketing. In terms of marketing, Honey Aquaculture Industry and Harvest Industry were officially elected as suppliers. This scenario enables the participants to pay full focus only on the productivity of growing of catfish and salt fish. Moreover, the programme enhances their skills and knowledge in terms of self-discipline, self-esteem, and time management in conducting the project.

It is undeniable that usage of new technologies in agriculture could help to enhance the agriculture productivity and change the result from small to big scale. The usage of new technologies in producing organic fertilizers and new species allows the usage of other techniques which could help to produce better productions.

In relation to this, application of new technologies is often regarded as the most important element in enhancing the capacity building of the community as well as their incomes. The enhancement of capacity building within the community in many programmes does not only benefits them to enjoy a better livelihood, but it also benefits the country. Poverty eradication programmes are a few of the programmes that have succeed in contributing to less social problems within the community and increasing the economic income by having a high productivity. However, to realise the success in poverty eradication programmes, development agents are urged to have the capacity to bring the community together in the programme. This issue has been explained by the evaluation research done by Samir Muhazzab and Sara Shakilla (2012) which focused on the capacity of the development officers who run the programmes such as *Skim Pinjaman Iktihar Nelayan, Mukim Kuala Kedah* under the responsibility of AIM with the collaboration from *Lembaga Kemajuan Ikan Malaysia* (LKIM). Samir Muhazzab and Sara Shakilla (2012) concluded that, development officers who have skills and knowledge can assist the fishing community in an effort to enhance their livelihood. Moreover, these kind of qualities in the officers are needed by the community and the country.

Literature of Seaweed Cultivation in Sabah

Seaweed cultivation in the District of Semporna has a great potential to overcome the poverty issue if the fishermen are actively involved in the project. This is supported by Sade, Ali and Mohd Ariff (2006) who viewed seaweed cultivation has already proved that it does not only contribute to fishermen's incomes, but has also became an effective instrument to combat poverty. The local community could also gain many benefits in the aspect of social and economic if they actively participate in the activity. For instance, a research by Majid Cooke (2004) inserted that seaweed cultivation brings benefits to the cultivators until they are recognised as a 'seaweed cultivators' in Banggi Island, Kudat, Sabah. Besides that, seaweed cultivation gives positive values to the cultivators. Majid Cooke saw the seaweed cultivation in Kalingau Village, Banggi Island and concluded that it has a potential to make a strong relationship within the community and raise their incomes level. However, research findings revealed that supports from the community towards the government projects lead the community into believing and trusting the government until they are willing to get involved in the seaweed cultivation activity even though the project gives slow results. From the gender perspective in the employment aspect, women also play an important role in contributing to side incomes for the family. The same scenario occurs in Msuya's research where the community that lives in the coast of Zanzibar, especially the women workers contribute to their families' income by getting themselves involve in seaweed cultivation activity (Msuya, 2011). According to Ali (2011) and Msuya (2011), the same situation also occurs among the community in the District of Semporna and community in the coast of Zanzibar, where not only involved in seaweed cultivation activity but also their kids.

Universiti Malaysia Sabah research group, spearheaded by the Seaweed Research Unit, Faculty of Science and Natural Resources has been intensively conducted research on seaweed cultivation in Sabah. The seaweed cultivation

research requires interdisciplinary approach ranging from the field of pure sciences to social sciences.

Table 1 Latest seaweed research undertaken by Universiti Malaysia Sabah (Socio-economic cluster 2014)

Research Title	Author (S) & Year	Research Findings
1. Seaweed Conventional System and Seaweed Mini Estate Project: Strategy to enhance seaweed production and alleviation of poverty in Semporna, Sabah	Gaim Lunkapis, Rosazman Hussin, Nurulaisyah Rosli, Paul Porodong & Maine Suadik (2014)	• Before Seaweed Mini Estate Project, most of the farmers in the Selakan Island used conventional technigues as well as in Bum Bum island. • Then, research findings revealed that the implementation of Seaweed Mini Estate System has improved and increased seaweed production and livelihood of local communities in the both Islands of Semporna, Sabah.
2. Capacity building and poverty alleviation through Seaweed Cluster Programme and Mini Estate Project in Semporna, Sabah.	Ahmad Tarmizi Abd. Rahman, Rosazman Hussin, Aisah Hossin, Budi Anto Tamring & Norhuda Salleh (2014)	• The findings show that the capacity building projects gives benefits to the local community of the Selakan Island in terms of knowledge and skills related seaweed cultivation. • The findings shows that the capacity building programmes in Selakan Island has attracted and motivated youth's participation in the seaweed cultivation project. • Thus, the Seaweed Mini Estate System has provided local community with various jobs opportunities in the seaweed industry of Semporna, Sabah.
3. Seaweed Mini Estate Project and poverty alleviation among fishing communities in Semporna, Sabah.	Rosazman Hussin, Mizpal Ali, Nor Ina Kanyo & Hj. Inon Shaharuddin Ab Rahman (2014)	• The research findings indicates that the capacity building programmes has begun delivering positive impacts to the local communities, e.g. provided new jobs opportunities especially for the young generation then increase monthly income of the families.

Source: Reseach Times, UMS Seaweed Showcase 2014

RESEARCH METHODOLOGY

This research was carried out in the District of Semporna, Sabah involving two islands namely Selakan Island and Bum Bum Island. These two locations were chosen because the majority of the fishermen in both locations participate in seaweed cultivation activity as their main and secondary employment. In depth interviews and field observation were conducted in order to collect the data. A total of 10 respondents were chose based on purposive sampling (Sekaran, 1992) where these people have the experience and interest in the seaweed cultivation project. They are from the government officials and local community. Interviews were conducted with the respondents between the year 2012 and 2013. Interviews were tape-recorded after the researchers gain their permissions. All of the respondents were asked about the capacity building programmes which were identified and implemented in the seaweed cultivation activity and how well these capacity building programmes bring benefits to the fishermen who are involved in the programmes. The interviews were usually held in the interviewee's office for the government officials, while fishermen preferred to be interviewed in their homes. The interviews lasted between 45 to 75 minutes. The Interviewees are free to speak in either English or Malay, but most preferred to speak in Malay. The interviews conducted in Malay were then translated into English. All of the data gained from the interview were analysed using a thematic analysis (Braun & Clark, 2006) and have been ensured that they were in line with the research objectives.

Four themes were derived from the thematic analysis. Community capacity building programmes was identified after the thematic analysis and its implications to the community who are participating in it. Community capacity building programmes are implemented in Selakan Island and Bum Bum Island as follows: (1) Mini Estate System is a new method of seaweed cultivation, (2) practice and usage of new technologies to cultivators provided by the management of Mini Estate, (3) process of learning on new techniques in seaweed cultivation by Mini Estate and (4) speech and workshop programmes to boost up the motivation of the cultivators.

Mini Estate System is a New Approach of Seaweed Cultivation in Sabah

According to Yasir (2002), Head of Researcher at Seaweed Research Unit, Universiti Malaysia Sabah (UMS) Mini Estate is a concept of management which was introduced by UMS to PEMANDU (*Unit Pengurusan Prestasi dan Pelaksanaan di bawah Jabatan Perdana Menteri*) where they manifest the innovation into reality. The seaweed cultivation project is fully funded by the government using the approach of 'community-based, commercial approach'. Mini Estate is a fine concept which is implemented in the seaweed cultivation programme in Semporna, Sabah. Moreover, it is a concept of management and considers the locals' participation. The aim of the Mini Estate is the community. It receives attention from the government and is one of the transformation programmes through National Key Economic Area (NKEA). The seaweed cultivation programme is identified as one of the 16 pioneer projects EPP (Entry Point Project). It was categorised as EPP 3. The target of EPP is to transform the seaweed cultivation activity into industrial activity and commercialise it via Research and Development (R&D) assistance and infrastructure. Compared to Mini Estate System, community capacity building via

Cluster System is not much difference. This is because the Cluster System is a continuous initiative under the Mini Estate System and the difference could only be seen in terms of the focus and target of the participants. Yet, this difference could clearly bring different approach when implementing this project. Mini Estate System do focuses on the local industry whereby Cluster System focuses on the community participation. The importance of Mini Estate in seaweed cultivation activity is it would solve many problems in the activity such as cultivation which is not environmental friendly as well as low in productivity. This is to ensure the objectives of the Mini Estate could be achieved which are to promote a good management of seaweed cultivation system as well as to increase the income of the community. Moreover, it also aims to efficiently use the manpower especially the women in the seaweed cultivation activity. A research officer in the Mini Estate seaweed programme (respondent 1) gave his opinion on the importance of Mini Estate as below:

> "*before the existence of Mini Estate System in these islands, only men were working in sea and tie the seaweed, where the women not afford to do. After the introduction of the Mini Estate System, women also can work at their respective homes such as tie the seeds of seaweeds and after bring them to seaweed processing location only. By having this method, usage of manpower could maximise, productivity could enhanced as well as their incomes'. …*" (Japson Wong Woo Ren, Research Officer at Mini Estate on 18 January 2013)

From his response, it could be concluded that Mini Estate System in both islands has given many benefits to the fishermen especially in terms of socio-economic aspect. The usage of manpower especially the role of women is important in seaweed cultivation activity in order to ensure that the productivity could be enhanced and sustained.

New Practice and Usage of Technologies to Cultivators Provided by the Management of Mini Estate

Seaweed cultivation activity should be transformed and the usage of new technologies is important in order to increase the productivity. Capacity building programmes such as the usage of new technologies in seaweed cultivation activity has recently been widely implemented in these two islands. The usage of new technologies in seaweed cultivation activity is regarded as a fine strategy which could enhance the productivity. New technologies such as fertilizers and tie of seaweed seeds, machine for harvesting and solar dryer have the potential to increase the productivity, effective usage of manpower and less time consume in the location. The usage of new technologies in seaweed cultivation activity such as fertilizers are expected to be part of capacity building programme whereby they make sure that the production of the seaweed is good and this automatically enhance the productivity in both islands. Systematic usage of fertilizers in seaweed cultivation makes the seaweed good and resilient when it is exposed to threat of diseases. Fertilizers used

in seaweed cultivation are a product of Green Leaf Synergy industry with the collaboration research by UMS. They are some instructions and procedures on the usage of fertilizers in seaweed cultivation. For instance, 200ml of fertilizers need 20 litter of water. After the seaweed cultivation activity, seaweed can be harvested after a period of in four months. Seaweed harvesting involves two workers. In the context of Mini Estate, seaweed harvesting will be conducted by using combine harvester whereby it plays a role as a machine of harvesting helping the cultivators and is less time consuming. By having the machine, it makes it easier for the cultivators as they can finish their work on time.

After the fishermen successfully finish the harvesting work, the seaweed that has been harvested needs to dry for the upcoming process. In the conventional system, the seaweed was dried under sun light where it is placed on top of roofs of homes. The dried seaweed turned to white and yellow in colours. To be more productive, the solar dryer was introduced to seaweed drying process. By having the solar dryer the duration for drying becomes less than 3 days compared to 8 days in the conventional method. This solar dryer method could also increase the quality of the dried seaweed. After the drying process has finished, the dried seaweeds will be placed into a big plate and nicely arranged. This is because the quality of the seaweed will be maintained and will not be eaten by mice and cockroaches. Before being placed inside the store, all the dried seaweeds are put into sacks. After that, they are sold to the suppliers and manufactures.

Process of Learning on New Techniques in Seaweed Cultivation by Mini Estate

Selection of seeds, cutting of seeds and Casino tables are the early process of seaweed cultivation and is considered as an important capacity building to the fishermen to cultivate the seaweeds in their areas. In Mini Estate, the seaweed seeds selected must be good and fertile in order to ensure the quality of the product. In relation to this, the workers are taught on how to select and separate the seaweeds. The selected seaweeds are cut to become seeds, and they must be good seaweeds. Before tying the seaweed using tie-tie string, the seaweeds that have been cut are placed on the Casino table in order to see whether they could become seeds or just could be dry. The unselected seaweeds are placed inside a bowl and is soak for some time to make sure it is fresh. Seaweeds which are selected to become seeds are cut into a smaller size for the next process which is tying. The method for cutting the seaweeds is using a sharp knife. This is because the size of the seaweeds must be small and nice to see. In Mini Estate and Cluster System, the workers are taught to select the good seaweeds and leave those which are affected by the Ais-Ais diseases This is supported by the following response (respondent 8):

> *"yes, they teach us how to select the good ones, how to remove those affected by the diseases..in that way..."* (Salbiah Binti Salib, former worker Mini Estate System on 17 December 2013).

This also supported by respondent 9 who become participant in the project as follows:

> *"true..cut the seeds, grow in sea...yes must be select the good ones...if anything wrong in the seaweed we must remove it..."* (Roslizah Binti Amat Banang, particpant Look Cluster system on 18 December 2013).

Once the first process is finished, workers which are fishermen will be informed with new techniques involving tying of seaweed seeds. To make sure the Mini Estate is in a good progress, the management always give guidance and demonstration to the workers on how to tie the seeds of the seaweeds. Other than that, the workers are exposed to the benefits of tying seeds of seaweeds using tie-tie string compared to using Raffia String.

Capacity Building through Workshop Programmes to Boost up the Motivation of the Cultivators

Other than that, capacity building programmes through speech and workshops are also seen as a good strategy to enhance the level of capacity among the fishermen which are involved in seaweed cultivation activity. Despite using new technologies in seaweed cultivation activity, the Mini Estate and Cluster System also conduct speech and workshops for the workers and participants. This is because it could increase the level of motivation among the workers and is a platform to identify the opportunities in this field if they are seriously participate. Speech and workshops been given good impact and encourage the workers and participants. The findings revealed that the existence of speech and workshops organised by the Department of Fisheries Sabah and UMS, give good impacts to the workers in terms of they got a chance to learn something new from the workshops. One of the participant agrees that she gain some knowledge and experience after participating in the workshops. Besides that, she also agreed that she has learnt things such as seaweed to be put on sale must be clean before it is put on sale. Knowledge in these workshops has made the participants more motivated to cultivate the seaweed in their islands. This is in line with her statement (respondent 9):

> *"Yes, we need to make clean in order to our product to be sell easily..if we attend the seminar and workshop in a day means we got the knowledge ready.."* Roslizah Binti Amat Banang, particpant Look Cluster system on 18 December 2013).

The Benefits of the Capacity Building Programmes to the Seaweed Cultivators

The research findings show that aspects of capacity building that has benefited the cultivators upon participation in the project as follows: (1) community capacity building through infrastructure assistance such as a work station by the Department of Fisheries Sabah (DOF) and the development of the work station by the Mini Estate Companies making easy the daily activities of tying of seeds, and drying of seaweeds; (2) enhanced the knowledge and skills through technology transfer by utilizing the modern technologies ensure the seaweed quantity preserved; (3) spreading of information and skills through workshops and motivational speech also benefited the cultivators to keen into this field as well as making them to realised the

potential of seaweed cultivation as one of the important economic activities. As mentioned above, these community capacity building programmes has benefited the local communities in the study sites and could enhance their future livelihood.

CONCLUSION

The findings revealed that there is an existence of capacity building towards the participants in seaweed cultivation activity in both islands. Such themes revealed from the thematic analysis clearly show that the capacity building programmes in both islands empower the community to actively participate and their level of livelihood could be enhanced. New initiatives are introduced via Mini Estate and Cluster System in seaweed cultivation activity. They build the community capacity building and make their life better. Such initiatives like establishment of Mini Estate System and Cluster System, usage of fertilizer, usage of harvesting machine during harvesting process, usage of solar dryer, techniques of tie of seaweed seeds, selection of seeds of seaweed and Casino table, speech and workshop enhanced the community's level of knowledge and skills in seaweed cultivation activity in Selakan Island and Bum Bum Island Semporna, Sabah. These capacity building programmes give changes on the people's mentality and give new experience in order to motivate them to actively participate in seaweed cultivation activity. As a conclusion, capacity building programmes that have introduced in Selakan Island and Bum Bum Island have successfully enhanced the fishermen level of understanding and knowledge as well as skills during seaweed cultivation activity.

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Identification of Food Heritage: Food Identity Analysis on Demographic Background

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ABSTRACT

There are concerns in certain countries with the potential loss of their unique cultural heritage, which defines their identity, due to global modernization and the sharing of similar cultural and practices with other countries. This study explores the importance of heritage food in contributing towards the shaping of national food identity**.** The exploratory study involved 400 respondents and used a self-completed questionnaire survey in Klang Valley area. Purposive sampling was used in selecting elements from the sample based on criteria such as age, which required respondents to be 30 years old or older and have knowledge on heritage food. SPSS software version 20 was used to analyse the data, using frequency and cross-tabulation on demographic background and Food Heritage questions item. Results revealed that Food Heritage is best defined as traditional food, food passed down from one generation to the next, food related to cultural background and original ingredients. The main criterion chosen for Food Heritage attribute was its traditional value. Findings also showed that only educational background did not show significant difference ($p>0.05$) in representing food identity of the country. Overall, finding revealed that the public understand the meaning of heritage food, and are well informed and aware of the authority responsible in endorsing of Food Heritage.

Keywords: Food Heritage, Food Identity, Demographic Background

INTRODUCTION

Food is signified as markers for identity regardless of geographical, social and political differences separating the populations. It is a contested medium that establishes national boundaries and identities, in particular nations such as in the European Union (EU) (DeSoucey, 2010). Takaki (2012) deduced that food identity ostensibly contributes to prosperity, international identification and reputation of a country and positive influence on the economy. In other words, without a common

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identity, a nation will have an ambiguous and conflicting identity due to lack of consensus. This then creates adverse image and effects on the social integration within a country (Gould & Skinner, 2007; Lin, Pearson, & Cai, 2011). Therefore, multi-cultural countries recognized the importance of having a commonly accepted food identity to represent the image of a nation, especially in term of tradition and authenticity.

Similar to other nations, Malaysia also experiences the necessity of having her own food identity when sharing food, and cultural background are becoming a central issue among neighboring countries. According to Chong (2009), each country is becoming more determined to defend and safeguard their cultural food as a heritage, as it forms the core identity of the country. For example, Singapore promotes gastronomic tourism to international tourists, and insistently proclaims that some of the common Chinese, Indian, Malay and Peranakan foods as their local heritage. This can be seen through their tourism promotional packages under the Singapore Tourism Board (STB), which classify dishes like *Ayam Buah Keluak, Bak Kut Teh, Cendol, Char Kway Teow, Chili Crab, Laksa, Nasi Lemak, Rendang, Teh Tarik* and others as Singaporean 'iconic' dishes (Chaney & Ryan, 2012; Muthiah & Mei, 2012; YourSingapore.com, 2012)**.**

The significance of these issues can be seen clearly through the statement of the Commissioner of Heritage, Department of National Heritage, Professor Emeritus Datuk Zuraina Majid, who stated that identity is important for any nation. It portrays the culture and the people (Bedi, 2012). These incidences have opened the Malaysians eyes, particularly the government, on the importance of having our own cultural identity, especially the traditional cuisine (Lim, 2012), although sharing the fundamental basis cannot be avoided. The former Minister of Tourism, Dato Seri Ng Yen Yen, for instance, stressed on the importance of having a strong national cultural and food identity that contributes to the branding and image of our country.

"The extensive ranges of our local dishes were very much a reflection of the cultural melting pot creating a unique Malaysian identity. The wide variety of culture and food in Malaysia can be an effective tool to demonstrate our nation's cultures and food identity to attract international tourists" (Bernama, 2010b)

With regard to food identity, scholars have recognized the foundation that takes place in the processes of constructing it within ethnic groups in multicultural countries in particular are reflected through sharing commonly accepted cuisine (Appadurai, 1988; Spurrier, 2010; Wilk, 2006). Cross-cultured food among the ethnic groups, through acculturation and assimilation processes, gradually creates or forms food identity in multicultural countries (Fox & Ward, 2008; Helland, 2008). It is worth to reiterate that acculturation is a process of learning the practice and customs of a culture, acquiring the capability to function within the dominant culture while retaining one's original culture (Cleveland, Laroche, Pons, & Kastoun, 2009; Ishak, Zahari, Sharif, & Muhammad, 2012; Lee, 2006; Matsunaga, Hecht, Elek, & Ndiaye, 2010) Comparatively, although assimilation creates new food identity as its hallmark to stamp out the originality of minor ethnic raises by the dominant ones, several sensitive issues on preserving the cultural identity of each ethnic have arisen (Crocetti, Rubini, & Meeus, 2008). It is interesting to note

that the adaptation of food from various ethnic groups by the dominant ethnic groups in multi-racial and multi-cultural nations will also lead to common acceptable cuisines and later form what could be called as a national food identity (Cozzi, 2005; Fox & Ward, 2008). Besides this, Manaf (2008) noted that gazetting or endorsing inherited and traditional food in the long run would strengthen the formation of a nation's food identity.

This statement concurred with that of the Commissioner of Heritage, Professor Emeritus Datuk Zuraina Majid who stated that;

"Instead of keeping national heritage under lock and key, the governments want to promote the list" (Wo, 2009)

In line with what have been mentioned, the Malaysian government is taking serious action in preserving its gastronomic treasures through various initiatives. Besides initiating programs such as promoting the transfer of traditional food knowledge (TFK), encouraging acculturation, assimilation and adaptation of culture within the ethnic groups (Ishak et al., 2012; Md Nor et al., 2012), gazetting or certifying inherited food by the Department of National Heritage has also become among significant national agenda. In addition, almost all states also take the same steps in preserving their heritage food (Bernama, 2010a). This study aims to investigate the importance of food heritage in contributing towards the nation's food identity.

LITERATURE REVIEW

Cultural Heritage

Heritage is a broad concept consisting of tangible and intangible assets. The tangible assets include natural and cultural environments, landscapes, historical places, sites, built environments, and monuments, and sites. Intangible assets on the other hand comprise of collections from the past and continuing cultural practices, knowledge and life experiences (Farahani, Abooali, & Mohamed, 2012; Halim & Mat, 2010; Siriphanich, 2007). 2003 UNESCO Convention and 1994 Convention of World Heritage perceived the tangible and intangible cultural heritage from broader perspectives (Kurin, 2004; Vecco, 2010). Tangible cultural heritage commonly relates to physical objects such as buildings, paintings, books, artefacts and monuments, while, intangible cultural heritage refers to non-material objects such as language, music, dance, songs, religion, festivals, and food, and also includes cultural traditions, practices and customs that have been passed down through generations as part of their daily life (Shariff & Zakaria, 2011). Different usage of tangible and intangible cultural heritage can be seen in European and North American regions where they are inclined towards more tangible heritage such as walled cities, churches, castles, national parks and transportation artefacts, while, African and Asian nations are more inclined toward intangible heritage like traditional and popular cultural aspects including language, music, dance, ritual, folklore and food (Graham, 2002). The intangible heritage highlighted in this study is traditional and popular food in the country.

Overview on Food Heritage

In Ramli, Zahari, Ishak, and Sharif (2013), food heritage has been clarified broadly by several researchers such as McCoy (2012), who stated that the relationship between food heritage and agriculture is built by rooting a community to its place and its history and heritage, and defining the cultural identity of a place, community, person, or region. Similarly, Lyons (2012) reported that heritage food consists of pure breed fruits, vegetables and livestock that are naturally suited to the regional climate and fit between culinary and heritage tourisms. Chabrol and Muchnik (2011) viewed food heritage from the traditional aspects of food production like production techniques and consumption skills and technology (CST) of local produce such as cheese, wine, rice, raw ham and chocolate. While embracing technology, traditional food production still plays a significant role in cultural heritage, whereby it must be maintained, enhanced, and reconstructed, or it will disappear.

Malaysia and Food Heritage

In Malaysian perspective, Wahid, Mohamed, and Sirat (2009) associated food heritage closely with classical and traditional foods which are continuously prepared and consumed by all generations without major alteration in the original flavours. Food heritage can also be reflected from environmental history, belief, ideology and food technology of society in an era or period of time (Utusan, 2010). The Heritage Commissioner of the National Heritage Department, Prof. Datuk Zuraina Majid stated that heritage foods are based on two categories. The first category refers to synonymous or common foods which are part of our lives, whereas the second consists of foods that face extinction, in other words, they were once part of our culture, but are slowly dying out (Wahid et al., 2009).

In support with the above statement, the first category refers to foods that represent a nation, places or ethnic groups (Mohammad & Chan, 2011) or food that are unique or signature dishes such *Nasi Dagang, Masak Lemak, Assam Laksa* and many others (Abby Lu, 2010). This also includes popular dishes accepted by the Malaysian society for example, *Satay, Nasi Lemak, Kuih Bakul and Cendol*, for which the preparation skills are not limited to one race (Abdullatib, 2009). For the second category, foods like *Pulut kukus, Periuk Kera* (glutinous rice cooked in monkey pot plants) and *Ikan Panggang Tanah Liat* (grilled fish wrapped in clay) are some examples that are slowly fading away owing to the peculiarity in the preparation method and techniques, and recipes (Wo, 2009), while, some no longer exist, especially the indigenous cuisines (Abdullatib, 2009).

There are great concerns and attention given to the preservation of traditional cuisine since it is closely related to the ingredients, preparation method, dishes and eating decorum. Cultural heritage is difficult to preserve and measure as it is associated with values, beliefs, behaviours and rules of the society. The need for continuing and preserving heritage food is considered as a comparative advantage in maintaining local food culture in the face of homogenizing pressures from the outside (Shariff, Mokhtar, & Zakaria, 2008) and continuation of

preserving the creation of valued products especially the traditional cuisines (UNESCO, 2008).

To date, more than 100 types Malaysian favourite foods are announced and registered as National food heritage. Heritage foods have been divided into seven categories, namely rice, noodles, gravies and its accompanying dishes, appetizers, cake, porridge, dessert and drinks (Heritage, 2012). Each category is based on preferential status with the purpose of preservation or not to be forgotten (Elis, 2009).

Besides preservation, food heritage has become an important component in tourism (Zainal, Zali, & Kassim, 2010). It is argued that heritage cuisine can indeed help to attract tourists, which has similar concept to visiting the world's heritage sites (Wo, 2009). It is also recognized as a major contributor towards a country's economical, cultural and environmental sustainability for tourism destinations (Sims, 2009). Some countries use food and beverage as heritage components at tourism destinations and strive to develop its own distinctive food to make it more appealing and outstanding in the eyes of visitors who search for authentic experiences (Abubakar & Mohamed, 2010). Tourists' demands for "heritage, traditional and local" food can be determined as it linked to a quest for authenticity (Sims, 2009).

Food Identity and Its Link with Food Heritage

Gastronomer Jean-Anthelme Brillant-Savarin quotes,

"Tell me what you eat and I will tell you who you are"

This statement, in actual fact, explains that anything people eat or consume portray their identities (Bugge, 2003). In response to Brillat-Savarin's quote, a food historian, Ken Albala in Civitello (2011) said:

"Tell me what a culture thinks it ought to eat, and I will tell you what it wants to be"

The above statements show that identity is developed by the way a society consumes food from the ritual or by the changes in way of their consumption. These two quoted examples indicate that the food we eat do not only satisfy hunger, it is also closely link to cultural codes and an indicator of identity (Bugge, 2003). One clear example is Japan, where rice is used in the culture, religion, lifestyle and festivals and represents the identity of the country (Visocnik, 2004).

Based on the aforementioned notion, foods that are importantly recognized as part of a country's identity are commercialized to promote the national cuisine of the country. Owing to that, it is important to protect the ownership of specific cuisine to preserve the country's intangible cultural heritage (George, 2010; Green & Dougherty, 2009; Horng & Tsai, 2012). Timothy and Ron (2013) stated that heritage food becomes the marker of identity, and one way to preserve it is by promoting the food as national patriotism, familial, regional patrimony and agricultural tradition. A clear example is the traditional Serrano cheese as a Brazilian local product with a strong sense of food heritage (Vitrolles, 2011).

Besides that, food is used as a material for national identity owing to its power and resources of cultural, political, and economical identities as they are shaped by institutional protections (DeSoucey, 2010).

Endorsement or certification or gazetting is one method to preserve heritage food and identity (Bessiere, 1998). The France government, for example, decided to publish a list of culinary heritage in the inventory of French traditional treasures funded by the National Council for Culinary Art. This initiative revealed the awareness and determination of the country to preserve and safeguard their culinary heritage by certifying sites for their food throughout the country (Bessiere, 1998). In this context, the key factor in driving the local population to protect their heritage is by cultivating awareness on their cultural heritage. Another method is to use culinary tourism by promoting awareness and recognition that reflects the understanding of food and cuisines, which represent the central element of the heritage, demonstrating their national cultural characteristics and local features and developed into an international brand (Horng & Tsai, 2012).

METHODOLOGY

This study intends to explore food heritage and its effects on food identity from the public point of view. Specifically, it focuses on the respondents' demographic profiles. Quantitative method was used to gather all necessary information.

Sampling and Population Plan

The information needed for this study was gathered from 400 respondents in Klang Valley area using self-completed questionnaire survey. The target population was the public, consisting of major ethnic groups like Malay, Chinese and Indian. The reason for choosing the three major ethnic groups was due to the fact that their foods are commonly accepted among Malaysians, hence, classified as Malaysian foods and qualified to be endorsed as heritage food (Abdullatib, 2009; Bernama, 2012). In fact, some have been listed under the National Food Heritage (Negara, 2012).

Owing to the widely distributed populations of Malay, Chinese and Indians, the researcher could not collect the desired information throughout the country. Salkind (2003) argued that it would be practically impossible to collect data from every single element in the population, particularly when the investigation involves several hundreds or even thousands of elements. Based on popular argument, studying a sample rather than an entire population also leads to more reliable results, mainly because fatigue is reduced resulting in fewer errors in collecting data. Based on the suggestion, the sample of population was selected among the public who resided in Klang Valley (*Lembah Klang*), which comprises of the Federal Territory of Kuala Lumpur, Putrajaya, the Petaling district in Selangor (Shah Alam, Petaling Jaya and Subang Jaya), Gombak, Klang and Hulu Langat and their suburbs and adjoining cities and towns ("Lembah Klang," 2013).

In order to get better insights on the required information, a number of criteria for potential respondents were designed. Respondents were selected based on their states upbringing, and they should be 30 years or older, and knowledgeable on to the subject matter (food heritage).

Research Instrument

The self-administered questionnaire was developed and adapted based on several variables derived from the framework of the conceptual study. The items for each dimension (independent and dependent variables) and the type of scales that are used in the exploratory stage. Some of the items in each dimension were adapted from previous similar studies (Cleveland et al., 2009; Guerrero et al., 2009; Hergesell, 2006; Horng & Tsai, 2010; Kwik, 2008; Lertputtarak, 2012; Mohammad & Chan, 2011; Robinson & Clifford, 2012; Rozin, 2006).

In this study, purposive sampling was employed to select the elements from the sample. It is a form of convenience sampling in which researcher's judgement is used to select the sample elements (Hair, Money, Samouel, & Page, 2007). A preliminary screening process was carried out to select suitable candidate/respondent. The screening process was based on the criteria set by the researcher, namely respondent should be 30 years or older and is knowledgeable on food heritage. Respondents who fulfilled the required criteria could proceed with the questionnaire. Respondents were briefed on the aims of the study before the questionnaire was handed to them. Collected data were analysed using SPSS software version 20. Statistical methods such as reliability analysis to test the reliability of each variable items, frequencies and cross-tabulation of demographic background and Food Heritage questions items were used to address the objective of the study.

DATA ANALYSIS AND FINDINGS

Respondents' Profile

In this study, simple frequency and descriptive analysis was conducted on the respondent's demographic profile. Table 1 presents the descriptive result of the respondents' profiles. As reported in the table, 44.7% (n=178) of the respondents were male and 55.3% (n=220) of respondents were female. In terms of age group, more than half of the respondents were between 30-35 (53.3%) years old and the least number of respondents aged between 41-45 (8%). Based on ethnicity group, majority were *Malay* (74.3%) and the lowest percentage was the others (2.5%) group, mainly comprised of Bumiputera: Sabah and Sarawak. In term of professions, majority were in the private sector (51%) and the lowest were students (4%) and others (4%), which comprised of housewives and pensioners. As for educational background, majority were diploma holders (47.2%) and the lowest were SRP leavers (1%). The demographic background play a role in representing and defining a country, especially when dealing with the identification of food heritage and redefining it towards the national identity, in this context, in Malaysia. Previous literature showed that demographics play a role in identifying identities across cultures and countries as an identification for marketing segment, food

product, identity process theory and consumer definition (Cleveland, Papadopoulos, & Laroche, 2011; Guerrero et al., 2009; Jaspal & Cinnirella, 2011; Vanhonacker, Lengard, Hersleth, & Verbeke, 2010).

Table 1 Summary of respondents' demographical attributes

Demographic attributes	Frequency	%
Gender		
Male	178	44.7
Female	220	55.3
Age		
30-35	213	53.3
36-40	90	22.5
41-45	32	8
46-50	36	9
51 and above	29	7.2
Ethnicity		
Malay	295	74.3
Chinese	51	12.9
Indian	41	10.3
Others	10	2.5
Profession		
Government	142	35.9
Private	202	51
Professional	20	5.1
Student	16	4
Other	16	4
Education		
SRP	4	1
SPM	89	22.6
Diploma	186	47.2
Degree	68	17.3
Master	38	9.6
PhD	5	1.3
Others	4	1

Reliability Analysis

A reliability analysis was performed to determine the reliability of the questionnaire. Cronbach Alpha, α measures the reliability coefficient for the items of each construct. Generally, a questionnaire with α of 0.8 is considered as reliable and good(Hair et al., 2007). Other literature revealed that when it reaches 0.65, the reliability can still be considered as reliable for the instrument item in the research

(Piaw, 2006). As reported in Table 2, it was found that the Cronbach Alpha α was above 0.65 (0.856) with a cumulative variance of 59.523.

Table 2 Overall reliability

Cumulative variance	Cronbach's α
59.523	0.856

The Frequencies on Demographic Background with Food Heritage

The Meaning of Food Heritage

Findings in Table 3 show that 19.4% respondents considered heritage food as 'Traditional food', while, 14.2% agreed that it was related to 'Food passed down from generation to another'. 12.6% of respondents related it with 'Food related to cultural background', which include festivals, religious celebration and special occasions. 12% of respondents related heritage food with 'Original ingredients with original recipes'.

Table 3 Frequencies of Q1

Item	Question	N=400 (%)
Q1	The meaning of Food Heritage	
	Traditional Food	19.4
	Sensory Properties	10.4
	Food Passed down from one generation to another	14.2
	Common or Daily Food	8.8
	Original ingredients	12
	Authentic cooking method	11
	Associate with celebrations	11.7
	Food related to cultural background	12.6

Media Information on Food Heritage

Findings in Table 4 show that most respondents (61.4%) found information on Food Heritage from electronic media, which consists of the internet, radio and television. However, a small percentage of respondents found the information on Food Heritage through the 'word of mouth', mainly from the parents and friends.

Table 4 Frequencies of Q6

Item	Question	N=400 (%)
Q6	Information on Food heritage	
	Electronic Media	61.4
	Print Media	35
	Others	3.6

Authorities Responsible for Endorsing and Certifying Food Heritage

Findings from Table 5 show that almost half (56%) of the respondents knew the authorities responsible for endorsing and certifying Food Heritage and only 16.8% were not sure of the party responsible for Food Heritage.

Table 5 Frequencies of Q7

Item	Question	N=400 (%)
Q7	Authorities responsible for the endorsement and certifying of Food Heritage	
	Department of National Heritage	56
	Wrong Answer	26.3
	Not sure	16.8
	Not answer	1

The Association of Food Heritage

Table 6 presents that 28.9% of respondents saw Food Heritage to be associated with 'Preservation of authentic traditional food'. Respondents also saw that Food Heritage as 'Represents the image of the country' (27.6%) and 'Represent food identity of the country' (22.9%). Finally, 20% of the respondents thought Food Heritage is a form of 'Sustainability of traditional food'.

Table 6 Frequencies of Q8

Item	Question	N=400 (%)
Q8	Food Heritage can be associated with….	
	Represent the image of the country	27.6
	Preservation of authentic traditional food	28.9
	Sustainability of traditional food	20.5
	Represent food identity of the country	22.9

Attributes Considered as Food Heritage

Most respondents considered Heritage Food as food with 'Traditional value' with 13.9%, followed by 'Originality' with 12.4%, 'Historical value' with 11.8%, and 'Authentic flavour' with 10.5%. The lowest attributes were 'Commonalities' and 'Technology' with only 3% each as shown in Table 7.

Table 7 Frequencies of Q9

Item	Question	N=400 (%)
Q9	Attributes of food that been considered as heritage	
	Historical value	11.8
	Traditional value	13.9
	Authentic flavour	10.5
	Food presentation	6.4
	Variety	4.6
	Convenience	3.4
	Commonalities	3
	Originality	12.4
	Staple food ingredients	7
	Sensory properties	6.4
	Cooking method	8.8
	Food innovation	3.7
	Technology	3
	Cross culturing	5.3

The Significance Relationship Demographic Background with Association of Food Heritage (Q8)

Results in Table 8 show that there were significant ($p < .05$) differences in the frequency of Q8 with age, as the results show that Heritage Food that was associated with 'Represent the image of the country', $X2$ (4, N=400) = 25.096, 'Preservation of authentic traditional food', $X2$ (4, N=400) = 31.128, 'Sustainability of traditional food' $X2$ (4, N=400) = 41.786, as well as 'Represent food identity of the country', $X2$ (4, N=400) = 34.468.

Table 8 Association of Food Heritage with Age

Item	Question	value	df	2-Tailed Sig
Q8	Food Heritage can be associated with….			
	Represent the image of the country	25.096	4	0.000
	Preservation of authentic traditional food	31.128	4	0.000
	Sustainability of traditional food	41.786	4	0.000
	***Represent food identity of the country**	**34.468**	**4**	**0.000**

The results in Table 9 show that there were significant ($p < .05$) differences in the frequency of Q8 with gender. Results revealed that only three items showed the significance. The items 'Represent the image of the country', $X2$ (2, N=400) =

6.347, 'Sustainability of traditional food' X2 (2, N=400) = 6.760, and 'Represent food identity of the country', X2 (2, N=400) = 8.883.

Table 9 Association of Food Heritage with Gender

Item	Question	value	df	2-Tailed Sig
Q8	Food Heritage can be associated with….			
	Sustainability of traditional food	6.760	2	0.034
	***Represent food identity of the country**	**8.883**	**2**	**0.012**

The results show that there were significant (p< .05) differences in the frequency of Q8 with ethnicity. Table 10 displayed only two items with the significance, which were 'Preservation of authentic traditional food', X2 (4, N=400) = 12.758 and 'Represent food identity of the country', X2 (4, N=400) = 10.741.

Table 10 Association of Food Heritage with Ethnicity

Item	Question	value	df	2-Tailed Sig
Q8	Food Heritage can be associated with….			
	Preservation of authentic traditional food	12.758	4	0.013
	***Represent food identity of the country**	**10.741**	**4**	**0.030**

The results in Table 11 showed that there were significant (p<. 05) differences in the frequency of Q8 with profession. Only two items showed significance, which were 'Represent the image of the country', X2 (5, N=400) = 13.768, and 'Represent food identity of the country', X2 (5, N=400) = 15.066.

Table 11 Association of Food Heritage with Profession

Item	Question	value	df	2-Tailed Sig
Q8	Food Heritage can be associated with….			
	Represent the image of the country	13.768	5	0.017
	***Represent food identity of the country**	**15.066**	**5**	**0.010**

The results in Table 12 display significant (p<. 05) differences in the frequency of Q8 with ethnicity. Only one item showed significance, which was 'Sustainability of traditional food', X2 (7, N=400) = 15.634.

Table 12 Association of Food Heritage with Education background

Item	Question	value	df	2-Tailed Sig
Q8	Food Heritage can be associated with….			
	Sustainability of traditional food	15.634	7	0.029

CONCLUSION AND IMPLICATIONS

In this study, Food Heritage is defined as traditional food, food passed down through generations, foods that are related to cultural background and original ingredients. This results conformed to a previous study done by Wahid et al. (2009), which linked traditional food with food heritage and being passed through generations. The main source of information for respondents to obtain information on Food Heritage is the electronic media, in which majority aged were between 30-35 years old and the media consisted of the internet, radio and television. Media play an important role in disseminating information, especially on Food Heritage (Horng & Tsai, 2010) as it is one of the ways for the countries promote its culinary and tourism industries to the global market.

Three main criteria of Food Heritage were chosen as attributes, namely: traditional value, originality and historical value. The less chosen criteria were technology and commonalities. Food Heritage that are considered common or daily food were also less considered in defining Food Heritage as shown in Tables 3 and 7.

The association of Food Heritage showed that most respondents considered Food Heritage as a means to preserve authentic traditional food, the image of the country, as food identity of a country and last but not least, to sustain traditional food. The respondents are more concerned about preserving food heritage, rather than the image and identity that represent the country. This is contrast to some previous literature, which put image and identity as the most important factors in linking places or country (Bessiere, 1998; Bessière, 2013; Lin et al., 2011), although they also studied the concern on food preservation and sustainability of the food itself (Everett & Aitchison, 2008). In association with Food Heritage, it can be concluded that age, gender, ethnicity and profession showed significant difference ($p < .05$) in representing the food identity of a country. Meanwhile, there is a common perception in educational background as the only demographic background did not show a significant difference ($p > .05$) in representing the food identity of a country.

Overall, findings revealed that respondents understood the meaning of Food Heritage by using variety sources of media as well as knew the authority responsible in endorsing Food Heritage. In the long term, these would give an impact on the development of Malaysian food identity in different stage of demographic background especially in the age, gender, ethnicity and profession.

LIMITATIONS AND FUTURE RESEARCH

Food Heritage in the Malaysian context is still new and lacking in literature. The study is still in its exploratory stage and it needs to overcome some issues such as the validity and the reliability of the questionnaire. As this study only highlighted the demographic background of the respondents, there are more undergoing studies required, especially those exploring other sections of the questionnaire in relation to the significance and correlation between the items. Future research in this area should cover a wider geographical area and longer time span, which would further establish the validity of this study, and show whether there are regional variants

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Youth's Perception of Personal Factors, Social Factors and Basic Psychological Needs in Sustainable Employment

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ABSTRACT

Youth employment rate and employment sustainability is being a topic of interest in most developing countries. Many different studies in different part of the world provided vast range of competency needs. The main purpose of this study is to explore the youths' perception in personal factors, social factors, and basic psychological impact in developing competence towards sustainable employment. This research involved 84 participants from both rural and urban areas. The questionnaire was administered by using both manual and online approaches. The collected data were analysed using frequency counts and percentage through Statistical Program for the Social Science (SPSS). The frequency and percentage of each item were summarised and the results have been sequenced and translated into tables and graphs. The main finding indicated that youth perceived personal factors (self-confidence, attitudes, motivation, work ethics, self-determination, self-esteem, personal appearance, self-awareness) as the important factors in sustainable employment. The study revealed that 77 per cent of the youth perceived self-confidence as the main factor in sustainable employment. In addition, the finding indicated that the lowest percentage of youth, 6 per cent perceived being choosy as a factor in sustainable employment. This study also highlighted that there are significant differences in certain perception between male and female youth.

Keywords: Psychological Factors, Youth, Employment

INTRODUCTION

In any society, youth conquer a prominent place. They are considered the greatest asset of the society which is parallel with the belief of youth is tomorrow's leader. Youth is also the most volatile and yet the most vulnerable segment of the population in terms of socio-economic, emotion, and other aspects (Anansi, 2010). However, unemployment issues among youth had become an alarming issue that bedevils many parts of the world. In Malaysia, unemployment has been a persistent issue among

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youth (Labour Force Survey Report, Malaysia 2007-2012). Statistics from Malaysia Department of Statistic Labour Force Survey Report 2007-2012 shows 11.3% of youth is experiencing unemployment in year 2010 from 31% of working population.

Unemployment among youth poses a solemn problem to the country because it reflects a waste of the nation's treasured resources. Hence, unemployment among youth is affecting an individual's ability to contribute in social, economy, cultural, and political spheres of society. Besides that, unemployment early in life may have insistent negative consequences for the persons' successive careers, as it may impair their productive potential and employment opportunities (O'Higgins 2007; Ryan 2001). Thus, it clearly reveals that unemployment issue has impact on both individual and society.

Therefore, sustainable employment of the youth seems to play a dominant role in narrowing the employment gap and indirectly enhance the growth of socio economy of a country. Sufficient job opportunities, job security and purchasing power are taken into great consideration by the sustainable employment besides providing safe and meaningful employment for those with the intention of working (Ashford et al., 2012).

Employment barriers vary widely and no set consensus was found for its definition. For this purpose of this review an employment barrier may be constructed of as anything personal or environmental that prevents or impedes one from finding sustainable employment. Personal factors would reside primarily in the youth who is seeking a job whereas social factors would arise out of one's context, be characteristic to a specific region and would largely be out of the job seeker's immediate control. Hence, specific attention should be on the factors that strive the youth towards sustainable employment. The explorations of youth's perception of psychological factors indicate the persistent need for the youth to encompass themselves with opportunities towards a bright future.

OBJECTIVES

The study sought to investigate the perception of youth of personal factors, social factors and basic psychological need of competence in sustainable employment in Malaysia. The main objectives of this study are:

- To explore the youth's perception of personal factors, social factors and basic psychological need of competence in sustainable employment in Malaysia
- To indicate the most important factors perceived by the Malaysian youth towards sustainable employment
- To determine gender differences on the factors of sustainable employment perceived by the youth

LITERATURE REVIEW

Based on social learning theory, Rotter (1954) claimed that the behaviour of an individual can be studied and assessed well by considering both the individual (which includes learning paradigms and previous experiences) and the environmental conditions that determine behaviour (the various stimuli in the environment to which

the individual is responding). The personality development of an individual is greatly reliant on interaction with a meaningful environment (Rotter ,1966).

The understanding of the concept of locus of control was developed by Rotter in 1954. Locus of control means the degree of individual's belief on their ability to control the events that affect them. An individual's "locus" is categorised as internal or external. Internal locus control refers to the belief of the person that they are able to control their life while external locus control means the individual's belief that their decision and life controlled by the environmental factors.

Bandura et al. (2001) highlighted that career development process is affected by the personal abilities, environment factors, and educational attainment. So, basically, the employment of the youth is influenced by the personal factors and social factors. Social cognitive career theory (SCCT; Lent, Brown, & Hackett, 1994, 2000) elaborated that associations among personal, contextual and behavioural parameters of an individual strive towards career choice development and job interest.

Personal Factors

McQuaid and Lindsay (2005) rectified that personal factors that consist of important attributes, self-efficacy, motivation, competencies, basic transferable skills, key transferable skills create a path for the individual to enter and sustain productive employment.

Potgieter (2012) suggested that high self-esteem individual will have higher employability attributes based on the significant relationship shown between self-esteem and employability attributes. This finding is consistent with other studies carried out by Fugate et al. (2004) and Griffen and Hesketh (2005). An individual that has a good feeling about self and belief on their ability has vulnerability to be proactive in developing and managing their own careers (Potgieter, 2012). Marock (2008) highlighted that an individual should be responsible in managing their careers and assumed that people with high levels of psychological career resources are more able to manage their careers and adapt to changing environments. Hence, higher levels of employability are shown by these people. (Fugate,et al.,2004; Griffin & Hesketh, 2005).

Bezuidenhout (2010) related confidence with career goals achievement and efficient level of career self-management. A person with high confidence believed to have high levels of general, social or peer and personal self-esteem. So, career can be managed efficiently by people with high self-esteem. Dacre Pool and Sewell (2007) highlighted self-esteem and self-confidence as the dominant elements of employability skills.

Social Factors

Ferry (2006) recognised that career choices of adolescents are influenced by the family, school and community factor. His study proved that parents play a major role in shaping career choice of the adolescents. Besides that, school and community environment are the main components in determining adolescents' identity and employment goals. The family influences on employment and educational achievements magnetise the interest of researchers and career educators. Otto and

Call (1985) identified that families have a major responsibility in terms of shaping children's educational and employment decisions. Hence, the family environment is capable in influencing the children's mental and emotional development, motivation and values that direct their life (Kostakos, 1981; Kostaki, 1988; Kassimati, 1991; Laindas 1996). According to Goffman (1986), an individual that bears a stigmatising mark is "reduced in our minds from a whole and usual person to a tainted, discounted one (1986:3), hence we "impute a wide range of imperfections on the basis of the original one" (1986:5). It shows the practice of different types of discrimination that may minimise the life chance of that individual (1986:5).

There are two aspects of social supports, which are the beliefs of number of significant people rely on when necessary and the level of satisfaction from the support gained (Vaux, 1988). Many researchers statistically proved that social supports are intimately connected to academic achievement, well-being and career attainments. In a research on the farmers, social supports found to be consist of their connection with the surrounding environment and significant people, as well as the supports in terms of material and mental from those environment and people (Wang, 2005).

Basic Psychological Need

Self-determination theory (SDT; Ryan & Deci, 2000) explained that the needs for autonomy, relatedness and competence are the most important for human beings. In addition, autonomy, relatedness and competence are believed to play an essential role in various field such as sports (Gagne; Ryan & Baragmann, 2000; Gillet, Berjot & Gobance, 2009), workplace (Baard, Deci & Ryan, 2004) and education (Vansteenkiste, Lens & Deci, 2006). These basic psychological needs associated with positive outcomes (Seldon & Filak, 2008) such as work performance (Illardi, Leone, Rasser & Ryan, 1993).

In self-determination theory a basic psychological need is elaborated as an important component for optimal functioning, personal growth and integration, well-being and social development (Deci & Ryan, 2008). The need for autonomy is clarified as the desire of an individual in own choices, to freely express feelings and to motivate own actions (Deci & Ryan, 2000, 2002). The need for competence is defined as one's desire to have impact on the environment and later achieve the expected outcomes (Deci & Ryan, 2000). This need will be shown by an individual's tendency to commit in activities that enable one to utilise the skills and develop new competencies (Deci & Ryan, 2002, p.7; Deci, 1975; White, 1959). The needs for relatedness refer to the desire of building caring bonds and positive coalition with others (Baumeister & Leary, 1995; Deci & Ryan, 2002, p.7; Harlow, 1958). It referred to the need of an individual to feel affiliated with others, to care as well as to be cared for (Deci & Ryan, 2000, 2002, p.7). Organizational research has also shown that need satisfaction is positively related to well-being (Kasser & Ryan, 1999), intrinsic motivation, (Ryan & Deci, 2000) and higher performance (Baard et al., 2004) in the workplace and is negatively associated to distress as work (Van den Broeck, Vansteekiste, De Witto, & Lens, 2008).

Hence, researches that have emphasised autonomy, competence and relatedness are individually established that these three needs linked positively to employers' optimal functioning (Lynch, Plant & Ryan, 2005) and intrinsic

motivation (Gagnel, Forest, Gilbert, Aube', Morln & Marloni, 2009). Self-determination theory hypothesized that autonomy, relatedness and competence are interrelated and equally important for an individual (Sheldon et al., 2001). In addition, the research of Maryse et al., (2012) revealed that the basic psychological needs are related to other relevant component pertaining to organisational behaviours.

METHODOLOGY

Samples

The study focused on youth from the age range of 15 to 40 years old in both rural and urban areas. The researcher randomly selected 84 samples (42 males and 42 females) to participate in this research.

Instruments

First Phase

In the first phase (qualitative), perception of barriers and opportunities of youth in employment scale was made. Firstly, an open-ended questionnaire was completed by 30 youth. They were questioned about their perception of barriers and opportunities in entering the labour market. The open-ended questionnaire method used in order to provide freedom to the participants to response in their own words. This strategy is found to be efficient in detecting bigger scope of possible responses to well verse the youth's perceptions of barriers and opportunities and the employability skills required in the labour market. There was no time limitation in completing the questionnaire. However, the maximum duration taken by the participants to complete the questionnaire did not exceed 20 minutes. The participants were not restricted by time limitation to ensure the flexibility and accuracy in the responses given by the participants.

Secondly, interview sessions were carried out with 15 employers regarding their perception on the youth's employability skills. Individual interview approach was utilised in this preliminary study as a qualitative method since it involved a small number of respondents that is 15. According to McNamara (1999), interview is one of the best approaches in qualitative method to entail in-depth information about the topic that is being investigated. The respondent was briefed on the research details and ethical principles such as confidentiality before the interview session is carried out. It has fulfilled the fundamental aspects of the informed consent process and provides some ideas to the respondents of what to expect from the interview and increase the probability of honesty. The interview was carried out in the respondents' office which is considered free from distractions and conducive for respondents in terms of time and location. In addition, since the researchers hold less control over the office environment, the respondents were able to respond to the interview in more productive and flexible way. The interview session took about half an hour.

The data collected through open-ended questionnaire from youth and interview session with employers was used as the guidance and reference to design a

questionnaire to analyse the youth's perception on personal and social factors in employment.

Thirdly, literature review based on the psychological factors that needed by youth in employment was used in identifying the variables that are important for youth in gaining a job. Content analysis was performed in order to detect the content units included in the perception of youth, employers and previous studies.

Second Phase

Based on these three approaches, the researchers designed a quantitative close-ended questionnaire. The questionnaire consists of two parts. First part was mainly on demographic variables such as gender, age, place of residence, and highest academic qualification. Second part encompasses three main components, personal factors, social factors and basic psychological needs that perceived by the youth to be important in their employment. Each component is given various related factors for the youth to select based on its priority in employment. Personal factors consist of 9 items (self confidence, self esteem, self determination, self awareness, work ethics, attitudes, personal appearance, motivation, being choosy), social factors consists of 4 items (family influences, social stigma, social support, discrimination) and basic psychological needs consists of 3 items (autonomy, competence, relatedness).

Procedures

The questionnaire was administered in two ways. First, questionnaire was administered through online survey procedure. The samples were requested to complete the questionnaire online through the specific link given. Hence, *facebook* and online e-mail system have been utilised in order to gather the data through online basis for this study. Besides that, the researcher administered the questionnaire manually in order to open up the opportunity for those who were unable to assess online to involve in this study. The questionnaires were distributed, completed and gathered on the same day. There was no time limitation in completing the questionnaire. However, the maximum duration taken by the sample to complete the questionnaire did not exceed 10 minutes. The aim was to allow the samples to complete the questionnaire in a relaxed mode in order to ensure the accuracy and reliability of the responses given.

Statistical Analysis

Analysis of the data obtained through quantitative method began by converting the raw data into a form useful for data analysis, which means scoring the data by assigning numeric values to each response, cleaning data entry errors from the database and creating special variables that will be needed for meaningful analysis. Recoding and computing were completed with Statistical Program for the Social Science (SPSS). The data collected from the participants were analysed using frequency counts and percentage since the number of participants was small. The frequency of each item were summarised and the results have been sequenced and translated into tables and graphs.

RESULTS AND DISCUSSION

Profile of Participants

From the survey on the youth's perception in sustainable employment, 84 completed and usable questionnaire were received by the researcher. This survey was participated by 42 males and 42 females from both rural and urban areas. Of the 84 participants, sixty four per cent of participants are from urban areas and thirty six per cent are from rural areas. Table 1 shows that the participants were selected quite evenly across the age group.

Table 1 Participants' age profile

Age range	Percentage of participants (%)
15 to 23	49
24 to 31	31
32 to 40	20

Youth's Perception

The survey requested the participants to choose the important factors that ensure sustainable employment based on their perception. As discussed in the methodology section, the lists of factors used in designing the questionnaire were based on the preliminary studies and literature review.

Table 2 displays the youth's perception of the important factors of sustainable employment ranked by the highest frequency and percentage value order. Self-confidence is perceived as the most important factor by the youth in sustainable employment. This perception is parallel to the previous studies that showed a significant relationship between self-confidence and better performance (Eklund, 1992, 1994; Gould, Dieffenbach, & Moffett; Magyar, Becker, & Feltz, 2003). Youth perceived that self-confidence, attitudes, motivation, work ethic, self-esteem and self-determination are the most important factors that influence the sustainable employment. The interesting point that revealed by this finding is that there seems to be a disconnection between the employers' perception on youth from the preliminary study and youth's perception in this survey. The employers perceived that youth is being choosy in entering the labour market which is contrast to this finding where factor of being choosy recorded the lowest among the 16 factors that given. This finding seems to be contrast where being choosy has been recorded as one of the main problems identified by the employers among youth. (GE Blueprint, 2012-2017). Besides that, discrimination achieved lower percentage, where rely on the economists' points of view, discrimination is evaluation in the labour market of characteristics of workers' such as race and gender but is not related to the productivity of the job (Arrow, 1998). So, the younger generations are unable to perceive discrimination as the main factor in sustainable employment.

What is also notable from these findings is that the youth perceived the personal factors (self-confidence, attitudes, motivation, work ethics, self-determination, self-esteem, personal appearance, self-awareness) as the main factor in sustainable employment compared to social factors (family influences, social stigma, social support, discrimination). This finding is consistent with social cognitive career theory that highlighted the personal inputs or factors as the effective variables that influence through the relation with learning experiences and then self-efficacy belief and outcome expectation over interests, goals choice, action choice, and the outcome of personal performance (performance attainments) (Lent et al., 1994).

Table 2 Participants' perception of factors in sustainable employment

Factors	Frequency	Percentage **(%)**
Self-Confidence	77	92
Attitudes	61	73
Motivation	52	62
Work Ethic	48	57
Self-Determination	38	45
Self-Esteem	37	44
Personal Appearance	34	41
Self-Awareness	33	39
Social Support	28	33
Competence	25	30
Relatedness	21	25
Family Influences	14	17
Autonomy	13	16
Discrimination	7	8
Social Stigma	6	7
Choosy	5	6

Figure 1 and 2 reveal the most important factors in sustainable employment as perceived by the youth. Surprisingly, the male and female youth perceived the same personal factors (self-confidence, attitudes, motivation, work ethics, self-esteem and self- determination) as the most important factors in sustainable employment.

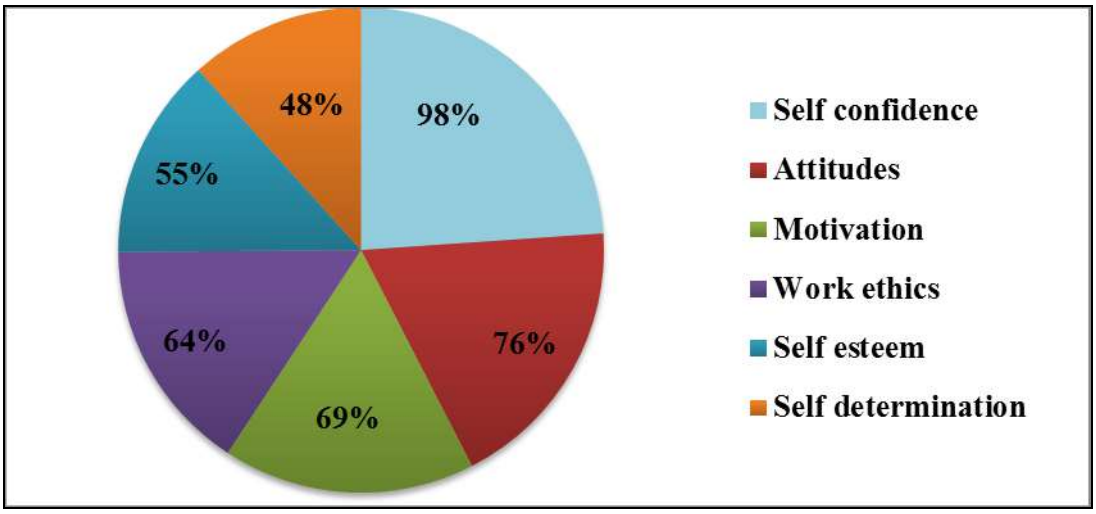


Figure 1 Female participants' perception of important factors in sustainable employment

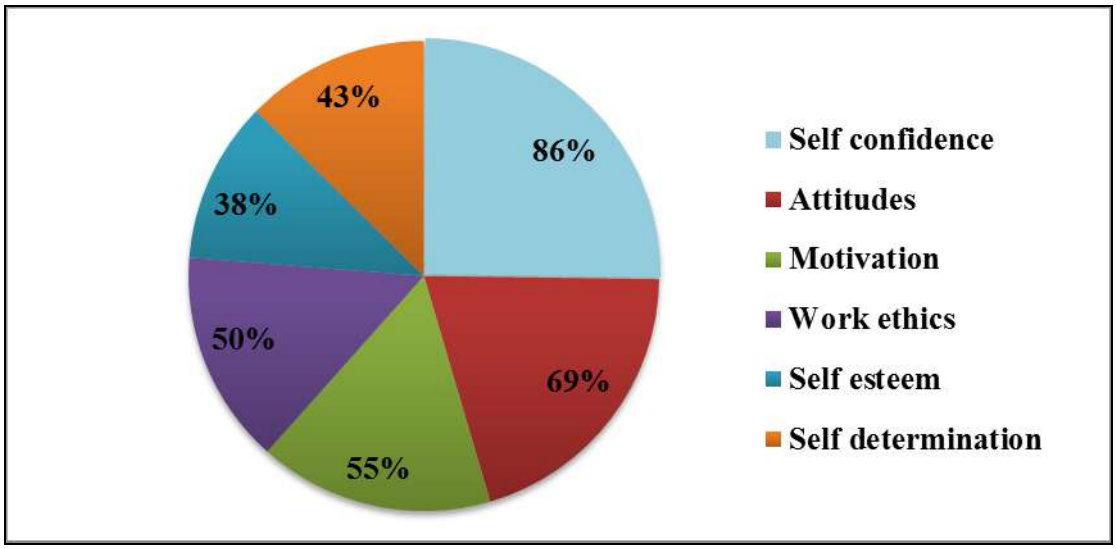


Figure 2 Male participants' perception of important factors in sustainable employment

Figure 3 and 4 display the gender differences in the importance on self-esteem and self- determination. An interesting issue in this finding is that female youth seems to have higher weightage for self-esteem than self-determination while the male youth emphasises self-determination compared to self-esteem in terms of entering the labour market.

The result posits that the female youth generally has low level of self-esteem compared to male youth as they perceived self-esteem as one of the main factors in entering the labour market. McMullin and Cairney (2004) mentioned that women hold low levels of self-esteem compared to men in all age categories. This finding is supported by a research by Josephs, Markus, and Tafarodi (1992) that rectified women have low level of self-esteem in adulthood compared to men. Male and

female actually stand on the same level of self-esteem in early adolescence at the age range of 11 to 13, they progressively depart throughout the teenage years and adulthood as boys fulfil themselves with positive self-worth and girls fail to gain that positive self-worth (Rosenfield, 1999). Lower self-esteem is experienced by the females compared to males due to the higher vulnerability of females to be exposed to higher levels of distress and depression than males (Avison & McAlpine, 1992; Rosenberg, 1985; Rosenfield, 1989).

In addition, some researches notified that for female and male, there will be regressions in the self-esteem during adolescence. However, the self-esteem regression experienced by females is more vigorous than those males. Yacoob et. al (2009) concluded in his research that males scored higher self-esteem scores than women. Srivastava and Agarwal (2013) revealed that in general male has higher self–esteem than female.

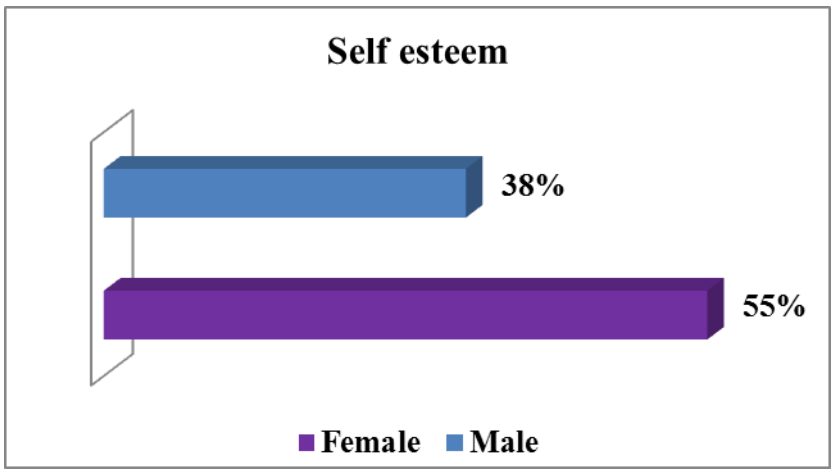


Figure 3 Female and male participants' perception of self-esteem as important factor in sustainable employment

The finding notified that the male youth generally has lower level of self-determination compared to female youth who perceived self-determination as one of the main factors in entering the labour market. Nota et al. (2007) rectified that female had higher level of self-determination scores than male. Karsenti and Thibert (1994) stated that generally females are more self-determined, externally regulated and motivated towards academic activities than males.

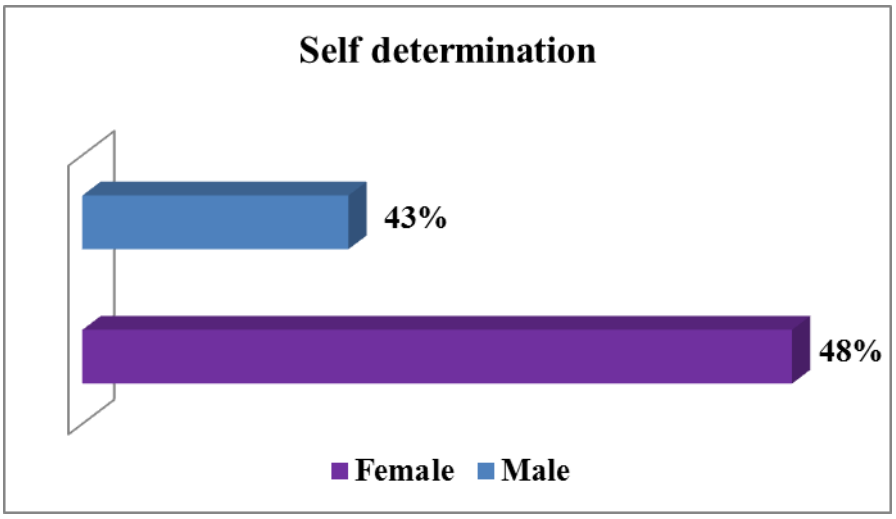


Figure 4 Female and male participants' perception of self-determination as important factor in sustainable employment

The finding revealed that youth perceived the basic psychological need that consists of autonomy, relatedness and competence as less important factor in employment. Brien et al. (2012) mentioned that all three basic psychological needs were associated with other relevant constructs concerning to organisational behaviour. These three basic needs have positive relationship to well-being (Sheldon & Niemiec, 2006), optimism (Gilbert et al., 2008) and intrinsic motivation (Gagne et al., 2009). Autonomy, competence and relatedness seem to play important roles in various field such as sports (Gagne; Ryan & Baragmann, 2000, Gillet, Berjot & Gobance, 2009), workplace (Baard, Deci & Ryan, 2004) and education (Vansteenkiste, Lens & Deci, 2006). According to the self-determination theory, the needs for competence, autonomy, and relatedness must be simultaneously satisfied for people to progress and function in optimal ways (Deci & Ryan, 2000). The previous studies exposed the importance of basic psychological need in employment. Youth's lack of awareness to such psychological terms has created difficulties for the participants to understand the real meaning and their contribution towards sustainable employment. So, very small number of youth perceived all those needs as important factors in employment. There is a significant difference in between gender in perceiving the basic psychological impact on sustainable employment. Female youth found to have higher awareness and more ready in translating it's importance towards employment.

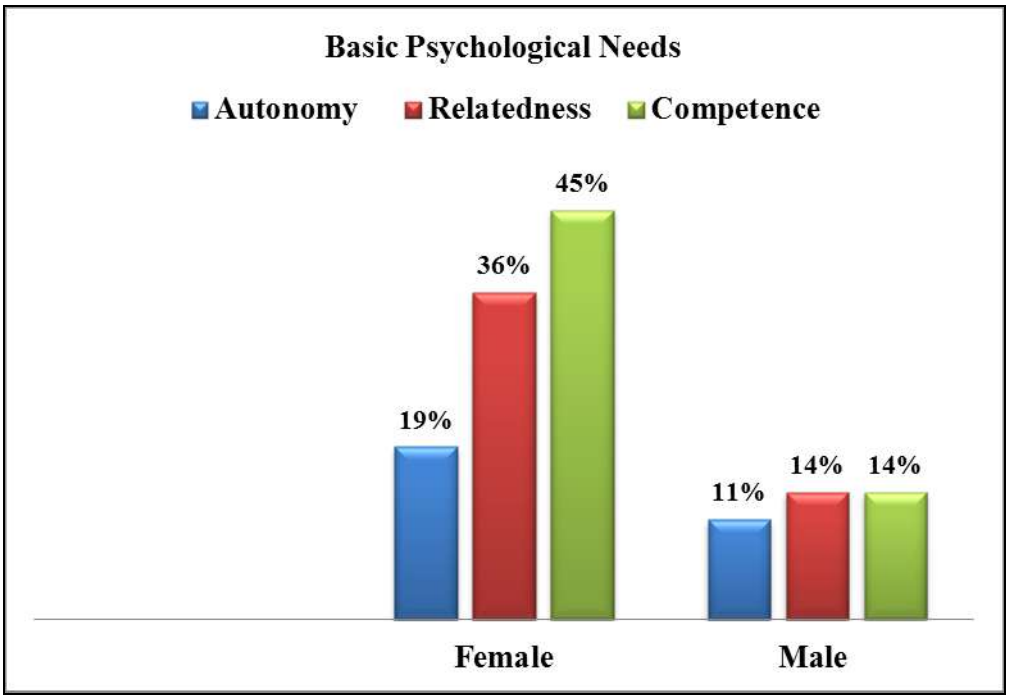


Figure 5 Female and male participants' perception of basic psychological needs as important factors in sustainable employment

Unexpectedly, youth perceived social factors less important than personal factors in sustainable employment. This revealed that employment is greatly influenced by personal factors compared to social factors. However, a very interesting element that has been figure out through this study is that more male youth perceived social factors as important factors compared to female youth. This clearly proved by the extreme difference in the perception of male and female youth for family influences, social stigma and discrimination. Sarıçam et al., (2012) highlighted that the male students have higher external locus of control compared to female whereas the female students have higher level of internal locus of control than male students. The finding was supported by another research that revealed that external locus of control of male students is higher than the female students while internal locus of control of female is higher than male (Maqsud & Rouhani, 1991; Wehmeyer, 1993; Salman, 2007). Arvind Hans et al.(2013) indicated that internal locus of control of male employee seems to be higher than female employee.

The finding of the research is contrast to some previous studies. In recent years, career development process is greatly affected by the influence of significant people (Ali, McWhirter, & Chronister, 2005; Constantine, Wallace, & Kindaichi, 2005; Gushue & Whitson, 2006; Lent et al., 2000; Metheny, McWhirter, & O'Neil, 2008). Some studies proved that adolescences assume their family support as an important element in their career decisions, gathering career details, and as a role model (Schultheiss, Kress, Manzi, & Glasscock 2001; Schultheiss, Palma, Predragovich, & Glass, cock, 2002).

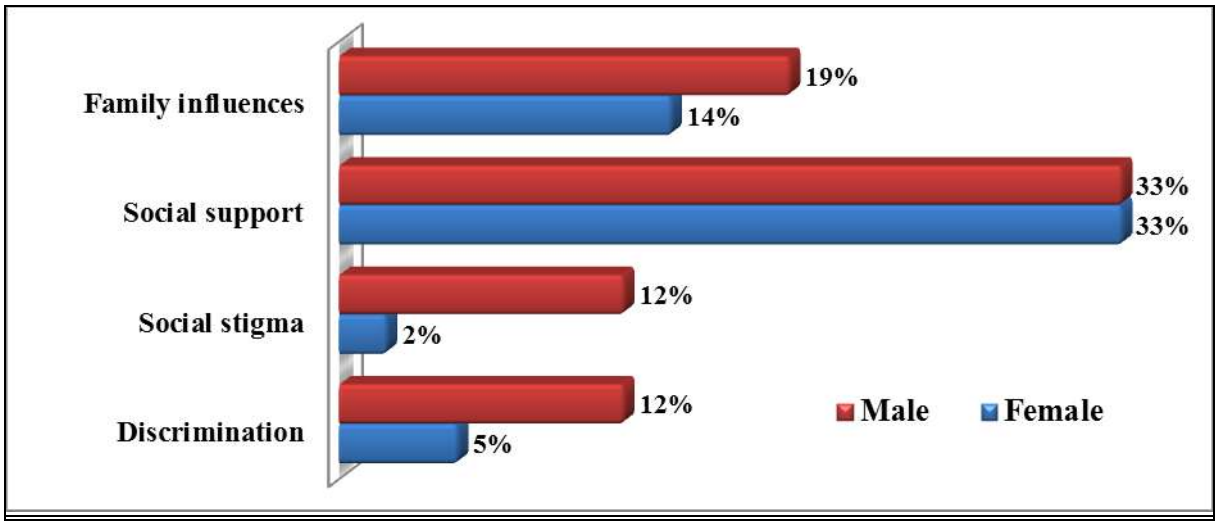


Figure 6 Female and male participants' perception of social factors as important factors in sustainable employment

CONCLUSION

This study has assisted in identifying the basic psychological factors that being perceived by the youth in Malaysian community as important factors in labour market attachment and the role of gender in this perspective. The next step of action is to explore the risk factors of youth towards sustainable employment from marginalised community who are unable to have equal access to the available resources. In addition to this finding, it will be meaningful to establish a psychological index for marginalised youth employment in Malaysia which is believed to assist in narrowing down the employment gap in long run.

ACKNOWLEDGEMENT

This researcher would like to thank the committee of the Long-term Research Grant Scheme (LRGS/2013/UMK-UKM/SS/04), for the support given in completing this research.

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Social Sustainability of Oil Palm Settlers

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ABSTRACT

In the past few decades, the oil palm sector has created millions of jobs. Even though the cultivation of the oil palm sector has created new income opportunities for many farmers in the short term, but in the long run, human health is negatively affected by the haze resulting from the forest and peat fires related to land preparation and drainage of the peat. The main purpose of this study is to discover the settlers' benefits, and to understand the factors in Federal Land Development Authority (FELDA) for creating more new jobs for the households over the next decades for social sustainability. The primary data were collected through a questionnaire survey of 302 smallholders of FELDA from Sungai Tekam, Pahang, and the Terengganu state in Malaysia. To analyze and draw the inferences, this study used the descriptive statistics, confirmatory factor analysis, and structural equation modelling (SEM). Model fit was initially tested using the overall fit. Then, the modification was based on the results of the analysis to find a better fit of the data and to describe the relationships between the factors more adequately. The study found that several social factors for sustainability have positive significant influences by increasing personal incomes among the settlers, which are also positive effects of the corporate social responsibility

Keywords: Social Sustainability, Oil Palm Development, Settlers, FELDA, Malaysia

INTRODUCTION

Palm oil has become the world's famous vegetable oil due to increased consumption and production with 45.3 million tons (t) produced. It represents approximately 60% of international trade in vegetable oils globally and global demand for palm oil is expected to double by 2020 (World Bank, 2010; USDA, 2009). Oil palm is expected to make a significant contribution to the society over the next forty years. Globally,

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oil palm or the Elaeis guineensis (scientific name) is cultivated on approximately 15 million ha (FAO, 2009, Fitzherber et al., 2008; Koh and Ghazoul, 2008; Koh and Wilcove, 2008). The oil extracted from these palms is incorporated in numerous common products consumed internationally such as baked goods and sweets, margarine, detergents and cosmetics (UNEP and UNESCO, 2007). In addition, globally, about 24% of palm oil usage is for industrial purposes and 74% is used for food products (USDA, 2010). The area occupied by oil palm cultivation has extended worldwide by around 43% since the 1990s, growing mainly due to demand from India, China and the European Union (RSPO, 2011).

Oil palms have mainly been cultivated in Indonesia, Malaysia, and Thailand in Southeast Asia, Nigeria in Africa, Colombia and Ecuador in South America and Papua New Guinea in Oceania due to the palm being restricted to the tropics (FAO, 2009). Existing plantations are being expanded and new plantations continue to be established (WWF, 2011). Consequently, it was doubled from 2.9 million hectares to 6.3 million hectares followed by significant smallholder participation and creation of an estimated 1.7 to 3 million jobs (Deininger, 2011). Moreover, palm oil production has been seen as a driver of socio-economic development, poverty alleviation, and rural development (Feintrenie et al., 2010; Basiron, 2007; Zen et al., 2005).

The Malaysian agricultural industry claims that oil palm is one of its main drivers as Malaysia's palm oil industry is the 4th largest contributor to the national economy. The growth of oil palm plantations started about 100 years ago and now accounts for 71% production of the national agricultural land bank. It is regulated by the Malaysian Palm Oil Board (MPOB) which build ups the policies, guidelines, and practices for the industry. For example, Malaysia has some of the highest FFB yields at about 21 tones ha-1 year-1 and had 4.7 million hectares of oil palm plantations in 2009.

Increasingly, the country of Malaysia has also received world recognition and attention in a number of success stories dealing with poverty alleviation and the equitable distribution of wealth. The Federal Land Development Authority (FELDA) is definitely a model for rural development, which has already gained a global reputation. Since 18 October 2004, Felda has been an active member of the Roundtable on Sustainable Palm Oil (RSPO), which was attributed to the higher yields of FELDA's organised oil palm smallholders, such as the independent and supported smallholders mainly in Peninsular Malaysia (Dompok, 2010). Sustainability is a holistic concept (Rietberg, 2011) that encompasses three key elements, mainly referred to as the 3Ps, which are the people, planet, and profit (Redclift, 2005). West African palm oil growers are held as examples of "sustainable" production. As we have already described, this notion as emphasised by Vermeulen and Goad (2006) is the reason that originally drew our attention to the concept of smallholders.

The oil palm cultivation industry is a major employer in Malaysia. While the cultivated areas have increased from 1.02 million ha in 1980 to 4.24 million ha in 2007, the workforce has also expanded from 92,352 workers to 405,000 workers during the same period. It has been the foremost player in poverty eradication and in the mitigation of migration of the labour force from rural to urban areas by creating jobs, building infrastructure, and contributing to social stability. Set up 51 years ago to develop land and resettle the landless, it is today, one of the world's largest plantation conglomerates. It has developed 853,313ha of land and resettled 112,635

families (Ahmad Tarmizi, 2008). The findings of Ahmad Tarmizi (2008) show that they have enjoyed a high quality of life (Table 1).

Table 1
FELDA Settler's Quality of Life Findings, 2008

Sl	Components	Satisfaction Ranking
1	Income and Distribution	High
2	Working Life	High
3	Transport and Communication	Average
4	Health	High
5	Education	High
6	Housing	High
7	Environment	High
8	Family Life	High
9	Social Participation	High
10	Public Safety	Average

Source: Ahmad Tarmizi (2008)

Smallholders' farms contribute significantly to poverty reduction and food security by managing about 500 million small farms and providing food for over 80% of the world's consumption in a large part of the developing world. However, smallholders' farms are not free from problems such as community problems and haze problems from peat fires as it brings economic uncertainty as well. Yet small-scale farmers often live in remote and environmentally fragile locations and are generally part of marginalized and disenfranchised populations. The study is to assess the settlers' personal benefits for further policies in FELDA management that would help to increase more consciousness among the settlers.

The main aim is to get an idea of how these smallholders deal with several policy arrangements (scheme, independent, supportive, etc.) that they have encountered and measure their personal benefits in terms of social sustainability.

LITERATURE REVIEW

Today, oil palm is the most important edible oil within the industry and has employed millions of people in this decade (FAO, 2002). Moreover, palm oil production makes up 50.7 million tonnes of the 131 million tonnes of vegetable oil produced worldwide (USDA, 2012; WWF, 2011) and it is likely to grow significantly over the coming years to 77 million tonnes by 2050 (FAO, 2006). Nonetheless, this continuous development has never been without conflict (Wicke et al., 2011).

Moreover, palm oil production is one of the drivers of socio-economic development, poverty alleviation and rural development as well as smallholders form a major part of the agricultural community, globally (Feintrenie et al., 2010; Basiron, 2007; Zen et al., 2005). However, there are often abandoned social concerns in terms of land conflicts, human rights, and the exploitation of indigenous communities

(Colchester, 2011; Rietberg, 2011). According to Adam (2009), Agyeman et al. (2003) had mentioned that sustainability corresponds to the principle of need in the society to adopt more sustainable patterns of living with extra focus on political mobilization by individual's patterns, organized interests, and a goal of government policy. However, sustainable development in terms of implementation does not challenge the industrial model of dominant capitalist; rather, it emphasizes the power of the market to deliver social and environmental goods (Adams, 2009).

There are many recent and existing literature on the issues surrounding smallholder cultivation of oil palm (Jelsma et al., 2009; McCarthy and Cramb, 2009; Feintrenie et al., 2010; Rist et al., 2010; Cramb, 2011; McCarthy et al., 2012). Smallholder farmers are growing their incomes, which in turn enables them to improve their livelihoods significantly (Feintrenie et al., 2010). In addition, both Malaysia and Indonesia are expected to expand their oil palm cultivation by 2020 ranging from 3% to 8% with projections of annual expansion rates over the next decade (Wicke et al., 2011). Due to limited land availability, Indonesian and Malaysian companies are forced to pursue new options for increasing production. Companies such as Golden Veroleum in Indonesia, Equatorial Palm Oil in UK, Sime Darby in Malaysia, OLAM in Singapore, Herakles Farms in USA and Malaysia's state plantation agency of Felda are in the process of negotiating or establishing oil palm plantations (of between 60,000 to well over 100,000 ha) (Garcia-Ulloa et al., 2012). However, the problem is that most of these 'Imperata cylindrica' grasslands or so-called degraded lands support the livelihoods of poor local people (Wicke et al., 2011). Although these people may secure employment in the oil palm estates, they often fail to do so as the large companies prefer to bring in migrant labourers with experience in estate work.

Consequently, Feintrenie et al., (2010) concluded that there are many options for cultivating degraded lands such as by providing incentives to stimulate smallholder innovations, production and improving yields, and so on. Nevertheless, regional and local governance is relatively weak, planning is ineffective, and land tenure is uncertain in regions where much of the future expansion of oil palm will take place. It is suggested that these institutional failures will be the main obstacle to protecting environmental values and achieving more equitable social outcomes as palm oil production expands. Thus, there are three principle recommendations that would make the largest contribution to sustainable oil palm production (Feintrenie et al., 2010).

It is assessed that the development of palm oil has experienced dramatic growth from 1997 – 2007 and has created an estimated 1.7 to 3 million jobs as new potential development to enter the export market, job opportunities, rural livelihood development, national income generation and bio fuel as a key means to promoting rural development (Deininger, 2011: 221, Clancy, 2008: 417). However, Clancy argues that palm oil growth has responded to increasing food prices and further arrests control of resources from subsistence farmers and indigenous people ultimately causing land conflicts in the locality leading to anti-palm oil groups (Clancy, 2008: 417, Dauvergne and Neville, 2010:632; Pye, 2010: 862).

Many studies have been done to scrutinize the implementation of RSPO models in practice. Most studies emphasize more on the compliance of members to the RSPO and the efficiency of partnered private governments (Nikoluyuk et al., 2010; Schouten and Glasbergen, 2011). Nevertheless, the field implementation may

contribute to significant impact on the achievement of RSPO models to reform the palm oil industry. The results of the effectiveness of sustainable palm oil standards and the kind of changes that have been made after certification remains unclear (Glasbergen, 2011). The purpose of the study is to compare the perception, implementations and income status among the smallholders towards the components between Felda's firm and settlers in the Malaysian palm oil industry. This paper tries to analyze the implementation of MPOB for Felda in practice and to demonstrate the meaning of socially sustainable oil palm from various perspectives, such as from the companies, local people and NGOs combined with data investigation from the field.

METHODOLOGY

The primary data were measured on the five-point Likert scales ranging from (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree, which were collected from Terengganu and Pahang states in Malaysia. FELDA Sungai Tekam, Pahang and Jerangau Dungun, Terengganu were selected as study locations because according to the Star news (2013), the Felda Group is the world's largest oil palm plantation operator which comprises 500,000ha of settler-owned land managed by the FELDA and 360,000ha operated by Felda Global Ventures Holdings Bhd (FGV) and remains committed to sustainable practices in its palm oil business. Most recently, they have achieved a 77% higher pre-tax profit for the second quarter ended June 30, 2013 compared to the corresponding quarter of 2012 (Star News, 2013) as reported by the Felda Chief, Mr. Emir and this has helped to eradicate poverty. The group has efficaciously ensured that the income levels of the scheme's settlers have remained well above the national poverty line.

The data of the study were collected from a questionnaire survey from 302 respondents. To analyze, this study used the descriptive statistics, confirmatory factor analysis, and structural equation modelling (SEM). The modification was based on the results of the analysis to find a better fit for the data and to describe the relationships between the factors more adequately. The cluster sampling technique, which is a survey via interviews, was used for selecting samples. The survey was carried out from October 2013 to February 2014.

FINDINGS AND DISCUSSIONS

Demographic Profile of the Smallholders/Respondents

The study aims to compare the perceptions of FELDA's management and to examine the demographic profile differences of the settlers. Meanwhile, this section captures the individual profile of the respondents such as their age, gender, marital status, ethnicity, and occupation. Table 2 delineates the demographic background of the respondents. It shows the percentages of the respondents (smallholders) according to their age, gender, education, involvement in schemes duration, and the size of their family member. 66.7% of the respondents and most of the smallholders are between 61 to 80 years old. Most of the smallholders are running the oil palm business during their retirement. As the finding shows, a majority of oil palm smallholders are male

(65.2%) while female smallholders make up the rest (34.8%) of those that participated in the study. According to the ethnicity representation of the respondents, 100% of the smallholders are Malays. 37.4% of the oil palm smallholders had completed a secondary level of education. According to the involvement of schemes among the respondents, the study found that the majority of the respondents at 33.8% have been involved in the schemes for a maximum of 7 to 9 years. The number of family members of the respondents is 7 to 10 members at 97%, whereas only 3% have 10 members.

Table 2 Demographic Profile of the Respondents

Issues	**1**	**2**	**3**	**4**
Age	21-40 (2.9%)	41-60 (27.3%)	61-80 (66.7%)	81≥ (3.2%)
Sex	Male (65.2%)	Female (34.8%)		
Ethnicity	Malay (100%)			
Level of Education	Diploma Degree (5%)	Primary school (35.4%)	Secondary school (37.4%)	Not in school (22.2%)
Involvement Durations in Scheme (years)	1-3 (2.6%)	4-6 (16.6%)	7-9(33.8%)	10≥ (47.0%)
No of Households	1-3 (17%)	4-6 (48%)	7-10 (32.1%)	10≥ (3.0%)

Source: Primary survey from FELDA Sungai Tekam, Pahnag and Jerangau Dungun, Terengganu 2014

Structural Equation Model (SEM)

The SEM model was used to examine the hypothesized relationships between the constructs (factors) in the model (Figure 1). The findings of the study indicate that there is a significant relationship between oil palm settlers and sustainable social factors from the perspective of FELDA cultivations. Among the latent variables, the Structural Equation Model (SEM) shows that the social construct which is the corporate social responsibility (CSR) managed by FELDA management is improving the social status of its settlers because oil palm cultivations have the highest influences (0.89) on social sustainability.

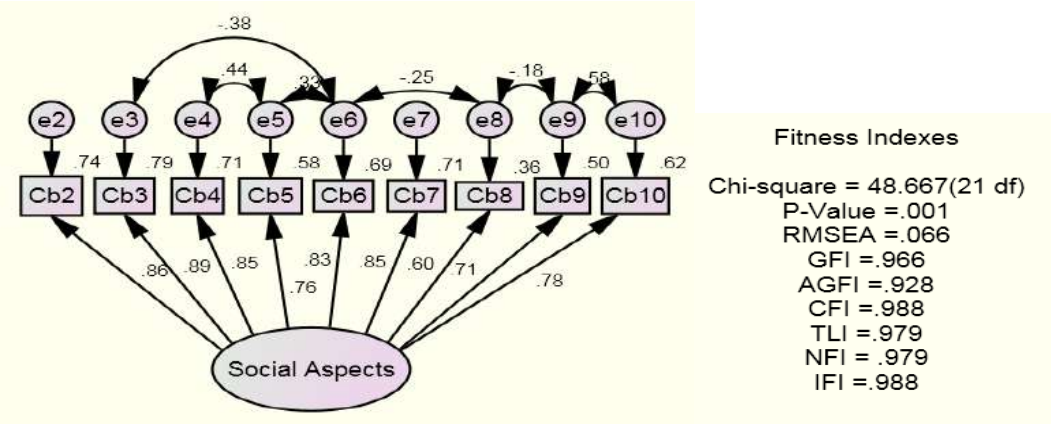


Figure 1 Structural Equation Model of Social Aspects

Source: Primary survey from FELDA Sungai Tekam, Pahnag and Jerangau Dungun, Terengganu 2014

Convergent validity test results include variance estimates between factors and variable loadings on factors for each variable (Table 2). Among the social aspect constructs, the path coefficient of overall corporate social responsibility (Cb3) obtained the highest value (0.89), followed by the issues of infrastructure facilities Cb2), improving outcomes by training (Cb4), improved quality of life and health status (Cb5), satisfactory social services by FELDA management (Cb6), incentives for children's education (Cb7), neighbourhood (Cb8), less crime problems (Cb9), and fulfilling settlers' basic and social needs (Cb10).

Table 3 Output Summary of the Structural Equation Model

Latent Variables	Observed Variables	Correlation (Coefficient)	Effect (Variance)
Social Sustainability	Infrastructure Facilities (Cb2)	0.86	0.74
	Corporate Social Responsibility (Cb3)	0.89	0.79
	Improving outcomes by Training (Cb4)	0.85	0.71
	Improved Quality of life and health Status (Cb5)	0.76	0.58
	Satisfactory Social Services by FELDA Management (Cb6)	0.83	0.69
	Incentives for children education (Cb7)	0.85	0.71
	Neighbourhood (Cb8)	0.60	0.36
	Less crime problems (Cb9)	0.71	0.50
	Basic needs and social needs (Cb10)	0.78	0.62

Note: The path coefficient > 0.60 consider significant

Source: Primary survey from FELDA Sungai Tekam, Pahnag and Jerangau Dungun, Terengganu 2014

Social Sustainability

One of the major criticisms associated with the oil palm industry has to do with social issues. The welfare of the workers in terms of their living condition and quality of life as well as the corporate social responsibility of the plantation industry to the local people is revealed in table 4. These are the responses from the respondents to question one - if their involvements in the scheme has boosted their financial security. A large number (57.9%) of the respondents strongly agree that the various created infrastructure facilities and improved facilities have increased from time to time since joining the scheme as well as the settlers strongly agree (57.9%) that this is able to increase their status. According to Basiron (2007), the oil palm plantation has contributed in uplifting the quality of life of many Malaysians and has thus served as a catalyst in poverty alleviation among the landless farmers through their participation in the FELDA scheme. Among the respondents, 55.6% of the respondents strongly agree that the management of FELDA is very helpful in every aspect and intensified training by FELDA management is improving the outcome for sustainable palm oil. 56% strongly agree that their quality of life is improving after cultivating the oil palm and it is not affecting their health. There is literature to support the notion that oil palm profitability offers considerable potential for rural development in the humid tropics (Arif and Tengku Mohd Ariff, 2001; Feintrenie et al., 2010). Equally so, 50% of the respondents agree that their children have access to quality education system that is in comparison with other national education in the country, while only 30 percent disagree with this. On the question about the fulfilment of their basic needs, most of the respondents (57.9%) strongly agree that their basic needs are better taken care of now as compared to pre-scheme. The scheme is an active player in providing support for socio-economic development of the rural population (Pride, 2006). The scheme is in the forefront of job creation among the landless rural folks. The FELDA scheme has consistently contributed towards eradication of poverty, narrowed income gap between those in the rural areas and their counterparts in the cities, and has created adequate social infrastructure (housing, health and education centres) for the rural folks and settlers.

Table 4 Social factors of social sustainability of Smallholders in FELDA

Social Issues	1	2	3	4	5	Mean	SD
Improved infrastructure facilities	175 (57.9)	77 (25.5)	37 (12.3)	13 (4.3)	0	1.63	0.86
Improved CSR and Status	175 (57.9)	71 (23.5)	42 (13.9)	13 (4.3)	1 (.30)	1.66	0.90
Training intensified by FELDA management for growth of income	168 (55.6)	79 (26.2)	36 (11.9)	18 (6.0)	1 (.30)	1.69	0.92
Improved Quality of life and health status	169 (56.0)	74 (24.5)	36 (11.9)	16 (5.3)	7 (2.3)	1.74	1.02
Satisfactory social services provided by the FELDA	161 (53.3)	81 (26.8)	37 (12.3)	21 (7.0)	2 (.70)	1.75	0.97
Incentives for education by management of FELDA among settlers children	151 (50.0)	97 (32.1)	39 (12.9)	14 (4.6)	1 (.30)	1.73	0.88
Fulfil basic needs and social needs	175 (57.9)	65 (21.5)	31 (10.3)	27 (8.9)	4 (1.3)	1.74	1.05

Note* 1.Strongly agree 2. Agree 3.Neutral 4. Disagree 5.Strongly Disagree;
% in parenthesis
Primary Survey data of FELDA Sungai Tekam Pahang, Jerangau Dungun, Terengganu, 2013 and 2014

Diagnostic Tests of SEM

To determine the goodness fit of the model, several types of indicators and conditions were tested as revealed in Table 5. The Chi-square value is significant at 1% level ($p< 0.00$) which is 21 with 48.67 degrees of freedom = 1022.07. The goodness of fit index (GFI) and normed fit index (NFI) are above 0.90 indicating a good fit (Bentler and Bollen 1990). The model has a GFI of 0.91 and a NFI of 0.92, which shows a good fit model. The adjusted goodness of fit (AGFI) is 0.89, which is slightly less than the acceptable good fit. However, the comparative fit index (CFI) is 0.95 and represents a reasonable model fit (Sim et al., 2006). The root-mean square error of approximation (RMSEA) shows the proportion of the variance of the model, which is 0.05 indicating a reasonable model fit (Sim et al., 2006). Overall, the GFI, AGFI, NFI, NNFI, CFI, and RMSR tests confirm the reliability of this path measurement model.

Table 5 Fit Indices of Structural Equation Model

Goodness of fit measure	Categorical data Value	General rule for acceptable fit
Chi-square value ($\chi 2$)	48.67	
Degree of freedom (df)	21.00	
Chi-square ($\chi 2$)/df	2.32	Ratio of $\chi 2$ to df ≤ 2 or 3
Root mean square error of approximation (RMSEA)	0.66	< .06 to .08
Tucker–Lewis index (TLI)	0.98	$\geq$ .90
Normed Fit Index (NFI)	0.98	$\geq$ .90
Incremental fit index (IFI)	0.99	$\geq$ .90
Comparative fit index (CFI)	0.99	$\geq$ .90
Goodness of fit index (GFI)	0.97	$\geq$ .90
Adjusted goodness of fit index (AGFI)	0.93	$\geq$ .90

Cronbach's alpha is used to determine the reliabilities of the social factors. The latent variable in this model has high Cronbach's Alpha values, which are at 0.939 for social sustainability. Therefore, the reliability level for attitudes towards society meets the critical value of at least 0.7 as suggested by Nunnally & Bernstein (1994).

CONCLUSION AND RECOMMENDATION

Palm oil is an important food and a major source of lipids. World population continues to increase, thus creating increasing demand. As such, oil palm will continue to be cultivated worldwide. The oil palm sector is also seen as a beacon for sustainable development in agriculture (Yusof, 2007). The study clearly and positively assesses the settler's personal benefits to fulfil the aim of the paper, which is to find out what is meant by socially sustainable oil palm from various perspectives, such as from the companies, local people and NGOs combined with data investigation from the field. This study found out that the settlers' personal income, family, health status and overall quality of their life are improving, but the settlers should gather more knowledge about sustainability and they need continuous intensified training from the government and FELDA management for the continuation of growth. Therefore, the growth of oil palm needs to be socially and environmentally sustainable**.** Henceforth, recognizing and combating these issues are very important with regard to the implementation of the different (sustainable) policy arrangements and more importantly for the future success of FELDA's smallholders. According to Yusof et al. (2007), developing countries in the tropics depend heavily on agriculture to create employment opportunities and to generate revenue through exports. Oil palm is a proven crop for these purposes. The main palm-oil producing countries have 78 million ha of idle land, which could add to production capacity by 288 million tonnes. Therefore, oil palm cultivation must be encouraged in these countries.

ACKNOWLEDGEMENT

Financial assistance provided by the EP-2014-014 Fundamental Research Grant headed by Prof. Dr. Er Ah Choy, is gratefully acknowledged.

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What are Patterns of Language Choice and Use among University Students?

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ABSTRACT

Fishman's (1972) domain analysis provides a theoretical foundation for investigating the choice of languages in multilingual contexts. The issue of language choice often comes up in multilingual contexts. In such contexts of language use, multilingual individuals consciously or unconsciously exercise a choice of language within their linguistic repertoire in order to communicate in various domains effectively. This study investigates the multilingual context of language choice and use in the education domain among Malaysian undergraduates. Data were obtained from a survey questionnaire administered to 498 undergraduates targeted at information from three sub-domains of education, that is, Classroom, Study and Research, and Around Campus. The results of data analysis revealed that among the four languages under investigation (Malay, Chinese, Indian, and English) in the education domain, the Malay and English languages were predominantly used. This pattern of language use can be explained as the Malaysian diglossic situation in which English is used in more formal social settings and the Malay language is used for less formal ones, specific to the education domain. The findings give salient information about patterns of language choice and use in a speech community, which could induce more research on the Malaysian diglossic setting.

Keywords: Multilingualism, Choice of Language, Domains of Language Use

INTRODUCTION

In multilingual societies several languages co-exist and a large number of populace speaks two, three or more languages (Burhanudeen, 2006). In such linguistic ecologies the individual members of different ethnic groups use an indigenous for communication among themselves. Secondary to this local language, individual members of multilingual societies may use another gained status language as the

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formal language as well as the medium of instruction (Cooper, 1989). Moreover, in some multilingual societies which were former colonies of the European countries, the language of the former colonizer maybe long or permanently practiced as the formal language of the country or as the medium of instruction (Riedge, 2004). The phenomenon of language choice in such multilingual environments is explicably linked to individuals' tendencies towards the use of a particular language in a particular domain of language use (Rahman, Chan, & Ain Nadzimah Abdullah, 2008; Parasher, 1980; Fishman, 1972).

Thus, in a multilingual ecology, members of ethnic groups often speak their indigenous languages inside their speech communities. Parallel to the indigenous language, there is another language that is used in more formal occasions, such as in educational settings (Adams, Matu, & Ongarora, 2012). This formal language could be the language of the former colonial government, which was introduced to the country during its rule. Alternatively, it could be a promoted indigenous language that was selected as a result of the language policy of a particular newly established state (Ferguson, 2006; Cooper, 1989).

Gal (1979) observed that in a multilingual setting, there is always a tendency for speakers to shift from one language to another. Gal attributed language shifts to speakers' identities rather than social situation (Gal, 1979, p.99). However, there are social factors such as, audience, purpose of communication and setting, which may be significant in language choice. As an example, Parasher (1980), in his research of a diglossic situation in India, demonstrated that people spoke indigenous languages at home (low languages), whereas they used the English language (high language) for more formal occasions, such as in educational settings. As a result, Parasher suggested that language choice can be an outcome of social setting.

In this regard, Fasold (1984) proposed that language choice may be investigated based on three theoretical perspectives: sociology, social psychology and anthropology. This was supported by Yeh, Chan, and Cheng (2004), who developed the sociolinguistic theoretical perspective, from which language choice can be examined. Accordingly, from a sociolinguistic perspective, situational factors are significant in predicting language choice in multilingual settings (Yeh et al. 2004, p. 80).

In social interaction, language choice occurs when multilingual interlocutors shift from one language to another. Language shift, which is used for more efficient communication, may occur consciously or unconsciously (Adams et al. 2012). Speech Accommodation Theory or SAT, proposed by Giles and Smith (1979) and Giles, Taylor, and Bourhis (1973), can be used to explain the nature of the communicative shift of code that may occur when multilingual individuals are involved in social interaction. The underlying assumption of the theory is that individuals, in their social interaction, accommodate linguistically towards a specific language in order to benefit social approval (Giles & Smith, 1979; Giles, et al. 1973). Expanding upon this theory, Giles, et al. (1973) introduced the two concepts of 'convergence' and 'divergence'. Convergence refers to a communicative strategy that interlocutors employ to reduce the dissimilarities in the process of verbal interaction. This strategy is also referred to as accommodation (Gasiorek, & Giles, 2013; Spolsky, 2010; Garrett, 2010; Holmes, 1992), i.e., an interlocutor adopts a code to facilitate a conversation or to express their solidarity with the other party. On the other hand, divergence refers to a communicative strategy that highlights

dissimilarities among the interlocutors (Spolsky, 2010; Garrett, 2010; Holmes, 1992). The two strategies can cover a range of features that vary from verbal interaction, including language choice, accent, level of lexicon, use of jargon, to nonverbal interaction (Garrett, 2010). The choice of language as a verbal interaction was the issue of interest in the present study.

Linguistic Situation in Malaysia

A sociolinguistic discussion that language is associated with practical use (Adams et al. 2012) is particularly fascinating in the context of Malaysia's rich linguistic milieu. In the Malaysian context, people in their daily interaction select different languages from their linguistic repertoire (Wong, Lee, K. S., Lee, S. K., & Azizah Yaacob, 2012). Besides, the use of English in Malaysia has a history dating back 250 years from the 18th century (Wong et al. 2012; Rajandran, 2008). According to Asmah Hj. Omar (1994, p. 66), there are two main influential factors that facilitated the spread of English in Malaysia. The first factor is its antiquity, which is perceived as a legacy of colonialism. The second one is the instrumental role of the English language in education, research, financial transactions, inter-ethnic communication, and international relationships (Wong et al. 2012; Lee, S. K. Lee, K. S. Wong, & Azizah Yaakob, 2010). After independence in 1957, with a Malaysian outlook, Bahasa Malaysia was promoted as the national language as well as the language of instruction (Burhanudeen, 2006). However, as attested by Asmah Hj. Omar (1994, p. 69), even when the national sentiments were at their peak; the role of English was never completely forgotten in the political arena of the country. As such, the variety of languages and cultures that continue to co-exist in Malaysia makes communication a complicated, but intriguing issue in Malaysia. In view of such diversity of linguistic codes in the Malaysian context, as David (2006) maintained, the choice of language is an issue that often arises in daily interaction. In particular, Malaysian youths are constantly confronted, consciously or unconsciously, with selecting a linguistic code whenever they interact with people from their own race or with those from other races in different domains of language use. Given this context, the present study sought to describe the language choices of Malaysian youths in the education domain of language use.

LITERATURE REVIEW

Education in Malaysia and Multilingualism

Prior to independence, there were four distinctive education tendencies in Malaysia (Tan 2005, p. 47). In line with this view, Burhanudeen (2006, p. 15) categorized the pre-independence educational inclination as English, Malay, Chinese, and Tamil school systems.

In the early days of English language arrival in Malaysia, its spread was due to colonialism, trade and missionaries activities (Asmah Hj. Omar, 1994, p. 66). At that time, English was the medium of colonial administration. In 1816, the first English school, Penang Free School, started its activities (Burhanudeen, 2006, p. 16). From 1816, a number of English schools were established in other urban centers as

the result of the colonial government's measures and Christian missionary efforts (Asiah Abu Samah, 1994, p. 53). But the governmental interest in teaching English was restricted to a chosen group of aristocratic Malay's children to prepare them serve the colonial rulers (Ridge, 2004; Asiah Abu Samah, 1994). In harmony with this comment, Asmah Hj. Omar (1985) maintained that the English schools were only available to two categories of social classes; i.e. those of high-class aristocratic families as well as wealthy citizens who were living in urban centers. Asmah Hj. Omar (p. 40) asserted that:

> "The former category comprised the children of the Malay elites, while the second comprised those of the Chinese tin miners and businessmen and the Indian merchants."

Nevertheless, as Asmah Hj. Omar (1994, p. 67) mentioned, it was the Christian missionaries that more assisted the spread of English in the urban centers. Although mission schools attempted to facilitate the spread of English in the rural areas as well, their activities were restricted to the Chinese and Indians. Burhanudeen (2006, p. 17) attested that the Malay Sultans forbade the activities of Christian missionaries among the Malay population in order to prevent conversion to the Christian faith among them. Thus, while the urban Chinese and Indian students enjoyed studying at the English schools, the number of Malay children in these schools was limited (Wong et al, 2012). Considering the fact that English during colonial era was a necessary requirement for the various Malaysian races to improve socioeconomically, the majority of the Malays could not afford access to good jobs, and, consequently, could not improve their social mobility (Wong et al. 2012, p. 146; Asmah Hj. Omar, 1994, p. 68).

Malay-medium schools, which mostly located in rural areas, were teaching the Malay boys Islamic religious lessons (Balakrishnan, 2010, p. 90). In order to promote a secular system of education, in 1871, a system of six level primary schools with the vernacular Malay as the language of instruction was planned to replace the religious schools in the rural areas (Burhanudeen, 2006, p. 15). However, Burhanudeen maintained that religious classes continued their activities in the afternoons at Malay parents' expense. In urban centers there were also primary Malay-medium schools, which were teaching the Malay male students basic reading, writing, arithmetic and English in order to prepare them to serve the colonial government (Asmah Hj. Omar, 1994, pp. 67-68). Upon completion of their studies at the primary Malay schools, Asmah Hj. Omar emphasized, the clever Malay students were persuaded to further their educations at that time available English schools. This means, as Burhanudeen (2006, p. 15) mentioned, that the British language policy has more concentrated on the spread of English, although other vernacular medium schools were tolerated.

Therefore, the Chinese and Tamil medium schools enjoyed the inculcation of Chinese and Tamil values in their educational programs (Asmah Hj. Omar, 1994). Ridge (2004, p. 408) described the British language policy as a "laissez-fair" approach towards the indigenous languages while the emphasis was on English as the language of the colonial administration as well as the language of limited educated bureaucrats who were living in the urban centers. Only in 1920 as a reaction to events in China, British administration imposed some control on Chinese schools (Gaudart, 1992, p. 73-74). Hence, during the colonial era English enjoyed as

the official language as well as mostly as the medium of instruction, whereas the Malay, Chinese and Tamil languages were considered as vernaculars.

As above mentioned, in 1957, Malaysia gained its independence. The birth of an independent nation required a set of symbols of nationalism, the most important of which was language. In the early years of independence, some Malay nationalists were rationalized that during the colonial era the spread of English has negatively affected the development of the Malay language. They reasoned that independence provided the best chance to promote a national education system for nation building in which the Malay language could play a key role (Dumanig, David & Symaco, 2012). Therefore, the use of the Malay language as an emphasis on Malay nationalism was highly recommended. Asmah Hj. Omar (1994, p. 69) asserted that although at that time, which nationalism was at its peak, the Malay language in comparison to English was suffering from some rhetoric disadvantages, it provided the nation with a sense of belonging that English never had such capacity. Therefore, Malay was selected and promoted as the national language of the newly established independent country as well as the lingua franca for inter-ethnic communication in the multi-lingual Malaysian milieu (Gill, 2005).

Thus, as a result of language policy, the Malay language (Bahasa Melayu) gained status as the national language of the independent country. However, Malaysia, in the throes of change, could not convert the old education system into a new national system overnight. Asiah Abu Samah (1994, p. 55) maintained that:

> "English was retained as the medium of instruction in the former English schools, until 1970 when the medium was gradually converted to Bahasa Melayu in stages."

The process of converting English medium education into a national education system using Malay as the medium of instruction was gradually performed until 1983. In 1983, all subjects, from primary schools to universities, started to be taught in the Malay language. As a result, English ceased to be the medium of instruction in Malaysia.

Most of the researchers (for example, Azmi, 2013; Puteh, 2012; Gill, 2007, 2005; Ridge, 2004; Chai, 1971) have divided post-independence Malaysian language policy into two major periods. Accordingly in the first period which started from the beginning years of independence in 1957 and continued to 1970s, the Malay language was promoted as the formal language and was highlighted as a symbol of nationalism. This was mainly performed by decreasing the use of English for the benefit of nation building in the independent country. Chai (1971, p. 61) reported:

> "English came to be regarded not only as the language of colonial education but also, after independence, as an obstacle to the educational, social and economic advance of the majority of Malays."

During this period Malay as a symbol of national unity, a lingua franca and a language of possessing high literature was highlighted (Dumanig, et al. 2012). As such, the Malay language gained status as an identity that is shared by all Malaysians. To boost the feeling of national identity in Malaysia, the political leaders of the country, led by ruling National Party, agreed to decrease the use of English for the benefit of the national language. Consequently, from 1968 gradually the English medium schools were converted to Malay medium (Dumanig, et al. 2012, p. 109-110). Furthermore, the use of Malay as the national language was extended to higher education. Gill (2005, p. 247) reported that the National University of Malaysia has

started its activity in 1970 and used the Malay language as the medium of instruction. Gill added that after that all other universities were required to use the Malay as the language of instruction. This was a landmark in the annals of the country's language policy. Besides, in order to assist the spread of the national language, during the 1970s and early 1980s, English and other vernacular medium schools were gradually converted into Malay medium schools (Haque, 2003; Asmah Hj. Omar, 1985). Although during the 1970s and early 1980s, the English language lost its supremacy in the independent country; never it completely faded from the educational system of Malaysia. It was because from the very beginning of independence, the policy makers of the country were aware of the instrumental role of English in the modern world. For example, the Razak Report (1956, cited in Haque, 2003, p. 250) supported an education system, which enjoys bilingualism based on the Malay-English languages. According to Darus (2009), the gradual implementation of the national language into education system of the country took place over a period of 13 years (1970-1983). The process of more emphasis on the Malay language continued to 1990s when the use of English was highlighted again by country's policy makers.

In the second period of language planning in post-independent Malaysia, the leaders as well as language planners of the country realized that the conducted language policy resulted in encouraging mono-lingualism for the Malays. Ridge (2004, p. 408) who examined the results of the first period of language policy in the post-independent Malaysian context reported:

> "Such an approach was bound to lead bilingualism for non-Malays, but more likely mono-lingualism for Malays—a factor that provoked much comment and demand for change in the 1990s when competence in English was back on the language policy table."

Moreover, due to a booming economy and because of globalization process the emphasis on the Malay language at the expense of the development of English was considered harmful to Malaysia and its nation (Dumanig, et al. 2012; Gill, 2005). Ultimately, at the end of the first period of language policy, which the country's decision makers were convinced that a Malaysian identity has already molded (Gill, 2005); they maintained that the new political and socio-economic conditions of the country required a change in the language policy (Ridge, 2004; Gill, 2005). As a result, the process of re-implementation of English into the Malaysian higher education sphere started in 1993 when Mahathir Mohamad the Prime Minister (1981-2003) publically announced the implementation of teaching science and mathematics in English. Zabbe, et al. (2011, p. 566) reported:

> "In order to accommodate Malaysia's uniquely diverse culture and multi-ethnicity as well as multi-religious society, after the 1993 announcement, the former prime Minister, Mahathir bin Mohamad redefined the term 'nationalist' to state the rationale of this implementation. He redefined the term nationalist as: "True nationalism means doing everything possible for the country, even it means learning the English language."

This tendency towards the use of English little by little encompassed technology courses as well as social sciences (Zaaba, et al. 2011). In the other words, practical measures were taken towards globalization and the nation was encouraged to be integrated into the rest of the world and consequently boost country's economy. Thus, in 2003 as a pragmatic educational measure the Ministry of Education recommended the English language as the medium of instruction for science and

mathematics in the education system of the country (David & Govindasmy, 2005). However, teaching science and mathematics in English aroused lots of debates in the educational spheres of the country as well as among children's parents and finally it was phased out from the primary and secondary schools in 2010 (Zaaba, et al. 2011). Nevertheless, as already stated, even when nationalism was at its highest point, English was not completely downgraded as the language of colonialism. The Language Act of the Constitution of Malays 1957 considered English as another official language in Malaysia for ten years after independence (Asmah Hj. Omar, 1994, p. 69). Because of such language policy, the Malay language was considered as a language for Malaysians to express their national pride and patriotism. However, English could not sensibly be neglected because it was, and it is now, the universally accepted language of science and technology. Thus, in the Malaysian context of language use, the new role of English was emphasized as a strong second language. This was an adopted rational language policy in order to keep Malaysia in line with the new technological and scientific achievements of the world.

Today, English is still an important subject in all levels of education in Malaysia. Moreover, it is widely practiced in different domains of language use. This phenomenon can be explained in terms of the concepts of nationalism and nationism. Malay can be evaluated as a language with the potential for expressing Malaysian nationalism. On the other hand, English which has been retained in Malaysian life can be perceived as a means of nationism. These two concepts were first introduced by Fishman (1968, pp. 41-44). According to Fishman, nationalism is a process of unifying a fragmented ethnic based society into a nation. In the process of unification, according to Fishman, a gained-status indigenous language plays a fundamental role. On the other hand, Fishman (1968, p. 44) added that nationism is a process in which:

> "Where the political boundaries are most salient and most efforts are directed towards maintaining and strengthening them, regardless of the immediate socio-cultural character of the populations they embrace."

Therefore, nationalism in Malaysia has been and still is promoted by the use of indigenous Malay (Bahasa Melayu) as the medium of instruction and formal language of the country. On the other hand, nationism has been and still is encouraged by the use of English because it has been extensively used by the three main ethnic groups of the country. In addition, in Malaysia English plays the pragmatic role of maintaining and being in harmony with the scientific and technological progress of the world (Rajandran, 2008). In this context of language use, the use of other ethnic vernaculars may vary according to different domains of language use.

Asmah Hj. Omar (1994, p. 73-74) considered the linguistic situations in Malaysia as diaglosstic and trigliostic before and after independence, respectively. This means, before independence English as the formal language of the government as well as the medium of instruction was assumed as the High language. Whereas; Malay, Chinese, and Indian as indigenous languages were evaluated as Low languages, and the linguistic situation was explicable in terms of a diaglosstic context. But, with the political changes that ultimately resulted in the newly established country Malaysia in 1957, the linguistic situation was dramatically changed. In post independence country the Malay language, which was promoted as the formal as well as medium of instruction, is explicable as the High language.

English as the language of accessibility to scientific research, technology, and a language that facilitates inter-ethnic communication is perceivable as the Middle language. And finally, Chinese, Tamil and other languages are evaluated as Low languages. Hence, the linguistic situation after independence in Malaysia can be defined as a trigliostic context.

In sum, as Crystal (2003) pointed out, English as a global language is a medium of communication that can assist industrial development and scientific achievement in multilingual societies. In Malaysia, while Malay is promoted as an important factor for national unity, and English has the instrumental role of a pragmatic use, the languages of other ethnic groups as vernaculars are respected as well. The promotion of Malay is at the center of the language policy of Malaysia. English, as a language that has extensive applications in the education and legal domains, as well as in inter-racial relationships, is the instrumental language and evaluated as the most important second language in Malaysia (Balakrishnan, 2010; Ridge, 2004; Asmah Hj. Omar, 1994). The languages of other ethnic groups are also respected in multilingual Malaysia.

THEORETICAL FRAMEWORK

This study was conducted according to the theoretical foundation in domain analysis by Fishman (1972). Fishman proposed that the language choices of people depend on their social domain of interaction. This means, depending on the particular social situation, multilingual individuals select a particular language from their linguistic repertoire for an effective communication. In the other words, "who speaks what language and when" is the key factor in a domain analysis of language choice (Fishman, 1972, p. 244). Following Fishman domain analysis, Parasher (1980) in his study of language choice in India observed that the subjects of his study used their vernaculars at the less formal domains of language use, whereas the English language was used in the more formal and educational settings. This study described and analyzed patterns of language choice and use of the Malaysian youths in the educational domain from a sociolinguistic stand point.

OBJECTIVES OF THE STUDY

As stated previously, the individual members of speech communities have a natural tendency towards the use of their mother tongue. However, a multilingual country may have unique language practices. In the heterogeneous Malaysian context of language use, speaking different languages may have linguistic outcomes for the speakers (David, 2006). This means that the choice of language can be regarded as a linguistic outcome of multilingualism. The aims of the present study were to describe and analyze the patterns of language choice of Malaysian youths in the education domain of language use.

METHODOLOGY

The present study extracted its sample from the target population in the site of the study at Universiti Putra Malaysia (UPM). International students were excluded from the sample as they are not Malaysian. The total population of Malaysian undergraduates at UPM is 14343[71]. These students are from 15 different faculties at UPM. Since the findings of a study will only be considered as valid if they can be generalized to the larger population (Bartlett, Kotrlik, & Higgins, 2001), the total sample size required for the present study was calculated according to Cochran's (1977) formula. With a figure of 20% of the sample size as a drop out number (Bartlett, Kotrlik, & Higgins, 2001) the total sample size of the study was arrived at the number of 500 respondents. A proportional stratified random sampling strategy was utilized to conduct the study. This sampling strategy can be used "when the characteristics of the entire population are the main concern of the study" (Ary, Jacobs, Razavieh & Sorrensen, 2006, p. 172). Specifically, random sampling was applied proportionally in 15 subgroups representing 15 different faculties at UPM.

Data were collected through a questionnaire survey that was administered to a sample population of 500 respondents; of which 498 of that population were used (two questionnaires were found to be incomplete). The questionnaire consisted of three parts: Part I – the demographic profile; Part II – level of proficiency in languages; and part III - patterns of language choice and use in the education domain. Items from instruments used in previous studies (e.g., Rahman, et al., 2008; Yeh et al., 2004) were used to prepare the questionnaire with modifications to suit the objectives of the present study.

Part I - Data were collected on basic background characteristics of the respondents, namely, age, gender, and their ethnic background. In Part II - as a measure of proficiency in languages, respondents were asked to self-indicate their proficiencies in four basic language skills (1. listening; 2. speaking; 3. reading; 4. writing) according to a five-point Likert scale with 5=very fluent, 4=fluent, 3=satisfactory, 2=unsatisfactory, and 1=cannot use at all. Thus, for each of the four languages (Malay, Chinese, Indian, and English) being investigated in this study, a respondent could obtain a total score ranging from a minimum of 4 to a maximum high proficiency score of 20. In Part III – the investigation into language choice and use in the education domain was based on 24 elaborated social events grouped into three sub-domains representing education settings: 1. Classroom, 2. Study and Research, and 3. Around Campus. The specific items within each sub-domain are listed in Table 1 bellow:

[71]Information obtained from Academic and Students Affairs' Deputy Dean Office of UPM at 26/11/2013

Table 1 Education Domain and its three Sub-domains

Sub-domain	Social Events: What language do you use
Classroom	1. In a classroom presentation 2. Write lecture notes 3. Speak to lecturers who are Malay 4. Speak to lecturers who are Chinese 5. Speak to lecturers who are Indian 6. Speak to my Malay classmates in the classroom 7. Speak to my Chinese classmates in the classroom 8. Speak to my Indian classmates in the classroom 9. Write an email to my Malay lecturer 10. Write an email to my Chinese lecturer 11. Write an email to my Indian lecturer
Study and Research	12. Speak to my Malay classmates during curricular activities 13. Speak to my Chinese classmates during curricular activities 14. Speak to my Indian classmates during curricular activities 15. Write my papers/assignments 16. Conduct a web-search 17. Do a library search 18. When I read newspapers
Around Campus	19. Speak to my Malay classmates for social purposes 20. Speak to my Chinese classmates for social purposes 21. Speak to my Indian classmates for social purposes 22. Speak to Malay friends at the University hostel 23. Speak to Chinese friends at the University hostel 24. Speak to Indian friends at the University hostel

Respondents were asked how often they used the four languages for each item or social occasion listed above using a five-point Likert scale ranging from 1=never to 5=very frequently. The mean score for each language was then computed to define language choice and use for each social event. With a mean score of 2 as the reference point, a language which had a mean score of 2 or higher was considered the language of choice for that setting of interaction.

A pilot study was performed to assess the feasibility of the instrument. Cronbach's alpha measure of consistency revealed a reliability index of 0.93 for part II and 0.95 for part III. The overall reliability of the questionnaire was 0.94, which is considered an acceptable figure for the research instrument. As soon as the data collections were completed, the data were coded, classified and tabulated for analysis. The analysis was performed using SPSS (version 21).

Demographic Profile of Respondents

The distribution of the study respondents by age groups, ethnic background and gender are shown in Table 2. They comprised four age groups (17-19, 20-22, 23-25,

and 26-28 years of age), including Malaysian students of Malay, Chinese, Indian, and Other ethnic backgrounds. 'Others' refers to all other minority ethnic groups besides the three major ethnic groups of Peninsular Malaysia.

Most respondents (71.7%) were aged 20-22 years with the lowest number of respondents (0.4%) in the 26-28 years old age group. Since the respondents' number in age group 26-28 was only 2, in tabulation they were aggregated with previous age group and hence the last age group was illustrated as ≥ 23 years old. By gender, there were more female (71.1%) than male (28.9%) respondents. By ethnicity, the majority of the respondents were Malay (71.5%). The remaining minority comprised students of Chinese ethnicity (21.7%), Indian (3.3%) and, lastly, other ethnic groups (3%).

Table 2 Distribution of Respondents by Age Groups, Gender, and Ethnicity

Variables		N	%
Age Group	17-19	73	14.7
	20-22	357	71.7
	≥ 23	68	13.6
Gender	Male	144	28.9
	Female	354	71.1
Ethnicity	Malay	356	71.5
	Chinese	108	21.7
	Indian	15	3
	Others	19	3.8

RESULTS AND DISCUSSION

Language Proficiency of Respondents

As described under Methodology, as an indication of proficiency in each of the four languages (Malay, Chinese, Indian, and English), a respondent could obtain a total score (for listening, speaking, reading, and writing) from 4 up to a maximum of 20. According to categorization language proficiency strategy, which was utilized by Rahman, et al., (2008, p. 6), for each language, this total score was then categorized into three proficiency levels: High (scores of 13.41-20), Mid (score of 6.71-13.4, and Low (scores of 6.70 or less). Based on this scoring system, the respondents' proficiency in each language is presented in Table 3.

Table 3 Participants' Level of Proficiency in Languages

Languages	Level of Proficiency N (%)		
	Low	Mid	High
Malay	1(0.2)	35(7)	462(92.8)
Chinese	353(70.9)	45(9)	100(20.1)
Indian	474(95.2)	14(2.8)	10(2)
English	7(1.4)	189(38)	302(60.6)

Irrespective of ethnic group, the majority of the respondents (92.8%) reported their overall level of proficiency in the Malay language as high, i.e., they are fluent users of Malay. In terms of other local languages, a fifth (20.1%) reported their level of Chinese proficiency as high while only 2% rated themselves as fluent users of the Indian language. More than half (60.6%) of all respondents reported their proficiency in English as high with a further 38% falling in the mid category. That is, only a small minority (1.4%) of respondents had a low level of proficiency in English.

From the presented data about respondents' language proficiency, it can be concluded that although in multilingual environments different ethnic groups appreciate the practice of their own ethnic languages (Elias, 2008, p. 8; Dorais, 1994, p. 294), the linguistic situation in Malaysia is more similar to a diglossic situation, i.e., the Malay language and English are the two most commonly used languages. This finding is in line with Ridge (2004, p. 416) who asserted that in Malaysia with the parallel spread of the English and Malay languages, the patterns of language use was more similar to a diglossic environment. But, whether this pattern of language use would really continue to exist "is a moot point", Ridge (p. 419) argued. In reaction to Ridge's argument, the results of the present study suggested that still the linguistic situation in Malaysia is more similar to a diglossic one.

Patterns of Language Choice and Use in the Education Domain

As described in the Methodology, respondents' language choice and use in the domain of education were examined in three sub-domains, i.e., Classroom; Study and Research; and Around Campus, encompassing 24 social events. To reiterate, respondents were asked to rate their use of the four languages for/at each social event using a five-point Likert scale, and a mean score was computed for each language. A language with a mean score of 2 or above was defined as the language of choice for the social event. The results from this method of assessing language use and choice in the education domain are described below.

Patterns of Language Choice and Use in the Classroom Sub-domain

Table 4 shows that the two languages of English and Malay, with mean scores exceeding 2, were the dominant languages for the 11 social events in the Classroom. The Chinese and Indian languages, with mean scores below 2, were not predominantly used in the classroom. From the presented information it can be observed that English was the preferred language in more formal classroom settings

such as, in classroom presentation or write lecturer notes. Besides, in interacting with lecturers belonged to Chinese or Indian ethnic groups, respondents preferred English whereas in interacting with lecturers who belonged to the Malay ethnic group the they preferred to use the Malay language, which it may be interpreted as a sign of national solidarity. In sending email to Chinese and Indian lecturers, again the English language was preferred. But interestingly, while sending email to lectures belonged to Malay ethnic group, English and Malay had equal chance of being used. In interaction with classmates from all three major ethnic groups, the Malay language was preferably used (see Table 4).

Table 4 Patterns of Language Choice and Use in the Classroom

Classroom Sub-Domain	Languages	Never	Rarely	Sometimes	Frequently	Very Frequently	Score	
Specific Social Setting		% of Respondents					Mean	SD
1. In a Classroom Presentation	Malay	6.6	9.2	22.5	21.9	39.8	3.789	1.244
	Chinese	90.2	4	1.6	1.4	2.8	1.227	0.794
	Indian	99	0.4	0	0.4	0.2	1.024	0.268
	English	3.2	3	25.7	36.9	31.1	3.898	0.985
2. Write Lecturer Notes	Malay	11	11.6	19.1	20.1	38.2	3.627	1.377
	Chinese	87.8	3.2	4.2	2.4	100	1.285	0.851
	Indian	99.2	0.4	0	0.2	0.2	1.016	0.210
	English	4.8	2.8	21.9	36.1	34.3	3.924	1.051
3. Speak to Malay Lecturer	Malay	4.6	3.2	12.7	25.7	53.8	4.209	1.081
	Chinese	96.6	1	1	0.4	1	1.082	0.491
	Indian	99.4	0.2	0	0	0.4	1.018	0.257
	English	12.7	8.6	32.9	32.7	13.1	3.249	1.176
4. Speak to Chinese Lecturer	Malay	22.7	13.3	25.1	15.7	23.3	3.036	1.460
	Chinese	83.1	4.8	4.6	3.2	4.2	1.406	1.017
	Indian	99.6	0.2	0	0	0.2	1.010	0.185
	English	8.6	4.6	26.1	38.4	22.3	3.610	1.139
5. Speak to Indian Lecturer	Malay	20.9	10.8	25.3	20.9	22.1	3.125	1.423
	Chinese	96.6	1	1	0.6	0.8	1.080	0.476
	Indian	98	0.8	0.2	0.2	0.8	1.050	0.401
	English	9.6	4.8	26.9	33.3	25.3	3.598	1.193
6. Email to Malay Lecturer	Malay	15.1	9.4	15.5	20.9	39	3.598	1.459
	Chinese	96.6	0.8	1	0.8	0.8	1.084	0.492
	Indian	99.6	0.2	0	0	0.2	1.010	0.185
	English	10.4	6.4	24.9	31.9	26.3	3.572	1.237

Classroom Sub-Domain	Languages	Never	Rarely	Sometimes	Frequently	Very Frequently	Score	
Specific Social Setting		% of Respondents					Mean	SD
7. Email to Chinese Lecturer	Malay	36.9	14.3	18.3	11.8	18.7	2.610	1.529
	Chinese	91.4	1.2	2	2.2	3.2	1.247	0.864
	Indian	99.6	0.2	0	0	0.2	1.010	0.185
	English	12.9	4.2	21.3	30.3	31.3	3.631	1.311
8. Email to Indian lecturer	Malay	36.1	14.3	18.3	13.3	18.1	2.629	1.520
	Chinese	96.8	1	0.6	0.8	0.8	1.078	0.479
	Indian	99.6	0.2	0	0	0.2	1.010	0.185
	English	12.4	4.6	21.1	31.5	30.3	3.627	1.297
9. Speak to Malay Classmates in the Classroom	Malay	2.6	1.6	7.8	16.5	71.5	4.526	0.904
	Chinese	95.6	2	0.8	0.6	1	1.094	0.509
	Indian	99.6	0.2	0	0	0.2	1.010	0.185
	English	13.5	13.9	41.8	21.3	9.6	2.998	1.130
10. Speak to Chinese Classmates in the Classroom	Malay	17.3	6.8	18.5	25.7	31.7	3.478	1.436
	Chinese	77.7	1.2	2.2	4	14.9	1.771	1.500
	Indian	99.4	0.2	0	0	0.4	1.018	0.257
	English	12.9	13.1	34.1	26.3	13.7	3.149	1.198
11. Speak to Indian classmates in classroom	Malay	14.3	5.8	19.7	26.5	33.7	3.596	1.375
	Chinese	97.2	0.6	0.8	0.6	0.8	1.072	0.465
	Indian	97.8	0.2	0.4	0.2	1.4	1.072	0.506
	English	11.6	8	33.7	27.1	19.5	3.347	1.216

Patterns of Language Choice in the Study and Research Sub-domain

Similar to the classroom sub-domain, Malay and English languages were the dominants means of communication in the Study and Research sub-domain (see Table 5). For speaking to Malay, Chinese and Indian classmates, and reading newspapers, Malay was the dominantly used language. For writing papers/assignments, conducting a web search and doing a library search, however, the dominant language was English. As with the Classroom setting, Chinese and Indian languages with mean scores below 2 were not dominant languages in this sub-domain.

Table 5 Patterns of Language Choice and Use in Research and Study

Study and Research Sub-domain	Languages	Never	Rarely	Sometimes	Frequently	Very Frequently	Score	
Specific Social Setting		% of Respondents					Mean	SD
12. Speak to Malay Class-mates during curricular activities	Malay	2.2	1.4	9.4	21.5	65.5	4.466	0.888
	Chinese	96.4	1.6	0.6	0.6	0.8	1.078	0.466
	Indian	99	0.4	0	0.4	0.2	1.024	0.268
	English	20.3	16.3	34.5	20.9	8	2.801	1.211
13. Speak to Chinese Classmate during curricular activities	Malay	19.7	5.8	19.3	23.7	31.5	3.416	1.475
	Chinese	77.9	1.6	1.8	3.6	15.1	1.763	1.499
	Indian	99.2	0	0.4	0.2	0.2	1.022	0.257
	English	17.3	14.9	31.5	25.1	11.2	2.982	1.242
14. Speak to Indian Classmate during curricular activities	Malay	15.1	6.8	21.7	23.9	32.5	3.520	1.394
	Chinese	96.8	1.2	0.8	0.4	0.8	1.072	0.452
	Indian	97.8	0	0.8	0.2	1.2	1.070	0.488
	English	15.5	10.2	30.7	27.9	15.7	3.181	1.264
15. Write my Papers/ assignments	Malay	23.9	13.7	13.9	15.3	33.3	3.205	1.594
	Chinese	94.4	2.2	1.6	1	0.8	1.117	0.541
	Indian	99.2	0	0.4	0.2	0.2	1.022	0.257
	English	4	2.8	16.1	27.7	49.4	4.157	1.052
16. Conduct a web search	Malay	22.5	11.4	21.1	15.7	29.3	3.179	1.522
	Chinese	86.9	3.2	5.4	2.2	2.2	1.295	0.846
	Indian	98.8	0	0.8	0.2	0.2	1.030	0.286
	English	5.4	2.2	15.3	30.3	46.8	4.108	1.090
17. Do a library search	Malay	19.9	12.4	22.1	17.5	28.1	3.215	1.475
	Chinese	92.4	3.8	1.4	1	1.4	1.153	0.622
	Indian	98.8	0.4	0.4	0.2	0.2	1.026	0.264
	English	6	3	19.7	30.7	40.6	3.968	1.125
18. Read a Newspaper	Malay	12.9	6.8	11.4	19.5	49.4	3.857	1.422
	Chinese	79.5	2	2.4	4.4	11.6	1.667	1.392
	Indian	98.2	0.4	0.6	0.4	0.4	1.044	0.356
	English	7.2	10.6	37.1	25.7	19.3	3.392	1.128

Patterns of Language Choice Around Campus

The information about languages used around campus is presented in Table 6. Although similar to the previous sub-domains in that the dominant languages were Malay and English, for all six social occasions the respondents consistently preferred to use firstly the Malay language and secondly the English language. These are indications that, as the social settings become less formal, the tendency towards the use of the native language increases. This finding is in line with Parasher's (1980) study results which reported that the English language was a language for more formal interactions among the respondents of his study whilst their native language was used for less formal social events. As for the other sub-domains, Chinese and Indian languages were not dominantly used languages around campus settings.

Table 6 Patterns of Language Choice and Use in Around Campus

Around Campus Sub-domain	Languages	Never	Rarely	Sometimes	Frequently	Very Frequently	Score	
Specific Social Setting		% of Respondents					Mean	SD
19. Speak to Malay classmates for social purposes	Malay	1.4	0.4	9.2	18.9	70.1	4.558	0.791
	Chinese	95.2	1.8	1.6	0.6	0.8	1.100	0.505
	Indian	99.4	0.2	0.4	0	0	1.010	0.134
	English	18.3	15.5	34.3	22.9	9	2.890	1.211
20. Speak to Chinese Classmates for Social Purposes	Malay	19.9	6.4	17.5	22.9	33.3	3.434	1.496
	Chinese	76.3	2.2	2.4	3.8	15.3	1.795	1.509
	Indian	99	0.4	0.2	0.2	0.2	1.022	0.249
	English	16.9	13.9	32.7	24.3	12.2	3.012	1.245
21. Speak to Indian classmates for Social Purposes	Malay	15.7	5.6	21.1	23.3	34.3	3.550	1.411
	Chinese	96.2	1.8	0.6	0.6	0.8	1.080	0.468
	Indian	96.6	0.6	0.2	1.4	1.2	1.100	0.569
	English	14.1	12.2	30.1	26.9	16.7	3.199	1.259

Around Campus Sub-domain	Languages	Never	Rarely	Sometimes	Frequently	Very Frequently	Score	
Specific Social Setting		% of Respondents					Mean	SD
22. Speak to Malay Friends at University Hostel	Malay	2.6	0.4	7.2	18.7	71.1	4.552	0.855
	Chinese	95.4	1.4	1	0.6	1.6	1.117	0.594
	Indian	99.2	0.2	0.2	0.4	0	1.018	0.214
	English	19.3	17.9	35.1	17.3	10.4	2.817	1.229
23. Speak to Chinese Friends at University Hostel	Malay	19.9	7.6	17.1	19.1	36.3	3.444	1.524
	Chinese	77.3	1.8	1.4	3.2	16.3	1.793	1.530
	Indian	99	0.2	0.2	0.4	0.2	1.026	0.279
	English	18.9	14.3	34.9	20.9	11	2.910	1.242
24. Speak to Indian Friends at University Hostel	Malay	15.9	3.6	22.3	21.9	36.3	3.592	1.413
	Chinese	96.6	0.8	1.4	0.2	1	1.082	0.486
	Indian	97.4	0.2	0.4	0.6	1.4	1.084	0.539
	English	14.5	12.7	31.9	24.3	16.7	3.161	1.262

CONCLUSION

The findings of the study demonstrate that undergraduate students were apt to use both the Malay and English languages in the three sub-domains of the education domain. This finding may be explained by the respondents' language proficiency. The large majority of undergraduates participating in this study reported themselves as highly proficient users of the Malay language. Moreover, a high or, to a smaller extent, mid-level proficiency in English was reported by most of the undergraduates. The fact that more than 90% of the respondents were proficient users of the Malay language is in harmony with the Malaysian outlook of national identity, since language is mostly perceived as an identity marker for the language users (Gal, 1979). This finding is especially applicable to non-Malay respondents. However, the English language was found to be used as a strong second language in the most formal settings in education domain, although in certain more formal social events, such as speaking to lecturers belonged to Malay ethnic group respondents preferred to use the Malay language. This tendency may be interpreted as a sign of group solidarity among members of Malay ethnic group, since the majority of the respondents were Malay by ethnicity. In social interactions around-campus, which

can be perceived less formal than classroom and research settings, the majority of the respondents preferred to firstly use the Malay language. To sum up, the linguistic situation in the education domain was found to be similar to a diglossic situation, in which the English language was used more in classroom settings and for research and study purposes, whereas the Malay language was the dominant language in around-campus settings. This language behavior can also be attributed to the use of the Malay language as an identity marker for the respondents. However, the findings of the present study need to be replicated for other domains of language use.

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A Conversational Analysis on Formality in Small Firm Business Meetings

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ABSTRACT

A meeting is a planned gathering and communicative event where the participants' role is to achieve the objectives discussed in a meeting and Business English is often used as the lingua franca. Studies on Business English are becoming a growing interest but there are still limited readily available studies on business meetings, especially those on Malaysian context and even fewer that describe formality of a small meeting. In a meeting, formality can be expressed through the five domains of rapport management. Explicitness as a communication style was used extensively by participants to achieve their own interactional goals. The results have shown that when explicitness is used to achieve different goals, the formality of a meeting would be affected. Using a case study method, this research explored how participants in two small Malaysian companies maintained formality in meetings through rapport management in their conversational turn takings. Conversational Analysis (CA) was used to analyse the audio and video recordings of the meetings. The data was analysed through a step-by-step analysis adapted from Nielson (2012).

Keywords: Formality, Conversational Analysis, Rapport Management, Explicitness

INTRODUCTION

Business English (BE) used in business meetings has been an object of research since the 1970s. Since then, a great deal of work has been carried out on language features such as humour and small talk (Asmuss & Svennevig, 2009; Pullin, 2010; Yang, 2012). Apart from that, studies on topic management, decision makings and turn-takings have all been closely examined by analysts such as Clifton (2009), Du-Babcock (1999) and Svennevig (2012) when they analysed the spoken text of BE in business meetings. Majority of these studies have two criterions in common. The first is the method of analysis used by the analysts.

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A tedious but meticulous method, conversational analysis (CA) is a microanalysis tool that looks at the talk-in-interaction and the speech exchange system that is unique to a particular community (Schegloff, 1999). First introduced in 1974 by Harvey Sacks, Emanuel Schegloff, and Gail Jefferson, CA allows analysts to understand a discourse community in study as it looks at the talk-in-interaction and the speech exchange system that is unique to a particular community (Schegloff, 1999). Apart from CA being a popular analytical tool used in previous studies, studies on rapport management is a common topic among studies on business meetings.

Recently, studies on humour, small talk and the turn-taking interaction between the chairperson and other meeting members are based on Spencer-Oatey's (2008) rapport management. What these studies reveal is that rapport management in business discourse is a growing interest. However, studies in 2013 have shown that more interest are being placed on studies to improve the teaching of business studies, Business English as a Lingua Franca (BELF) in Asian culture and decision making. Therefore, rapport management is a gap that needs to be addressed.

Rapport management is a gap in study to be studied extensively since not many studies have applied in the Malaysian context. Spencer-Oatey (2008) explains that it is a theory used by members of a discourse community to establish a mutual understanding between them. There is a framework on formality by Heylighen and Dewaele (1999) that calculates exactly how formal a given situation is. This gives an idea to how members of a discourse community should act based on the formality of the situation. This framework is useful as a tool to prompt future studies on formality but it raises too many questions if it should be used to help build mutual understanding between discourse community members. Apart from Heylighen and Dewaele, Brown and Levinson also came up with their own theory.

Brown and Levinson (1987) investigated the effects of positive or negative acts towards our face or self-image in an attempt to explain politeness. Accordingly, by understanding politeness, we would come to understand another person better. Their theory acts as a universal explanation to how people establish mutual understanding but there are few problems with this theory. The main problem with their theory is the very same reason that made it so popular. Criticisms by researchers like Matsumoto (1988) and Ogiermann (2009) disagree on the idea of only using positive and negative politeness strategies to establish a mutual understanding for it "ignores the social perspective on face" (Spencer-Oatey, 2008). Their argument is based on the fact that discourse communities belong to different cultures. Hence, rapport management tackles these challenges by establishing itself as the major theory behind mutual understanding and as a theory to explain formality of a situation. This theory by Spencer-Oatey (2008) is widely accepted as it focusses primarily on business discourse.

Despite rapport management being favoured as a theory used in many business studies, the real issue is not how it is applied in large corporations in countries such as Hong Kong or Finland. The real issue is local context. Majority of the previous studies have been in European countries. Yet, very little is known about BE in the Malaysian context or how it is even used to promote rapport. The purpose of continuously conducting research in the field of business discourse is to ultimately create a better BE course. Therefore there is a growing concern to improve the current courses offered for BE. The purpose of this paper is to conduct a case study

on small Malaysian meetings in the area of rapport management. Specifically, this paper studies the use of explicitness in small meetings to better understand how local participants in a meeting affect rapport and formality of a small meeting.

According to Heylighen and Dewaele (1999), formality can be defined as formal language expressed explicitly in order to avoid ambiguity. Formality of a given situation is thought to be context- dependent. Members of any given situation would require information about the context they are in before they can deduce the overall formality of the situation. Formality also contains element of fuzziness in which it is a type of ambiguity which cannot be resolved with contextual information. Heylighen and Dewaele's (1999) definition on formality is the central point for this paper's aims. Hence, the study addresses the following research questions: (1) how does explicitness affect rapport and formality in small firm meetings and (2) what are the interactional goals that explicitness achieves in small meetings in the Malaysian context?

Theoretical Framework

Brown and Levinson (1987) explain that communication style is affected by the interactional ethics of a speaker's culture. They stated that communication style can be explicit or implicit due to how it is shaped by the culture. Spencer-Oatey (2008) describes explicitness as the extent to which a message is coded unambiguously in the words that are chosen. From the various theories that describe formality, this study has designed its own theoretical framework on formality.

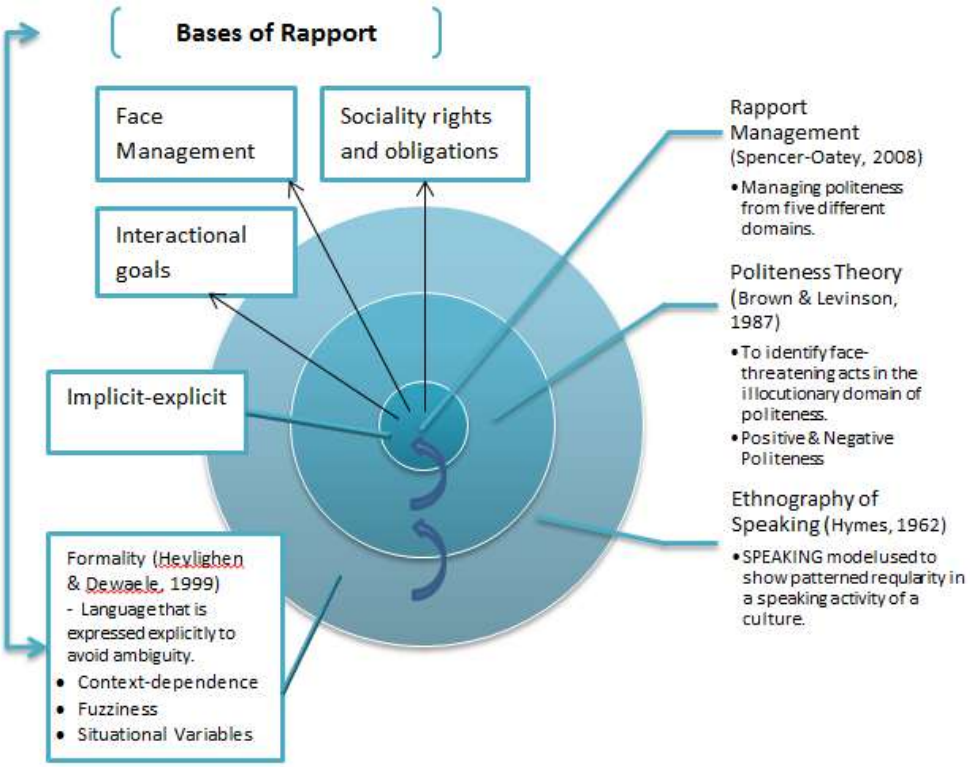


Figure 1 Theoretical Framework on Formality

The main aspect behind this theoretical framework is rapport management by Spencer-Oatey (2008). However, to understand this aspect, two other aspects must first be explained in order to achieve comprehension of this theoretical framework. Firstly, verbal communication in business meetings is centred on the idea that they have their own patterned regularity. It is understood that each discourse community will have its own genres (written or spoken) to convey its messages. Through ethnography, Hymes (1962) has delivered a clear explanation on the structure of verbal communication. His SPEAKING model is a guideline used to map out a spoken language's characteristics in an attempt to display this patterned regularity. The use of this model is to map out the spoken genre of a business meeting which will be the launching pad for this study.

Heylighen and Dewaele (1999) provide a definition to formality. According to them, formality is formal language that must be expressed explicitly in order to avoid ambiguity. Formality of a given situation is thought to be context-dependent. Formality also contains element of fuzziness in which it is a type of ambiguity which cannot be resolved with contextual information. Context-dependence and fuzziness shape Heylighen and Dewaele's (1999) definition of formality. Moreover the situational variables that shape Heylighen and Dewaele's theory on formality is quite similar with the features of the SPEAKING model. Their theory of formality and the SPEAKING model can be viewed as theories that provide the founding idea for this theoretical framework.

By having a universal definition to formality and a model to sort out the characteristics of a spoken genre, we can begin look at a factor of formality. Sifianou (1992) regards politeness as 'the social values which instruct interactants to consider each other by satisfying shared expectations'. Another way to look at this definition is taking culture into consideration. By Sifianou's definition, a person who belongs to a specific culture or discourse community would be considerate in satisfying these shared expectations as it is the social norm for that discourse community. Therefore, politeness helps us to understand a culture's idea of formality for a given situation such as a business meeting for it instructs its discourse members on how to act accordingly. Politeness theory is the study of a person's face or ego. The strategies used to measure politeness are divided between positive politeness and negative politeness. Positive politeness strategy is when the speaker's actions are thought to be desirable while negative politeness strategy is the desire of the speaker's actions to be unimpeded by others.

Based on Figure 1, a brief explanation has been given on how formality is looked at from different aspects of spoken communication in a business meeting and how politeness is related to formality. Rapport management, like politeness theory, is the management of interpersonal relationships where language is used to promote, maintain or threaten harmonious social relationships according to Spencer-Oatey (2008). She describes how politeness should be viewed from five different domains and not one. This view is similar to Hymes' (1962) SPEAKING model as it views verbal communication of a given situation from different aspects as well. Rapport management is based on the three bases of rapport (face management, sociality rights and interactional goals) which will be further elaborated in the review of literature. This theory also analyses the speaker's manner of speech used to manage politeness. This can be viewed as either implicit or explicit. This view is similar with Heylighen

and Dewaele's view on formality as they believe that formality is expressed explicitly.

By combining all of the elements that form rapport management and relating them back to Heylighen and Dewaele's theory of formality and the SPEAKING model, we are then presented with a theory on the relationship between the management of rapport with the formality involved for a given situation. Therefore, how rapport is managed by a discourse community would also describe the formality for that particular context. Large meetings that prioritize rapport would have its discourse members be more alert of their word choice and this would in turn describe the formality of the meeting as formality is dependent on lexical words as illustrated by Heylighen and Dewaele's (1999).

LITERATURE REVIEW

Business English in the Malaysian Context

Nair-Venugopal (2000) gave a detailed explanation on the characteristics of Malaysian Business English in her study on Malaysian workplace despite not providing any relevant information on how the study was carried out. She explained that Malaysian Business English is defined by "how localized ethnic speech is combined with the characteristics of BE in business settings in which forms Malaysian Business English" (Nair-Venugopal, 2007, p. 206). She refers to these localized ethnic speeches as 'ethnolects, segmental phonology and prosody of the utterances of the members of the three major ethnic groups, Malay, Indian and Chinese (Nair-Venugopal, 2007, p. 207).

The study by Nor and Aziz (2010) analysed how politeness strategies were used by the chair to maintain face of his or her subordinates. The study reveals that most of the politeness strategy used by the chairperson turned out to be negative politeness strategy. Negative politeness can be seen as being too direct and as the study shows, the chair used his authority to assert his decision with negative politeness while using other politeness strategies to minimize the hearer's face threat. The display of power by the chair and his use of politeness strategy are valuable insights but the limited number of samples used for this study shows that findings can be obtained without having to rely on multiple samples.

Politeness Theory

There are many theories to help explain politeness. Brown and Levinson's (1987) theory on politeness is based on Goffman's notion of face to which they explain that "it is in everyone's interest to maintain each other's face, which can be threatened and damaged through interaction with others" (Ogiermann, 2009). Brown and Levinson's theory regard all speech acts to be potentially face-threatening to speaker's or hearer's face. In relation to face, their theory uses the face-threatening act (FTA) to assess the degree of face threat towards a person. Two types of strategies are used to measure the FTA. The first is positive politeness strategy which is the speaker's actions that are thought to be desirable while the other strategy, negative politeness strategy, is the desire of the speaker's actions to be unimpeded by others (Brown & Levinson, 1987).

Brown and Levinson's politeness theory is one that has gained much attention by others researching in the same field as their "notion of face is linked to politeness as an abstract concept in a universal model of politeness" (Watts, 2003). In the area of business meetings, politeness theory plays an important role. In securing a successful negotiation, politeness strategies are often used to avoid face threatening acts while attending to mutual face wants (White, 1997). Scollon and Scollon (2001) had also devised a theory that was based on the interpersonal relationship among participants. Brown and Levinson's (1987) theory to politeness is more of a communicative strategy to maintain respect among interlocutors. Politeness is achieved by maintaining a conversation through the use of address forms, language or dialect, jargon or slang and ellipsis (Brown & Levinson, 1987, p. 107).

Criticism of Brown and Levinson's Politeness Theory

Brown and Levinson's Politeness Theory has come under heavy criticism by Watts (2003), Spencer-Oatey (2008), Matsumoto (1988), Ide (1989) and Mao (1994). While Brown and Levinson's theory may seem promising in providing a universal understanding to politeness, it is also not readily acceptable or completely workable for most situations. This is due to how it only looks at an individual's face or self-esteem. Their views mostly reach out to western cultures where they are focussed on the individual. Eastern cultures on the other hand are more on collectivist cultures "whose members define themselves in relation to the social group they belong to, and where the greatest face loss consists in one's inability to live up to the group's expectations" (Ogiermann, 2009).

Indeed, before we look at the politeness of a group, we need to understand how the individual's politeness affects the group. In a sense, Brown and Levinson's theory does seem fit to be called a universal theory as it views the theory as a set of linguistic devices (Ogiermann, 2009). However, this theory alone cannot explain the cultural aspect of politeness as other cultures (e.g: Eastern cultures) will have its own ideologies on politeness. Despite Brown and Levinson's politeness theory emphasizing on the individual's face, Matsumoto (1988) criticises how their theory ignores the interpersonal or social perspective on face but emphasizes more on individual freedom and autonomy. The next section looks more closely into rapport and face management.

Rapport Management

Rapport management contains three main components: the management of face, the management of sociality rights and obligations, and the management of interactional goals. The first aspect in rapport management is face. The definition of face can be understood as a person's sense of identity, self as a group member and self in relationship with others (Spencer-Oatey, 2008).

The next component of rapport management is sociality rights and obligations. This aspect looks at how people regard themselves as having a range of sociality rights and obligations in relation with other people (Spencer-Oatey, 2008). Depending on the social situation and context, those in a business meeting would probably make adjustments to how they should perform in a meeting while taking the cultural values into consideration as part of their rapport management.

Spencer-Oatey's third aspect of rapport management is similar to the general objective of any business meeting. Interactional goals in rapport management have a lot to do with people having their own specific goals to achieve when interacting with others. The desire to achieve them can significantly affect their perceptions of rapport because any failure to achieve them can cause frustration and annoyance (Spencer-Oatey, 2008). Spencer-Oatey elaborates well on what constitutes rapport management but such explanation also gives us a hint as to what could threaten rapport.

The significance of using rapport management is that it is more elaborated than politeness theory. Its features can be used in institutional settings and have been used in the study of rapport management in business meetings. Furthermore, the language features that have been addressed in previous studies through rapport management may hold information into describing the overall formality of a business meeting. The next section explains the research methodology.

RESEARCH METHODOLOGY

The idea behind this study is to analyse the implicit-explicit relationship in a small business meeting by looking at the communicative strategies involved. This study defines a small meeting as a meeting with three to five participants. To analyse these communicative strategies in the business context, conversational analysis was used. It provides a detailed explanation to how speakers carry out sequences of talk by examining the in-progress turn-constructional unit (TCU) of one speaker onto another (Lerner, 2004). Sacks, Schegloff and Jefferson (1974) explain that there are two major parts in the TCU to examine. Firstly, analysts will need to examine how a turn is constructed and possibly extended by other interlocutors. The extension by other interlocutors allow participants in interaction to predict the extent and shape of the TCU and thus to predict its completion. Next, analysts will need to look at how the right to speak is moved from one speaker to the next by analysing the actions taken by the speaker in that turn. The steps explained are used to analyse adjacency pairs in the transcribed audio-video data and to identify elements of rapport management and formality. Analysis of turn takings that initiate new topics within a meeting provided an insight on formality in the samples.

Data was first collected from short interviews with participants before the actual launch of a meeting. The participants were from two different companies whereby all three participants in the first company were directors in a company that sells e-cigarettes and the second company had three teachers from a private language learning centre. Then, two meetings were recorded using audio and video recording devices. Next, data was transcribed and its analysis focused on the adjacency pairs of the participants. By closely examining the audio-video data, this study examined how participants' specific choice of syntax contributed to the bases of rapport: sociality rights and obligations, interactional goals and face management. By studying the three bases of rapport, this study took into account of analysing rapport according to its five domains: Illocutionary, discourse, participation, stylistic and non-verbal. This helped to explain how explicitness affected formality and rapport in both meetings. This process involved reviewing past literature.

After examining the TCU, sequences of turns and adjacency pairs in the opening, middle and closing section of the meeting in the transcribed data, the data is then placed on a line graph. This graph is organized according to two variables: number of agendas in a meeting (horizontal axis) and range in formality (vertical axis). The number of agendas signifies the length of a meeting and possible points in time where explicitness affects formality. The agendas are determined based on the main discussions of the meeting such as finance and the individual discussions within each main discussion. On the other hand, the range in formality, which was adapted from Kawasaki's (1986) scale of politeness, displays the changes in the meeting's formality.

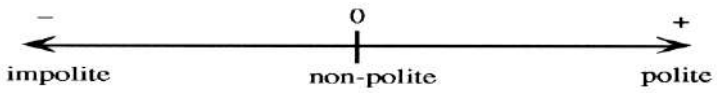


Figure 2 Scale of Politeness

The range in formality only displays two values: 1 and -1. The positive '1' represents a formal situation while the negative '-1' displays a less formal situation.

This graph, where it will be known as the Formality Time graph from this point on, displays the changes in formality according to the number of agendas in a meeting. Through analysing the audio-video data, interviews and the Formality Time graph, a discussion was made on how explicitness affects formality and rapport.

DATA ANALYSIS AND FINDINGS

Two samples were taken from two different SME companies and were recorded and transcribed using CA. Each sample lasted on average of 64 minutes, the longest being 78 minutes and the shortest being 50 minutes. Each sample is a meeting involving 3 participants with their own code names to protect the participants' identity. Before the meeting was recorded, a short interview was carried out on one of the participants in each company to understand the nature of the company's meetings. It was revealed that there is no fixed time as to when a meeting should be held. Unlike a large meeting where there is a fixed time and purpose, the small meetings held by both companies only took place after several informal meetings or when sufficient information has been gathered.

Based on the video analysis, it is quite clear that all participants in both videos are dressed either casually or semi-formal. Furthermore, participants from the interview stated that each meeting member were of equal rank in the company. Therefore, the dress code combined with the participants' relationship with one another sets up an environment that is relaxed. While there is an allocated chairperson in both meetings, the distribution of turns is not determined by the chairperson. Participants either wait for the next speaking opportunity or self-select.

The video also revealed how participants were free to move around the meeting room and participate in other smaller activities such as eating or temporarily leaving the meeting room. This further adds on to the idea that small meetings have a very relaxed environment. The next section presents its findings on how explicitness is used to manage rapport and shape the formality of the participants' turn-takings.

Moreover, the findings were analyzed primarily according to Spencer-Oatey's (2008) rapport management. Analysis had also been carried out in accordance with Heylighen and Dewaele's (1999) theory on formality.

Promoting Negative Rapport Explicitly

Managing rapport will be dependent on the situation that the interactants are in (Spencer-Oatey, 2008). Based on the transcribed data, the speech style used by all of the participants in both meetings were explicit. In accordance with Heylighen and Dewaele's (1999) theory on formality, that would mean that there was an established formality that was accepted by members of the meeting. However, as the next section will show, explicitness causes shifts in formality as the meeting progresses and the results reveal different outcomes of explicitness being used to manage rapport. One of these outcomes is to promote negative rapport.

139. B: [↑ IF]
140. A: [We] protect the design. ↑ So –
141. B: [if] they make it longer or shorter?
142. A: There's no size to it.
143. B: No size to it?

Participants used explicitness in both meetings to achieve their interactional goals. One of these goals is to make an inquiry. As shown above in turn 141, Participant B immediately interrupts Participant A's turn to make an inquiry. Participant B had an immediate goal to accomplish but the directness in his turn promoted negative rapport as his inquiry places Participant C's face at risk. From the example above, the turn-takings displayed a formal situation of a participant making a very direct inquiry.

116. A: ↑ So I followed up on that and activate we reactivate it. ↑ So in uh in two months' time we should be getting our certification from = for the first application -
117. C: [king size]
118. A: for king size Malaysia Industrial Design. ↑ Now -
119. C: ↑ [So] does that mean that the whole time we have king size its (0.5) we don't really own that number?

As the participants in the samples share equal positions within the company, a different set of turn takings develops in the small meetings. As shown in the extract above, participant A carries on with the meeting in turn 116 by using explicitness to convey information. Rapport is maintained and not affected in anyway in the first sample. However, due to participants sharing equal positions, participant C interrupts participant A's turn as seen in turn 119 to make a direct inquiry. From this, it is shown that the closer the power distance, the higher the chance for a turn to be interrupted.

31. E: Alright
32. F: Well hmm: basically 2 write-ups. One on private lesson one on this so called charity classes.
33. F: Private lesson I have no problem writing on my own because I am doing private lessons hmm for a while now so I roughly know what needs to be done but for charity classes I have no idea really nothing in my mind on how to write it up.

It is also found that explicitness is used in the same manner throughout the meeting in both samples. The extract above was taken from the second sample and

turns 32 and 33 reveal how participant F explicitly conveys information on the meeting's agenda.

As mentioned by Spencer-Oatey (2008), one of the factors that influence rapport is power. The greater the power gap, a higher degree of rapport management is shown. This was not shown in a previous study by Spencer-Oatey and Xing (2004) when it was learnt that the participants in the meeting failed to maintain rapport due negative interpretation of their guests' backgrounds. It is a similar case for the samples in this study. Participants have been explicitly interrupting turns to fulfill their own objectives within the meeting which one of them is to make inquiries. At the same time, overly explicit turns can also be used to provide feedbacks to inquiries made.

495. A: We don't have the charger for the battery because the battery will be charged separately. Because the the outer skin of what you called the device or electronic cigarette of all the mod itself do not charge the battery. You have the charge the battery through a battery charger.
496. C: ok ok got it got it.
497. A: ↑ Alright.

As shown in turn 496, the explicitness used to convey participant C's message had a negative effect towards participant A's face. As such, it is negative rapport. By repeating the discourse marker, *ok* without any structured sentence to follow it, this is considered to be informal according to Heylighen's (1999) theory on formality.

248. C: But do we care its Luxembourg Tanzania and Uganda?
249. A: It's it's not about whether we care or not is just that this is what their job is.
250. C: Yeah yeah yeah.
251. A: Their job is to inform [you] -

A similar outcome is also presented in turn 250 when participant C chose to respond to turn 249 in an explicit manner but her actions affects the rapport management negatively as she explicitly shows little interest in that particular turn by repeating the feedback marker '*yeah*' in turn 250. Apart from that, explicitness has also been used to achieve the act of disagreeing as an interactional goal.

465. E: To enlighten.
466. D: ↑ Ok no. ((laughing)) To enlighten? We're not Buddhas
467. E: ((laughing)) HEY. Even in Muslim - in Islam you have class pencerahan. Its enlightening classes.
468. D: No no.
469. E: We're not even that.

On turn 466, Participant D clearly disagrees with Participant E. This would be seen as promoting negative rapport given that Participant D is not trying to be indirect in his turn. Yet, the display of laughter in that same turn is a strategy used to manage the rapport in the exchange of turns between both participants. Rapport is maintained when Participant E also joins in the humour created by Participant D. However, the use of humour in Turn 466 displays a less formal turn.

183. B: If it is cashed then we'll buy it but I think most of it.
184. C: [(cashed) I don't care.] I'm I'm = I care about the (build the bill) outside.
185. B: [I think all of it] all this are all gonna be -
186. C: [All are (build the bill).] So cashed cash is out. It's out. Leave it there.

The findings of this study has so far shown how explicitness is mostly used in small meetings and how it is used to achieve a few interactional goals though negatively affecting rapport. The present study shares similar findings with the study on politness theory in Malaysian meetings by Nor and Aziz (2010). Nor and Aziz (2010) describes how decisions in meetings were made using negative politeness strategy and in turn 184, "[(*cashed*) *I don't care*.]" participant C expresses her decision to bluntly disagree and returns in turn 186 to reaffirm the decision using a similar expression.

As shown in this section, explicitness is being used in small meetings to achieve different interactional goals though at times affecting rapport of the meeting negatively. On the other hand, these interactional goals could only be achieved due to the equal rank that all the participants have within the meeting for both samples. While the interactional goals mentioned within this section were due to the participants' overly explicit use of the language, they used it to help arrive to a decision. One of these interactional goals also include giving out instructions.

314. D: ↑ [Ok so] (0.5) I think why right to give something back and education is important and all that (.) we let Sim handle that. Sim can goreng.
315. E: What? ((laughing))
316. D: Sim SIM is good at goreng.
317. E: How do you know?
318. D: I can [tell]

In the extract above, a decision was made by participant D in turn 314. Interestingly, this decision was not discussed openly among the other participants in the meeting. Instead, it was declared out as an instruction to participant E through explicitness. As with other interactional goals, using explicitness to give out instructions creates negative rapport. In turn 315, participant E shows his confusion over the sudden change brought upon by participant D. Despite participant D's attempt at cajoling participant E into the decision with explicitness, participant E still showed reluctance to accept in turn 317.

338. F: Yeah that's it.
339. D: [We have to goreng a bit.]
340. F: [We collaborate -] We collaborate with hmm (.) We collaborate with hmm:
341. E: This charitable programme is a collaboration between Creative Edu -
342. D: ↑ Ok you handle.
343. F: ((laughing))
344. E: Come on la guys. Don't you listen to advertisements?

Using explicitness to give out instructions promotes negative rapport and may also create reluctance to accept it. This is emphasized when participant D tried to explicitly instruct participant E to carry out a different task in turn 342. For this attempt, negative rapport had been clearly expressed when participant E in turn 344 used explicitness to provide his disagreement.

530. E: I rephrase you me friend. I rephrase you mon.
531. D: Rephrase what?
532. E: Talk is cheap.
533. D: DO IT.
534. E: I am opening my laptop. [What do you want me to do?]

From the samples, the participants used explicitness widely to achieve different interactional goals as they were not affected by the factors of rapport: power

and number of participants (Spencer-Oatey, 2008).This meant that they did not need to concern themselves with rapport management. In turn 533, participant D gave out an explicit instruction that provided high face threat to participant E and as it shows, it was not well received by participant E in turn 534. Yet, this may reveal how participants are not too concerned with rapport management.

Formality Time Graph

This section displays the changes in formality as it is being affected by the use of explicitness in both meetings. Figure 3.1 represents the formality time graph for the first company that deals in electronic cigarettes.

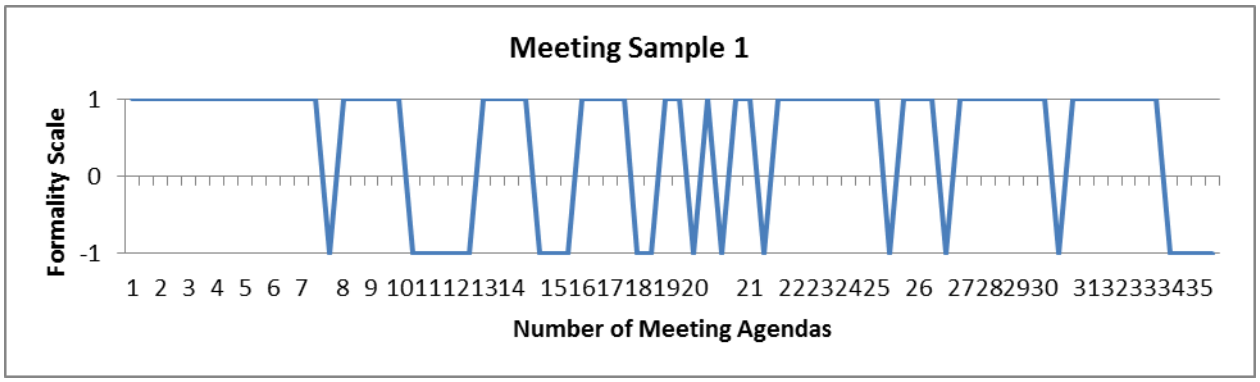


Figure 3.1 Meeting Sample 1

Figure 3.1 displays how the use of explicitness affects the formality of the meeting. What is interesting in this data is the number of times that the meeting experiences a shift from a formal situation to it being less formal or a 'formality shift'. Sample 1 has a total of 35 agendas. The meeting begins in the more formal domain and maintains it until the seventh agenda where it shifts to the less formal domain. Sample 1 experiences similar patterns of where at some point in time; the meeting is in one domain for a consistent number of agendas.

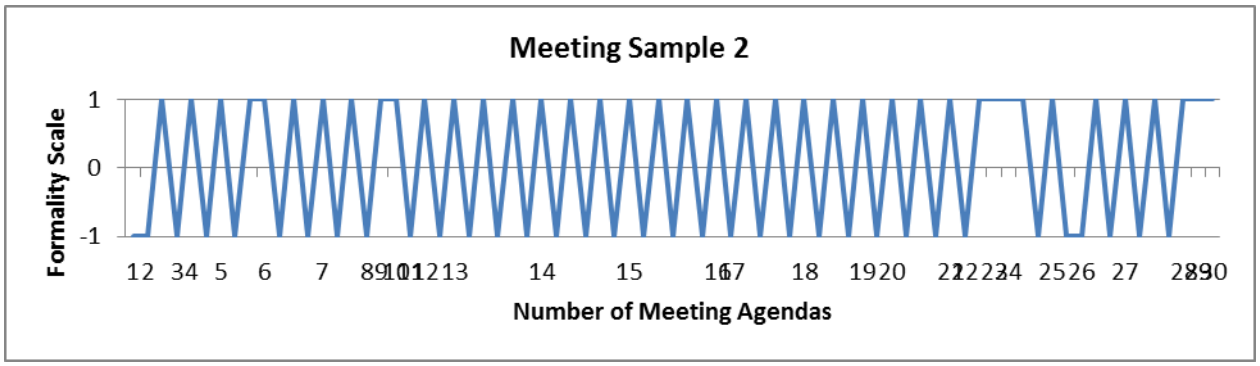


Figure 3.2 Meeting Sample 2

Figure 3.2, like figure 3.1 also has a number of formality shifts in its 30 agendas. Despite having less agendas, sample 2 has got more formality shifts and the meeting itself does not stay in one domain for long. Even though there are agendas that take

longer time to complete such as agenda 14 to 15, there are still many shifts in formality within that one agenda and the meeting is not in one domain for too long. The next section explains the relationship between formality and rapport management and the reason behind the formality shifts in both samples.

DISCUSSION

This study set out with the aim of identifying how rapport and a meeting's formality are affected by the explicitness of a participant's turn. As mentioned in the literature review, Heylighen and Dewaele (1999) states that formality can be defined as formal language expressed explicitly in order to avoid ambiguity. The current study found that explicitness was used by the participants in both meetings and in every stage of the meeting; opening, mid and closing. By using explicitness in every stage of the meeting, small meetings have a standard notion of formality that is acceptable by its participants. Explicitness is used dominantly to convey ideas in a meeting agenda and this does not affect the meeting's rapport. Surprisingly, explicitness has been used to achieve other interactional goals (making inquiries, showing disagreement, providing feedback and giving instructions) but here explicitness promotes negative rapport.

Data from interviews reveal participants from both meetings share equal power. As mentioned by Spencer-Oatey (2008), rapport is affected by factors such as number of participants and power held by the participants. In both meetings, all participants shared equal power and rank and each meeting had only three participants. This explains why participants frequently use explicitness to achieve their interactional goals but as the findings show, it affects rapport negatively. While explicitness may at times promote negative rapport, it does not necessarily mean it creates a less formal situation. Participants that needed to make inquiries have at times overlapped their turns with the current speaker. This infringes the current speaker's right to speak which promotes negative rapport. Yet, the inquiries made were unambiguous and grammatically structured. As such, the meeting maintains its formality. At the same time, explicitness can be used to promote positive rapport but it does not naturally create or maintain a formal situation. At times, humour had been explicitly expressed but due to loosely constructed turns, the meeting at that point in time becomes less formal.

This eventually leads to the formality shifts in both meeting samples. Figure 3.1 and 3.2 both illustrate the frequent shifts in formality. These frequent shifts in formality, especially in Figure 3.2 occur is due to the equal power of the participants and the agendas in the meeting which leads to the various outcomes of explicitness, the small number of meeting participants, the small size of the meeting room and finally, the participant's freedom to move in or out of the meeting room as the meeting progresses as noted in the video analysis.

CONCLUSION

This study has shown that the use of explicitness, while making a meeting more formal as it avoids ambiguity (Heylighen & Dewaele, 1999) also promotes negative

rapport. However, this is dependent on the agenda of the meeting. Situations where turn-takings between participants became more explicit were due to the participants' strong desire to achieve their own interactional goals. Furthermore, the equal power and position that the participants in both meetings share with one another would promote the use of explicitness with little restraint. Participants would not need to feel restricted or feel the need to maintain their face as they are not sharing the meeting room with someone of higher rank or a completely new individual. Hence, the environment of a small meeting with a limited number of participants seems to promote the use of explicitness.

Finally, the data in Figure 3.1 and 3.2 reveal that the use of explicitness creates meetings that have high number of formality shifts. Therefore, small meetings can be considered formal situations but it has the option of suddenly turning less formal due to the participant's freedom to self-initiate new agendas. Small meetings encourage a more relaxed environment as shown in the video recorded data where participants from both videos performed other acts that were not related to the meeting such as eating or cleaning. In conclusion, explicitness seems to be dominantly used in a case study of small Malaysian meetings to achieve certain interactional goals in which have resulted in promoting negative rapport. However, closer analysis on the turn takings reveals loosely constructed turns though explicit which results in a less formal turn that creates a formality shift.

Returning to research question (1), explicitness can be used to either promote positive or negative rapport in a meeting and this result in changes in the meeting's formality. An example of promoting rapport through explicitness is creating humour but this also shifts the meeting's formality to be less formal due to loosely constructed turn takings. Research question (2) on the other hand, explicitness achieves these interactional goals: making inquiries, showing disagreement, providing feedback and giving instructions. This present study has gone some way towards enhancing our understanding of small meetings in the Malaysian context. Despite its limited samples, this study is a step forward to hopefully prompt future studies to research deeper into this area of study.

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APPENDIX

Transcription devices used.

(0.5) Number in brackets indicates a time gap in tenths of a second.

(.) A dot enclosed in brackets indicates a pause in the talk of less than two-tenths of a second.

= 'Equals' sign indicates 'latching' between utterances.

[ ] Square brackets between adjacent lines of concurrent speech indicate the onset and end of a spate of overlapping talk.

(( )) A description enclosed in a double bracket indicates a non-verbal activity.

- A dash indicates the sharp cut-off of the prior sound or word.

: Colons indicate that the speaker has stretched the preceding sound or letter.

. A full stop indicates a stopping fall in tone. It does not necessarily indicate the end of a sentence.

? A question mark indicates a rising inflection. It does not necessarily indicate a question.

↑↓ Pointed arrows indicate a marked falling or rising intonational shift. They are placed immediately before the onset of the shift.

° ° Degree signs are used to indicate that the talk they encompass is spoken noticeably quieter than the surrounding talk.

Under Underlined fragments indicate speaker emphasis.

CAPITALS Words in capitals mark a section of speech noticeably louder than that surrounding it.

(inaudible) Indicates speech that is difficult to make out. Details may also be given with regards to the nature of this speech (eg. shouting).

< > 'Less than' and 'More than' signs indicate that the talk they encompass was produced noticeable slower than the surrounding talk.

Dissecting Nature and Grotesque Elements in Tunku Halim's *Juriah's Song*

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ABSTRACT

Tunku Halim's novella *Juriah's Song* (2008) revolves around the protagonist, Akri and his encounter with the ghost of his late girlfriend, Juriah. Categorised as a horror genre, the characters and settings of this novella serve as important ground where the elements of nature and grotesque interweave to enhance the plot. In this paper, we examine the roles and functions of nature and grotesque through our textual analysis of the chosen text by utilizing the notion of 'the relationship between human and nature' and the concept of grotesque set by Wolfgang Kayser, Sherwood, and Phillip Thomson. Nature is depicted as a mirror reflecting the relationship between human and nature. Grotesque on the other hand refers to various kinds of exaggerated forms of emotions and distorted forms. Our findings demonstrate that both nature and grotesque took up significant roles and affect the characters' perception, judgment and emotions either positively or negatively. The generic designation of grotesque applies on both the actions and characters in the novel. Apart from functioning independently from each other, nature and grotesque are also significant when they are intertwined. When the two concepts are used together, nature acts as the catalyst in developing the grotesque actions.

Keywords: Nature, Grotesque, Horror Novels, Tunku Halim, MLIE

-Requested by author not to be published as full paper-

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Problems in Amateur Subtitling of English Movies into Arabic

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ABSTRACT

The present study sheds light on some of the problems encountered in the process of subtitling English movies into Arabic by amateur subtitling translators. It adopted a qualitative approach in the analysis of a parallel corpus, which comprised a sample of scripts of English speaking movies and their subtitles in Arabic. This sample includes the scripts of two English celebrity movies (*Jarhead*, 2005 and *Alpha Dog, 2006*) and their amateur subtitles in Arabic. The error analysis approach formulated by Bogucki (2009) was adopted with some modifications to suit the analysis approach used in this study. The English scripts and the Arabic subtitles were juxtaposed and the content analysis method was used in the codification and categorisation of the most recurrent problems in the corpus. In the translation comparison process between the source texts and their subtitled versions, Toury (1995) 'coupled pairs' model with the back translation technique was used. The findings indicate that the most predominant problems in Arab amateur subtitling fall within the technical, translational as well as the linguistic domains.

Keywords: Amateur Subtitling, Audiovisual Translation, Subtitling Constraints, Translation Problems, Back Translation

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Sense of Rootedness as A Medium of Self Recovery in Margaret Atwood's *Surfacing*

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ABSTRACT

Human beings naturally find nature as one of the healing sources in revitalizing themselves. Hence, the relationship between human and place, particularly on their sense of rootedness, is important as it can be the medium for human beings to search for recovery and peace. This article explores the concept of sense of rootedness in Margaret Atwood's *Surfacing* (1972). In *Surfacing*, nature has succeeded in rejuvenating the protagonist. This can be seen through the illustrations of the protagonist having a sense of deep rootedness to her home and her well treatment towards nature. Although the story begins with a sense of dislocation, it later develops into the idea of the protagonist having a sense of rootedness to her hometown, which she herself does not realize at first. This eventually contributes to the process of recovery and the discovery of the protagonist's identity. This notion is reinforced in Yi-Fu Tuan's (2001) concept of sense of place in which he stated that place is where humans pause at as it provides basic necessities for them to continue living as well as to recover from sickness and due to that reasons humans have the tendency to value that very place they are living in. Thus, through the protagonist's relationship with nature and her deep sense of attachment towards her birthplace, it is undeniable that nature plays an important role in providing the feeling of comfort and safety to human beings.

Keywords: Sense of Place, Sense of Attachment, Sense of Rootedness, Self Recovery and Self Discovery

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Influence of Ethnocentrism on Offline and Online Interethnic Interactions among Local Students in Malaysian Public Universities

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ABSTRACT

In this study, the authors examine the influence of ethnocentrism on offline and online interethnic interactions among Malaysian students at two multiethnic and multicultural Malaysian public universities. The responses of 200 Malays, 105 Chinese, and 38 Indian undergraduate students were analyzed. Results revealed a significant difference between the level of offline and online interethnic interactions among respondents. It was found that students had more offline interethnic interaction compared to online interaction. It is due to the fact that interaction through online media is more dependent on conscious choice and decision to communicate actively, to take the step of interethnic communication. Thus in situation where they could choose whether or not to interact, they presumably willing elected to not take that step. It can be concluded that students were uninterested in making the effort to expand their interethnic interaction in the virtual world beyond their own ethnic group due to their ethnocentric attitudes. Therefore, all hypotheses of this study were accepted.

Keywords: Ethnocentrism, Interethnic Interaction, University, Malaysia

INTRODUCTION

For centuries, Malaysia has been a multiethnic country, and its population consists of several ethnic groups such as Malays and other Bumiputra (indigenous peoples), Chinese, Indians, Eurasians and others (Department of Statistics Malaysia, 2013). Each ethnicity in Malaysia has its own unique culture and heritage, including but not limited to their preferred languages, belief systems, traditions and religion (Mustapha, Azman, Karim, Ahmad, & Lubis, 2009). The ethnic diversity in Malaysia is, from the historical evidence, an ancient legacy, but the presence of the largest non-indigenous populations' can be attributed to the massive influx of Chinese and Indian immigrant laborers in the country by colonial rulers to meet the labor needs of their colony (Tamam, 2009).

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The historic background of Malaysia had impact on people's perceptions towards other ethnic which Muzaffar (2010) mentioned Malaysia is one of the core example of a heterogeneous and ethnocentric society with interethnic harmony placed under regular threat. Ethnicity issues are as much a practical concern to the Malaysian nation as food supply or water supply issues; it could be argued that it is in everyone's pragmatic self-interest to live harmoniously. Thus, harmonious interethnic interactions are strongly stressed in Malaysia (Tamam, 2013).

In this regard, many observers mentioned that institutions of higher education in Malaysia failed to unite diverse students as well and they are in danger of intolerance, ethnocentrism and self-segregation on campus (Segawa, 2007). Although self-segregation is still an issue in Malaysian multicultural university campuses (Yeoh, 2006; Aziz, Salleh & Ribu, 2010), little is known about the impact of ethnic-related diversity experiences on Malaysian local students (Tamam, 2012).

In these modern times, particularly in a prosperous nation, interaction among people is not limited to face-to-face relationships; technology has enabled online interactions to become a huge share in users' daily communication. The rise of new media enables users to connect to a variety of people from different backgrounds and allows them to find common grounds in their beliefs and interests (Hunter, 2002). Online communication helps users to create new online norms and transfer the norms of real-life social relations into online relations.

By considering the issue of ethnocentrism in Malaysia and the importance of offline and online interethnic interaction among ethnic groups, it is necessary to investigate the relationship between these two phenomena. This fact highlights the importance of ethnicity as Fong and Isajiw (2000) have argued that no discussion of ethnic relations and cross-ethnic ties is complete without investigating the impact of ethnicity. Therefore, this study examines to what extent ethnocentric attitudes impact on the level of face-to-face interethnic interaction and to what extent ethnocentrism regenerates in online interethnic communication.

LITERATURE REVIEW

Offline and Online Interethnic Interactions

Offline interethnic interactions in multiethnic campus refer to the frequency in which a student had studied, dined, or roomed with peers of a different ethnicity (Hurtado, Dey & Treviño, 1994). In other words, face-to-face interethnic interaction refers to intentional and non-intentional contact among students of diverse ethnic backgrounds within academic environments (Robinson, 2012). So, multicultural higher education institutions and universities can be considered as good environments for students to keep in touch with others in order to increase positive cross ethnic interaction.

Many studies revealed that interethnic interactions among ethnically diverse peers in colleges or universities play a vital role in achieving the educational benefits. These learning outcomes include an increasing commitment to democratic values (Laird, 2005; Saenz, Ngai & Hurtado, 2007), an enhance in overall satisfaction, belonging, and persistence (Hurtado, 2005; Locks et al., 2008), more positive academic and social self-concept (Gurin et al., 2002), improving leadership

skills and cultural understanding (Antonio, 2001), and higher levels of civic interest (Gurin et al., 2002).

Chang (1996) found that greater ethnic diversity among undergraduate students positively affects the occurrence of socialization across ethnic if it is related to discussion regarding ethnic issues in college, joining ethnic or cultural awareness workshops, and promoting ethnic understanding. Another study in US showed that interacting communication with students of another ethnic and developing interethnic friendships help majority students to develop cultural awareness in college (Antonio, 1998).

Although interethnic interactions in university has several positive effects and students can benefit from them, some researchers claimed that most educators have not try to encourage students in purposeful intergroup contact, therefore there is no intentional interethnic interactions among students (Harper & Hurtado, 2007). In Malaysian universities, no effective actions have been taken to improve ethnic integration among students. Several studies in Malaysia revealed that a polarization of friendship pattern was visible along ethnic lines. Most public universities in Malaysia have Malay, Chinese and Indian students and despite this range of variety, little is known about the impact of ethnic-related diversity experiences on Malaysian local students (Tamam, 2012). So, it is critically required to look at student's interethnic interaction in Malaysian multiethnic campuses.

Today, online interaction has a much larger share of the time spent on it in the daily life of users'; with face-to-face communication declining somewhat in popularity as Lin (2001) argued that users' social networks increasingly rely on the electronic medium. When it comes to ethnic diversity, social network sites are considered as common communication tools to connect different users. Differences in class, religion and culture, language, lifestyle as well as the social gaps have made it more difficult for ethnic communities to communicate effectively. Hence, new communication tools can be employed as an alternative way to promote social interactions between different groups of users (Jaafar, 2011).

Malaysian youths employ social network sites to socialize with friends and seek information (Abd Jalil, Abd Jalil & Abdul Latif, 2012). Malaysians spend an average of five hours in the cyber realm daily, and three out of these five hours are spent on social media (Mustafa, 2014), and 58 percent of Malaysians being preoccupied with the social media through their hand held devices (Ghandi, 2014). Studies reveal that almost 42 percent of the Malaysian youths between 20 to 29 years old and 16.5 percent of children and teens below 19 are passionate Internet users (Ghandi, 2014). The statistics indicated that 15.6 million out of 19.2 million Internet users in Malaysia are active on Facebook and a total of 64 percent of the population have social media penetration (Mustafa, 2014). Hence, social network sites play significant role in users' interethnic interaction in Malaysia.

Ethnocentrism

The theoretical notion of ethnocentrism, as introduced by Sumner (1906), suggested that in most intergroup contexts "one's own group is the center of everything, and all others are scaled and rated with reference to it" (p. 13). It says all cultures are so embedded in their own unique norms and values orientations that believe that their

specified perceptions and interpretations of the world are the most correct one (Neuliep, Chaudoir, & McCroskey, 2001).

Ethnicity issue has been the most continuous social problem in Malaysia, so living together in a harmonious society with different ethnic backgrounds, such as culture, language, and religion is definitely not easily obtained by Malaysians (Mustapha et al., 2009). Scholars indicated that in societies with high levels of ethnocentrism, it is more challenging to maintain cohesion and keep solidarity between all group members (Hooghe 2003; Sniderman, Peri, De Figueiredo, & Piazza, 2002).

Before studying about ethnocentrism in a society, it is necessary to find the roots and explore where it comes from actually. The ethnic diversity in Malaysia is attributed to the massive influence of Chinese and Indian immigrant labors in the country by colonial rulers to meet the labor needs of the colony (Tamam, 2009).

Malaysia is considered as a collectivist and large power distance culture "which the less powerful members of institutions and organizations accept that power is distributed unequally" (Hofstede, & Bond, 1984, p. 419). During the British colonial power in Malaysia, there were little social contacts among ethnic groups. Their social interactions were restricted only to the office, workplace and market places. This issue had strengthened prejudice attitude and strengthened ethnic identities (Mahli, 1988 as cited in Aziz et al., 2010). These attitudes were barriers to developing social relations (Manaf, 2001 as cited in Aziz et al., 2010) and divisions, groupings and keen competition for achieving political, economic and social advantages between the ethnic groups were followed (Osman, 1989 as cited in Aziz et al., 2010).

Self-separation and polarization developed by the British to exploit the nation and resources and to stabilize their political power in Malaya peninsula. The various roles and status of British government among Malays, Chinese and Indians (Mahli, 1988 as cited in Aziz et al., 2010) resulted in the three groups being divided in terms of career, living quarters and education (Zainal, 1986 as cited in Aziz et al., 2010).

This segregation manipulated the mind of different ethnic groups in Malaysia and did not let them think as "we". Feelings of ethnocentrism can affect the people's reactions and make them decide based on what they feel and imagine according to their own biases. Hooghe (2003) found that in societies with high levels of ethnocentrism, it is more challenging to maintain cohesion and keep solidarity between all group members.

Neuliep (2002) asserted that ethnocentrism is a barrier to effective and impressive intercultural communication. A study has been done by Lin, Rancer and Trimbitas (2005) to compare Romanian and American students to find out the relationship between their ethnocentrism and willingness to communicate. They indicated individuals' communication traits and predispositions affect their behaviors when communicating with other cultures. Results revealed that Romanians had significantly higher levels of ethnocentrism and lower willingness to communicate when compared with their American counterparts.

According to Chen (2000) intercultural communication sensitivity is a precondition for intercultural communication competence. They asserted when an individual's intercultural communication sensitivity increases, there will be enhancing in intercultural communication competence. Therefore, ethnocentrism can be considered as a hurdle to intercultural communication competence (Neuliep, &

McCroskey, 1997). In other saying, there is an inverse relationship between ethnocentrism and willingness to interaction, once the former increases; the latter tends to decrease.

Ethnocentrism can be observed as an obstacle in multiethnic societies. Aforesaid studies indicated that the higher ethnocentric attitudes resulted in less racial interaction. When individuals evaluate the outsiders based on their own believes and values, then it is not easy for them to have interaction free of judgment. This negative perception toward out-group does not allow the in-group to trust and make a positive relationship with outsiders. Hence, having trust is a powerful element to make relationship with others outside the inner cycle. According to Malaysians sensitive viewpoints regarding ethnicity, it is definitely required to investigate the nature of relationship between ethnocentrism and people's interethnic interaction.

Influence of Ethnocentrism on Interethnic Interactions

People's social behaviors in any community are originated from their attitudes toward others and the flow of their attitudes is visible in daily life, hence the quality of their interactions can be affected positively or negatively. People who trust to outsiders can communicate and strengthen their relationship, but on the contrary negative perception toward out-group is a hurdle to allow the in-group to trust and make a positive relationship with outsiders. As Powers and Ellison (1995) claimed positive interethnic interactions occur among individuals who have positive internal attitudes toward different ethnics.

Neuliep (2011) believes that culture teaches individuals how to think, educate people how to feel, and instruct people how to act and interact with others. People through intercultural interactions employ their own cultural values and standards to evaluate and communicate with different ethnic because their internal attitudes toward other influence their interactions (Guan, 1995; Kelley, 2003).

Ethnocentrism is a barrier to effective and impressive intercultural communication (Neuliep, 2002). In an ethnocentric community all cultures are imbedded in their own unique norms and values orientations as they believe that their specified perceptions and interpretations of the world are the most correct one (Neuliep, 2001).

There are several studies regarding the role of ethnocentrism in communication and interaction among people. Lin, Rancer and Lim (2003) did a cross-cultural comparison of ethnocentrism and willingness to communicate between Koreans and American college students. They found that Korean students have significantly lower scores on both ethnocentrism and intercultural willingness to communicate compared to their American ones.

Lin, Rancer and Trimbitas (2005) did a study to explore the relationship between Romanian and American students' ethnocentrism and their willingness to communicate. They indicated individuals' communication behaviors and tendencies affect their behaviors when interacting with other cultures. Results revealed that Romanians have significantly higher levels of ethnocentrism and lower willingness to communicate when compared with their American counterparts. Hence, ethnocentrism can be considered as a hurdle to intercultural communication competence Neuliep (1997a). In other words, the relationship between ethnocentric

attitudes and ethnic interactions is negatively correlated and past studies revealed that ethnocentrism is an obstacle in multiethnic communities.

An opinion poll on ethnic relations in Malaysia done by the Merdeka Center at 2006 which indicated that although Malaysians were happy with their ethnic relations, ethnocentric views, misunderstanding and mistrust are quite prevalent among them. Researchers noted that educational benefits were related to interethnic interactions in racially diverse campuses but many universities did not try to encourage students to interact across ethnic backgrounds (Robinson, 2012). This trend happened in Malaysian multiethnic universities as well and disunity is a big issue in academic campuses.

Interethnic interactions in multiethnic campus refer to the frequency in which a student had studied, dined, or roomed with peers of a different ethnicity (Hurtado, Dey & Treviño, 1994). In other words, interethnic interactions refer to intentional and non-intentional contact among students of diverse ethnic backgrounds within academic environments (Robinson, 2012). So, multicultural higher education institutions and universities can be considered as good opportunities for students to keep in touch with others in order to increase positive cross ethnic interaction.

Bowman (2011) believed that students' development depends on interaction across ethnic and discussion on ethnic-related issues. It is due to the fact that positive cross ethnic interaction helps ethnical attitudes to be improved (Sigelman, 1993; Powers & Ellison, 1995). Nesdale (1998) found in their research that cross ethnic friendship is of great importance for students as they can learn about others, build a sense of understanding between diverse groups, and reduce prejudicial attitudes toward different ethnics. Campus diversity generates an ethnically rich atmosphere in which students are able to think more critically about ethnic-related social concerns, to experience diversity through interethnic interaction, exposure to other cultures, improve social self-confidence, as well as issues related to ethnic communication in classroom (Antonio, 2001; Hurtado et al., 2003; Bowman, 2011).

Nowadays interaction between students is far beyond only face-to-face communication, as online interaction has a massive role in students' daily life. The rise of new media has changed the concept of traditional communities and online communities have emerged subsequently. Online communication enables users to connect to a variety of people from different backgrounds and allows them to find common grounds in their beliefs and interests (Hunter, 2002).

Although, online communication tools may foster interactions in the virtual world, it does not play the same role in heterogeneous societies and people may follow the same communication style that they had offline. Abdullah (2009) (as cited in Ridzuan, Bolong, Omar, Osman, Yusof & Abdullah, 2012) found that only 52 percent of Malaysian adolescent had a friend of a different ethnic. Hence, positive or negative attitudes towards different ethnics can be transferred to online interactions as well.

THE RESEARCH CONTEXT

The two universities under study had 13850 and 12800 local undergraduate students in 2013 and they were among the premier multicultural public research universities in Malaysia. Ethnic breakdown in the student body was 6:3:1 ratio of Malay to Chinese to Indian in these campuses. These universities were not only diverse in

their student body, but also in its faculty members. Malay, Chinese, and Indian racial groups were quite well represented among the members of the faculty.

A large majority of local undergraduate students of all ethnics live in residential colleges. Various forms of activities throughout the year are provided by these residential colleges in order to enhance closer relationship among students of different ethnic groups. Students are required to pass a couple of compulsory courses related to race/ethnicity, culture, and ethnic relations (Tamam, 2013). So, it is expected these kind of activities lead students to bridge to each other and communicate beyond ethnocentric attitudes.

RESEARCH QUESTIONS AND HYPOTHESES

Malaysia is a multiethnic and multicultural country which race-related issue is an obstacle in its universities. What paves the way for growing interethnic interaction on campuses is the positive attitude of students toward outsiders. Malaysia is considered as an ethnocentric country which ethnic relations were dampened by negative attitudes toward other ethnics. Past studies in this country revealed that ethnicity is important for people and they prefer to identify themselves based on their own ethnic rather than national identity. So, this study is to investigate to what extent local students' ethnocentric attitudes affect their offline and online interethnic interaction. So, the general questions that this study aims to answer are:

- **RQ1**: What is the relationship between ethnocentrism and offline interethnic interaction among local students?
- **RQ2**: What is the relationship between ethnocentrism and online interethnic interaction among local students?

Drawing on the discussions outlined above, the present study tests the following hypothesis.

- **H1**: There is a relationship between ethnocentrism and offline interethnic interaction among local students.
- **H2**: There is a relationship between ethnocentrism and online interethnic interaction among local students.

RESEARCH METHODOLOGY

Data Collection Procedure

The survey data came from a total of 343 undergraduate students of two multicultural public universities. Self-administered questionnaires were used to collect data. Non-random quota sampling was employed to select respondents in two selected universities. Respondents were selected based on their ethnic ratio, meaning Malay (60%), Chinese (30%) and Indian (10%). Two residential colleges with the highest number of local students were picked based on a list of students in each university. The best time to have access to the highest number of respondents was at lunch and dinner time in cafes. The questionnaires were distributed to every third student who was in queue and wanted to pay for the food. This approach was continued until

fulfilling the required number for each ethnic. Out of the 392 students approached for the survey, a total of 200 Malay, 105 Chinese, and 38 Indian students participated giving a survey response rate of 87%. The respondents' age ranged from 18 to 27 years with a mean of 21.90 (SD = 1.58). There were more female respondents (57%) than male respondents (43%). The samples represent all levels of undergraduate students; first-, second-, third-, and forth-year students, 30.1%, 29.5%, 23.9% and 16.5% respectively.

Measurement

Ethnocentrism: this study employed Neuliep and McCroskey's (1997) generalized ethnocentrism (GENE) scale for measuring students' ethnocentric attitudes. Five items with a five-point Likert scale from strongly agrees to strongly disagree indicated high reliability (α = 0.85) (Table 1).The GENE has demonstrated acceptable reliability in different studies as well (Dong, Day, Colloço, 2008; Justen, 2009; Swenson et al., 2012).

Interethnic interactions: It refers to any online and offline interethnic interactions that occur among local students in two local universities.

Offline interethnic interaction was assessed through 8 questions regarding the respondents' interaction experiences with students of other ethnic groups on campuses. The first question in this part was designed to know how often students interact with peers and friends of different ethnics on campus. The rest was extracted from the Your First College Year (YFCY) survey instrument (2013) and modified to assess the students' interethnic interaction since entering the university. The original scale was about the students' experience on campus with students from a racial or ethnic group other than their own. This questionnaire was developed since 2000 to assess the academic and personal development of students. The section that was related to the relationship of students with other ethnic groups was extract out of this questionnaire.

For instance, the first question in the original scale was *I dined or shared a meal with students from a racial/ethnic other than my own* and in this study it was modified to *I dined with peers or friends of different ethnics in this campus in a semester*. Offline interaction among students was the main point in this part, so face-to-face phrase was added to any item to capture the respondents' attentions. The last question [*I partied with students from an ethnic group other than my own*] in this scale was deleted as it didn't match with the Malaysian culture. So, seven items with five-point Likert scale from very often (4) to never (0) were employed to indicate the positive and negative interethnic interaction among students in and off the campus (Table 1). The Alpha Coefficient for the scale indicated quite high (α = 0.91).

Online interethnic interaction shows any communication through Internet, emails, chat rooms, social network sites and so forth. The first question in students' online interethnic interaction was to investigate which online communication tools were employed by students to interact with other ethnics and the next question was to know how often students interact online with their peers and friends of different ethnics. The items in this part were adopted from the previous part, offline interethnic interaction. Online interaction was replaced with face-to-face interaction in any item. A five-point Likert scale ranging from (4) very often to (0) never was used to analyze this section as well.

Analysis Procedure

The details of the measurement properties for each construct are shown in Table 1. First, confirmatory factor analysis (CFA) was run and standardized factor loadings are greater than 0.5 and all of them are significant at 95% confidence level (Hair et al., 2010). Although due to large sample size, Chi-square goodness of fit test is significant (p-value < 0.05) (Hair et al., 2010), by referring to other model fit indices the model fit is good (Table 1). Then construct reliability, convergent validity, and discriminant validity were assessed (Hair et al., 2010). As shown in Table 1, the three constructs are reliable (composite reliability range 0.014 - 0.919). For convergent and discriminant validity, this study followed Hair et al.'s (2010) guideline and assessed average variance extracted (AVE), maximum shared squared variance (MSV), and average shared square variance (ASV). As shown in Table 1, AVE for all constructs are greater than 0.5 and CR is greater than AVE for each construct. Thus, all constructs have convergent validity. For discriminant validity AVE should be greater than MSV and ASV. As indicated in Table 1, AVE measure for each construct is greater than its MSV and ASV and there is no discriminant validity issue.

Table 1 Measurement items properties

Construct / Measure (Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Squared Variance (MSV), Average Shared Square Variance (ASV))		Factor Loading
Ethnocentrism (CR = 0.914, AVE = 0.680, MSV = 0.184, ASV = 0.134)		
1	I do not cooperate with people who are from different ethnics.	0.82
2	I do not trust people who are from different ethnics.	0.84
3	I dislike interacting with people from different ethnics.	0.88
4	I have little respect for the values of other ethnics.	0.81
5	I have little respect for the customs of other ethnics.	0.78
Offline Interethnic Interaction (CR = 0.898, AVE = 0.596, MSV = 0.323, ASV = 0.116)		
1	I had meaningful and honest face-to-face discussions about ethnic relations with peers and friends of different ethnics.	0.71
2	I had satisfied face-to-face interactions with peers or friends of different ethnics on campus.	0.67
3	I had friendly face-to-face interactions with peers or friends of different ethnics on campus.	0.80
4	I had face-to-face intellectual discussions with peers or friends of different ethnics outside the class.	0.70
5	I felt secured during face-to-face interactions with peers or friends of different ethnics.	0.73
6	I studied or prepared for class with students of different ethnics through face-to-face discussions.	0.68
Online Interethnic Interaction (CR = 0.919, AVE = 0.531, MSV = 0.277, ASV = 0.181)		
1	I use online media to interact with peers and friends of different ethnics.	0.72
2	I had meaningful and honest online discussions about ethnic relations with peers and friends of different ethnics.	0.73
3	I had satisfied online interactions with peers and friends of different ethnics.	0.77
4	I had friendly online interactions with peers and friends of different ethnics.	0.81
5	I had online intellectual discussion with peers and friends of different ethnics.	0.76
6	I felt secured during online interactions with peers or friends of different ethnics	0.73
7	I studied or prepared for class with students of different ethnics through online discussions.	0.70

All factor loadings are more than 0.5.

RESULTS

Offline Interethnic Interaction

In relation to the respondents' offline interethnic interaction, the results of the present study expose the students' interethnic interaction on campus. As shown in Table 2, the students were asked about the quantity of their interaction with students of other ethnics on campus. The findings show that students had interethnic interaction mostly every day (46.6%), 3 to 5 days in a week (25.4%), followed by 1 to 2 days in a week (15.2%), once a week (7.6%), very less frequently (5.2%), never (0%). Every day interethnic interaction had the highest score compared with other items and almost one-half of the students had every day communication with other students. It shows students could not avoid campus interethnic interaction and most of them experienced the interaction. There was no student who had never experienced offline interethnic interaction. Therefore, campus can be considered a good opportunity for students to increase their interethnic interaction.

Table 2 Descriptive statistic regarding respondents' offline interethnic interaction

Items	Frequency	Percentage
Every day	160	46.6
3-5 days in a week	87	25.4
1-2 days in a week	52	15.2
Once a week	26	7.6
Very less frequently	18	5.2
Never	0	0
Total	**343**	**100**

Online Interethnic Interaction

In relation to the respondents' online interethnic interaction, the results of the present study reveal the students' interethnic interaction in the virtual world. As indicated in Table 3, the students were asked about the quantity of their online interaction with students of different ethnics. The findings show the most online interethnic interaction occurred among students 3 to 5 days in a week (24.2), 1 to 2 days in a week (20.4%), followed by every day (19.8%), once a week and very less frequently equally (16.9%), and six of the respondents never experienced any online interaction with peers and students from different ethnics.

The result indicates that when it comes to online interethnic interaction, students preferred to decrease their interaction with peers of different ethnics compared to offline contacts. Students can decide and choose their contacts in cyber realm. The Findings show students' online interethnic interaction was decreased and they did not follow their offline communication style. Although almost half of the respondents had daily face-to-face interethnic interaction on campus, this number decreased to less than 20 percent in online interethnic communication. In addition, there were 6 students who had never had online interethnic interaction. In other

words, although all the students had offline interaction with peers of other ethnic, some of them decided to have no online interethnic interaction.

Table 3 Descriptive statistic regarding respondents' online interethnic interaction

Items	Frequency	Percentage
3-5 days in a week	83	24.2
1-2 days in a week	70	20.4
Every day	68	19.8
Once a week	58	16.9
Very less frequently	58	16.9
Never	6	1.8
Total	**343**	**100**

Type of Online Media

After knowing the quantity of online interethnic interaction among students, they were asked about the type of online media they have employed for communication. As shown in Table 4, the results reveal that using social networks such as Facebook, Twitter, Myspace and so forth were respondents' priority (85.7%). Findings indicated that 10 percent of the respondents used chat rooms for interaction with peers and students from different ethnics followed by Email (2.9%) and instant messaging like Yahoo messenger, Google talk, Skype, Oovoo and so forth (1.2%). The findings reveal that Malaysian students were so attached to social media for their interethnic contacts. More than two third of the respondents preferred to employ SNSs for their online communication and it shows social media played important role in interethnic interaction among Malaysian students.

Table 4 Descriptive statistic regarding type of online media usage for interethnic interaction

Items	Frequency	Percentage
Social Networks	294	85.7
Chat rooms	35	10.2
Email	10	2.9
Instant messaging	4	1.2
Total	**343**	**100**

Hypothesis Testing

The structural equation model (SEM) was developed to test the hypothesis. For testing the hypothesis, the relationship between ethnocentrism and offline and online interethnic interactions were measured. As it is shown in Table 5, ethnocentrism had a significant negative effect on offline interethnic interaction ($\beta = -0.27$, $p = 0.001$). Squared multiple correlations for offline interethnic interaction is 7% and it indicates that totally 7% of this construct is explained by this model. So, the finding indicates that the first hypothesis of this study is supported. The results indicate that ethnocentrism had negative relationship with face-to-face interethnic interaction

among students. In other words, students with ethnocentric attitudes had less interaction with peers and students of other ethnics.

As it is indicated in Table 5, ethnocentrism had a significant negative effect on online interethnic interaction (β = -0.25, p = 0.001). Squared multiple correlations for online interethnic interaction is 6% and it indicates that totally 6% of this construct is explained by this model. So, the result indicates that the second hypothesis of this study is supported too. The findings show that ethnocentrism attitudes regenerated in cyber realm among respondents.

Table 5 Hypotheses test

	Standardized Effect (β)	S.E.	Explained Variance
***H1*:** Ethnocentrism → Offline Interethnic Interaction	-0.27*	.068	7%
H2: Ethnocentrism → Online Interethnic Interaction	-0.25*	.063	6%

Sig. denotes a significant direct effect at 0.05.
* $p < 0.001$.

DISCUSSION AND CONCLUSION

This study was carried out to determine the nature of the relationships between ethnocentrism and offline and online interethnic interactions among the Malay, Chinese, and Indian undergraduate students at two local multiethnic universities. The motivation of the study came from the gap in the local literature regarding the direct effect of ethnocentrism on interethnic interactions. The first hypothesis of this study was: There is a relationship between ethnocentrism and offline interethnic interaction among local students.

The results show that there was a significant and negative relationship and confirmed that ethnocentric attitudes still existed among local students. These findings indicate that Malaysian students were not so much interested in getting involved with other ethnic students. The Findings clearly showed that ethnocentrism was negatively correlated with face-to-face interethnic interaction. Although local students had different group activities in campus, their ethnocentrism tendency prevented them from mingling with other ethnics easily. This negative attitude deterred students to trust and cooperate with peers of different ethnics. So, the first hypothesis is fully supported. The findings of the present study confirmed the lack of ethnical integration in Malaysia (Merdeka Center, 2006; Yeoh, 2006; Tamam, 2013). In addition, this finding supported the previous studies that indicated ethnocentrism was a barrier to effective intercultural communication (Lin, Rancer and Trimbitas, 2005).

A study in 2007 indicated that the level of unity and ethnic relations in Malaysia has declined (Aziz, et al., 2007 as cited in Ridzuan, et al., 2012). Similar studies have shown that the lack of unity among the various ethnic groups in Malaysia is due to the ethnocentric attitude (Isman & Hanafi, 2008 as cited in Ridzuan et al., 2012). Whether or not ethnocentrism is identical to outright racism,

ethnocentric attitudes certainly encourage the negative manifestations of ethnic discrimination.

The second hypothesis of this study was: There is a relationship between ethnocentrism and online interethnic interaction among local students. The students' ethnical attitudes prevented them from interacting with different ethnic groups especially when it came to online interaction. The students did not even follow their offline communication style. Although almost half of the respondents had daily interethnic interaction, they preferred to decrease their contacts with students of other ethnics on online communication. Meaning, they were not much interested to enhance their online interaction with their peers of other ethnic groups and they preferred to communicate with in-group peers rather than out-group ones. It showed ethnocentric people stayed one step away from the outsiders and they did not communicate with them by their own willing.

Those Malaysian students who were more open to other ethnic peers could have stronger communication and interact with them regardless of their negative perception. Ethnocentric attitude hampered intercultural communication which would decrease racial interaction in the whole community. These findings shed the light on ethnic issues in Malaysian universities and also showed that ethnic was important for Malaysian students as it had been before. So, much more attention should be given to the Malaysian young generation to become closer despite all fundamental differences.

As shown in this study, students had more offline interethnic interaction compared to online interaction. Possibly this is due to the fact that they had classes regularly, and thus had to interact and communicate with other ethnic groups whether they liked it or not. But online interaction is not based around unavoidable physical presence, but is a medium more dependent on conscious choice and decisions to communicate actively, to take the step of interethnic communication. Thus in situation where they could choose whether or not to interact, they presumably willing elected to not take that step.

Critical factors that facilitate or constrain interethnic interaction among students need to be identified and should be dealt with accordingly. It is necessary to identify which factors work better for each ethnic to decrease the level of ethnocentrism. The present analysis did not provide the differential level of ethnocentrism in each ethnic group. It can be considered as a shortcoming of the present study.

The analysis in this study provided further evidence on the lack of unity and cooperation among students in two universities under study. Hence, universities need to shape and boost interethnic interaction among students beyond classrooms. In addition, multiethnic universities should encourage students with different tactics for cross-racial interaction both online and in the campus.

Universities should reform their education systems and play an important role to persuade students to engage in interethnic interaction apart from ethnicity perspectives. Group activities and specific intervention programs need to be designed in order to raise students' interethnic interaction competencies. People in heterogeneous communities must know that they cannot avoid interethnic interaction and need to break their racial shell and interact more with different races to build strong communication bridges for the future.

It is recommended to future studies to investigate whether there is any other reason rather than ethnocentrism that prevents students to interact with peers of different ethnics. It is suggested to future studies to implement this research in private universities with minor Malay students to see whether the findings are the same or not.

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Fusions of Animistic and Islamic Practices in Anthony Burgess's *The Malayan Trilogy*

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ABSTRACT

Although widely known outside Malaysia, *The Malayan Trilogy* (1964), consisting of *Time for a Tiger* (1956), *The Enemy in the Blanket* (1958) and *Beds in the East* (1959), an English literary text set in pre-independence Malaya by *Anthony Burgess* (1917-1993), is believed to have been overlooked in the Malaysian literary context. The trilogy is written with the colliding of cultures and clashes of religions as the central themes (Biswell, 2005, p. 168). Moving on from the context of these two central themes, this paper attempts to examine the author's portrayal of the animistic beliefs of the Muslim Malay characters and to discover how the animistic beliefs are linked to the practice of Malay *adat*/culture. We hypothesise that there are indeed manifestations of the animistic beliefs with the practice of *adat*/culture among the Muslim Malay characters despite the frequent philosophical clashes between this element and Islam. Using a textual analysis as our methodology, we will utilise the paradigm of Malayness by Ida Baizura Bahar (2010) where, out of the six elements outlined in the paradigm, we will only be applying two, namely Islam and *adat*/culture. This paper will demonstrate how the Muslim Malay characters in the trilogy practise a mixture of inherited beliefs from their ancestors with the teachings of Islam, and that the Muslim Malay characters residing in villages are those who reflect the slow disintegration of faith in Islam due to their stronger bond with the ancient-old beliefs compared to the ones residing in towns.

Keywords: *The Malayan Trilogy,* Anthony Burgess, Islam, Animistic beliefs, The Paradigm of Malayness

INTRODUCTION

The Malayan Trilogy (1964) is a trilogy written by Anthony Burgess (1917-1993), consisting of *Time for a Tiger* (1956), *The Enemy in the Blanket* (1958) and *Beds in the East* (1959). *Time for a Tiger* (1956), which is the first novel in *The Malayan Trilogy,* is written with the colliding of cultures and clashes of religion as the central

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theme and this theme remains consistent throughout the first until the third novel which binds the trilogy as a whole (Biswell, 2005, p. 168). Burgess weaves the story into a satire that represents the Malayans who live around the almost anti-hero protagonist, Victor Crabbe, a teacher at Mansor School, in a town called *Lanchap*. One of the focal points in the trilogy is Burgess' narrative on the way of life of the Muslim Malay community, where the characters are portrayed as living their everyday lives based on a fusion of their practice of Malay *adat*/culture and their understanding of religion, Islam. The Malays, who have been occupying a geographical area described as the Malay World comprising what is now politically known as Malaysia, Singapore, Indonesia, Brunei, the southern of Thailand and the southern of the Philippines, embraced Islam in the 12th century (Mohd. Taib Osman, 1989, pp. 13-14) and had been practising other beliefs, namely animism, Hinduism and, later, Buddhism. The people of the area were practising either animism or combined animism with a mixture of Hinduism and Buddhism before they became Muslims and, soon after, Islam "did not displace existing political and social elites or challenge too many existing social values and practices" (Means, 1969, p. 266).

LITERATURE REVIEW

Anthony Burgess (1917 – 1993)

John Anthony Burgess Wilson, or known through his moniker as Anthony Burgess, was born in Harpurhey, Manchester where he later graduated in 1940 with a degree in English Literature from the University of Manchester (Burgess... a Brief Life). He dedicated his life to live and work in Malaya and also Brunei between the years of 1954-1959 as an educator, and his experiences and encounters during his years there inspired him to shape his views and works particularly on the Malays and Islam. Harrington (2008, p. 3) suggests that Islam has inspired Burgess in his works as it offers him the medium to discover the "characteristic themes of good and evil, right and wrong, the limits and nature of human free will, and the relationship between the individual and authority."

Burgess is mostly remembered for his teaching post at the Malay College Kuala Kangsar (MCKK) in the state of Perak situated on the western coast of then Peninsular Malaya. MCKK was, and still is, an elite school which was originally built for the children of Malay aristocrats (Azmi and Shamsul A. B, 2004, p. 348). This elite school, which is also called the 'Eton of the East', inspired Burgess to write about the Mansor School in *Time for a Tiger*, the first volume of *The Malayan Trilogy* (Ida B. B., 2010, p. 74). Burgess, who at first was posted to Kuala Kangsar, was later transferred to Kelantan, a state on the east coast of Peninsular Malaya, after getting involved over a heated argument with the then principal of MCKK, J. D. R. Howell, over the accommodation for himself and also his wife (Ida B. B., 2010, p. 74).

During his years of service in Malaya, he socialised with the local people and learned how to not only read but also write in the Arabic script (*jawi)*. His fluency in *jawi* aided him in reading and understanding the Muslim holy book, the *Qur'an* (Harrington, 2008, p. 3). However, his socialisation, particularly with the Muslim Malays in Malaya, led to his contact with what he deemed as flawed characters, who

practised un-Islamic ways of lives, most of which his fictional characters in the trilogy are based on (Coale, 1981, p. 438). In the following section, we will discuss Burgess' fictional narrative on the Malay World.

***The Malayan Trilogy* (1964)**

Although *The Malayan Trilogy* is set in Malaya, there have been limited studies conducted so far on this text, especially in the Malaysian academic context and discourse. One of the more notable studies on the text is *Resisting Colonial Discourse* (2003) by Zawiyah Yahya, where she analyses the trilogy for the purpose of "tracing fault-lines of conflicting discourses or slippages from what is perceived to be intended ideological project of the text" (p. 24). Besides analysing Burgess' trilogy, Zawiyah also analyses selected texts from two other authors whose texts are set in the Malay World, namely Joseph Conrad (1857 – 1924) and Somerset Maugham (1874 – 1965). Her study explores the reality of the Malay society envisioned by Burgess himself and she suggests that Burgess is the opposite of typical writers who are far removed from the realities of the Malay society.

Despite his knowledge of the Malay society, Zawiyah (2003, p. 168) also notes that Burgess applies his "Western epistemology on the native landscape as an organising principle of his description." His failure of realising that animistic beliefs have already become part of the lives of the Malays is believed to be due to his way of viewing both the Malay society and their practices from his European eyes. Zawiyah, however, highlights Burgess' ability to "see the incongruity of mixing animistic and Islamic practices…" (Zawiyah, 2003, p. 168).

Besides that, Zawiyah also states that a female character named Rahimah (erroneously referred to as Salmah in her book) of *Time for a Tiger* is depicted as challenging the stereotypical belief of the submissive Oriental woman. Rahimah is Crabbe's Muslim Malay mistress and, instead of confirming to the stereotypical trait of a helplessly romantic Malay woman who keeps everything to herself, she actually plans a vendetta against Crabbe by using black magic, a practice that is forbidden in Islam (Zawiyah, 2003, p. 176).

Apart from Zawiyah, another study on the trilogy has been conducted by Ida Baizura Bahar in her unpublished doctoral thesis, *The Paradigm of Malayness in Literature* (2010). In her study, Ida analyses selected English literary texts on the Malay World, namely Joseph Conrad's *Almayer's Folly* (1895), *An Outcast of the Islands* (1896) and *The Rescue* (1920); Somerset Maugham's "The Force of Circumstance" (1924), "The Outstation" (1924), "The Yellow Streak" (1925); and Burgess' *The Malayan Trilogy* (1964), in order to demonstrate her hypothesised paradigm of Malayness in literature as an everyday-defined social reality.

In the trilogy, Ida analyses only the Muslim Malay characters, namely Rahimah of *Time for a Tiger*, 'Che Normah Abdul Aziz and the Abang of *The Enemy in the Blanket* and Syed Omar, Syed Omar's son, Syed Hassan and Nik Hassan of *Beds in the East*. One of the main issues discussed by Ida is the practice of animistic beliefs together with their faith as Muslims where, although the town of *Lanchap* is described by Burgess with "references to Islam in the forms of Tenet of Islam and Islamic ruling", it also "contains depictions of a way of life and system of belief which, in principle, are against the philosophies and teachings of Islam". Ida (2010, p. 110) exemplifies how the novel contains "divorcee prostitutes offering

their trades in the evening streets while ancient Hinduism and primitive magic are practised in the villages and suburbs."

In her study, Ida also suggests that Burgess depicts in the trilogy how the teachings of Islam and modernisation work side by side. This is especially true in the last chapter of the last novel in the trilogy, *Beds in the East*, where the Muslim Malay villagers are depicted as still clinging to the inherited beliefs of their ancestors due to the fact that they reside near the forest, which is a sharp contrast from the urban residents. According to Ida, "the teachings of Islam can work philosophically in tandem with progress and modernisation for these are what towns are all about". She argues that "(t)he idea that the towns corrupt Islam …and its followers are an antithesis because ironically it is the towns that reinforce the values of Islam". As Ida (2010, pp. 111-112) views it, this argument is based on the fact that "the villages are the places where their beliefs in animism have taken root and continue to thrive – they are close to and surrounded by the jungle."

Another issue brought up by Ida is the practice of the *wayang kulit* (shadow play). This practice is defined by Crabbe in *Beds in the East* as a form of art which is moulded by a fusion of beliefs, mainly Hinduism and Islam. Ida (2010, pp. 122-123) suggests that "the narrative indicates that there are attempts to link the art to Islam as seen in the reference to the Koran through the recitation by the Master who is actually the storyteller called the *Tok Dalang* in Malay." In The *Enemy in the Blanket*, Ida (2010, p. 123) again discusses the depiction of the practice of *adat*/culture by the Muslim Malay characters in a state called *Dahaga* which she describes as "a combination of art (shadow-plays), system of belief (sympathetic magic), and a way of life which alludes to pre-Islamic cultural heritage (love-potions)." Ida concludes that the practice of *wayang kulit* plays a vital role as a part of the Malay *adat*/culture despite being portrayed as a Hindu epic in the trilogy by Burgess. In her view, "the art has been combined with references to Hinduism and Islam as befits the religious history of the Malays in the Malay World where the ancestors of the Malays were first followers of the ancient belief of animism, followed by Hinduism, Buddhism and then Islam" (Ida, 2010, p. 123).

On the other hand, Nurhanis Sahiddan, in her Master's Project Paper titled *Reflections of Islam as a Paradigm of Malayness in Anthony Burgess' The Malayan Trilogy* (2013), examines how the Muslim Malay characters in the trilogy are portrayed as wayward Muslims. Nurhanis employs Ida's conceptual framework of the paradigm of Malayness in literature and also utilises a secondary framework based on the understandings of Islam by Shamsul A. B. in *A History of an Identity, an Identity of a History: The Idea and Practices of* '*Malayness*' *in Malaysia Reconsidered* (2001) and also by S. Husin Ali in *The Malays: Their Problems and Future* (2008).

In her study, Nurhanis found that, despite Burgess' many depictions of transgressions by the Muslim Malay characters, they are still regarded as Muslims by the other non-Muslim characters. She proposes then that the paradigm of Malayness in literature is an everyday-defined social reality, which the characters shape from their beliefs and everyday practices, and is not defined authoritatively (Nurhanis, 2013, pp. 73-78). Nurhanis (2013, p. 76) also suggests that the trilogy is filled with Burgess' depictions of the animistic beliefs of the Muslim Malays, despite the fact that the practice is considered as immeasurably sinful in Islam.

In her study, Nurhanis also addresses the issue of *syirik* (practice of believing or worshipping powers/entities other than Allah) as the Muslim Malay characters are portrayed by Burgess to "believe in and practise black magic"; for example, from the usage of love potion and also placing "gifts for spirits in a shrine" for protection (Nurhanis, 2013, p. 50). Nurhanis (2013, p. 50) also describes the Muslim Malay characters in *The Enemy in the Blanket* (1958) who live in the suburb and village areas as living a non-Islamic way of life as the characters, despite being Muslims, still offer the *pawang/bomoh* (witchdoctor) huge sums of money, in order for them to cure various ailments and also for their blessings. To further understand our method of analysing the selected text, the following section is our discussion of conceptual framework.

METHODOLOGY

Islam and *Adat*/Culture in the Paradigm of Malayness

To analyse the selected text, we have decided to apply the paradigm of Malayness conceptualised by Ida Baizura Bahar (2010) as our conceptual framework. The paradigm of Malayness is hypothesised by Ida to include six elements, of which three of them, language (Malay), religion (Islam) and monarchy (the Malay rulers), have been suggested by Shamsul A. B. (2001) as an authority-defined social reality. Ida proposes that, instead of just the three pillars as suggested, the paradigm of Malayness in literature contains another three pillars which are *adat*/culture, ethnicity and also identity. She also proposes that the paradigm of Malayness is an everyday-defined social reality as opposed to Shamsul A. B.'s authority-defined social reality.

For the purpose of addressing the objectives of the study, we will only be applying two out of the six elements in the paradigm of the Malayness, namely Islam and *adat*/culture. The first element, Islam, according to Ida (2010, p. 21), is as "from a religious point of view, Malayness is understood to refer to all people who speak Malay, even if it is not their first language, and are Muslims" (2010, p. 21). The second element, *adat*/culture, on the other hand, is defined as "Malayness is understood to refer to anyone who lives a way of life based on a set of customs, system of belief as well as a substratum of older beliefs and a cultural heritage which is exclusive to, and have continued to exist among, the Malays."

Our reading of the text will demonstrate firstly how the author portrays the Muslim Malays' practice of the animistic beliefs. In addition, our reading of the text will also attempt to discover how the animistic beliefs are linked to the practice of Malay *adat*/culture. How are these animistic beliefs related to the practice of *adat*/culture? Are the Muslim Malay characters in the text aware of the incompatibility of the teachings of Islam with certain practices of their inherited Malay *adat*/culture? Do the Muslim Malay characters in the text struggle to find the right balance between their religion (Islam) and also their practice of Malay *adat*/culture that are at times infused with animistic beliefs?

Before we attempt to do so, we need to understand the philosophy and doctrine behind the animistic and Islamic practices of the Malays. The most prominent British scholar of Malay cultural studies, Richard Olaf Windstedt, or better known as R.O Windstedt, in his book *Shaman, Saiva and Sufi: A Study of the Evolution of Malay Magic* (1925), discusses the beliefs and practices of magic of the

Malays before and after the coming of Islam where he states that, upon the coming of Islam, the Malays still exercise the cultural practices that they inherited from their ancestral beliefs but with fusions of the elements of Islam in them. Winstedt (1925, p.21) describes how, for example, upon the coming of Islam, the Malay *pawang/bomoh* (shaman) incorporates "the names of Allah and Muhammad, often in impious contexts" in his old spells and identifies himself as "the living saint of Islam, to whom folk resort for advice in legal disputes or as to the success or failure of an enterprise or as intercessor for the sick or to get a child or to remove blight or plague or confound enemies." The fusions of the animistic beliefs together with the teachings of Islam can be found in the use of the word *Om* - that is "symbolical of the Hindu triad, Vishnu, Siva, and Brahma" - by Malay magic practitioners together with the Arabic word *kun* (let it be) which is associated with Islam (Windsteadt, 1925, p. 26). In a much later study by Ismail Hamid (1997, p. 60), he posits this view that Muslim writers are inclined "to Islamise the Hindu epic tradition, or to make certain changes" to ensure that it becomes more acceptable to the Muslim Malays.

Among the inherited cultural practices, Windstedt (1925, p. 23) also discusses the use of charms among the Malays for various reasons; for instance, for love, beauty, good harvest and also "to weaken a rival in a race or in a fight." Another common magical practice among the Malays is the act of leaving offerings to spirits/ghosts. Offerings are made "to propitiate beneficent spirits and expel evil influences from State, district and sick men" and this ritual is carried out by preparing "a banana−leaf tray or model house or boat" which "is often filled with offerings for the spirits plaguing a sick Malay, and hung up in the jungle or set adrift on the river to bear them away" (Windstedt, 1925, pp.41- 42).

Due to the previous practice of other beliefs, the integration of the Malay *adat*/culture has not always been compatible with Islamic teachings as discussed by H.A.R Gibb (1947, pp. 22-23); most Muslim Malays' association with their ancestral animistic beliefs are strong and, despite the clear philosophical clashes between these beliefs and Islam, "Islam remained outside it, yet a certain number of them gained admission and eased the way for the worship of saints and '*marabout*s'; the belief in a hierarchy of living *wali*s, who exercise divinely conferred powers in this world; and other such elements, which were taken up into Sufi thought."

Mohd. Taib Osman, a Malaysian scholar of Malay cultural studies, in his book, *Malay Folk Beliefs* (1989), discusses how the Muslim Malays in the Malay World, which he refers to in his study as the Malay Archipelago, despite acknowledging that Islam is a mono-deity/monotheism religion, still believe that nature and guardian spirits have control over their lives (1989, p 89). He also discusses the practitioners of magic called *pawang/bomoh* who are not only "experts in propitiating or exorcising noxious spirits and demons" but are also engaged in administering charms, spells and other arising personal matters of the Malays that require them to deal with the supernatural world (Mohd. Taib Osman, 1989, pp. 54-55). This practice of shamanism, according to Mohd. Taib Osman (1989, p. 25), originated from the "religious system of the ancient tribal groups in the Archipelago" and this practice has not been completely replaced, even after the coming of other religions in the later period. Besides that, Mohd. Taib Osman (1989, p. 155) also states that the Muslim Malays villagers are aware of their cultural practices that are

inconsistent with the teachings of Islam although the dividing line between them is not always a clear one.

In his book published earlier, *Bunga Rampai: Aspects of Malay Culture* (1988), Mohd. Taib Osman (p. 155) explains the usage of witchcrafts, usually used to cause illnesses involving various means; for example, using "imitative magic (like putting spells on a person by sticking pins into the victim's photograph or wax dolls resembling the victim." He also notes that, on an ideal level, as a Muslim community, the major goal of their lives are to follow the teachings of Islam but, "on the behavioural level, the Islamic ideals have to contend with local beliefs or *adat* as well as scientific knowledge" (Mohd. Taib Osman, 1988, p. 164).

Anthony Milner, in his book, *The Malays* (2012), links the integration of *adat*/culture with the lives of the Muslim Malays, which he suggests has been a way of life adopted gradually over time. He also states that this practice is often time used to categorise the level of "Malayness" of the Malays. Examples of such practices include not only the village lifestyle but also the "'shadow plays,' *makyong* (traditional theatre), *joget* dancing, séances and the whole shaman (*bomoh*) culture that is said to relate to a cultural substratum – a body of knowledge underlying the Islamic religious practices and beliefs" (Milner, 2011, pp. 7-8). In fact, an earlier view - that *adat*/culture has been adopted gradually over time – has been put forward by a Malaysian scholar, Zainal Kling (1993, p. 43): *adat*/culture is the collective self-image of the Malays which has been changing over time to suit the Malay society. The following section therefore offers a more lucid albeit brief discussion on the philosophy and principles of Islam.

Tenet of Islam and Tenets of *Iman*

It is obligatory for Muslims to observe the five pillars of Islam which are constituted in the most basic tenet of the religion, namely the Tenet of Islam. The Tenet of Islam has been outlined clearly in the prophetic tradition of the Muslim Prophet Muhammad, known also as *hadith*, which were collected by the Persian Muslim scholar Imam al-Bukhari called the *Sahih al-Bukhari* after being transmitted orally for generations. As Narrated by Ibn 'Umar, a friend of the Prophet Muhammad, the Tenet of Islam is based on the following five principles:

1. To testify the *Syahadah* that *La ilãha illallah wa anna Muhammad-ar-Rasul Allah* (to orally proclaim that none has the right to be worshipped but Allah and that Muhammad is the Messenger of Allah).
2. *Iqamat-as-Salat* (to perform the compulsory congregational *Salat* prayers).
3. To pay *Zakat* (to pay tithe).
4. To perform the *Haj* (the pilgrimage to Makkah).
5. To observe *Saum* (to fast according to Islamic teachings during the month of *Ramadan*). (Mukhsin Khan, *Sahih al-Bukhari*, 1: 58)

The Tenet of *Iman* (Faith), on the other hand, comprises six basic tenet which have been outlined clearly in *Sahih Muslim* compiled by the Persian Muslim scholar,

Imam Abul Hussain Muslim Ibn al-Hajjaj. As narrated by Abu Hurairah, a friend of the Prophet Muhammad, the Tenet of *Iman* is based on the six principles as below:

> One day the Messenger of Allah appeared before the people and there came to him a man who said: 'O Messenger of Allah, what is faith?' He said: 'To believe in Allah, His Angels, His Book, the meeting with Him, and His Messengers, and to believe in the Resurrection Hereafter.' (Al-Khattab, Sahih *Muslim,* 1: 96)

From the Islamic perspective, the practice of believing or worshipping powers/entities other than Allah is termed in Arabic as *syirik* and this act clearly contradicts the first principle of the Tenet of Islam and Tenet of *Iman.* This Islamic ruling is stated in the second chapter contained in the *Qur'an*, the *Sura al-Baqarah* (The Cow):

> Yet among the people are those who take other than God as equals to Him. They love them as the love of God. But those who believe have greater love for God. If only the wrongdoers would realize, when they see the torment; that all power is God's, and that God is severe in punishment. (Itani, al-*Qur'an* 2:165)

Besides that, the act of *syirik* is also discussed in the *Sahih Muslim* as narrated on the authority of Zaid bin Khalid al-Juhani, a friend of the Prophet Muhammad:

> The Messenger of Allah; led us in Salat As-Subh at Al-Hudaybiyah, after it had rained during the night. When he finished, he turned to the people and said: 'Do you know what your Lord said?' They said: 'Allah and His Messenger know best.' He said: 'He said, "This morning some of My slaves believe in Me and some disbelieve. As for the one who said: 'We got rain by the bounty and mercy of Allah,' he is a believer in Me and a disbeliever in the stars. But as for the one who said, 'We got rain by virtue of such and such a star,' he is a disbeliever in Me and a believer in the stars." (Al-Khattab, Sahih *Muslim,* 1: 164)

Moving on then from these issues concerning Islam and also the practice of Malay *adat*/culture, our paper aims to examine Burgess' portrayals of the animistic beliefs of the Muslim Malay characters and to discover how the animistic beliefs are linked to the practice of Malay *adat*/culture. We hypothesise that there are indeed manifestations of the animistic beliefs with the practice of Malay *adat*/culture among the Muslim Malay characters despite the frequent philosophical clashes between this element and Islam. The following section will therefore discuss in depth the issues raised. For the sole purpose of discussion, we will methodically refer to 'animistic' beliefs as referring to the Malays' pre-Islamic practice of animism, Hinduism and Buddhism.

ANALYSIS

Fusions of Animistic and Islamic Practices

Despite the coming of other religions later in history, the practice of shamanism that originates from the religious system practised by the ancient tribal groups of the Archipelago, including the Malays, has not been completely replaced by them (Mohd. Taib Osman, 1989, p. 25). In Islam, the practice of shamanism or black magic entails *syirik* as this act is clearly regarded as contradicting the first Tenets of Islam and *Iman,* which is to worship no other deities other than *Allah.* This practice, however, has become so embedded in the consciousness of the Malays that, for some, the sin of *syirik* becomes inconsequential and has formed part of the Malay *adat*/culture. Indeed, this practice has been depicted by Burgess through his portrayal of a female Muslim Malay character, Rahimah, and Crabbe's male servant, Ibrahim, of *Time for a Tiger*. In a scene in the novel, Rahimah plans a vendetta against her lover, Crabbe, who has abruptly left her. She takes revenge by asking Ibrahim to help her by using a love potion (*minyak pengasih)*:

> "I have here," said Rahimah, opening her handbag, "a thing that will restore that love." She showed Ibrahim a small phial. "I obtained this of 'Che Mat the *pawang* in Kelapa. It is a powerful medicine for drawing a man back to one's heart."… "It can be put in drink and has no taste. I ask you to put this in your master's drink. I can pay you a little for this help." (Burgess, 2000, pp. 104-105)

Rahimah's use of the small phial of love potion is also highlighted by Nurhanis (2013, p. 50) with regard to the issue of *syirik*, where the Muslim Malay characters in the trilogy are depicted by Burgess as believing in other entities through their practice of black magic.

For the act of *syirik* to be committed, the services of the *pawang/bomoh* who specialises in the art of black magic are most often than not consulted. Taib (1989, pp. 54-55) has highlighted how the Malays frequent the *pawang/bomoh* for various reasons which require them to deal with the world of the supernatural beings and in the novel, this is manifested through Ibrahim's thoughts on what black magic has done to their society:

> He looked again at the small phial, uncorked it and smelt the vicious potion… He thought for a moment of the things that magic had accomplished in this very town. The jealous mistress of the Crown Prince who had made his second wife's hair fall out; the Tamil in the Town Board Offices who had died of a fever induced by image – sticking because he had a Malay clerk dismissed unfairly; the innumerable wives who had refocillated a dying passion in their husbands; husbands who had regained the love of their wives… (Burgess, 2000, pp. 105-106)

The extract above shows how Ibrahim is well aware of incidents where black magic has taken its effect on victims, mainly as vendettas against them, namely due to jealousy and unrequited love.

One of the examples of the various methods used by the *pawang/bomoh* to cause malaise to the victims is by "sticking pins into the victim's photograph or wax dolls resembling the victim" (Mohd. Taib Osman, 1989, p. 155). The following extract depicts how Ibrahim's psyche functions through a synthesis of animistic and Islamic beliefs. As we can see in the scene below:

> Supposing she… But Fatimah would not… Yet she could… *Allah Taala*, she might. No, no, no. Allah Most High! It was possible. Even now, in Johore, where, it was well known, there were powerful *pawangs*, she might be brewing something up, something to draw his heart back to hers, to make him *want* to do that horrible obscene thing… And again… She might now be sticking pins in a little wax image of him, Ibrahim bin Mohammed Salleh. *La ilaha illa'lah!* (Burgess, 2000, p. 106.)

Ibrahim has been married once to a woman named Fatimah after being persuaded by his mother. Due to his sexual orientation as a homosexual, Ibrahim refuses to consummate his marriage, leaving Fatimah deeply angered and ashamed by his action. Thus, this leads to his anxiety of imagining Fatimah trying to pull the same act as what Rahimah has instructed him to do. The manifestation of the fusion of both beliefs appears later enacted through Ibrahim who is temporarily jolted to remember his Islamic faith; he quickly asks for assistance from *Allah* and even professes that there is no deity worthy of worship except *Allah (La ilaha illa'lah)*, which is the proclamation of the *Syahadah*, the first Tenet of Islam.

While the blending of animistic practice and Islamic belief is depicted through Rahimah based on her fearless association with love potions and the *pawang/bomoh*, Ibrahim, on the other hand, is portrayed as being in conflict with regards to carrying out the task given to him by Rahimah. This is despite being fearful of the power of the supernatural beings that might be sent, by her, to haunt him if he failed to carry out her request. The following extract depicts Ibrahim's dilemma regarding his Islamic faith:

> Ibrahim was convinced that it was a lethal concoction. He had been hearing that Rahimah now hated Tuan Crabbe and hated Mem Crabbe also, and that she wished them both dead. Or, if not dead, maimed, deformed…then he had received a nasty letter from Rahimah, written curtly in tiny Jawi script. *"Belum lagi pegang janji…"* He had not fulfilled the agreement, he agreed, but now he knew what she, with woman's deceit and treachery and downright wickedness, wished him to do. He could not do it. And Rahimah had threatened him with dire punishments. She would get the *pawang* to stick pins in his image, to raise ghosts which would drive him mad and make him, in screaming desperation, hurl himself from the high balcony. (Burgess, 2000, pp. 128-129)

Ibrahim's spiritual predicament on carrying out Rahimah's plan shows his awareness of the heavy price of sin to bear in Islam as well as the deadly effect of black magic. This, in return, reflects his emotional struggle: to either choose to abide by his faith, by ensuring that he is not a part of her sinful plan, or to submit to it, in order to avoid Rahimah's wrath.

This act of committing *syirik* also transpires when a Muslim believes albeit spiritually in the power of other humans or deities apart from Allah. In the novel, Ibrahim believes wholeheartedly that Rahimah will try to hurt him with the help of the *pawang/bomoh* and he then links all the supernatural events happening in his life with the evil doings of Rahimah:

> The last week or so had been hell. Serving the soup one night he had suddenly screamed and dropped the plates. For a mat by the door of the dining room had suddenly raised itself, danced a couple of steps nearer to the table, and then stopped. Ibrahim had heard of the demon that disguises itself as a mat, but never before had he seen one. Leaving the mess of steaming broth and broken china on the floor, he had rushed out to his kitchen, there to utter terrified prayer on his knees. (Burgess, 2000, p 129)

As we can see from the above example, Ibrahim not only believes in and fears both the supernatural beings and *Allah* but he manifests both beliefs through actions, namely physically; ironically, his fear of the spirits/ghosts which seem to haunt him makes Ibrahim get on his knees to pray to *Allah* for His protection. Before, we see Ibrahim asking for assistance from the same supernatural beings which he now fears but somehow rationalises that his faith can help him overcome this paradoxical fear.

Another practice that falls under the animistic belief now considered as a cultural heritage of the Malay *adat*/culture is the act of leaving offerings. It also dates back to the beliefs practised by the Malays before their embracing of Islam usually made to appease spirits in hopes that any evil influences will be expelled (Windstedt, 1925, pp.41- 42; Nurhanis, 2013, p. 50). In the novel, in order to ask for help from the supernatural beings, Ibrahim plans to leave offerings on the shrine, an act called *berjamu or memuja* in Malay and, despite his effort on creating a sense of security by associating his action with elements of Islam, this act is still considered as *syirik*. This practice can be found depicted in the following extract:

> Ibrahim dropped the deadly phial into the shopping basket to nest among the red peppers and coconut. Tonight he would go to the small shrine by the servant's quarters and place upon it bananas and lighted candles. Good spirits haunted that spot, a loving couple who, long ago, taking a walk there, had been whisked up to Heaven like the Prophet himself. They assuredly would help one of a sinless heart. (Burgess, 2000, p. 106)

Contradictory to his earlier declaration of his spiritual reverence to his own faith, Ibrahim still goes down the same road taken by Rahimah, which is to believe in another power other than *Allah*. He, however, frames his actions as self-defense against the unseen forces that might be sent by Fatimah and this is his excuse for

deciding to go to a small shrine which he believes is haunted by the so-called good spirits.

Indeed, Ibrahim's own spiritual fear of the spirits/ghosts and the physical practice of *berjamu* or *memuja* are considered as sins because they are philosophically in conflict with the Muslim Tenets of Islam and *Iman* where the belief in the monotheistic power of Allah must supersede the belief in others. The Muslim Malays still consider nature and guardian spirits as the elements that have control over their lives, despite acknowledging that Islam is a mono-deity/monotheism religion as discussed earlier through Burgess' portrayals of Rahimah and Ibrahim. In one scene, Ibrahim's conviction in his ancestral animistic cultural beliefs can be seen in the extract below, where words such as *hantu dapur, penanggalan* and also graveyard ghost are used. Indeed, all these three refer to the Malay version of spirits/ghosts:

> And then, one quiet night, washing up the dinner dishes, he had become convinced that there was a *hantu dapur* lurking behind the refrigerator, ready to do mischief and smash everything up unless appeased with offerings of bananas and rice or an invitation to a party. And, most frightening of all, Ibrahim had been sure that there was a *penanggalan* floating outside his bedroom window. He almost saw the waving head and neck and the long string of tangled hanging intestines. He almost heard the squeal of 'Siuh, siuh, siuh'. Thank Allah, these usually only sought houses where there were new babies, thirsting for infant blood…somebody had told him that a graveyard ghost had been seen tumbling and rolling in its gravesheet over the lawn at the front of the house. No wonder he was getting thin, no wonder he could not do his work properly. (Burgess, 2000, pp. 129-130)

Burgess, again, portrays Ibrahim as one who has profound faith in spirits/ghosts to the extent where he attirbutes his weight loss to the presence of the graveyard ghost. His obsession with the spirits/ghosts, together with his fear of Rahimah's wrath, might have triggered his imagination of seeing and hearing them physically. Ibrahim again mentions the act of *berjamu or memuja* in order to stop the *hantu dapur* from disturbing him and expresses his relief for the *penanggal* is said to only be interested in an infant's blood and not his and, to this fact, he thanks *Allah*. Here, as in other evidences presented earlier, Ibrahim is portrayed as a character consistently reverting to his faith as a Muslim by invoking and praying to *Allah* despite later, again, regressing to his animistic belief.

The fusion of the animistic and Islamic beliefs can be seen through the depiction of the arts and this is most evident in a scene pertaining to the *wayang kulit* depicted in the *Beds in the East.* The existence of the word *Om* as used by the Master (*Tok Dalang)* is representative of the start of the prayers in Hinduism where Muslim writers have the tendency to Islamise or apply certain changes on the Hindu epic tradition to ensure that it becomes more tolerable to the Muslim Malays (Winsdtedt, 1925, p. 26; Ismail, 1997, p. 60). In the following excerpt, Crabbe introduces Hayne, a white male character, to the *wayang kulit* which involves rituals such as *berjamu* to the spirits, for their blessings and also *buka panggung* (to open the stage). This

whole practice, is in fact a mixture of beliefs from the pre-Islamic period and, like Ibrahim of *Time for a Tiger*, the leader of the *wayang kulit* tries to link it to the Islamic belief, by making the *Qur'an* as a part of the ritual:

> "Hindu in origin," said Crabbe to Hayne. "Hardly a trace of Islam in the whole thing. Take your shoes off," he said as they began to mount the steps. "That's the custom."...But master, cool, brown, entranced, now uttered the word "Om", identifying himself for the instant with God Himself, calling in many gods and devils to be kind and patient, not to take offence at the crude representation of their acts soon to come, not to be incensed at the ox-hide caricatures of their numerous essences. He offered a delicacy - scorched rice; he abased himself before their greatness. And he remembered the one true religion, invoking the protection of the four archangels of the Koran. ... "The whole cycle," said Crabbe, over the oboe's sinuous cantilena, the gong and the drums, "takes a week. It's Hindu epic, the age-longs struggle between gods and demons, the... " (Burgess, 2000, pp. 515-516)

As recalled, Ida (2013, pp. 122-123), in her study, also discusses this issue where she proposes that, although Crabbe describes the *wayang kulit* as originating from Hinduism and has no traces of Islamic influence as it is purely based on a Hindu epic, the narrative of the text shows that the Master has actually made attempts to associate it with Islam through the use of *Qur'anic* verses.

A much scholarly explanation regarding this amalgamation of artistic practice can be found in a study by the prominent contemporary Muslim philosopher and thinker, Syed Muhammad Naquib Al-Attas (1978, pp. 171-181), in his book, *Islam and Secularism* (1978). Al-Attas posits a much clearer view that explains this sociopolitical phenomenon where he proposes how, during the Hindu-Buddhist era of the people of the Archipelago, they "were more aesthetic than philosophical by nature." This, in turn, caused them to either "being unable to fully grasp or to ignore the metaphysics of the beliefs in favour of a less complicated worldview," namely animism. Undoubtedly, upon the spread of Islam, Western imperialism during the 10th to the 16th century, together with imposition of the Western culture, "have interrupted and retarded the process of Islamisation" and this retardation of Islamisation has left a deep impact on certain parts of the Archipelago, reviving the "pre-Islamic feudal order," as the "prejudice against and fear of Islam have influenced Western imperialism in attempting a consistent policy of separating Muslims from their religion" (Al-Attas, 1978, pp. 181-182). Indeed, the integration of the pre-Islamic Malay *adat*/culture with the lives of the Muslim Malays has been shown to a way of life adopted gradually over time (Milner, 2012 pp. 7-8).

It is now socio-politically acknowledged that Muslim Malay villagers are aware of their cultural practices that are inconsistent with the teachings of Islam although the dividing line between them is not always a clear one (Mohd. Taib Osman, 1989, p. 155). Burgess defies the prevalent belief that Islam decays in town; instead, Burgess has ironically depicted the connection of modernisation together with the thriving of Islamic teachings (Ida B. B., 2010, pp. 111-112). For instance, in

The Enemy in the Blanket, Burgess describes how the existences of the occupants of the town Kenching stand at a stark contrast to the villagers in *Dahaga*, This is portrayed through the Muslim Malay characters living in the village who possess stronger ties with the ancient beliefs as they rely heavily on the services of the *pawang/bomoh*. The villagers use the services of the *pawang/bomoh* for various reasons and occasions, namely to cure sickness, to obtain blessings for their weddings and also in hopes to acquire good catch/crops. Clearly here, Burgess acknowledges the villagers' association with the inherited beliefs of their ancestors (*adat*/culture) despite the fact that these beliefs are in contradiction to their faiths as Muslims:

> The chief town, Kenching, was bulbous with mosques and loud with the cries of many muezzins. Islam was powerful… But ancient Hinduism and primitive magic prevailed in villages and suburbs. The *bomoh*, or magician, cured pox and fever, presided at weddings and grew rich on the fees of fishermen who begged prayers for a good catch. Gods of the sea and gods of the rice-grain were invoked, threatened, rewarded. (Burgess, 2000, p. 195)

Another evidence of how Burgess portrays the villagers in the trilogy as those who reflect the slow disintegration of faith in Islam is presented in a scene in *Beds in the East*. As seen below, he links their living near the jungles as influencing the characters to be mystically closer to their animistic belief:

> …and it was finally to the jungle-gods that the Malays would be most faithful. The sun of Islam, disguising itself cunningly as a sickle moon, was appropriate only to the clearings, which meant the towns with their refrigerators and mosques, where the muezzin's call mingled well with the music of the bars. ...Some Arab theologian-philosopher had said that Islam decayed in the towns. Only when the decay of Islam brought the decay of the cities, when the desert, with its frail tented communities, reasserted itself, only then could the faith be renewed. But there was no desert here, no dominion of sun and oasis. There was nothing to believe in except the jungle. That was home, that was reality. (Burgess, 2000, p. 537)

Here, Burgess implicitly defies the prevailing belief that the towns are the sources that influence the slow disintegration of Islam as he depicts through his trilogy that it is paradoxically the villagers who are the ones who manifest their spirituality and actions more profoundly with their animistic beliefs compared to those residing in towns. This is despite the fact that they profess to be Muslims.

CONCLUSION

Although both Rahimah and Ibrahim are portrayed as manifesting both animistic and Islamic beliefs through their faiths and actions, evidence presented in our analysis demonstrates only Rahimah as the character who does not seem to be spiritually

troubled through her practice of contradicting elements between the animistic belief and her religion, Islam. Ibrahim, on the contrary, is portrayed as spiritually caught in a dilemma which in turn causes him to experience emotional struggle in order to search for the right transcendental balance in his life. Ibrahim's portrayal on his spiritual struggle also demonstrates that he, as a Muslim Malay character, is indeed aware of the incompatibility of the teachings of Islam with certain practices of their pre-Islamic inherited Malay *adat*/culture. In addition to characterisation, the fusion of the animistic beliefs and Islam is also depicted through the *wayang kulit* practitioners although, like Rahimah, they do not seem to be concerned that the art is filled with rituals infused with animistic beliefs which are clearly opposed to the teachings of Islam. Despite their religion, the Muslim Malay characters are also portrayed as resorting to these animistic beliefs to assist them with what they believe to be noble causes, namely as shields for protection against unseen evil forces and also for better harvest and catch. This in turn has also triggered their constant existential struggle to search for balance in articulating their Malayness, not only as Muslims, but also as Malays. Besides that, Burgess also portrays the Muslim Malay characters residing in villages as the ones who reflect the slow disintegration of faith in Islam due to their stronger bond with the ancient-old beliefs compared to the ones residing in towns although, at times, the characters are aware of the contractions in philosophies between both elements. Our evidence therefore points to this view – that *adat*/culture is the collective self-image of the Malays which has been changing over time to suit the Malay society (Zainal Kling, 1993, p. 43).

After stating the evidence, we can strongly state that Burgess' portrayals of the Muslim Malay characters are indeed linked to the two elements in the paradigm of Malayness as proposed by Ida despite the fact that Islam and the practice of *adat*/culture which are often infused with animistic beliefs and practices do not always stand together philosophically side by side. These beliefs and practices range from the arts (for example, the *wayang kulit*) to curing illnesses, securing financial issues, saving broken marriages and planning vendettas against those believed to have cruelly wronged them. The association between the animistic beliefs and *adat*/culture is indeed prevalent through the portrayals of the Muslim Malay villagers, where their practice of animistic infused *adat*/culture is regarded as part of their everyday lives. Certainly, Zawiyah has been accurate in her suggestion then: that Burgess has the unique ability to "see the incongruity of mixing animistic and Islamic practices" (Zawiyah, 2003, p. 168). It is therefore safe to conclude that the Muslim Malay characters in Burgess' *The Malayan Trilogy* live their lives in a fusion of animistic and Islamic beliefs although they seem to be both overtly and obliquely aware of the incompatibility of such a way of life.

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The Impact of Food Policy on Food Insecurity in Developing Countries

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ABSTRACT

Food insecurity is one of the major issues in the developing countries. The affected countries suffer from hunger and undernourishment, due to their incapability to provide sufficient nutritious food. The United States Agency International Development (USAID) food policy highlights food availability, accessibility and utilization as three major dimensions in achieving food security. This paper examines the impact of these dimensions on food insecurity in selected developing countries, using the country fixed effect model. The findings of this study show that an increase in food production, food import, purchasing power parity and water improvement are found to have positive impacts on improving food insecurity.

Keywords: Food Insecurity, Availability, Accessibility And Utilization

INTRODUCTION

The world has seen continued famine, starvation and malnutrition in many countries, mostly among the poor and developing third-world countries. Starvation and malnutrition have a negative impact on health, leading to poor productivity and gradually affecting overall economic growth. Factors such as climate change, natural disasters, overpopulation, food crisis, higher food prices and diminishing resources have worsened the situation and are now beginning to affect the rich and developed countries. These problems have become a global concern and are recognized worldwide as food insecurity issues.

Food is among man's basic needs for social development (Kutzner 1991). Food can be defined as an element that people consume to provide nutrients such as carbohydrates, fats, proteins, vitamins and minerals for the body. It originates from either plant or animal sources. Food absorbed by the body helps to produce energy and stimulate healthy growth. The possible implications of food shortages, especially in developing countries, are unavoidable and of great concern. These shortages could

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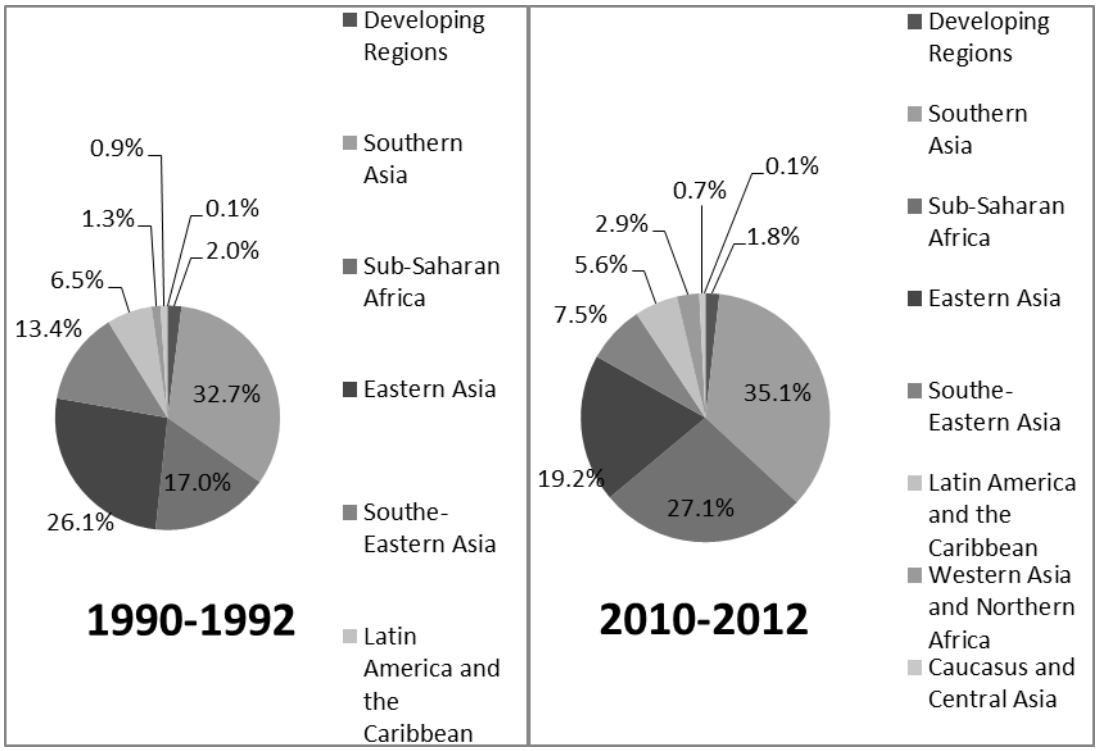
lead some countries to face famine, hunger, and food crises. Based on the World Bank estimation for the year 2008 alone, 10 million people have died of hunger and malnutrition. Population growth presents the greatest challenge developing countries face in seeking food security.

Food is essential for survival, but the question of whether enough food is available for the people of the world is subject to population growth. The world's human population has increased to 7 billion people in 2010. Based on UNDP 2008, the human population in growing and will increase to 9.2 billion by the year 2050. The largest contribution to this is being attributed to the population growth of China, India and Southeast Asia, which together make up of 60% of the world's population. In view of this increase in human population, humans must strive to maintain the ability to support a sustainable increase of food production.

In this paper, the food insecurity improvement is examined based on the three dimensions identified in the United States Agency International Development (USAID) food policy, namely food availability, accessibility and utilization. There are limited literature and research that have examined the impact of these dimensions on food insecurity in developing countries.

BACKGROUND OF STUDY

The World Food Programme has defined malnutrition as a situation where people have a difficulty in growing and fighting for disease. Malnutrition also affects the ability to learn and do physical work. The State of Food Insecurity in the World shows that the number of undernourished people based on the Dietary Energy Supply (DES) is 870 million people, which is 12.5 per cent of the global population, with 852 million people living in developing countries (FAO, 2012). According to Figure 1, there is an increase in the percentage of undernourished people in Southern Asia, Sub-Saharan Africa, Western Asia and Northern Africa from the period 1990-1992 to the period 2010-2012. However, other developing regions namely Eastern Asia, South-Eastern Asia, Latin America and the Caribbean, Oceania, Caucasus and Central Asian have shown a reduction in the percentage of undernourished people between the two time periods.



Source: FAO (2012)

Figure 1 Percentage of Undernourished by Region, 1990-1992 and 2010-2012

Food insecurity occur when people do not have adequate physical, social or economic access to sufficient, safe and nutritious food that meet their dietary needs and preferences for an active and healthy life (FAO, 2010). These situations can cause undernourishment when calorie intake is below the Minimum Dietary Energy Requirement (MDER). The MDER defines the amount of energy needed to maintain a minimum acceptable weight for one's attained height. Food insecurity began in the days of World War II due to the limited supply of food, which led to higher food prices, and consequently resulted in a food crisis.

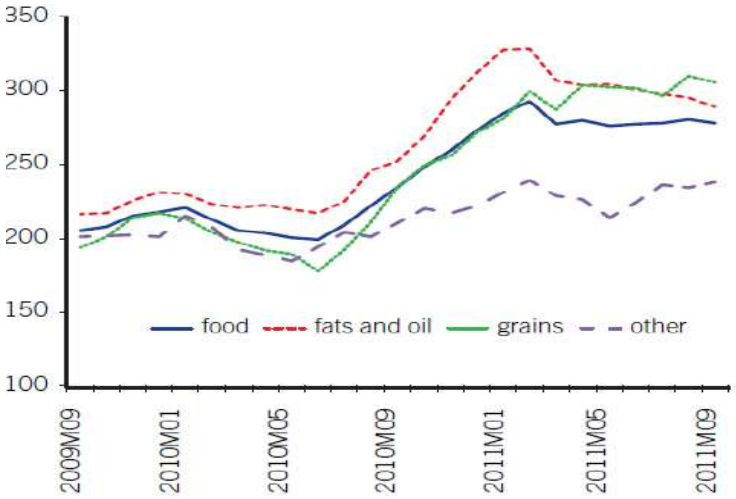
Based on Figure 2 as illustrated below, the highest relative food prices were recorded before World War I, around 1917, at which time the price index was higher than 280. Later, in 1957, while the world's countries were recovering from WWII and started to rebuild their economies, another price increase was reflected. Then, another trend of increased food prices occurred in the year 1974, when the inactive index rose to more than 230 points due to the oil crisis.



Source: Nellemann (2009)

Figure 2 Changes in the Price of Major Commodity

Furthermore, according to Figure 3, the World Bank global food price index shows that the food price index started to increase dramatically on May 2010 and remained unchanged between July and September 2011. There are several factors that contribute to a higher food price index: weather shocks such as those experienced in Australia occurred from 2005 to 2007, during which Australian crop production was impacted negatively by excessive rains and floods. In addition, export restriction in several countries, especially Russian, has reduced food supply and caused food price increases to surge between June 2010 and January 2011.



Source: World Bank (2011)

Figure 3 World Bank Global Food Price Index

Conversely, the United States Department of Agriculture's (USDA) research reveals that food supply and stock availability in 2011 will reduce the pressure for food price to increase. The USDA's forecast shows that wheat production in 2011 will increase to its highest in 10 years, according to the production recovery for major producer countries such as Kazakhstan, Australia and Canada. Moreover, global food production for those in the Euro Zone increased 5% than the estimated output in 2010/2011. Moreover, global production for maize is forecasted to increase 4% because of the rise in maize production in China, Ukraine, Russian, Argentina and

Brazil, even though there is an unexpected reduction in production in the United States due to a very hot summer.

Generally, there are two types of food insecurity. The first type is known as the chronic food insecurity, which is a long-term or persistent situation. This situation occurs when people are not capable to meet their minimum food requirement at all times. The chronic food insecurity is caused by long-term poverty problem, lack of assets and insufficient access to productive and financial resources. This problem can be overcome with long-term development such as improving education and increasing access to the productive resources, in order to raise the ability to meet the minimum food requirement and reduce the poverty problem. The second type of food insecurity is known as the transitory food insecurity and it is a short-term and temporary situation. The availability of food is reduced because of short–term shocks and fluctuations in the domestic food production, food price and household income. To achieve food security, the affected countries must strive to reduce poverty, increase cognitive and physical development, raise productivity and promote economic growth.

Many developing countries, especially low income countries, spend almost half of their income to buy food and fulfill the demands to feed their citizens. Figure 1.6 below shows that Bangladesh, Ghana, Malawi, Pakistan, Tajikistan and Vietnam have spent more than 60% of their income on food. Increases in food price drastically followed by unchanged household incomes will cause a decrease in the quality and quantity of food intake and contribute to the problem malnutrition and undernourishment.

In light of the problem of undernourishment, the United Nations Millennium Campaign has supported the establishment of the Millennium Development Goals (MDG). These MDGs were adopted by world leaders in 2000 and were set to be achieved by 2015. The MDGs have illustrated a framework for the world community to attempt the call to eradicate or reduce world poverty. The framework shows the following eight important goals to be fulfilled by 2015:

a) Eradicate extreme poverty and hunger
b) Achieve universal primary education
c) Promote gender equality and empower women
d) Reduce child mortality
e) Improve maternal health
f) Combat HIV/AIDS, malaria and other diseases
g) Ensure environmental sustainability
h) Develop a global partnership for development

Source: UNDP, 2011

Therefore, the World Food Summit plays an important role in reducing half of the world's undernourished people by 2015. Some developing countries have already met the goal of MDG1. For example, Congo, Ghana, Mali and Nigeria already met MDG1 during 2005-2007, followed by Armenia, Myanmar, Vietnam, Latin America, the Caribbean, Guyana, Jamaica and Nicaragua.

Now, some countries have achieved the goals, while others' development is not on track. Below are some highlights from the MDGs as programmed:

a) Reduction in poverty has occurred in many countries. Despite the food and energy crisis in 2008-2009, all countries were still on track to achieve poverty reduction by 2015. Generally, poverty reduction has been reduced below 15%, and it is still below the MDGs target, which is more than 23%. In addition, Malaysia has reduced the proportion of population below US$1 (PPP) per day, and reduced the poverty rate from 17% in 1990 to 4% in 2009. The worldwide reduction of poverty has had a positive impact on Eastern Asian growth, especially in China.

b) A dramatic increase in the education sector has occurred in the poorest countries like Burundi, Madagascar, Rwanda, Samoa, Sao Tome and Principe, Togo and the United Republic of Tanzania. In addition, Benin, Bhutan, Burkina Faso, Ethiopia and Mozambique came close to reaching the target of increasing the net enrollment ratios in primary school to more than 25% from 1999 to 2009.

c) Improvement in immunization coverage has reduced the number of deaths of children under age five worldwide from 12.4 million in 1990 to 8.1 million in 2009.

d) Increase in investment in health in terms of preventing and treating HIV has resulted in the reduction of new HIV infection led by Sub-Saharan Africa. In 2009, 5.25 million people in low- and middle-income countries have received antiretroviral therapy for HIV, resulting in the 19% decline of AIDS-related deaths during the same period.

e) Progress for improving water access was important in order to provide clean water in every region. An estimated 1.1 billion people in urban areas and 723 million people in rural areas gained access to improved drinking water sources over the period 1990-2008. Eastern Asia showed the largest gains in clean drinking water coverage, from 69% in 1990 to 86% in 2008.

Henceforth, the MDGs program was successful in some countries, where there was a reduction in poverty, improvement in enrollment in schools, decline in child and maternal mortality and increase in HIV treatments. To improve food insecurity, a country must fulfill the needs for food availability, accessibility and utilization (Determination U.P.,1992). Food availability plays an important role in providing the necessary nourishing element to citizens of each country. The quantity of food comes in the form of supplies through domestic production, food imports and food aid. Generally, countries are classified as experiencing food insecurity when they face famine and hunger. Besides domestic food production, they also rely on food imports and food aid as their main sources of food sufficiency. Wagstaff (1982) supported the claim that there is no strong relationship between food supply and food production. This shows that food production is not the only solution for food insecurity, and food imports also need to play a simultaneous role. Based on the Valdes & McCalla (1999), developing countries are classified as net food exporters for commercial food products such as coffee, cocoa, tea, spices, sugar and tropical

fruits and are also known as net food importers because of their insufficient production of staple food.

Accessibility is where individuals have sufficient income or other resources for acquiring suitable food for a nutritious diet. The availability of a better access to the food system is important to achieve food security (Kennedy et al. 2004). Accessibility to safe water, sanitation, communication and paved roads as well as better infrastructure are considered as the ***Millennium Development Goals*** (MDG) for improving food insecurity. Roads, specifically paved roads that are not subject to seasonal deterioration, are relevent measures of accessibility because they represent the interstate movement of goods and the market access. However, Chen and Kates (1994) found that the economic access, in terms of household income, also plays an important role in improving food insecurity.

Food utilization is the third dimension identified as important for food security. Food utilization benefits food security through adequate diet, clean water, sanitation and health care that enables people to reach a state of nutritional well-being where all physiological needs are met. Based on the Sanitary and Phytosanitary Measures from World Trade Organization (WTO), sanitation services are important in order to achieve food safety and food security (WTO, 1995). The lack of sanitation facilities and clean water has contributed to 925 million people being categorized as chronically undernourished people (Howard and Bartram, 2003). Clean water and sanitation improvement are very important in poor and developing countries to promote healthy living (Mara, 2003). By 2025, these countries need to meet the target for water supplies and sanitation improvement with access to water supplies for 2.9 billion people and improvement in sanitation for 4.2 billion people. Mara (2003) found that all developing countries have simple, appropriate, affective and affordable technologies for access to a good water supply and to improve sanitation services for their people, but the government expenditure is spent more on other needs. However, water supplies and sanitation improvement may not depend solely on government expenditures; these facilities can also be financed by investment, specifically public health investment (Watson, 2006). This study investigated the impact of the project on improving sanitation infrastructures in the U.S. Indian reservation in 1960. The investment for sanitation benefits the country by reducing the cost of supplying clean water for households and helping to reduce Native American infant diseases such as the waterborne gastrointestinal disease and the infectious respiratory disease.

Many previous studies have examined the impact of food security constraints on food insecurity improvement (Akramov & Fan, 2010; Alamgir & Arora, 1991; Carruthers, Rosegrant & Seckler, 1997; Douglas, 2009), but there are no studies that measure the impact of factors based on the three dimensions identified in the USAID food policy (USAID, 1992). Finally, this study can help policy makers to determine whether developing countries are dependent on food availability, accessibility and utilization as a whole or selectively to improve food insecurity. The understanding of food insecurity is vital as food insecurity improvement reflects the ability to achieve MDG goals.

Model Specification

In this model, three sets of variables are used to represent the three dimensions identified in the USAID food policy. Food Availability (FAVs), Food Accessibility (FACs) and Food Utilization (Fu) are examined of their impact on improving food insecurity (FIS), especially in developing countries.

$$FIS = f\left(FAVs, FACs, Fu\right) \quad \text{……………………………………………………. (1)}$$

The measurement for food availability (FAVs) is based on food production (Fp), food imports (Fm) and food aid (Fa). Purchasing power parity (PPP) and paved road (PR) are used to measure food accessibility (FACs), while sanitation services (SS) and water improvement (WI) are used to measure food utilization (Fu).

$$FAVs = f\left(Fp, Fm, Fa\right) \quad \text{……………………………………………………. (2)}$$

$$FACs = f\left(PR, PPP\right) \quad \text{……………………………………………………. (3)}$$

$$Fu = f\left(SS, WI\right) \quad \text{……………………………………………………. (4)}$$

The proxies for food insecurity are based on three indicators identified as the Prevalence of Undernourishment (POU), the Depth of the Food Deficit (DFD) and the Prevalence of Food Inadequacy (PFI). These proxies are obtained from the Food and Agriculture Organization Statistic (FAOSTAT). The food insecurity improvement models are as follows:

$$\ln FIS_{it} = \alpha_0 + \beta_1 \ln Fp_{it} + \beta_2 \ln Fm_{it} + \beta_3 \ln Fa_{it} + \beta_4 \ln PR_{it} + \beta_5 \ln Ppp_{it} + \beta_6 \ln SS_{it} + \beta_7 \ln WI_{it} + \beta_8 \ln X_{i,t} + \mu_r + \tau_t + \varepsilon_{it} \quad \text{…….. (5)}$$

$$\ln FIS_{it} = \alpha_0 + \beta_1 \ln Fp_{it} + \beta_2 \ln Fm_{it} + \beta_3 \ln Fa_{it} + \beta_4 \ln PR_{it} + \beta_5 \ln Ppp_{it} + \beta_6 \ln SS_{it} + \beta_7 \ln WI_{it} + \beta_8 gdpcc_{i,t} + \beta_9 \ln al_{i,t} + \mu_r + \tau_t + \varepsilon_{it} \quad \text{…….. (6)}$$

Food production is measured based on the net per capita Food Production Index (2004-2006=100). By definition, this index is calculated from the net food production after deduction for feed and seed of a country's agriculture sector per person relative to the base period 2004-2006, covering all agriculture food products containing nutrients except coffee and tea. Food aid includes various instruments and it is based on three important channels of distribution, which are known as programme food aid, project food aid and emergency food aid (Lowder and Raney, 2005). Programme food aid involves donated food or food that has been sold to a government at a concessional price for the government to sell in its domestic market (Clay and Benson, 1990). Project food aid offers free food distribution to participants in programs that are run by non-governmental organizations to promote the agriculture sector or to enhance the economic development. Emergency food aid distributes food to the recipient countries that face food insecurity due to crises such as war, famine or natural disasters. For food imports, we use the Food Import Value Index as a proxy. This index represents the current value of imports that has been

converted to the US Dollar and stated as a percentage of the average for the base period 2004-2006 (FAOSTAT) The second variable is food accessibility, which is proxied by paved road ($\ln PR_{it}$). In addition, food accessibility also depends on the individual, household and national purchasing power. We refer to the Food and Agriculture Organization / Food Insecurity and Vulnerability Information and Mapping System (FAO/FIVIMS) Framework to measure food accessibility in terms of the national purchasing power parity ($\ln Ppp_{it}$). Food utilization is achieved through adequate clean water, good sanitation services and proper health care through the application of nutritional food. Based on the Sanitary and Phytosanitary Measures, sanitation services are important in order to achieve food safety and food security (WTO, 1995). Data for sanitation services improvement ($\ln SS_{it}$) and improvement in clean water ($\ln WI_{it}$) are obtained from the Food and Agriculture Organization Statistic (FAOSTAT). A set of controlled variables, $\ln X_{i,t}$, is added in this model to control other factors that can affect food insecurity. These controlled variables consist of the GDP per capita (gdpcc) and the arable land ($\ln al_{i,t}$), as adopted from Akramov et al. (2010).

METHODOLOGY

This paper employs the country fixed effects model because this model is suitable to consider unobserved individual characteristics that are assumed to be correlated with the error term. The fixed effects model is used to analyze the impact of fluctuating variables over time and to determine the relationship between the predictor variable and the outcome variable. Each country has their own characteristics that may or may not influence predictor variables. The basic model for estimation is as follows;

$$y_{it} = \beta_1 x_{it} + a_i + u_{it} \quad \text{..... (3)}$$

Where, $a_i (i=1.....n)$ is the intercept for each country, y_{it} is the dependent variable, x_{it} is the independent variable, β_1 is the coefficient for the independent variable, u_{it} is the error term, i and t represent country and time, respectively.

Meanwhile, the random effects model is an alternative for the fixed effects model to estimate coefficients on time-constant exogenous variable. The difference between the fixed effects model and the random effects model depends on whether the unobserved individual effect represents the elements that are correlated with the regressors in the model, notwithstanding whether the effect is stochastic or nonstochastic. The random effects model is more suitable if the error term or the differences across countries are related to the dependent variable. Time-invariant variables can be included in the random effects model. The random effects model can be represented as;

$$y_{it} = \beta_1 x_{it} + a_i + u_{it} + \varepsilon_{it} \quad \text{..... (4)}$$

Where u_{it} is a between countries error and ε_{it} is a within countries error.

To identify which estimation is more suitable for this study, we run the Hausmen test to choose between the random effects model and the fixed effects model. The null hypothesis of the test states that there is no correlation between the individual effects and the explanatory variables. This implies that both random and fixed effects are consistent but only the random effect is efficient. Meanwhile, the alternative hypothesis states that the individual effects are correlated with the explanatory variables, implying that only the fixed effects approach is consistent and efficient. Based on the Hausmen test, the best choice for this study is the fixed effects model.

Data

The analysis is conducted by compiling balanced panel datasets from 57 developing countries for the period 1990 to 2007. These datasets are obtained from the World Bank and the Food and Agriculture Organization (FAO) databases.

Three dependent variables are used as proxies to measure food insecurity. These proxies are based on the measurements defined by the FAO, namely Prevalence of Food Inadequacy (PFI), Prevalence of Undernourishment (POU) and Depth of Food Deficit (DFD). Meanwhile, the independent variables are Food Import Index, Food Production Index, Food Aid, Purchasing Power Parity, Paved Road, Sanitation Services, Water Improvements and Arable Land. Data for all dependent and independent variables are log-transformed to measure the elasticity of the variables, except for the Gross Domestic Product (GDP) which is represented as growth rate.

Empirical Result

Table 1 shows the empirical result for the fixed effects model. In examining food availability, the result reveals that food imports and food production have negative and significant impacts on food insecurity. This implies that higher food imports and food production increase the availability of food in developing countries, reduce the prevalence of food inadequacy and undernourishment, and decrease depth of food deficit. On the other hand, food aid is not significant in reducing food insecurity because food aid further depends on three distribution channels (Lowder et al., 2005). Programme food aid, project food aid and emergency food aid may not benefit all developing countries at the same time.

The second set of factors represents food accessibility, which is divided into two categories namely physical access and economic access. The latter is proxied by the purchasing power parity while the former is proxied by paved road. The result reveals that the purchasing power parity has a negative impact on food insecurity. An increase in purchasing power parity increases economic access, and thus decreases the prevalence of food inadequacy and undernourishment, and reduces the depth food deficit. In other words, the result implies that improvement in economic access leads to a reduction in food insecurity in developing countries. However, physical access does not show a significant impact on food insecurity.

The third set of factors represents food utilization, which is proxied by sanitation services and water improvement. Based on the result, sanitation services show a positive and significant impact on food insecurity, which implies that an increase in sanitation services increases food insecurity. This is probably due to the high cost of improving sanitation services, with estimated costs of US$115billion for

the period 2010 to 2015, where 46 per cent is for the rural area (WHO, 2012). On the other hand, a negative impact of water improvement on food insecurity reveals that an increase in water improvement leads to an increase in the quality of water and thus enhances productivity in food production which reduces the prevalence of food inadequacy and undernourishment, as well as the depth of food deficit.

Table 1 Regression Results for the Fixed Effects Model

Dependent Variable / Independent Variable	Prevalence of Food Inadequacy (PFI)	Prevalence of Undernourishment (POU)	Depth of Food Deficit (DFD)
Food Import Index	-0.0822	-0.0970	-0.1232
	(-4.31)***	(-4.70)***	(-5.01)***
	[0.0191]	[0.0206]	[0.0246]
Food Production Index	-0.6908	-0.7720	-1.0317
	(-8.00)***	(-8.27)***	(-9.28)***
	[0.0863]	[0.933]	[0.1112]
Food Aid	0.0047	0.0045	0.0095
	(0.79)	(0.70)	(1.23)
	[0.0059]	[0.0065]	[0.0077
Purchasing Power Parity	-0.4046	-0.3365	-0.3276
	(-6.03)***	(-5.64)***	(-4.40)***
	[0.0671]	[0.0596]	[0.0744]
Paved Road	0.0007	-0.0224	-0.0021
	(0.02)	(-0.54)	(-0.04)
	[0.0384]	[0.0415]	[0.0495]
Sanitation Services	0.4467	0.4153	0.5761
	(6.51)***	(5.60)***	(6.51)***
	[0.0687]	[0.0742]	[0.0884]
Water Improvement	-0.4868	-0.4556	-0.4341
	(-4.11)***	(-3.56)***	(-2.84)***
	[0.1184]	[0.1281]	[0.1526]
GDP Per Capita	0.0015	0.0015	0.0004
	(1.27)	(1.13)	(0.25)
	[0.0012]	[0.0013]	[0.0015]
Arable Land	-0.1451	-0.1353	-0.1574
	(-3.70)***	(-3.19)***	(-3.12)***
	[0.0392]	[0.0424]	[0.0505]
Intercept	10.7982	10.9364	12.9560
	(21.29)***	(19.94)***	(19.83)***
	[0.5072]	[0.5484]	[0.6533]
Observation	491	491	491
Countries	57	57	57
R-Square	0.1334	0.1989	0.4587
F-Test	50.78***	47.31***	40.02***
Hausman Fixed	58.71***	46.12***	37.26***

CONCLUSION

This paper examines the improvement of food insecurity in selected developing countries, based on the three dimensions identified in the USAID food policy. There are three major findings in this study, with regards to food availability, food accessibility and food utilization. Firstly, based on food availability, an increase food production and food imports can improve undernourishment and food insecurity. Developing countries that have underdeveloped agriculture sectors and rely highly on the primary agriculture sectors need to increase the quality of fertilized soils, reduce the environmental pollution and improve the irrigation system. Improvement in agricultural inputs will increase crop and food production, and thus reduce undernourishment and food insecurity. Secondly, based on food accessibility, an increase in the purchasing power parity can improve food insecurity. However, the impact of physical access is insignificant due to the poor infrastructure. Improvement in infrastructure like paved road can reduce transportation costs and increase physical market access to nutritious food. Thirdly, based on food utilization, our results show that sanitation services have a significant positive impact on food insecurity. Sanitation services involve high costs and may not be affordable by some developing countries, but alternatively, they could invest in water improvement to help increase food production.

Reduction in food insecurity can be achieved by making improvement in all three important policy dimensions identified by USAID. Governments and international institutions should contribute by providing aids to improve infrastructure, provide training and better education for farmers and households, build more affordable health care centers and introduce rural off-farm opportunities for farmers to achieve higher productivity. An increase in food production can help households to gain profit from selling their crops and food. They can increase their purchasing power parity and enable them to purchase quality food. Governments benefit from the contribution to the economic growth and can afford to invest in better sanitation services. Overall, the problems of undernourishment and food insecurity can be reduced.

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Finding Contextually Identical Behavioral Variables in Information System Journals

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ABSTRACT

At theory fabrication stage, determining scales (items) for behavioral variables (constructs) has great possibility to duplicate past research which lead to linguistics ambiguity as human tends to disagree with others due to the language used. When items are not well classified, new constructs can appear when researchers operationalize their interested constructs. This will create confusion when constructs and items are not proper defined and scattered everywhere. Human can find similar constructs manually provided with the constructs' background knowledge but this may be too laborious when the finding results are not well organized and not directly align to our interested theory. It also can create bias because each of us have our own interpretation of certain meanings of concept. Hence, we see there is a great need to have a computational approach to help scientists automatically finding similar constructs and items. At the same time, we are able to connect and infer relationship among each other. We assume that items that are belonged to the similar construct have semantic similarity between each other which motivate us to use items to find similar constructs. We are interested to computationally induce similar constructs according to their semantic similarity between the items by using a method called Latent Semantic Analysis (LSA). In this research, we aim to propose a novel methodology in helping researchers to identify similar constructs.

Keywords: Construct, Item, Information Science, Latent Semantic Analysis (LSA)

INTRODUCTION

Constructs refer to the latent variables in behavioral science. Constructs are the cornerstone of a theory. Though latent, constructs can be revealed through user behavior (Miller, Mclntire & Lovler, 2001). For example, behavioral scientists facilitate items to quantify a construct. One of the common ways to measure construct is to ask respondents to give responses on sets of questions that usually appear in a questionnaire where each set of the answers corresponded to measure the constructs of interest. These questions able to act as the items and medium to understand respondents' perspective to a research question.

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According to Miller, Mclntire and Lovler (2001), they defined construct as "underlying attitudes or attributes that exist in our imagination." They also pointed out that we cannot observe and measure construct directly because they are only exist theoretically. However, we could measure construct by observing and measuring their behavior. As an example, Murphy and Davidshofer (1994) used the concept of gravity to illustrate this scenario where we cannot see gravity, but we can see the result of gravity which is the falling apples based on our belief that apple fall to the earth is caused by gravity theory. While items act as the measurement to operationalize a particular constructs. DeVellis (2011) stated that the content of the items reflect the constructs of interest. For example, items such as "*I find my experience with this website interesting*" (Larsen, 2013) should be measure on enjoyment towards the website but not measuring the usefulness of the website because a website that is interesting not necessarily is useful. In Information System, Technology Acceptance Model (TAM) by Davis (1989) is one of the examples to use items to measure constructs. This model is based on the concept that whether user will accept or reject a system is depending on the attitude towards the system. Davis (1989) developed the measurement scales by referring to psychometric scales in psychology. These scales would require response from individual on the context. Davis interviewed the users to evaluate the created items which he thinks that can measure the constructs that he wants to measure. TAM becomes a well-known model for researchers to predict system use by using items. By understanding the background of constructs and items, we can be more alert in differentiating constructs because we cannot observe constructs directly and items hint us to discover other constructs.

Most of the time, behavioral scientists would need to know existing similar constructs or items during theory development. For example, when they need to implement the similar constructs and deciding suitable items at different situation or domain. With computer technologies, researchers could find constructs and items by using search engine such as Google, Bing and Yahoo! However, it is hard to find specific theories for decision making. Imagine that, when someone want to investigate on *usefulness* of e-learning system, a search for "*usefulness*" may return hits that consists of different type of results: documents, websites, journals, keywords information and others. The abundance of information required researchers to tediously go through the results one by one and it is very time consuming. In additions, construct duplication happened when researchers do not aware of existing constructs leading to creation of redundant constructs.

In operationalizing constructs, based on Miller, Mclntire and Lovler (2001), any test to measure unseen construct must be from the domain of the construct. According to "construct validity", evidences are required to show that the designed test is measuring the construct that it claims to measure (Miller, Mclntire & Lovler, 2001). The tests involved items to measure the particular constructs. For example, the test to measure someone intelligence is different with the test to measure enjoyment. Dolnicar, Coltman and Sharma (2014) in their study show that researchers are likely to reuse the same items from different studies to measure different constructs. They suggest that all constructs should be unambiguously defined. However, as constructs are developed in different time, by different people and at various places, researchers are not expected to fully aware of similar constructs. Due to this, they create constructs with similar items and caused

duplication. These findings also remind us that human assigned items to the correspondent constructs can be biased and ambiguous.

According to Argawal (2011), verifying survey items is a very important process to validate construct especially when the items are newly created and not obtained from questionnaires used in past studies. However, this process is extremely laborious. From these studies, we aware that it is crucial to researchers to identify similar constructs elsewhere. Besides that, there exist strong correlation between validity and reliability of items and constructs so that they can measure what they want to measure. We can use items to identify the relationship of the constructs because items are designed to measure them. We found out another study based on "convergent evidence of validity" from psychological testing (Miller, Mclntire & Lovler, 2001), the questions being used to test constructs should be relevant as well. Thus, we can infer that if the items are highly similar to one another, they are most probably measuring similar constructs. Hence, we make assumption that similar items normally converge to the similar construct.

To sum up, if we want to know if two constructs are similar, we can look over the similarity between their items. We can predict constructs relationship through their measurement items and two similar or related constructs share similar measurement items (Bong, 2011). Our main objective of this study is to implement and proposed a novel methodology allowing researchers to find their interested construct, from there, they able to quantify the relationship between items-constructs, and constructs-constructs. Items' semantic similarity referring to the semantic relatedness of collective of words in the compared items. Finding similar constructs manually is a laborious job. In order to ensure items' semantic similarity can be utilized to find similar constructs, we explored the relatedness between items and constructs.

Thus, in this paper, we intend to explore a computational semantics approach to automatically find similar constructs based on their measurement items' semantic similarity. We hope to propose a methodology that enable researchers to easily connected and manipulated with constructs and items that can ease their research works. We hope that our proposed approach can take the edge off their works and keep track with the development of constructs and items at different time and place.

PROBLEMS

Here, we have highlighted four problems which related to the constructs operationalization: constructs proliferation, linguistic ambiguity, biased and confusion, mutual understanding in manually piloting items.

Constructs Proliferation

There are several issue leading to construct proliferation:

1. Several similar constructs contain similar items leading to duplication.
2. Researchers do not have clear boundary in assigning items to the right construct.

Hagger (2014) stated out that overlapping and redundancy in constructs make it hard to identify whether constructs with different terms are actually different in

content. Once researchers failed to recognize similar constructs, they will create new label for it. As the time goes on, there will be no clear boundary to operationalize the construct correctly. This can lead to problems in integrating research findings as do not have clear guidelines in manipulating constructs and assigning items.

Linguistic Ambiguity

Behavioural scientist use words to facilitate conceptual dialogues. Often, scientists tend to disagree on the vocabulary used and the meaning of words used to represent a concept. Linguistic ambiguity refers to the ambiguous words are chosen and concepts are not being contextualized. This will create new terms or new concepts with the new words when different people have different interpretation on concepts. This could arise doubts to find common ground and differentiate each of the concepts later.

Bias and Confusion

When researcher defining items to construct's domain, it very much depends on the researchers' own interpretation on the construct and their background knowledge. However, it is difficult for everyone to reach a common knowledge in interpreting the relatedness between the items and constructs. Therefore, confusion and bias are introduced when classifying items into construct domain. As a result, the items are classified into a theoretically unrelated construct. Such inefficiency will rise problem when other researchers trying to find the constructs elsewhere. Takes one example for confusion problem, some people might get confused of constructs *Perceived Usefulness* and *Perceived Ease of Use*. According to a behavior project by Larsen (2013), both of these constructs are related to *IT Adoption: Technology Factors* but they are actually theoretically different and should be measured differently. Both of the constructs contain different items for measurement as shown in the table below. Ones would need to have sufficient comprehension and understanding on both constructs in order to correctly differentiate them including the items especially when they need to create new items.

Table 7 Example of items that measure similar constructs

Perceived Usefulness	**Perceived Ease of Use**
1. Using this website can improve my shopping performance.	1. Learning to operate the system would be easy for me.
2. Using this website can increase my shopping productivity.	2. I would find it easy to get the system to do what I want it to do.
3. Using this website can increase my shopping effectiveness.	3. My interaction with the system would be clear and understandable.
……	…….

Source: Human Behavior Project by Larsen (2013)

Mutual Understanding in Manually Piloting Items

Q methodological study by Watts and Stenner (2012), a research technique by William Stephenson which emphasized on the subjective or point of view of people mentioned that participants are given heterogeneous set of stimulus items or known as Q set (Watts & Stenner, 2012). Watts and Stanner (2012) mention that it is crucial to get people to clarify the wordings of items and avoid duplication to ensure it provides adequate coverage of the relevant constructs. This is a process of piloting to refine the large number of items. However, when more people involve in the process of creating and piloting items, it is difficult to reach mutual understanding. It can be done efficiently if each of the person are following a common methodology to access the information of constructs or items.

To sum up, this showed that we actually can differentiate constructs by examining their items. However, it is a challenging and stimulating work to classify constructs based on items due to variety of language usage in representing each items and to ensure that the items are related to the constructs without duplication. Provided with the option in automatically identifying similar items, researchers should aware of the similar constructs which can ease their works without manually check on them.

RESEARCH GOAL

The purpose of our study is to use a computational method to find similar constructs based on the semantic relatedness of the items. In order to automatically detect the semantic related items, we are implementing Latent Semantic Analysis (LSA). We aim to utilize the relatedness between the items to detect similar constructs using a common knowledge base.

PROPOSED METHOD

As mentioned earlier, we need to find semantic similarity between the items in order for us to find similar constructs. We introduce the method of Latent Semantic Analysis (LSA) by Laudauer, Folts and Laham (1998).

Latent Semantic Analysis (LSA)

According to Laudauer, Folts and Laham (1998), Latent semantic analysis (LSA) is based on a theory that the appearance of words in certain context can determine the semantic similarity of words to each other. Words that share similar meaning are tends to occur in similar texts. We can build the semantic space by using the knowledge base that we want to study on. LSA facilitates singular vector decomposition (SVD) to reduce the dimensionality of the “semantic space” to capture important meanings. The meaning of two words or two passages can be measure by cosine similarity between the vectors in semantic space. LSA is works on co-occurrence which means two words that appear in the same passage do not necessarily mean they are similar. They capture the meaning by observing the meaningful passages that they occur together (Laudauer, Folts & Laham, 1998).

In addition, people express their idea in own words so that it carries meaning

to be understood by others (Laudauer et al., 2011). Take human brain as analogy, based on Lauder et al. (2011), human can remember the meaning of the passage that they have read few minutes ago even though they had forgot the exact wording. This is similar to "mentalese", a format of language thought to form our conceptual knowledge (Pinker, 1997). Pinker also give an example in a memory test; people can recognize sentences that they never see before but they can remember it through the paraphrase of the sentences they saw before (Pinker, 1997). From these examples, we can conclude that human capture the gist of the content that we come across through "mentalese". Likewise in LSA, the passage meaning is a form of meaning and the meaningful passages with the words form the "semantic space". The word alone itself do not mean anything but the relations among the words form the actual meaning (Laudauer, Folts & Laham, 1998).

Finding Similar Construct

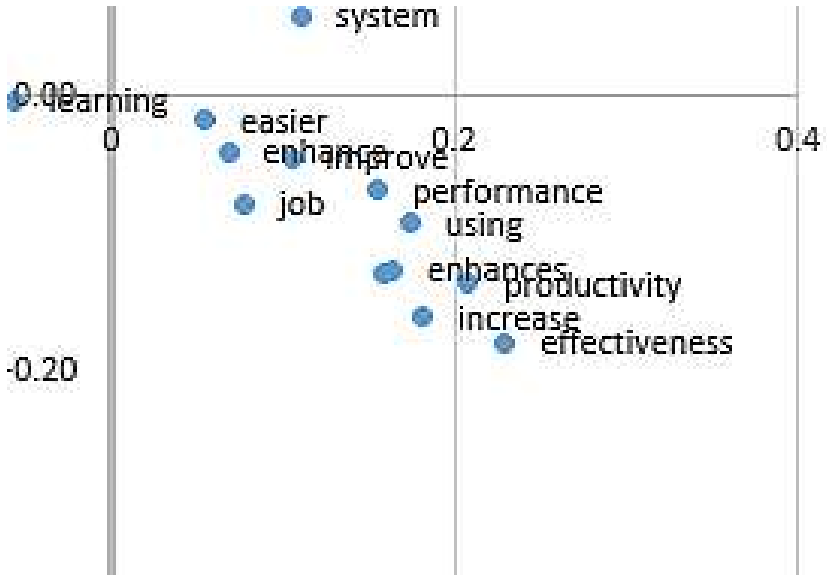
In order to find similar constructs, it is essential that we are able to find items sharing similar meanings. LSA could be used to map the items in reduced dimension semantic space to detect their semantics. In short, LSA able to brings similar concept (here refer to constructs) together based on the words usage and co-occurrence.

Take an analogy example of word usage to represent a concept, we will normally use words like "4 wheels", "speed", "capacity" to explain vehicle such as car. The word order not necessarily important in this case but these keywords appear together can stimulate our memory to recognize vehicle from fruits, cloths and so on. In addition, we will not likely put together the keywords "round" and "yellow" to explain banana but these combination of keywords can represent other things such as lemon. We normally use word usage to classify things around us and we have been taught with grammatical rules since small to represent words meaning. This examples indicate that word usage and co-occurrence of the words lead us to recognize a concept in this universal.

Another useful aspect by using LSA is that it able to find similar items without the necessary to share any common words between the two items. We can teach machine to recognize concept based on the word co-occurrence instead of word overlapping only because human have the freedom to choose their own words to explain something in words. Now we can connect the above examples with our study where similar items under similar constructs sharing the same word usage. Below is the figure of a semantic space that contains terms that formed by using our behavior project dataset. This semantic space are formed from the co-occurrence of the words in several documents (here refer to items) that represent certain concept (here refer to constructs). In this space, similar words tend to be occur together in documents that mentioning similar constructs. From the graph, we can see that the terms that related are clustered together in the semantic space.

The figure 1 illustrates the sliced semantic space build with items. In the figure we can notice that people tends to use "enhance" and "productivity" together (close together in semantic space) which brings to the concept such as usefulness compared to "learning" and "productivity" (located further away in the semantic space) which does not contribute much to the previous concept. Another example, we can see the combination of terms "enhances", and "productivity" tends to be located closer with combination of terms "increase" and "effectiveness" when compare to

combination of terms "easier" and "learning" in the semantic space. Since that these words are from items of constructs, then we can infer that the first two constructs are more similar to each other and refer to the same concept "usefulness". The last construct is about "ease of use". This illustrate a brief idea on how we use LSA to find similar constructs.



* Terms represent by filled circles and form vector in space.

Figure 1 Semantic Space illustration graph. Terms represent by filled circles and form vector in space

EXPERIMENT

Data Preparation

To validate our methodology, we used the expert annotated constructs from Human Behavior Project (Larsen, 2013) which contains 1383 constructs with 5472 items categorized into 494 category. Our goal here is to find the similar constructs based on the 494 category. Similar constructs have been categorized under same construct category. We have divided the items into 80% training set and 20% testing. We run experiment by using these datasets and perform 5-fold cross validation. The table below showed the examples of category, constructs and items that we use.

Table 2 Examples of category, construct and item (Larsen, 2013)

Construct category	Construct	Items
Usefulness	*Job fit with personal computer use*	If I use a computer I will be seen as higher in status by my peers.
Ease of use	*Temporal dissociation*	I find the Web easy to use.
Job Overload	*Perceived workload*	I feel pressured.
Satisfaction with Technology	*User information satisfaction*	Convenience of access.

Experiment Setup

We run the experiment by using the data mentioned at section A. We labelled each of the training and testing set with their respective construct category id and construct id. Example of the labelled dataset for similar constructs as below:

**291.0*#23983.0# The Web site was engaging.*
**291.0*#105.0#Using the system is a bad/good idea.*

The first element is the construct category id (*), second element is the construct id (#) and third element is item. The id enable us to refer to our dataset easily to retrieve constructs category and constructs. The figure below show the overall system design in this experiment.

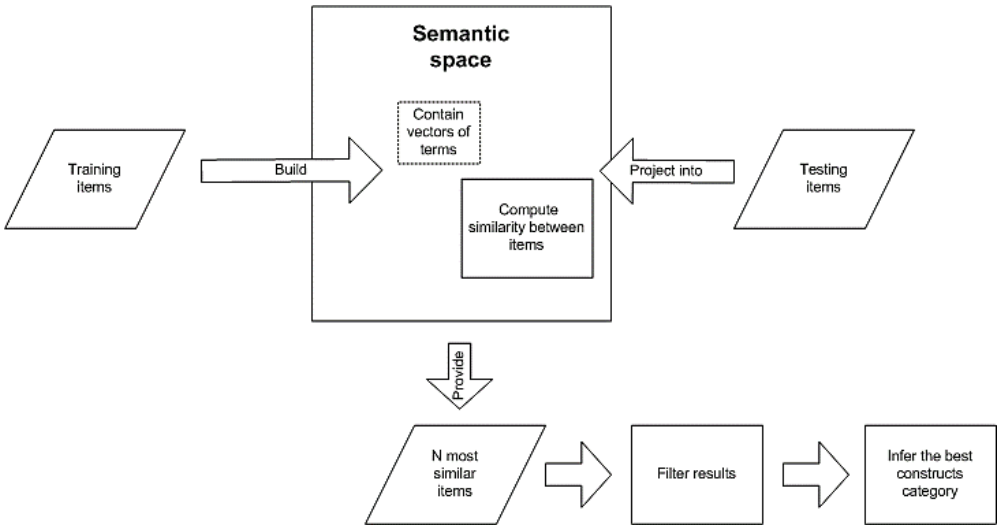


Figure 2 System design flow (Latent Semantic Space)

This method is based on unsupervised learning where group similar items together based on their semantic meaning derived from their word usage. Firstly, we are going to build LSA semantic space by using set of items as illustrated in Figure 2 to build a space that represent the concept/feature of different items. The built semantic space consist of the vectors items text and terms. We assume that items from the same construct category are close to each other in this space. As mentioned earlier, LSA work on co-occurrence of words to represent concept. Hereby, similar documents (here refer to items) will be near to each other based on their words usage. Each words and documents will be presented in reduced dimensionality vector. This space enable us to find nearest items by calculating cosine similarity between the vectors. We would like to test our experiment to find similar constructs using items. So next we projected our 20% testing items into the semantic space with the assumptions that it will be positioned close to related items based on word co-occurrence. Then we compute the cosine similarity between the testing items and other items in the space. We take N most similar items based on the cosine similarity score and filter them to give us the most similar constructs which will be discussed further at next sections.

EVALUATION AND DISCUSSION

In the experiments, we obtain the *n* most similar items in the training set by projecting the testing items. Each of the testing items have been labelled with their actual construct and construct category as shown at previous section.

Next, we undergo several filtering steps on the results that we obtained to decide the best constructs category. From the returned list of items, sorted by their similarity score, we need to check the variance of the similarity score between them. If variance exceed 0.2, we opt for the category with the highest similarity score. If the variance less than 0.2, we infer the most similar construct by taking the majority of the construct category return from our result. We check the frequency of the constructs appear in the *n* similar items to find the majority construct category. If there is similar frequency occur, we get the construct from the items that have the highest similarity score. The filtering flow can illustrated as below:

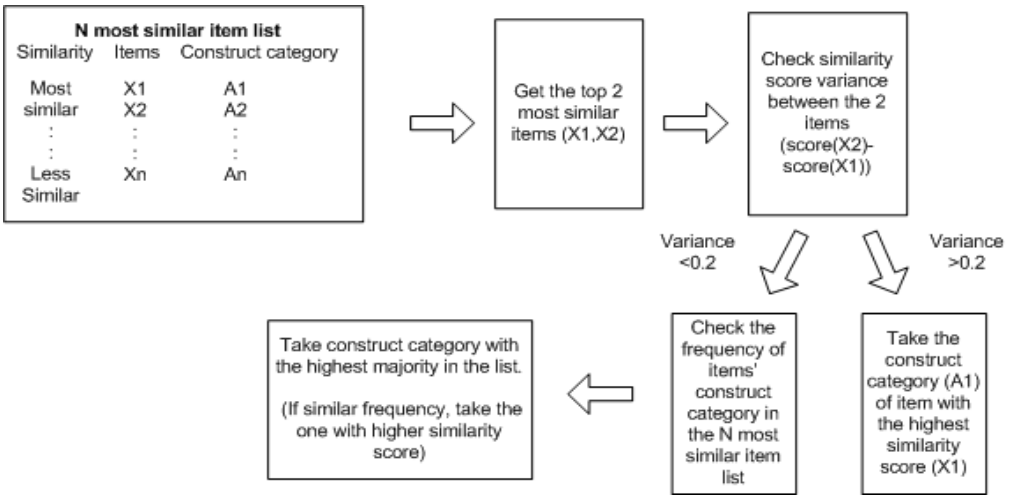


Figure 3 Filtering result flow

To summarize, we take the construct category that appear more frequently in the generated N most similar items list to proceed. However, if the returned most similar item X have big variance of similarity score with other returned items in list, then we can direct consider the construct category of the item X without counting the majority construct category because this can infer that other items are less significant to our query item.

After we have filter the result, we have obtained the predicted construct category and we compare it against the actual labelled construct category to determine they are similar or not. As mentioned earlier, based on our dataset, two items that have same construct category consider to be similar. The predicted construct category is inferred from their similar construct's item. If the predicted construct category same as their actual construct category, this infer that we are able to find their similar constructs. To obtain the overall result, we check through them by looking at the matching between actual and predicted construct category with each construct category.

For example,

Current Construct category under checking: (A) [Example-*Ease of use]*

Actual construct category of the testing item:

If *(A)*, then match; Else, not match

Predicted construct category of the testing item:

If *(A)*, then match; Else, not match

We record the results in confusion matrix format as in Table 2. We calculate the precision, recall and f-measure from there. We do this result checking steps for each construct category and we get the average of the overall results.

Table 3 Confusion Matrix reference table for our experiment for each construct category

Values	**Predicted construct category**	**Actual construct category**
True Positive (TP)	Match	Match
False Positive (FP)	Match	Not match
True Negative (TN)	Not match	Not match
False Negative (FN)	Not match	Match

According to information retrieval (Manning, Raghavan & Schütze, 2008), precision, recall and f-measure can be calculated by:

Precision, P ("Fraction of retrieved documents that are relevant")

$$\frac{TP}{TP + FP}$$

Recall, R ("Fraction of relevant documents that are retrieved")

$$\frac{TP}{TP + FN}$$

F-measure ("weighted harmonic mean of precision recall")

$$2 \times \frac{P \times R}{P + R}$$

RESULTS AND DISCUSSIONS

We reported the precision, recall and F-measure for our experiment in finding similar constructs.

The average of precision is 0.33, recall 0.34 and the f-measure 0.32. From the result, we also notice that the variance of the F-measure among categories is quite large. This indicates some of categories performed well whereas a number of them performed poorly. The rather high variance was the main cause to the low F-measure.

One of the reasons of low precision is due to the dataset has imbalanced number of construct in each category: some contained as low as one item while some contained hundreds. As the method used word occurrence to infer the semantic similarity between the items, low amount of item was clearly under-represented. However, we discovered that there are cases where our proposed method able to find similar constructs.

For the first use case presented in Table 3, we can see that both of the items have overlapping keywords "*flexible to interact with*" to represent construct "*ease of use*' even though they are referring to different subjects of interest (system vs electronic system). However, LSA still able to infer they are similar to each other indicate by same construct category found. This prove that LSA does not solely depends on word overlapping but more to infer concept similarity between the items. However, overlapping in words between items can help us in finding similar items due to LSA give more weights to overlapping words and thus strengthen the overall semantic similarity between each other. This example shows that it is possible for us to computationally infer similar constructs based on items semantic similarity meaning.

Table 4 Example of results

Input Testing Items	**The Most Similar Item Found**
I would find the system to be flexible to interact with.	*Groups I work with find [would find] an electronic meeting system to be flexible to interact with.*
Construct Category: *Ease of use*	Construct Category: *Ease of Use*
Construct: *Perceived Ease of Use [study 2])*	Construct: *Perceived Ease of Use*

Next, we look at the second example, our method able to discover the same category constructs (different construct but under same construct category *'Rewards'*) even though they used different choice of words. Both of the items have different usage of words but contain similar meanings and concepts which referring to the construct *'rewards'*. LSA able to find similar items and in this case they are located close to each other in the semantic space. This evidence demonstrated that the method able to find similar contextual items regardless if they contained overlapping words.

Table 5 Example of results

Input Testing Items	**Most Similar Item Found**
Work on projects leading to advancement.	*work on professionally important projects*
Construct Category: *Rewards*	Construct Category: *Rewards*
Construct: *Organization-based rewards' [study 2])*	Construct: *Task based rewards*

However, there are a number of cases where our proposed method does not work well. For human interpretation, this two items shown at Table 5 can be similar but in fact they are different (showed by different construct category). The example shows there is possibility to assign more than one construct category to item. By looking at the items, that the keyword "important" is given more weights compared to others. Hence, the two items were predicted to be similar. This is one of the limitations of our experiment which tells us that we should place emphasizes on every words in the items which will help to differentiate the constructs better.

Table 6 Example of results

Input Testing Items	**Most Similar Item Found**
Information that covers a wide range is: not important at all - extremely important.	*Information that is credible is: not important at all - extremely important*
Construct Category: *Information Quality Importance*	Construct Category: *Information Reliability Importance*
Construct: *Scope*	Construct: *Reliability*

Overall, LSA focuses on co-occurrence of words and not all the items have unique keywords to be significantly represent in the semantic space. Some words can be ambiguous and can refer to more than just one concept. When the training items is less, it contribute less word usage of information to find similar items, instead it will choose the most similar items based on keywords from the testing items that are more significant in the semantic space. Therefore, LSA required more example of items to be able to recognize them accurately.

As a conclusion, we have proved that it is possible to find similar constructs by looking at the semantic similarity based on our assumptions that similar constructs contain similar items. We also showed that Latent Semantic Analysis (LSA) can be used to archive our research goals. However, there are several improvements and future works need to be address in order to improve the performance.

FUTURE WORKS

There are works that can be done to improve our proposed methods to find similar constructs. We shall give more prominence to the concept of cause and effect. For item, we observe that most of the time it mentioned on the cause that caused the behavior and the effects that used to measure the behavior. We can assume cause as an action or event and the effect can be feelings, or something describing the consequences of the cause. For example the following are two items from different constructs that labelled with cause and effects:

Table 7 Different constructs labelled with cause and effect

Items of Constructs	Construct Category
Computers have made it *easier* (cause) for me to *get the information* (effect) I need.	Usefulness
Learning to operate (cause) a computer is *easy* (effect) for me."	Ease of use
I think it is *easy* (effect).	can be any

We can see that the first item mention ones wanted to get the information he/she needs (action cause) then describing the effect of the action which is "easy". The second sentence stated ones wanted to operate a computer (action cause) then next he describe it is "easy". Both have similar effects or feelings, but they have different action/cause. By identifying the cause and effect, we can identify the context the writers is talking about and thus can increase the performance of classification. Similarly the 3rd examples do not mention any cause, therefore it can be classified into any constructs that mention on easiness. If the person just mentioned on cause/action only, then it might not bring any significance meaning to help us to classify the items. If the person just mentioned on effects or feelings towards something, then we can focus on sentiment extraction. As we know LSA learns meaning through the distribution of words, we should take initiative to emphasize on word usage. In our case, we should transforms the sentences into the structure that best represent the particular constructs.

Grammatically, sentences contain subject-verb-object (SVO). We believe that the subject-verb in a sentence explain on what someone is doing (action cause). We need a method to connect the subject-verb of the sentences with their important actions, meanwhile exclude unwanted words.

In addition, we should also emphasize on increasing the number of items (enhance the richness of words for each items) corresponded to each constructs so that LSA can better infer the relevant constructs.

RELATED WORKS

In this section, we are going to present two types of related works which is manually and computationally approach related to our works.

Manual classification

Finding Similar Constructs

Researchers are exposed to different ways in finding similar constructs. According to

the findings from Bong (2011), researchers can use existing search engine such as Google, Bing, Yahoo! On the World Wide Web (WWW) to find specific theory. Researchers can key in keywords and the search engine able to return set of results which covered several areas. It is difficult to search for constructs or anything related to it precisely due to variety of results presented. Besides using search engine, some researchers refer to several reference resources such as outdated wikis, topic dependent databases, collaborative repositories and human compiled encyclopedias. Researcher tends to obtain information from different resources which can be old and outdated. It is difficult and time consuming for them to find and semantically connect different constructs. Finding similar constructs involve process of construct operationalization because we want to induce the similar items to know their similar constructs. When people want to know two constructs are similar or not, one of the way is they probably can look into their items similarity. Our proposed method is to find similar constructs based on items semantic similarity computationally, therefore we did some study on how people manually operationalizing the constructs using items. According to Miller et al. (2009), there are two strategies in operationalizing the construct:

Adaptation of Existing Instrument

There are several instruments used to help in generating items. Such as Self-Determination Scale, Rotter Locus of Control Scale, General Self Efficacy scale and others. They will create spreadsheet that contain the verbatim items from the stated instruments. Then they discuss the potential of each items to indicate the constructs. This method can ensure that they are involve in the item generation process and were only rejected after group discussion.

Generation of New Items

This strategy is about create items when it does not mentioned by existing instrument. Next these items were reviewed from time to time as needed. They use multidisciplinary team to ensure that the items are relevant from different perspectives. Miller et al. (2009) also mentioned that reading level, jargon, ambiguity and others factors can affect the validity of the instruments when it can affects individual response on the items.

As we can see, finding similar constructs manually and selecting items for a constructs involve iterative process and need clear guidelines on each process to ensure validity. There is the risk that biased might occur because each of us have different frame of mind regarding subjective concept. Furthermore, it is time consuming. Researchers would need ways in helping them to manipulate this massive information.

Computationally Classifying Items

Seems that we are going to automatically infer similar construct, we found out that existing text classification methods are the most similar works to construct's items classification when we find similar constructs. So far we not yet found any method that use Latent Semantic Analysis method in our research topic. Below are several

well-known methods in text classification.

Classification Methods (Naïve Bayes and K nearest Neighbour)

According to the work of Warintarawej et al. (2014), software identifiers name can represent concept. For example, instance "getMinimumSupport" is about association rule. Their approach mainly on associate or map the identifiers to predefined main concept. They split the identifiers name and generate n-grams to form bag-of-word models. Next they use Chi-square feature selection to reduce number of features. In order to assign the identifiers to the concepts, Naive Bayes classification models been used based on posteriori probability. Besides that, kNN classification approach also been used to find the K nearest neighbour regarding concept by inputting the identifier names. They found out that kNN method outperforms Naïve Bayes.

Computation of Linguistic Features

In the paper of Gómez (2014), they proposed method of classification based on easy to compute linguistic features. This method do not need any tagged or parsed text. They summarized the variables in text under 3 categories. (i)Punctuation variables- treat texts as sequence of tokens in sentences. (ii)Lexical distribution variables- based on the length of the sentences, richness of vocabulary and readability grades. (iii) Most frequent words- 30 most frequent words of the BNC corpus. Next, they used discriminant function analysis (DFA) to predict text topic category by independent variables defined by these 3 categories. The whole research aim at assign "unknown" text to its category provided with linguistic parameters.

Vector Space Model

In the research by Sadiq, Ahmed and Abdullah (2014), they proposed method to classify text documents using vector space model and rough set theory. First of all, they applied set of preprocessing steps to extract features from the text: tokenization, stop word removal and stemming. Next they represent each document as vector in vector space where each dimension represent feature and weight in the document. They also implement dimensionality reduction to reduce the large feature space by setting thresholds to derived features from the stemming process based on frequencies. Lastly they use rough set theory to train the classifier. This theory able to get precise concepts which called as lower and upper approximations that enable the classifier to classify document into categories and sub categories.

Luo and Li (2014) presented approach that combine Latent Dirichlet Allocation (LDA) and Support Vector Machine (SVM) to classify data. They used LDA to create matrix of topic distribution for documents. The document act as VSM vector where the topics are feature and weight is the topic's possibility distribution value. The study showed that it worked well for high dimensional classification.

Most of the computationally classification works stated are based on hand-annotated or hand-coded corpus and rule based approach. These approaches have several limitations: i) Corpus need to be updated from time to time (ii) how to define the standard corpus that can be used by all the researchers can be an issue.

Our idea in finding similar constructs is that we want to have a generative

model that able to generate meaning from the annotated expert data that we have and train model from the existing dataset to find similar items based on their meaning. Thus we can map the query items to the most suitable constructs semantically by finding the most similar items. This give us the motivation to introduce and implement Latent Semantic Analysis (LSA) which is one of the model that can be used to implement this idea.

CONCLUSIONS

Our study demonstrates a novel computational approach to automatically find related constructs based on the semantic similarity between items. We believe that items for identical constructs carry semantic similarity. We implemented Latent Semantic Analysis approach to find the similar items based on semantics. The results showed that it is possible to automatically find related items and similar constructs provided with substantial knowledge base. However, there are several improvements can be done to increase the accuracy of the classification results such as pre-process the items to extract the important features and more emphasize on the part of the items that represent the constructs that we want to measure. We believe that the computational method in finding similar constructs can contribute to social science field when researchers need to deal with many constructs and item. Hopefully it able to eliminate laborious process leading to fewer bias by setting the common references to refer items and constructs. The proposed methodology in finding similar constructs also able to help researchers to connect items and constructs easily.

ACKNOWLEDGEMENT

We would like to thank Universiti Malaysia Sarawak and MOHE who funded this project through grant ERGS/ICT07(01)/1018/2013(15). We also like to express our sincere gratitude to Kai Larsen, the Director of Human Behavior Project at University of Colorado Boulder for allowing us to use the behavior variables in the study.

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Embracing Psychological Well-Being among Professional Engineers in Malaysia: The Role of Protean Career Orientation and Career Exploration

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ABSTRACT

Engineers are fast-track individuals, who have special knowledge and expertise. They have great expectations and ambitions for their career. Engineers are also known to be energetic in climbing their career ladder and in striving for psychological success. However, the conflict between having their own goals and expectations along with opportunities of advancement, work autonomy and work demand structured by the organization have all influenced the well-being of the engineers. As a result, the performance of engineers has shown a drop. This scenario can become worse if less attention is given to research on the engineers' individual well-being. Therefore, it is time to investigate the impact of protean career orientation on the individual well-being among professional engineers in Malaysia. This is precisely what this paper intends to do. In addition, this study will also examine the mediating effect of career exploration practiced by the professional engineers. The hypotheses are investigated through correlation and path analysis of 387 professional engineers in Malaysia. The results show that protean career orientation has a positive influence on career exploration. Furthermore, career exploration also has a positive influence on psychological well-being. In addition, the mediating effect of career exploration is identified. This paper discusses the implications of these findings to understand the process, through which career attitudes affect individuals' psychological well-being.

Keyword: Protean Career Orientation, Career Exploration, Psychological Well-being, Engineers

INTRODUCTION

New economy careers have emerged in response to the changes in economic and labor market. This has forced changes in working careers and spawned new career models, which tend to be dynamic, less predictable and boundary-less (Lips-

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Wiersma & Hall, 2007). Similarly, work has become more flexible as organizations become flatter (Feldman & Ng, 2007). As a result, employees need to change their attitudes toward their career development and toward their own role (Briscoe & Hall, 2006). Employees adapting to these changes in labor markets and organizational structures, modify their work values and behaviors such that they bear most of the responsibilities for planning and managing their own careers. Hall (2002, 2004) defined protean career orientation as the development of a distinct mind-set. According to Hall, individuals with protean career orientation strive for psychological success, set themselves challenging goals, and invest a lot of effort. Besides, individuals with protean career orientation are found to be engaged in career exploration behaviors (De Vos & Soens, 2008). This behavior can function as a navigation system that guides individuals, who use career exploration as the process by which they collect information about values, interests, skills, strengths and weaknesses (Weng & McElroy, 2010). Related literatures have proven that individuals, who manage their careers proactively, are more satisfied with their careers compared with individuals with passive career attitudes (Volmer & Spurk, 2011). However, the question is does it mean that those who have achieved career satisfaction have also achieved their personal satisfaction from their career? In short, have they also achieved their psychological well-being? Psychological well-being is predicted by meaningful work (Arnold, Turner, Barling, Kelloway, & MacKee, 2007). Johada (1982) supported the notion saying that employment serves not only as the manifest function of providing income, but also provides individuals with valuable experiences, social interactions, and opportunities for personal development and use of their skills. The potential loss of such psychological important factors would imply that the individual's well-being is reduced (Lazarus & Folkman, 1984). An engineer, who focuses on his or her work, experiences his or her job as important and meaningful. When they experience their job as meaningful, they enjoy working and they do not see it as an effort. However, if engineers struggle with the complexities of their jobs, they may experience work as meaningless (Schaufeli & Bakker, 2001).

Problem Statement

The contribution of engineers to the Malaysian economic development is huge. To reflect this contribution, the government has formulated the new Malaysian Engineering Education Model in 2000 (Megat Johari et al., 2002). This education model aims to recruit and qualify engineers with a strong scientific base, innovative, professionally competent, multiskilled, and well-respected. Consequently, the institution of the Engineering Education Model has increased the annual student enrolment in engineering faculties at higher institutions. Table 1 illustrates the increasing numbers of enrolment in the engineering fields of studies at Higher Education Institutions (HEIs) in Malaysia.

Table 1
Number of Student Enrolment in Engineering Field at Higher Education Institutions (HEIs) in Malaysia

Field of Study		Year	Enrolment
Engineering, Manufacturing & Construction	Engineering	2012	83,786
		2011	82,348
	Manufacturing, Processing & Technology	2012	13,717
		2011	13,528
	Architecture & Building	2012	19,172
		2011	18,633

Note. Adapted from Malaysia Higher Education Statistics 2012

In addition, the engineering sector is the key engine to support the country's economic transformation goals (Kelly Services, 2012). In 2010, the government has invested RM58 billion in the engineering sector. The National Key Economy Area (NKEA) targeted that this investment would deliver an annual growth of 5% from 2010 to 2020. This means that it could deliver an estimated RM131 billion in Gross National Income (GNI) with the creation of 52,300 of new jobs during the period. A significant proportion of these new jobs will be highly-skilled jobs with an estimated of 21,000 jobs for qualified professionals such as engineers.

Unfortunately, the survey conducted by Job Central Malaysia's on Work Happiness Survey 2013 revealed that engineers were classified as one of the groups of unhappy workers in Malaysia (Boo Su-Lyn, 2014). This was due to their dissatisfaction with advancement opportunities, work autonomy, and work demand. Such findings are in line with the opinion expressed by Ferrara (1998) in his study that the nature of work load, unorganized working hours, unmanaged work load, and other work related factors have decreased the level of the engineer's well-being. The conflict between fulfilling work demand structured by the organization and being visionaries, ambitious, having their own goals and expectations have altogether influenced the well-being of the engineers. Therefore, this study intends to investigate the impact of protean career orientation on psychological well-being among professional engineers in Malaysia. This study also aims to examine the mediating effect of career exploration on the relationship between protean career orientation on the psychological well-being of the professional engineers.

LITERATURE REVIEW & HYPOTHESES

Protean Career Orientation and Career Exploration

Individuals with protean career orientation are more close to themselves rather than to their organizations (Baruch & Quick, 2007). Their behaviors are more likely

expressed through the proactive management of their career. Since they are driven to achieve their personal meaningful values, therefore they are more engaged in career management behaviors (DiRenzo, 2010). Career exploration provides individuals with information pertaining to jobs, organizations, career paths, and their individual selves (Stumpf et al., 1983). Therefore, individuals with protean career orientation are more likely to engage in self-exploration to clarify their personal values, career interests, and perceptions of job and career fit (DiRenzo, 2010). Besides, they are more likely to access external information to gain insights regarding jobs and career opportunities and weigh them against their individual values to help them make informed career decisions (DiRenzo, 2010). Previous research has not examined the relationship between protean career orientation and career exploration. However, a positive association is consistent with indirect evidence, which indicates the influence of protean career orientation on both career insight and career authenticity such as the sense of authenticity in one's career role (Briscoe et al., 2006). It is possible that individuals with protean career orientation have a liking for career exploration in order to gain the insight needed to make career decisions that will lead to fulfil their personal goals. Therefore, these individuals will actively explore career development options to achieve their personal values and psychological success (Hall, 2002). With these considerations, protean career orientation (self-directed and values-driven) is expected to have a positive influence on career exploration. Therefore, in this study the following hypotheses were formulated:

H1: Protean career orientation (self-directed) has a positive influence on career exploration.

H2: Protean career orientation (values-driven) has a positive influence on career exploration.

Career Exploration and Psychological Well-Being

Several studies have shown that career exploration is related to behaviors such as to accept opportunities for career mobility and to participate in courses and seminars (Noe & Wilk, 1993). Generally, individuals obtain career information through self-exploration of values, interests, strengths and weaknesses of skills, and exploration of the environment. People who are expected to explore are those who wish to successfully progress in their careers (Philips, 1982). Consequently, exploration leads to increased knowledge of career opportunities and greater awareness of the skills and behaviors that need to be developed for career success. The implication is that people experience their job as meaningful and they enjoy working. Johada (1982),\ supported this notion by saying that employment not only serves as the manifest function of providing income, but also provides individuals with valuable experiences, social interactions, and opportunities for personal development and skill use. The potential loss of such psychologically important factors would imply reduce individual well-being (Lazarus & Folkman, 1984). Factors such as skill utilization, professional development, and social support have consistently been shown to be related to functional well-being related outcomes such as engagement, job satisfaction, and health (Halbesleben, 2010). As has been said earlier, limited research has been conducted with regard to the theoretical relationship between

career exploration and psychological well-being. Therefore, based on the aforementioned assumption, the following hypothesis is formed:

H3: Career exploration has a positive influence on psychological well-being.

Protean Career Orientation and Psychological Well-Being

Protean career attitudes include self-directed and values-driven behaviors (Briscoe & Hall, 2006). They include developing career insights and taking initiatives to manage career. Individuals with protean career attitudes should be motivated by targets that challenge and stretch their abilities. In other words, they are motivated by achievements. This idea is in line with Hall (2004) who said that an individual with protean career should be more motivated by following his own internal compass, by upholding his personal ideals or principles rather than motivated by extrinsic motivators such as money, status or promotion. In turn, individuals should increase feelings of career success (De Vos & De Soens, 2008). In addition, being a protean careerist means that an individual measures his or her success based upon his or her own values (psychological subjective success), rather than climbing up the corporate ladder within an organization (vertical objective success) (Hall, 1996). Thus, protean career attitudes help in achieving psychological success (De Vos & Soens, 2008). Limited research has been conducted with regard to the theoretical relationship between protean career orientation and psychological well-being. Therefore, based on the aforementioned assumption, the following hypotheses are formed:

H4: Protean career orientation (self-directed) has a positive influence on psychological well-being.

H5: Protean career orientation (values-driven) has a positive influence on psychological well-being.

The Mediating Role of Career Exploration between Protean Career Orientation and Psychological Well-being

Individuals with protean career orientation are always optimistic (Briscoe & Hall, 2006). They are quite optimistic when it comes to managing their careers (Lovalla & Kahneman, 2003). They objectively assess their own strengths and develop career strategies accordingly (Lovalla & Kahneman, 2003). Because individuals have the tendency to choose behaviors that are in line with their attitudes (Festinger, 1957), protean career attitudes lead employees to engage in certain career development behaviors that in turn result in important individual work outcomes. As the career actor is better able to cope with the changes taking place in his or her organization, his or her job performance will almost certainly be relatively better than that of the other employees. The ability to cope with problems has the potential to mediate between appraisal of a situation and the resulting emotional response (Fugate, Kinicki, & Prussia, 2008), and thus could increase psychological well-being. Research conducted by De Vos & Soens (2008) has proven that the impact of protean career attitudes on career success is indirect and operates through career self-management. Limited research has been conducted with regard to the mediating effect of proactive career management behaviors on the relationship between protean

career orientation and psychological well-being. Therefore, based on the said assumption, the following hypotheses are formed:

H6: Career exploration mediates a positive effect between protean career orientation (self-directed) and psychological well-being.

H7: Career exploration mediates a positive effect between protean career orientation (values-driven) and psychological well-being.

METHODOLOGY

Sampling and Data Collection

To collect data, a self-administered questionnaire was applied. A drop-off/pick-up method was applied in this study. This method provides the opportunity for the researcher to convey the message personally to the respondents. It ensures the presence of the respondent to answer the questions because the questionnaires are hand delivered by the researcher (Steele, Bourke, Luloff, Theodori, & Krannich, 2001). All variables were measured at the individual level. To determine the minimum sample size, the "10 times" rule of thumb suggested by Hair, Black, Babin, and Anderson (2010) was used as a guideline in this study. Hair et al. (2010) recommended that the minimum requirement for sample size is to have at least five participants per variable or item. However, the more acceptable sample size is to have 10 participants per variable or item. In this study, 22 items were used to measure all the variables. Hence, by employing the guideline as recommended by Hair et al. (2010), the acceptable minimum sample size is 10 times 22 items (10*22), equals 220 respondents. In Malaysia, generally the response rate is about 10%. Based on these guidelines, the actual sample size of 387 was deemed sufficient.

Measures

The measures were mostly adopted from previous studies with acceptable reliabilities. Protean career orientation was measured using the 14-item scale developed by Briscoe et al. (2006). Based on the first protean scale, self-directed was used to assess the degree to which people believe that they can act independently in managing their career. This scale consisted 8 items. Based on the second protean scale, values-driven was designed to determine the degree to which people use personal versus external values to define career priorities and goals. It consisted 6 items. Meanwhile, career exploration was measured using three questions developed by previous researchers (Noe, 1996; Zikic & Klehe, 2006). Finally, psychological well-being was measured using the 8-item Index of Psychological Well-Being developed by Berkman (1971a, 1971b). Ratings were made on the 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree* for all the variables in this study.

Data Analysis

Data were analyzed using SmartPLS software developed by Ringle, Wende, and Will (2005) by means of Structural Equation Model (SEM) from Partial Least Square

approach. PLS-SEM was preferable due to its numerous advantages compared with other first generation techniques. Some of its major advantages are as follows:

- PLS makes fewer demands regarding sample size than other methods.
- LS does not require normal-distributed input data.
- PLS can be applied to complex structural equation models with a large number of constructs.
- PLS can handle multiple dependent and independent variables in a single model.

Moreover, PLS as variance-based SEM is preferable because covariance-based SEM assumes that the observed measures have random error variance and measure specific variance components, which are not of theoretical interest and are therefore, excluded from the measurement model. However, PLS-SEM assumes that the explanation of all observed measures of variance are useful.

RESULTS & FINDINGS

Descriptive Findings

This section presents the demographic profiles of the respondents. In terms of gender, 319 (82%) of the respondents were males, while 68 (18%) of them were females. In terms of their qualification, 212 (55%) of the respondents were Master degree holders, followed by 147 (38%) Bachelor degree holders, while 28 (7%) of the respondents were PhD holders. All the 387 respondents in this study were registered professional engineers (PE) with BEM. With regard to their CPD hours, all of these professional engineers have collected more than 50 CPD hours in the year 2013. Table 2 summarizes the demographic characteristics of the respondents.

Table 2
Demographic Profile of Respondents

Demographics	Categories	Frequency	Percentage (%)
Gender	Male	319	82
	Female	68	18
Level of Education	Bachelor Degree	147	38
	Master Degree	212	55
	Doctoral Degree	28	7
Registered as Professional Engineer (PE) with BEM	Yes	387	100
Total CPD hours collected for the year 2013	More than 50 hours	387	100

Model Testing

To test the conceptual model, this study used the two-step approach suggested by Anderson and Gerbing (1988) and Chin (2010). First, the measurement model was analyzed, and then the structural model. The purpose of this approach is to assess the fit and construct validity of the measurements before assessing the structural model for path coefficients or relationships between the constructs. Therefore, "convergent validity" and "discriminant validity" will be assessed next to confirm "construct validity" by looking at the results of the measurement model. Figure 1 shows the measurement model in this study.

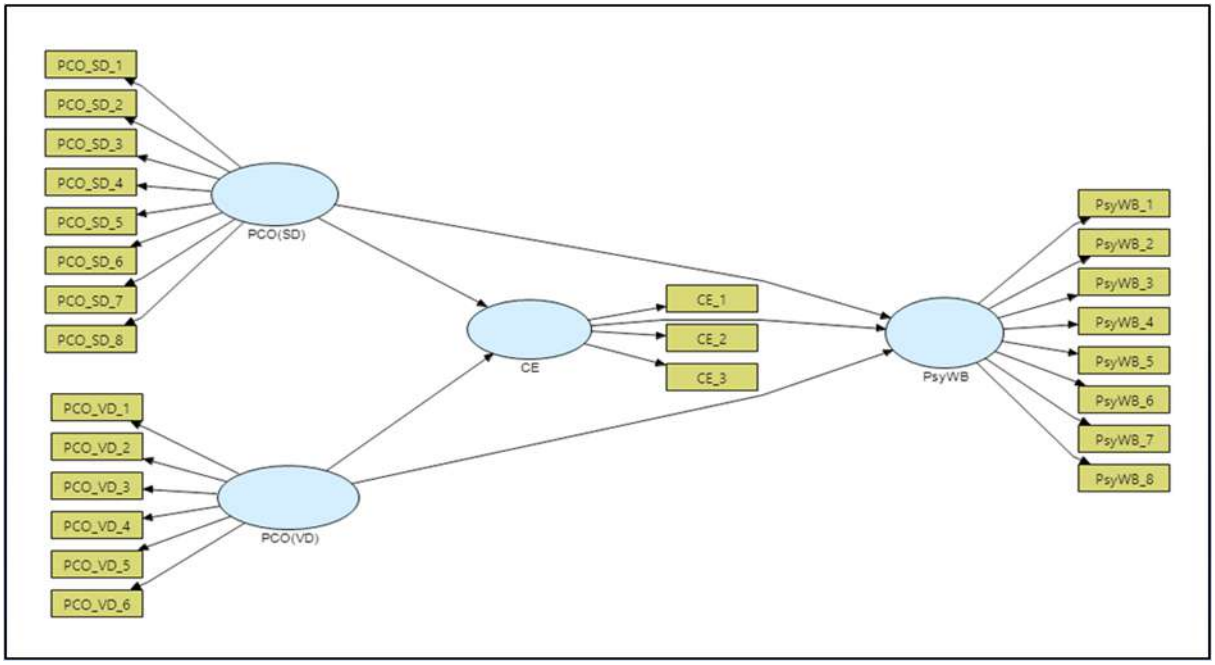


Figure 1. The measurement model of the study

Convergent Validity

Table 3 shows that cross-loadings, AVE (Average Variance Extracted), and composite reliability could be assessed to confirm the convergent validity. AVE is the mean variance extracted for the items loading on a construct, and it is a summary indicator of convergence (Fornell & Larcker, 1981). AVE value of at least 0.5 indicates sufficient convergent validity, which means that on average, a latent variable is able to explain more than half of the variance of its indicators (Goetz, Liehr-Gobbers, & Krafft, 2009). Next, composite reliability was assessed for reliability. Composite reliability is a measure of convergent validity. The composite reliability value should be above 0.7 in order to assure an accurate scale (Nunnally & Bernstein, 1994). Based on this guideline, the CR values shown in Table 1 are satisfactory. Therefore, the measures used provided satisfactory reliability. In view of the aforementioned results of factor loadings, AVE, and composite reliability, adequate evidence of convergent validity was established. To confirm the construct

validity, the results of discriminant validity will be discussed next. Table 3 illustrates the items loading, CR, and AVE in this study.

Table 3 Results of Items Reliability, Internal Consistency and Convergent Validity

Constructs	Items	Loadings	Composite Reliability (CR)[a]	Average Variance Extracted (AVE)[b]
Protean Career Orientation (Self-Directed)	PCO_SD_1	0.792	0.932	0.631
	PCO_SD_2	0.823		
	PCO_SD_3	0.791		
	PCO_SD_4	0.835		
	PCO_SD_5	0.821		
	PCO_SD_6	0.808		
	PCO_SD_7	0.793		
	PCO_SD_8	0.681		
Protean Career Orientation (Values-Driven)	PCO_VD_1	0.563	0.905	0.618
	PCO_VD_2	0.751		
	PCO_VD_3	0.857		
	PCO_VD_4	0.830		
	PCO_VD_5	0.860		
	PCO_VD_6	0.815		
Career Exploration	CE_1	0.860	0.916	0.783
	CE_2	0.899		
	CE_3	0.896		
Psychological Well-Being	PsyWB_1	0.699	0.898	0.526
	PsyWB_2	0.616		
	PsyWB_3	0.629		
	PsyWB_4	0.636		
	PsyWB_5	0.806		
	PsyWB_6	0.807		
	PsyWB_7	0.772		
	PsyWB_8	0.802		

Notes.
a Average variance extracted (AVE) = (summation of the square of the factor loadings)/{(summation of the square of the factor loadings) / (summation of the error variances)}
b Composite reliability (CR) = (square of the summation of the factor loadings)/{(square of the summation of the factor loadings) / (square of the summation of the error variances)}

Discriminant Validity

Hair et al. (2010) suggested that discriminant validity is the extent to which a construct is fully distinct from other constructs. Discriminant validity indicates to what extent measures in the model are different from other measures in the same model. It is analyzed by comparing the square root of the AVE with the correlations between the variables. Chin (2010) suggested that discriminant validity is established if the square root of the AVE exceeds the correlations. Table 4 shows the square root of the AVE, placed in the diagonal. Note that the correlations for each construct are less than the square root of the AVE by the indicators measuring that construct, which indicates adequate discriminant validity. Based on the reported results, the measurement model confirmed the construct validity. Therefore, the testing of hypotheses can proceed to prove the research model.

Table 4

Discriminant Validity

	1	2	3	4
Career exploration	**0.885**			
Protean career orientation (self-directed)	0.553	**0.794**		
Protean career orientation (values-driven)	0.186	0.131	**0.786**	
Psychological well-being	0.525	0.452	0.161	**0.725**

Note: Diagonal values (in bold) represent the square root of the AVE, while off-diagonals represent the correlations

Hypothesis Testing

The relationships of the direct paths among the exogenous variables and endogenous variables are explained in this section. The structural model was assessed to determine the significance of path coefficients for structural paths. In total, this study proposed five hypotheses. Out of seven hypotheses, two were related to the relationship between the independent variable and the mediating variable. One hypothesis was related to the relationship between the mediating variable and the dependent variable. Two hypotheses were related to the relationship between the independent variable and the dependent variable. Finally, two hypotheses were related to the role of the mediating effect between the independent variable and the dependent variable.

Hypotheses Testing: Protean Career Orientation and Career Exploration

Two hypotheses were postulated on the relationship between protean career orientation (self-directed and value-driven) and career exploration. The results showed that both hypotheses were supported. Protean career orientation (self-directed) was found to have a positive influence on career exploration ($\beta = 0.538$; $p < .01$), and similarly, protean career orientation (values-driven) was found to have a positive influence on career exploration ($\beta = 0.116$; $p < .05$). Therefore, H1 and H2 were supported. The results are shown in Table 5.

Table 5

Path Coefficient for Protean Career Orientation and Career Exploration

H	Relationship	Path Coefficient (β)	*SE*	*t*-value	Results
H1	PCO(SD) ---> CE	0.538***	0.044	12.201	Supported
H2	PCO(VD) ---> CE	0.116**	0.053	2.182	Supported

Note: ***$p < .01$ (2.33), **$p < .05$ (1.645), *$p < .1$ (1.28)

Hypotheses Testing: Career Exploration and Psychological Well-Being

One hypothesis was postulated for the relationship between career exploration and psychological well-being. The results showed that career exploration positively influenced psychological well-being ($\beta = 0.119$; $p < .1$), thereby supporting H3. The result is illustrated in Table 6.

Table 6

Path Coefficient for Career Exploration and Psychological Well-Being

H	Relationship	Path Coefficient (β)	Std. Error	*t*-value	Results
H3	CE ---> PsyWB	0.119*	0.079	1.512	Supported

Note: ***$p < .01$ (2.33), **$p < .05$ (1.645), *$p < .1$ (1.28)

Hypotheses Testing: Protean Career Orientation and Psychological Well-Being

Two hypotheses were postulated on the relationship between protean career orientation (self-directed and value-driven) and psychological well-being. The results showed that protean career orientation (self-directed) positively influenced

psychological well-being (β = 0.184; p < .01), thereby supporting H4. However, hypothesis H6 was not supported (β = 0.060; p > .1). Table 7 illustrates the results.

Table 7

Path Coefficient for Protean Career Orientation and Psychological Well-Being

H	Relationship	Path Coefficient (β)	Std. Error	*t*-value	Results
H4	PCO(SD) ---> PsyWB	0.184***	0.057	3.250	Supported
H5	PCO(VD) ---> PsyWB	0.060	0.072	0.834	Not Supported

Note. ***p < .01 (2.33), **p < .05 (1.645), *p < .1 (1.28)

Hypotheses Testing: The Mediating Role of Career Exploration between Protean Career Orientation and Psychological Well-Being

Two hypotheses were postulated on the mediating effect of career exploration on the relationship between protean career orientation (self-directed and value-driven) and psychological well-being. The results showed that both hypotheses were not supported. The rejected hypotheses were H6 (β = 0.064; p > .1) and H7 (β = 0.014; p > .1). Details of the results are presented in Table 8.

Table 8

Hypotheses Testing: The Mediating Effect of Career Exploration between Protean Career Orientation and Individual Well-Being

H	Relationship	Path a	Path b	Indirect Path (a*b)	*SD* (a*b)	t-values	Results
H6	PCO(SD) -> CE -> PsyWB	0.538***	0.119	0.064	32.763	0.002	Not Supported
H7	PCO(VD) -> CE -> PsyWB	0.116**	0.119	0.014	7.020	0.002	Not Supported

Note. ***p < .01 (2.33), **p < .05 (1.645), *p < .1 (1.28)

DISCUSSION

Guided by the objectives of this study this paper investigated whether protean career orientation (self-directed and values-driven) has a positive influence on career exploration. Then, it investigated whether career exploration has a positive influence on psychological well-being. The study proceeded to find out whether protean career

orientation (self-directed and values-driven) has a positive influence on psychological well-being. Finally, this study examined whether career exploration mediates the relationship between protean career orientation (self-directed and values-driven) and psychological well-being. The empirical findings from this study showed that both dimensions of protean career orientation (self-directed and values-driven) positively influenced career exploration. This finding is consistent with the finding of De Vos and Soens (2008), who found that protean career orientation is positively associated with career exploration. The reason behind this positive relationship is that protean careerists are more particular about their own career goals, and they more likely to act for themselves rather than for their organization (Baruch & Quick, 2007). Their behaviors are more likely expressed through their proactive management of their career.

Career exploration was also shown to have a positive influence on psychological well-being. This indicated that exploration activities are undertaken by persons, who wish to successfully progress in their career (Philips, 1982). Exploration results in increased knowledge of career opportunities and greater awareness of what skills and behaviors that need to be developed for career success. The implication of this is that people experience their job as meaningful, and thus, they enjoy working (Philips, 1982). The finding also indicated that the relationship between protean career orientation and psychological well-being is partially supported. One possible explanation for this finding could be attributed to job conditions and working environments. This could be because engineers work in companies that operate in a highly competitive market, with projects driven by very strong focus on quality, costs, and time. Always, engineers have to struggle to meet unrealistic deadlines. In addition to the difficulties of managing time demand in the industry, projects are often located in remote sites, or in areas that take their time away from their families. Time taken for travelling contributes in making the lives of engineers more hectic. Therefore, engineers, who experience work overload, may exhaust their mental and physical resources. This may therefore lead to their health problems or to their burnout.

As to the mediating effect of career exploration on the relationship between protean career orientation (self-directed) and psychological well-being, the study found that the mediating effect of career exploration did not exist. This result indicated that professional engineers are respected by the public and they are seen in the same way as other licensed professionals in other fields. They are also held in high esteem within the engineering community as they are an elite group. Consequently, these engineers enjoy respect and high esteem in their society, and the impression they get as an elite group. This could possibly explain why the professional engineers experience positive emotions such as the feeling of enjoyment, feeling good and feeling great pleasure. With such life background, it is impossible for them to experience negative emotions such as feeling lonely or detached from other people, and feeling depressed or unhappy, or even feeling bored.

CONCLUSION

Most of previous related literatures on well-being originated in the west with western backgrounds and studied the issue in the context of western industries. This paper is one of the few studies to investigate the interaction between protean career orientation and career exploration and the influence it has on psychological well-being among professional engineers in Malaysia. Theoretically, the contribution comes from the dependent variable, namely psychological well-being. Despite the huge turn of research focus on well-being among the behaviorists, studies on the well-being paradigm are still scarce, especially those looking at the issue from the local perspective. This study believes that it is important look into the issue of psychological well-being, especially among the professional engineers in Malaysia. Therefore, this study has included professional engineers as the target respondents and analyzed the impact of protean career orientation and career exploration on their psychological well-being. In addition, professional engineers were selected as the respondents in this study because of the nature of their work and because the three variables chosen for this study suit them well. Since this is a quantitative study, a questionnaire was designed by adopting well-established measurement items on the respective variables. Seven hypotheses were formulated to achieve the research objectives and to answer the research questions. PLS was used as the tool for data analysis. Overall, this study recorded a mixed finding. Four hypotheses were accepted, while the remaining three hypotheses were rejected.

To sum up the discussion, professional engineers in Malaysia indicated that career exploration does not mediate the relationship between protean career orientation and psychological well-being. The justification and rationalization are elaborated in detail in the discussion section. Similar to other studies, this study is also has certain limitations. Since this study is a cross-sectional study, the findings may be different if the study applies a qualitative approach. Results might be different if behaviors of the professional engineers can be observed over time. Therefore, the authors recommend that future researchers consider the use of a longitudinal approach to investigate this issue. In addition, this study has used professional engineers as the sample of study, the parameters of the research might change if different types of professional groups were used. Hence, future researchers might consider using a comparative approach to study the issue among various professional groups.

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Narcissism, Self-esteem, Communication Apprehension, and Need for Affiliation: Difference between Social Networking Sites Users and Non-users

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ABSTRACT

Today, people are increasingly use social networking sites to make and maintain friendships, obtain social support and gather data. Personal traits could drive social networking sites-related behaviors such as joining these sites. This study aims to examine whether people with need for affiliation, narcissism, self-esteem and communication apprehension are more likely to join social networking sites. Data obtained for the current study were collected using random sampling method and the sample consisted of students studying degree in three private universities of Tehran, Iran. Logistic regression statistic was run to test the research hypotheses developed for this study based on the response from a total of 284 respondents, using IBM SPSS 20. The results of this study revealed that self-esteem, communication apprehension and need for affiliation are significant predictors for social networking sites usage while narcissism does not significantly contribute to social networking site usage.

Keywords: Social Networking Sites, Narcissism, Self-Esteem, Communication Apprehension, Need for Affiliation

INTRODUCATION

Social networking sites are defined as ''Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections'' (Boyd & Ellison, 2007, p. 211). Ellison, Steinfield, and Lampe (2007) identified that social networking sites are used to maintain relationships, to connect with individuals having shared interests, and to begin romantic relationships.

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Social networking sites are also used to gather personal information about other users (Urista, Dong, & Day 2008).

The social networking sites literature has been growing in recent years and studies have examined several dimensions of online social networking adoption. People join online social networking sites to keep in touch with their friends, make a new friendship, make a plan with friends to obtain social support (Lenhart & Madden, 2007) due to their need for affiliation, self-esteem, narcissism and communication apprehension (Ridings & Gefen, 2004; Boyd & Ellison, 2007). However, it is little known regarding the influence of these factors on joining online social networking site among Iranian university students. The main objective of the current study is to examine the predicting role of self-esteem, need for affiliation, narcissism, and communication apprehension in joining social networking sites.

LITERATURE AND HYPOTHESES DEVELOPMENT

Narcissism

Narcissism is accounted a legitimate characteristic. Narcissism is characterized by inflated self-concept, self-view, extroverts, having physical appealing (Brown & Zeigler, 2004). In order to maintain inflated self-concept, narcissists rely on multiple strategies including exhibitionist behaviors (Twenge & Campbell , 2003). Foster and Campbell (2007) believe that narcissists have positive but not real self-concept; they are also less interested in making strong interpersonal relationships and use some strategies to approve their positive self-perspective. Narcissists are people who draw others' attentions and worried about their physical appearance and try to look fashion (Vazire & Gosling , 2008). Narcissists are skillful to get along with new social situations and new relationships. However, they make their relationships to reinforce their situation and positive perspectives towards them (Campbell & Foster, 2007).

Social networking sites are a good context to examine the narcissism because of some reasons: narcissism is correlated with being loved in relationships and superficial interactions and interpersonal communication (Oltmanns, Friedman, Fiedler *et al.*, 2004). Literature showed that since social networking sites reinforce big networks of weak relations (Hoffman, 2008). They could be ideal situation to present narcissism behaviors. Secondly, social networking sites allow users to promote themselves through information they have selected to post earlier. Similarly, social networking sites provide a simple way for a narcissist to do self-promoting and self-presenting behaviors. Since social networking sites is accounted as a platform for people who tend to attract others' attention towards them and to get their approval, they are considered as valued and beneficial source for those who have narcissism (Boyd & Ellison, 2007). According to Goodstein (2004), using social networking sites, young people present themselves to their peer groups. Study found that those who are narcissist have a higher tendency to do social activities and do more self-promoting behaviors. Buffardi and Campbell (2008) suggested that social networking sites provide an ideal platform for self-regulating because these networking sites allow people to control their self-presentation and maintain the social big status for superficial relationships. Based on the literature reviewed above, the following hypothesis is developed:

H1) Those with high narcissism would be more likely to be online social networking sites users.

Self-esteem

Self-esteem refers to "the subjective evaluation a person makes and maintains about himself or herself and the extent of belief in their capability, worth, and significance, which is conveyed through their attitudes and verbal behavior".(Wilson, Fornasier, & White, 2010, p. 1). It is an overall self-evaluation of his or her worth. In recent years, self-esteem has been examined in conjunction with the usage of social networking sites. However, studies have revealed both absence and presence of the influence of self-esteem on social networking sites-related behaviors. A study showed that as self-esteem level increases, time spent on Facebook per session and the number of Facebook logins per day decrease (Mehdizadeh, 2010). Similarly, Kalpidou, Costin, and Morris (2011) found a negative correlation between self esteem and minutes on Facebook. Young people with low self-esteem take advantages of Facebook as it helps them expand their social relations (Ellison, Steinfield, & Lampe, 2007). Valkenburg, Peter and Schouten (2006) found that people with higher level of self-esteem have the higher number of friends in their social networking sites list. The study also found that online social networking users who receive more positive feedback from their friends have the higher level of self-esteem (Valkenburg, Peter & Schouten, 2006). Similarly, Banczyk, Kramer and Senokozlieva (2008) showed that social networking sites users who have high self-esteem are more likely to show more positive self-presentation behaviors. On the other hand, Kramer & Winter (2008) found that there is no relationship between self-esteem and self-presentation behavior in social networking sites. Similarly, Wilson *et al.* found (2010) no link between self-esteem and online social networking. Individuals' self-esteem level varies, thus its influence on online social networking related dimensions such as the likelihood of joining social networking sites could be different. Therefore, based on the literature reviewed above, the following hypothesis is suggested:

H2) Those with high self-esteem would be more likely to be online social networking sites users.

Communication Apprehension

Communication apprehension refers to a trait-level anxiety about communicating with other people and can occur in different contexts including public, small group, meeting and dyadic (McCroskey, 1982). A study showed that communication apprehension has been shown to influence communicative behaviors such as communication avoidance (McCroskey & Beatty, 1984). On the other hands, it can lead to relationship development (Buss, 1984). In recent years, communication apprehension has been studied in online contexts. It is argued that online environments allow people with communication apprehension to interact with others through a stress-free way (Lemieux, 2007). Mazur, Burns and Emmers-Somer (2000) found that individuals with high level of communication apprehension show more

online relationship formation and higher level of interdependence with their relational partner. Zhang, Shing-Tung Tang, and Leung (2011) also found that communication apprehension was strong predictor of Facebook usage and gratification. People have different level of communication apprehension; therefore they are expected to present different behavior regarding joining social networking sites. It could be assumed that for individuals with higher level of communication apprehension there is higher likelihood to join online social networking. Based on this assumption and prior researcher results, the following hypothesis is proposed:

H3) Those with high communication apprehension would be more likely to be online social networking sites users.

Need for Affiliation

As Baumesiter and Leary (1995) state, "human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (p. 497). In most communication processes, communicators look for an opportunity to meet their need for affiliation (McCroskey & Wheeles, 1976). Need for affiliation is defined the extent to which a person enjoys from being with one or others and attempts to make friend with one or others (Jackson, 1984). Individuals with a high level of need for affiliation are more likely to be more extraverted, popular and social (Mehrabian & Ksionzky,1970). Need for affiliation provides the foundation for interpersonal communication and contains three essential needs: 1) Need for Inclusion is the need to establish and maintain a satisfactory relation with people in regards to interaction and association. Inclusion behaviors involve the association, interaction, and communication between people; 2) need for control is the need to establish and maintain a satisfactory relation with people in regards to control and power and refers to the desire to make a difference in a social environment and to have an impact over occurrences. Control behaviors consist of predominantly decision-making actions to exercise authority, dominance, and influence; 3) need for affection is the need to establish and maintain a satisfactory relation with others in regards to love and affection. The need for affection refers to the desire to experience interpersonal satisfaction and warmth from human contact. Affection behaviors involve close, personal and emotional feelings generated between two people (Schutz, 1966).

Social networking sites increasingly provide social connections to meet the need for affiliation. These sites allow users to have conversations, collect data, obtain social approval, express their thoughts and opinions and influence others. Joining social networking sites helps to gratify need for inclusion, affection and control. Individuals may join online social networking sites such as facebook and google + to make new relationship, maintain old relations and stay in the friendship loop, without concern about restrictions in time and space (Ridings & Gefen, 2004). As the level of need for affiliation varies among individuals, its impact could be different in likelihood to join social networking sites. In other words, there is a greater probability that individuals will join in online social networking if they report high level of need for affiliation measure. Based on this literature, the following hypothesis is proposed:

H4) Those with high need for affiliation would be more likely to be online social networking sites users.

METHODOLOGY

Data for the current study were collected from Iranian students doing their degrees in three private universities located in Tehran, capital of Iran in 2011, using random sampling method. A questionnaire measuring need for affiliation, self-esteem, narcissism and communication apprehension was used to collect the required data. A total of 284 usable responses were analyzed to test the proposed hypotheses, using SPSS 20.

Out of 40 items measuring narcissism developed by Raskin and Terry (1988), 15 items relevant to the subject under investigation were adopted to measure participants' narcissism level. Self-esteem was measured by 10 items developed by Rosenberg (1965). Nine items developed by Jackson (1984) were used and modified to measure need for affiliation. To measure communication apprehension, seven items developed by McCroskey (1982) were used. All items of these constructs were rated on a 7-ponit Likert-type scale (strongly disagree=1 to strongly agree 7) (see Appendix A).

Table1 Descriptive Statistic of Demographic Characteristics

	Frequency	Percentage
Gender (n=284)		
Male	121	42.6
Female	163	57.4
Marital Status (n=284)		
Single	248	87.3
Married	36	12.7
Age (n=284)		
18-24	237	83.45
25-31	43	15
32-38	4	1.5
Joining social networking sites (n=99)		
Yes	99	34.85
No	185	65.15
Hour(s) spent on social networking sites daily (n=99)		
Less than one hour	34	34
1-2 hours	56	57
2-3 hours	7	7
3 < hours	2	2

As shown in Table 1, most respondents were female (57.4%), single (87.3%) and belonged to 18 and 24 age group (83.45%). Out of 248 participants, 99 persons (34.85%) were social networking site user. Regarding the hour(s) spent on online social networking sites, the highest percentage of respondents (57%) reported that they spend 1 to 2 hours a day on social networking sites.

It is noted that the data used for the current study was collected in 2011 in Iran where online social networking sites were blocked due to some political policies. Moreover people took conservative approach no to disclose that they are online social networking users. Therefore, the number of people who reported that they were online social networking users was remarkably lower than expected.

DATA ANALYSIS

The dependent variable is a dichotomous variable with zero for those who are online social networking sites users and represents 34.6% of the respondents and one represents inactive users which are 65.4% of the samples. Independent variables are measured by seven-point Likert scale. We used Anderson-Rubin's method to calculate factor score for the independent variables (Field, 2010). Then, using Pearson correlation examined the correlation among variable factors and dependent variable. As it is shown in Table 1, social networking usage has a significant negative relationship with communication apprehension at 95% confidence level (r = -0.16, p-value = 0.01). Besides, as there is no high correlation among independent variables (varies between -0.15 and 0.21), there is no multicollinearity issue.

Table 2 Pearson correlation among variables

	(i)	(ii)	(iii)	(iv)	(v)
(i) Social Networking Usage	1				
(ii) Need for Affiliation	0.09(0.15)	1			
(iii) Self Esteem	0.08(0.20)	0.21(0.00)	1		
(iv) Narcissism	0.10(0.11)	-0.12(0.05)	-0.10(0.09)	1	
(v) Communication Apprehension	-0.16(0.01)	0.12(0.04)	0.45(0.00)	-0.15(0.01)	1

In order to test the research hypotheses, we use logistic regression using IBM SPSS 20. The results are shown in Table 2. The results indicate that need for affiliation (coefficient = 0.27, p-value = 0.05), self-esteem (coefficient = 0.70, p-value = 0.01), and communication apprehension (coefficient = 0.82, p-value = 0.00) are significant predictors for online social networking sites usage. The odd ratio shows that online social networking users have 1.31 times higher need for affiliation (odd ratio = 1.31, 95% confidence interval = 1.00 to 1.71) and 1.55 times more self-esteem (odd ratio = 1.55, 95% confidence interval = 1.13 to 2.13) than non-users. Moreover, the online social networking users' communication apprehension is almost half of that of the non-users (odd ratio = 0.56, 95% confidence interval = 0.40 to 0.77).

Table 3 Results of Hypotheses Testing

Independent Variables	Reliability	B	S.E.	Wald	*p*-value	Exp(B)	95% C.I. for Exp(B)	
							Lower	Upper
Need for Affiliation	0.71	0.27	0.14	3.84	0.05	1.31	1.00	1.71
Self Esteem	0.70	0.44	0.16	7.25	0.01	1.55	1.13	2.13
Narcissism	0.77	0.24	0.15	2.60	0.11	1.27	0.95	1.69
Communication Apprehension	0.82	-0.59	0.17	12.47	0.00	0.56	0.40	0.77
Constant	n/a	-0.64	0.14	22.08	0.00	0.53	n/a	n/a

Note: B represents coefficient; S.E. represents standard error; and C.I. represents confidence interval. -2log-likelihood statistics = 325.19; Cox & Snell R^2=7.78%; Nagelkerke R^2 = 10.68%

DISCUSSION AND CONCLUSIONS

The study hypothesized that social networking sites users would be more narcissistic as compared to non-online social networking users. The relevant findings showed that narcissism does not significantly predict joining social networking sites. However, social networking sites provide an ideal environment to present and promote narcissistic behaviors in communication and interpersonal interaction which less likely happen in face to face communication. The result of this study is inconsistent with prior studies study which revealed that social networking sites are drawn narcissist people's attention (Boyd & Elison, 2007; Buffardi & Campel, 2008).

The current study also hypothesized that those with high self-esteem are more likely to be online social networking sites users. This hypothesis was supported, indicating that comparing to non-online social networking users; online social networking users possess higher level of self-esteem. This result goes in line with past studies which revealed that self-esteem has a positive influence on behaviors related to social networking sites such as the higher number of friends users have in their social networking sites list and more positive self-presentation behaviors users show in their online social networking (Valkenburg, Peter & Schouten, 2006; Banczyk, Kramer & Senokozlieva, 2008).

Regarding the predicting role of communication apprehension, the findings revealed that high level of communication apprehension does not predict joining online social networking sites. In fact, communication apprehension is negatively correlated with social networking sites adoption. As communication apprehension increases, the likelihood of joining social networking sites decreases. In other words, there is a greater likelihood that an individual with low level of communication apprehension joins social networking sites. However, Lemieux (2007) found that those with communication apprehension tend to interact with others using online social networking sites (Lemieux, 2007). Similarly, Mazur, Burns and Emmers-Somer (2000) showed that high level of communication apprehension makes people form more online relationship.

The results also showed that participants with high level of need for affiliation are more likely to be online social networking users, presenting that tendency to belong, love and to be loved makes people communicate and maintain their effective communication through joining social networking sites. This result lends support to prior studies which found that online social networking acceptance is significantly influenced by high level of need for affiliation to gratify needs for making friends and to use social support (Ridings & Gefen, 2004). Shortly, social networking sites provide an environment where people readily satisfy their needs for affiliation and there is a greater chance that an individual with high level of need for affiliation is online social networking user.

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APPENDIX A

Self-esteem

1) I feel that I am a person of worth, at least on an equal plane with others.
2) I feel that I have a number of good qualities.
3) All in all, I am inclined to feel that I am a failure.
4) I am able to do things as well as most other people.
5) I take a positive attitude toward myself.
6) On the whole, I am satisfied with myself.
7) I wish I could have more respect for myself.
8) I certainly feel useless at times.
9) At times I think I am no good at all.

Narcissism

1) I know that I am good because everybody keeps telling me so.
2) I like to be the center of attention.
3) I think I am a special person.
4) I like having authority over people.
5) I am apt to show off if I get the chance.
6) I expect a great deal from other people.
7) I am going to be a great person.
8) I am more capable than other people.
9) I am an extraordinary person.

Need for affiliation

1) I like to go to places and settings with lots of people.
2) In my leisure time, I prefer to do things together with others.
3) I cannot stand being alone.
4) I really prefer to stay as short a time as possible at occasions where there are lots of people.
5) It sounds awful to have a job in which you are alone in a room the whole day.
6) I find it stressful to have people around me constantly.
7) I like to talk to others.
8) I love teamwork.
9) I don't like to undertake something totally on my own.

Communication apprehension

1) Social interaction makes me anxious.
2) I experience anxiety when I communicate with people in social settings.
3) I tend to be very apprehensive while communicating in social situations.
4) Social interaction is the best part of my day.
5) I seldom feel anxious in social situations.
6) I am outgoing when surrounded by a lot of people.
7) I can communicate with people in social settings without experiencing anxiety.

Determinants of Visitors' Willingness-to-Pay for Biodiversity Conservation: A Case of Yankari Game Reserve, Nigeria

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ABSTRACT

In an attempt to investigate the significant determinants of visitors' willingness to pay (WTP) for biodiversity conservation in Yankari game reserve Nigeria, the contingent valuation (CVM) study of 335 local visitors was conducted between January to March, 2014. The result from logistic regression showed that majority of the visitors (77.9 %) were willing to pay an entrance fee higher than the currently charged amount of ₦ 300 (Naira) (US$ 1.8) for biodiversity conservation in the game reserve. The mean WTP obtained from the study was ₦ 508 (US$=3.40). The logit model shows that among the significant determinants of visitors' willingness to pay were gender, age, education, income, bid amount and the visit frequency to the reserve. This research finding can serve as guide to the management of the reserve and policy makers for potential increases in entrance fees which will help to provide more funds for efficient and sustainable management of the reserve. It can also assist in identifying the important market segment among the visitors; with a view to encouraging the visitation of such target group in order to create avenue for enhancing revenues for conservation in Yankari game reserve.

Keywords: Biodiversity, Contingent Valuation, Visitors, Entrance Fee, Yankari

INTRODUCTION

Protected areas form the heart of most biodiversity conservation in many part of the world. Presently, there are about 120,000 designated areas, occupying 13.9 per cent of the world's earth surface (Chape et al., 2008; Coad et al., 2009). These areas are well-known as sanctuaries for species and ecological processes that cannot endure in some intensely disturbed environment, also they are well known for their capability in providing enabling environment for ecological restoration and natural evolution

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(Dudley et al., 2010). In some regions or countries of the world, protected areas use to be the only remaining natural areas where a significant number of species could be found and nowhere else. (Pettorelli et al., 2012).

The prime objective of protected areas establishment is for the maintenance of ecological processes, the protection of ecosystems and biodiversity conservation (Baral et al. 2008). Also, it is anticipated that protected areas can contribute significantly to sustainable development and poverty reduction to the local people living adjacent to such areas (Rogerson, 2006).

There are many protected areas around the world, with significant number found in Africa. However, lack of adequate fund for the management of these areas has rendered their financial self-sufficiency very critical for their sustainability (Togridou, 2006). As a result, most of them were not able to meet either their conservation objectives or developmental goals (IUCN, 2005). This inadequate funding could be attributed to the failure of the society to recognize both the market and non-market benefits of the protected areas. These benefits includes; income from tourism as well as non-monetary amenities which can contribute to the improvement in quality of life. In recent years, there are many literatures within the conservation field focusing on the enhancement of financial sustainability of these protected areas, with ecotourism being the principal source of ensuring the self-financing of the areas (Togridou,2006).

The financial self-sufficiency as defined by Emerton et al., (2006) cited by Baral et al. (2008)., is "the ability to secure sufficient, stable and long-term financial resources, and to allocate them in a timely manner and in an appropriate form, to cover the full costs of protected area and to ensure that protected areas are managed effectively and efficiently with respect to conservation and other developmental objectives".

Some potential mechanisms for achieving the financial sustainability of protected areas were identified by Emerton et al. (2006), which include foreign assistance from governments or NGOs, financial support from domestic government or local NGOs, private sector partnership and support through market-based provision of goods and services in line with the protected area objectives, and the market-based approach initiated by the protected area management which includes charges from ecotourism, bio-prospecting charges, resource user fees, and payment for ecological services.

The interest of this paper is centred on the potential of entrance or access fees. Entrance fee is especially promising in areas of high visitation because of its ability to generate income through market-based demand for the protected area products (Togridou,2006).

Before deciding on the amount suitable as entrance fee to any protected area, there is the need for the management to investigate the visitors' willingness to pay for entrance and also factors that influence their willingness to pay (White and Lovett, 1999). The economic analysis of entrance fee have appeared in many published literatures (Walpole et al., 2001; Lee and Han, 2002: Bateman et al., 2006), with many protected areas around the world not optimizing their income from recreational use mainly due to absence of economic tool in deciding the appropriate entrance fee (Dixon and Sherman, 1990). To ensure revenue maximization, levying realistic entrance fees can help in achieving the much needed funds for conservation

and also preventing market failures for ecotourism if the demand for the ecotourism product tends to be price elastic (Baral et al.,2008).

This paper seeks to explore the significant determinants of visitors' willingness to pay (WTP) and suitable mechanism for enhancing the financial sustainability of Yankari game reserve by determining the appropriate amount as entrance fee using logit regression model.

METHODOLOGY

Study Area

The Yankari Game Reserve (YGR) covers an area of 2244.10 km and is situated in the Duguri, Gwana and Pali Districts of the Alkaleri Local Government Area in Bauchi state, Nigeria. By virtue of the landscape, which is open woodland rising from 215-369 metres above sea level, it offers a beautiful environment for visitors to see wildlife in their natural undisturbed habitat.

The whole reserve is situated on sedimentary rocks, from which five natural springs, both cool and emerge. This 2244.10 km^2 of conserved area is but one of the 18 major nature conservation areas and wildlife parks in Nigeria. It is the premier game reserve and also the most visited in the country.

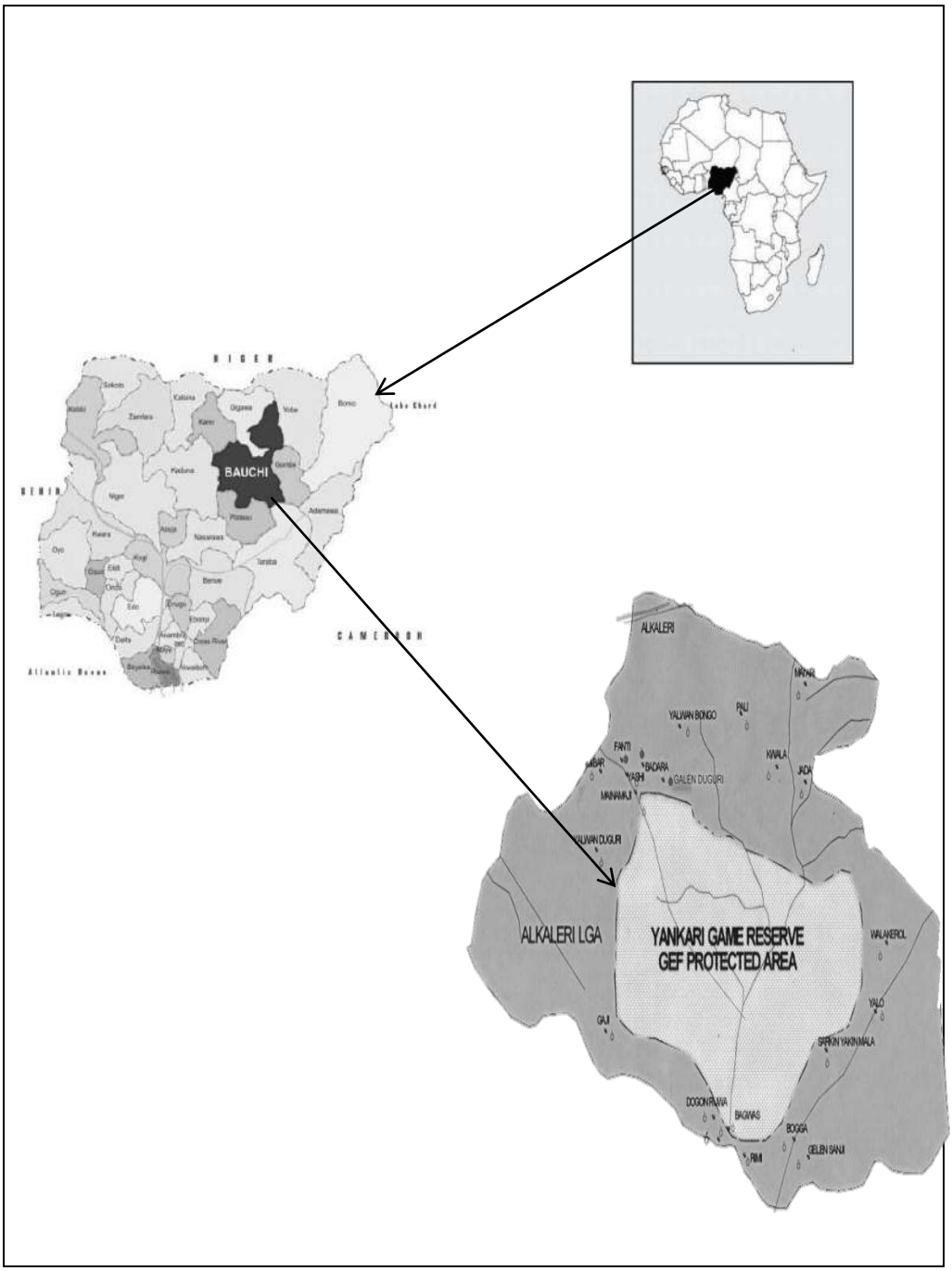


Figure 1 Map Showing The Study Area

Survey Design

The samples were randomly drawn from the visitors upon their arrival based on the recommendation by Arrow, et. Al., (1993) who opined that a survey of the general public should avoid drawing sample using convenience sampling method such as

stopping people in the street, and he suggest that a statistically-based probability sampling should be employed.

Obtaining an accurate value from contingent valuation method (CVM) is highly dependent on the survey method (Lee & Han, 2002), with the direct face to face interview as the most commonly used approach at recreational sites (Forster, 1989 in Lee, Han, 2002). Also, Arrow et. al., (1993) explained that the NOAA panel recommends in-person interview as superior as well as reliable method for data collection as compared to self-administered survey, like the mail survey. Therefore, face-to-face interview was employed in this study.

Three (3) undergraduate students under internship program in the game reserve were trained and employed to administer the face-to-face interview of the visitors. Pilot test was conducted in January where the various bids offered in the main survey were determined using open-ended format. The main survey was carried out with 400 local visitors between February to March 2014.

Of the total sample, 335 valid responses were obtained. The scope and purpose of the survey was explained to the visitors and their participation was encouraged. The questionnaire used consists of four (4) sections. The first section elicits visitors' socio-demographic information; the second section was about visitors' attitude towards environmental resources. The third section was about their perception and level of satisfaction with the ecotourism experience. The last section consists of the willingness to pay related questions.

Survey Method

This study employs the (CVM) in examining the possibilities for improving revenues through visitors' willingness to pay entrance fee for conservation in the game reserve. For quite some times, the attention of CVM has shifted from valuation of the environmental damages to the valuation of environmental protection (Alberini and Kahn, 2006). Hence, CVM is widely used as a policy tool particularly in protected area management and biodiversity conservation in general.

Previous application of CVM includes; protected areas (Togridou et al., 2006); ecosystem services (Turner et al., 1995;Laughland et al., 1996); the protection of habitats (VanKooten and Schmitz, 1992; endangered species conservation (Kotchen and Reiling, 2000; Bandara andTisdell, 2003; Baral et al., 2007b); and also the existence of biodiversity (Turpie, 2003). Other fields where CVM is commonly applied includes; human health, water quality improvement, energy system, land conservation and with many literatures on the application of this method in the field of outdoor recreation or ecotourism (Lockwood &Tracy, 1995).

CVM is a method that provides individual with a hypothetical opportunity to purchase public goods in the absence of real market or existing information concerning the real market scenario. The CVM willingness to pay for non-market goods is based on the theory of rational choice and utility maximization (M. Reynisdottir et al.,2008). It has the advantages of allowing the researcher to develop a hypothetical market for the goods in question and to make an informed economic decision. CVM plays a significant role in environmental policy establishment (Pettorelli et al., 2012). Moreover, it is simple and a direct valuation approach aimed at eliciting preferences from questionnaires and experiments.

The (WTP) amounts are based on the concept of Use and Non-use value of environmental assets (Kontogianni et al.,2003). The use value refers to the benefits derived from the users' direct use of the resources. Use value is associated with the consumer surplus achieved from actual recreational use of the resources, as well as vegetation control (Shultz et al., 1998; Togridou et al., 2006), whereas, the non-use value is derived from the intangible or abstract valuation of the resources. This refers to the benefits obtained from the non-use satisfactions such as; the option value, existence value, and bequest value (Lee and Han, 2002).

Option value is related to future use value. It is the WTP for maintaining the recreational opportunity for possible use in the future. Existence value on the other hand is the WTP for ensuring that natural resources are preserved. It is based on the fact that an individual benefit from the resource through holding a belief or knowledge in its continuous existence.

Lastly, bequest value is the WTP for endowing or bequeathing natural resources to the future generation. It relates to the perception of taking charge of preserving the resource intact for our future descendants (Togridou et al., 2006).

Model Specification for WTP Estimate

For the purpose of conservation in Yankari game reserve, the visitors had the choice of accepting or rejecting the proposed entrance fee offered for recreational activities in order for him to maximise his utility under the following condition.(Hanemann, 1984).

$$v(1,Y-A;S) + \varepsilon_1 \geq v(0,Y;S) + \varepsilon_0 \qquad (1)$$

Where v is the indirect utility function, Y is the average annual income, A is the entrance fee offer, S represents to the socio-demographic characteristics and other variables determining individuals' preference. ε_1 and ε_0 are identical independently distributed random variables with zero means.

The utility difference (Δv) can best be described as follows:

$$\Delta v = v(1,Y-A;S) - v(0,Y;S) + (\varepsilon_1 - \varepsilon_0). \qquad (2)$$

Since the dichotomous choice (DC) format of CVM has a binary choice dependent variable, that require a qualitative choice model, the commonly used qualitative choice methods are the probit and logit model (Capps and Cramer, 1985). However, the logit model is more appropriate for a survey data, whereas the probit model is best fit in experimental data (Amit K. Bhandari & Almas Heshmati, 2010). Therefore logit model was preferred than the probit model in many field, including the recreational study (Bishop & Heberlein, 1979; Lee, & Han, 2002), logit model was used in this study. The probability (P_i) that the visitors will accept a specified amount (A) as entrance fee can be expressed in the following logit model (Hanemann, 1989; Lee & Mjelde, 2007; Wang & Jia, 2012).

$$P_i = F_\eta(\Delta v) = \frac{1}{1+\exp(-\Delta v)}$$

$$= \frac{1}{1+\exp\{-(\alpha - \beta A + \gamma x)\}} \qquad (3)$$

Where α is a constant, β refers to the coefficient of the entrance fee variable A, *x* is the vector of other explanatory variables that influences the response and γ is the vector of the corresponding slope. And the mean WTP was estimated using the following equation.

$$\text{Mean WTP} = \frac{\beta_0 + (\sum \beta_n X_n)}{-\beta_1} \qquad (4)$$

RESULT AND DISCUSSION

Descriptive Statistics

From the (355) visitors interviewed during the survey, male constitute (73.4%), while the remaining (26.6%) were female. This could be attributed to the religious and cultural believe of Nigerians especially those from the northern part where Yankari game reserve is located. Women mostly stay at home, doing domestic work and taking care of the children, with only few of them taking part in out-of-home activities like going to recreational area.

For age, (43.9%) of them fall within the age range of 19-32, while (37.6%) were within the range of 33-46. These two categories formed the majority of visitors to Yankari during the survey period. This cannot be unconnected with the fact people at the youthful stage like to be taking part in most of recreational activities such as; swimming, beach games, skiing, surfing and the likes . Those between the range 47-60 were only (14.9%) and (3.6%) aged range from 61 years and above. On marital status, (71.3%) were married while (28.7%) responded as single. Those with a university education were (39.1%) and the non-university constitute the remaining (58.9%).

The income level of the respondents indicates that most of them (54.3%) earn between ₦ 19000-67000 (US$ 119-419), those within income bracket ₦ 68000-116000 (US$ 425-725) were (28.4 %), while those within the range of ₦ 117000-165000 (US$ 731-1031) were (12.5 %). The highest income bracket constitute only (4.8%) of the total responses, with monthly earning from ₦ 166000 and above (≥US$ 1037). The variation in income could be attributed to the variation in individual status.

The result of the socio-demographic information of the visitors' respondents is presented in Table 1. below.

Table 1 Socio-demographic Profile of the Respondents

Element	Mean	Freq. N=335	Per cent (%)
Gender			
Male		246	73.4
Female		89	26.6
Age	36.32		
25 and Below		58	17.3
26-35		119	35.5
36-45		89	26.6
46-55		47	14.0
56 and above		22	6.6
Marital status			
Married		239	71.3
Single		96	28.7
Educational level			
Primary		14	4.2
Secondary		42	12.5
Collage/Polytechnic		148	44.2
University		131	39.1
Gross monthly household income	71100		
₦ 19000-55000 (US$ 119-344)		155	46.3
₦ 56000-92000 (US$ 350-575)		93	27.8
₦ 93000-129000 (US$ 581-806)		51	15.2
₦ 130000-166000 (US$ 813-1038)		23	6.9
₦ 167000 & above (≥US$ 1044)		13	3.9

Willingness to Pay Estimation

Out of the 335 visitors interviewed during the survey, majority (77.9 %) were willing to pay for biodiversity conservation by responding "Yes" to the bids offered while the remaining (22.1%) were not willing to pay by responding "No" to the bids. The bids were 360, 420, 480, 540 and 600.

From the reasons provided by those who were willing to pay, bequest and existence values were the most motivating reasons given by the visitors, with about 37.9% saying they are willing to pay 'for conservation of natural resources' and the second major reason was that of a bequest value where 24.9% saying they are willing to pay 'for the sustenance of the resources for future generation'. Other reasons given include; 'for its sustainability, so that I can visit again' (Option value), 'to limit number of visitors from overcrowding the reserve' (Visitation control), and 'Is not expensive, I can afford it for my recreational pleasure' (Actual use).

On the other hand, those who were not willing to pay gave their major reasons as 'is the government responsibility to conserve the reserve' while 25.7% of them gave their reason as not interested in resource conservation. Lack of institutional trust also constitutes a reason for not willing to pay as 27.0% said 'I don't believe the money will be used for conservation' And the least reason given by 8.1% is that they have already pay enough through taxes. Table below shows the summary of the reasons provided.

Table 2 Reasons Provided for Willing/Not Willing to Pay for Biodiversity Conservation

Reasons for willingness to pay	**Freq. N=261**	**Per cent (%)**
For conservation of natural resources	78	29.9
To sustain it for future generation	92	35.2
For its sustainability, so that I can visit again.	47	18.0
To limit number of visitors from overcrowding	23	8.8
Is not expensive, I can afford it.	18	6.9
Others	3	1.1
Reasons provided for not willing to pay	**Freq. N=74**	**Per cent (%)**
I am not interested in resource conservation	19	25.7
Is government responsibility to conserve the reserve	29	39.2
I don't believe the money will be used for conservation	20	27.0
I already pay enough through taxes	6	8.1

The Logit Regression Result

Based on the result of logit Model, six explanatory variables were found to be significant. Each variable in the model has a coefficient and the significant level (P-value). The coefficient conveys two (2) important information; the sign and weight. If the coefficient has a negative sign, it indicates an inverse relationship with the WTP and the variable while positive coefficient signifies a positive relation. The weight on the other hand is the value of the coefficient which shows the strength or magnitude of the variable or factor in determining the WTP. Two of the six variables in the model (Bid amount and Visit frequency) have a negative coefficient while the four other variables with a positive coefficient were; gender, education, income and age.

Table 3 Result of the Logit Regression Model

Variable	Coefficient	Standard Error	P>|Z|
Constant	1.88498133	1.17069941	.1074
GEN 1=Male, 0=Female	1.21283278	.33534531	.0003
AGE	.04745743	.02225441	.0330
EDU 1=University education 0=Non-University	1.09670227	.51815830	.0343
INC	.196303D-04	.890699D-05	.0275
BIDS	-.00703587	.00204193	.0006
VST 1=regular visitors 0= first time visitors	-1.18210737	.43168489	.0062
Number of observations		335	
Log likelihood function		-119.8985	
McFadden's Pseudo R-squared		.3070770	

GEN= Gender, AGE =Age of the respondents, EDU = Educational level, INC = Income, BIDS = Offered bid amount, VST = Visit frequency

The mean WTP was estimated from the logit model result using the following equation;

$$\text{Mean WTP} = \frac{\beta(\text{Gender}) + \beta(\text{Age}) + \beta(\text{Education}) + \beta(\text{Income}) + \beta(\text{Visit history})}{-\beta o}$$

The result of the Mean WTP was estimated at (₦) 508 ($) =3.40. This value signifies that, the visitors are willing to pay an increase in entrance fee into Yankari game reserve for biodiversity conservation.

The Willingness-To-Pay Determinants

Gender:

Gender being a dummy variable coded as 1=male and 2=female is found to be positive and the most significant variable in this study with a coefficient value weighted as 1.21, showing a higher elasticity of gender for WTP. It is also found to be significant at 1% confidence level it shows that male were more willing to pay than female as found by Wang & jia, (2012) and Hejazi et al.,(2014).

Education:

Education is also a dummy with university education =1 while non-university education =0. This important variable was also found to be significant, indicating that the higher the level of education, the higher the probability of WTP. This variable has a positive coefficient value, with weight of 1.10 and also it is significant at 10 % confidence level. As far as education is concern, the finding of this study is in line with many literatures where education plays a significant role in determining WTP (Baral et al., 2008; Wang & Jia, 2012;Hejazi, Shamsudin, & Rahim, 2014)

Income:

Income is another important variable in the model, with a positive coefficient of 0.20 weights. It shows that those with a higher income are more likely to pay for conservation than the low income earners. It was found to be significance at 10% level of confidence, which in agreement with the findings of Togridou, (2006); Reynisdottir et al., (2008); Amit K. Bhandari & Almas Heshmawati (2010).

Age:

The respondents' age is the least determinant of WTP in the model. The result shows that, age has a positive coefficient but with the least weight of 0.05 as compare to gender, education and income. It revealed that the higher the age, the higher the probability of WTP. Thus, this finding is in disagreement with that of Martin-lopez et al., (2007), but in agreement with the finding of Amit K. Bhandari & Almas Heshmawati (2010).

Bids Amount:

However, the bid amount has a negative sign on its coefficient. As explained earlier, a negative sign is an indication of inverse relationship between the variable and the WTP. The bid amount has a negative coefficient with a weight value -0.01 and also found to be significant at 5% significance confidence level. Loomis et al. (2000) explained that the higher the bid amount a visitor is asked to pay, the lower the probability of WTP for conservation.

Visit History to the Site:

History of visit to the game reserve also has a negative coefficient with a weight value of (-1.18) with a dummy (1=regular visitors, 0= first time visitors). It shows that those who previously visit the game reserve have a less probability of WTP than the first time visitors. This means that regular visitors are not willing to pay, whereas first time visitors are very willing to pay for conservation of environmental resources in Yankari. This is in consistent with the finding of Reynisdottir et al., (2008).

SUMMARY AND CONCLUSIONS

The present study measured the visitors' willingness to pay for biodiversity conservation and examined the determinants of their willingness to pay in Yankari game reserve. It shows an encouraging result, as majority of the visitors express their willingness to pay substantially more than the current entrance fee. Hence, an increase in entrance fee can be implemented in order to provide additional revenue to meet the financial requirement for conservation program at Yankari.

Regarding the determinants of visitors' WTP, male visitors who belong to higher age brackets constitute an important revenue generating group in Yankari. Those with higher education also have a higher probability of WTP, because they might be aware of the benefits of biodiversity conservation. Visitors' income shows a significant impact on WTP amounts. Thus, targeting higher income groups represents an attractive segment, both for revenue generation and for biodiversity conservation.

The bids amount is also an important determinant, as visitors show higher preference to contribute when the bids amount is lower. Another important determinant is the visit frequency, as the first-time visitors are more willing to pay than the regular visitors. This implies that public enlightenment about Yankari game reserve in order to attract more new visitors should be given priority in order to generate more revenue and sustain conservation of nature.

Determining the mean WTP amount and fees to be charged requires a more careful, detailed and elaborate study. From the policy perspective, this empirical study is an important input into the regulatory process to frame tariffs and find out effective ways to deliver services at prices worth the value of money for the visitors. The combination of public funds and user fees could be a more reasonable and effective way to sustain the ecotourism market. The higher entry fees may also help in reducing and regulating congestion by visitors to the environmentally sensitive area, because overcrowding not only affects the visitors negatively, but it may have a significant negative impact on natural resources as well.

As limitations to the current study, some of the important explanatory variables may have been left out from the analysis. Some psychological factors, such as membership in environmental organizations and attitude toward environmental protection, could be included in future research. Also, the data was not collected over a long period of time, need for a larger sample size and it does not include the international visitors.

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Towards Understanding the Strengths of Long Term Marriages among the Malaysian Chinese

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ABSTRACT

As awareness and sensitivity of multiculturalism is steering its way into the center stage of psychology, more cultural specific studies are needed to expand the understanding of human beings from the universal perspectives (Arnett, 2008; Cheung, 2012). This paper aims to discuss the research methodology used to understand the strengths of Malaysian Chinese long term marriages. Cultural discrepancies between the West and East are wide. Marital theoretical frameworks and research methodology learned from the textbooks and studies from the West, have put the researcher swinging between the ideal, the reality and the unknown in the field. Reference to the past experience of researchers, the researcher's intuition, discussions with supervisors and peer researchers, gut feelings and respectful to the participants became the guides in the field.

Keywords: Long Term Marriage, Malaysian Chinese Marriage, Chinese Marriage, Strengths of Marriage

INTRODUCTION

Application of textbooks, psychological studies and journals from America to understand human beings is called into question as the American psychology researches are based on the 5% of the world population (300 million of Americans out of 6.5 billion world population). A human science based human diversity and is representative of the whole humanity is urged (Arnett, 2008). With the emerging themes of Asian epistemologies and Asian forms of Psychology, the cultural discrepancy between the Western worlds and the Asians is evident (Yang, 2000).

In Malaysia, studies on marital determinants are not only scarce, the studies of marital variables tended to overlook cultural relevant factors (Ng et al., 2009; Tam et al., 2011; Zainah et al., 2012). Understanding the cultural specific in marriage for each ethnic group is needed to implement inclusive marriage and family policies (Cheung, 2012). Particularly, Fehr (1988), Yela (1999), Woodward (2003), Markman and Halford (2005) are calling attention to the inappropriate application of the Western concept of love to other cultures.

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With awareness that the knowledge base of marriage is Western originated and increased awareness of the importance of culture in human science, this study intends to investigate Malaysian Chinese long term marriages from the local perspective using emic approach.

The Malaysian Chinese and the Their Family Values

Among the three main ethnic groups in Malaysia, the Chinese had the lowest divorce rate (Tey, 2011). The Chinese women married later than the Malays and the Indians (Tey, 2007). The Malaysian Chinese, though a minority, have a significant control in Malaysia's economy (Ng, Loy, Gudmunson, & Cheong, 2009). They show perseverance in maintaining their cultural values and identity (Ng, 1998).

The Chinese in Malaysia were the third largest group of global Chinese overseas population (Ng et al., 2009), who reside outside of China, Hong Kong and Taiwan. In the 19th century, the Taiping rebellion caused large flock of Chinese immigrants to Malaysia from south China. Another flow of Chinese migration to Malaysia was during the 1920s and 1930s, when wars occurred in many parts of China (Tan, 2005). The Chinese had brought with them a set of values and customs. Although they were living in different lands, they tried to hold on to their values (Abdullah & Pedersen, 2006).

How Modernization Shaped Malaysian Chinese Families

The ties between family members are indispensable (Hsu, 1985). Parents used to have parental control in mate selection. However, with modernization, instead of parental control, parental support prevails. Grandparents have become the child care support for working couples (Tan, 2005). For instance, family members are the still the most favorable option for childcare among the Chinese (Lembaga Penduduk dan Pembangunan Keluarga Malaysia, 2004, p. 301). Even so for the single mothers, they returned to their natal support when their relationships failed (Hew, 2003; Hirschman & Teerawichitchainan, 2003). In other words, the roles of family members have been redefined, but the ties remain.

Another form of parental support is young people still value their parents' support and blessing in their marriages. For instance, when young couples were asked -- if wedding dinner was held, how many tables were ordered for wedding dinner? The answer would be that most of the wedding tables are reserved for the parents' friends and relatives (communications with participants, through SMARTSTART Premarital Education Seminar from 2012 to 2013, circle of friends, relatives, pre-martial counseling couples). The bride and bridegroom in Chinese families play little role in the wedding ceremony (Burgess & Locke, 1960). Before getting married, couples will bring their boyfriend or girlfriend to meet their parents (Tan & Jones, 1990). Family support in Chinese families is still persevered, though its shape has changed (Chang, 2013; Clammer, 1996, p. 27-28; Hew, 2003; Hirschman & Teerawichitchainan, 2003).

The process of modernization shaped family formation and the family dynamics of Chinese families; distinguishing the impact of industrialization and the influence of cultural values is impossible and the intertwining of both is inevitable (Goode, 1963). However, Quah (1990) and Clammer (1996) shared a convergent view that cultural values are rooted in development and they are the foundation for

development. Failure to incorporate how values are constructed into family policies would suffer two consequences: 1) the imported values would supersede the indigenous values as one is more superior than the other (Clammer, 1996, p. 34); 2) in light of the wide spectrum of attitudes toward love among different cultures, adopting the Western teaching directly without understanding the local cultures and values, family policies could become "a consequence of a composite patchwork of unrelated program" (as cited in Quah, 1990, p. 50).

Therefore, understanding marriage from the local perspectives would shed light on how marital values are upheld in non-Western contexts. While the field of psychology is moving towards a truly international stage by integrating cross-cultural psychology into the mainstream psychology (Cheung, 2012), this study adds to the understanding of the Chinese Malaysian marriage from the emic perspective so that the combination of mainstream and indigenous psychology could demarcate the universal and culturally specifics of marital constructs (Cheung, 2012) among Malaysian Chinese married couples. This kind of cultural sensitivity would allow practice of relevant and inclusive family policies, rather than formulating family policies based on generalization of multi-ethnic cultures (Talib, 2010).

In view of the paucity of research on both marital quality studies and cultural relevant studies in marriage, the purpose of this study is to capture the marital strengths of long term marriages from the emic perspective so that marital quality could be understood in its cultural context.

METHODOLOGY

Qualitative research will be employed for this study. Marriages are diversely bounded by cultural norms and practices (Quah, 2008). Husserl (1976) emphasized that consciousness and experience are phenomenon by themselves, thus it is crucial to understand them in their own terms. Hence, in order to understand the marital strengths from local phenomena, it is essential to study the meaning of the long term married couples from real-world conditions. Through their stories and relevant documents, the participants are freer to tell their stories. The process of telling stories in a non-confined laboratory like environment could help to unfold some important themes for long term marriage.

Creswell (2012) also stated that qualitative research is "best suited to address a research problem in which you do not know the variables and need to explore" (p. 16). As stated earlier, in Malaysia, study based on local marital phenomenon is very needed for each ethnic group. Although a few marital studies have been done locally, the marital constructs used to examine the local marriage are based on Western models (etic approach). Capturing the marital strengths of long term married couples is what this research pursues. Through qualitative research the local perspectives and cultural specific marital variables could be surfaced.

Qualitative research would also help the researcher to see how the participants fit in the cultural context in which the couples live. By interviewing the couples and making home visits, the researcher is able to unveil where the participants are coming from. The rich data of qualitative research will also convey how the cultural norms and values have influenced marital relationships.

According to Husserl (1927), all knowledge is founded through human experience. As mentioned before, almost all local marital studies are employing the etic approach. By using qualitative approach, this study seeks to understand the cultural specifics variables as well as universal variables which contribute to the experience of long term marital commitment in different cultures. Thus, using multiple sources, such as in-depth interviews, observation and relevant documents (field notes, pictures, love letters etc.), the experience, cultural norms and patterns of local culture could be triangulated and captured from different sources. This will contribute to the trustworthiness of the study.

Trustworthiness of the Study

As researcher is the fundamental instrument for this study. Richardson stated that "the ethnographic life is not separable from the Self" (Richardson & St. Piere, 2005, p. 965). The integration of the identity of researcher and experience has recently gained extensive theoretical and philosophical support (Patton, 2002). In fact, Maxwell (1998) believed that researcher's experience could become a major source of insights, hypotheses, and validity checks.

In terms of educational background, the researcher acquired six years of under-graduate and post-graduate studies in the United States, before starting a counseling career at a Christian based non-profit organization called The Bridge Communication in 2001. At that time, the establishment of counseling practice was still in the very infant stage. Local marital study was quite lagging behind (Hull, 2011). The researcher further studied in Master in Counseling at University of Malaya after working for five years. Most of the training and theories learned in counseling courses were Western based.

At the initial stage of practice, it never occurred to the researcher that there were difficulties in applying the Western marital concepts to the local couples in counseling sessions. Western knowledge was like an absolute truth of marriage for the researcher at that time. Though the researcher was aware of sensitivity toward cultural issues, there were not many local resources for reference regarding the cross-cultural counseling experience. Even during supervision and case studies, cross-cultural issues were rarely surfaced for discussion.

It was through years of experience in trial and error, through truancy of couple sessions, feedback from genuine and sincere participants of the researcher's seminars and workshops, comments from professional peers and career mentors from Taiwanese Professors, the researcher began to realize how much sensitivity was needed to identify the cultural specific factors before "implementing" the Western concepts into their lives. In fact, without recognizing the discrepancies between the Western models and local cultural values, intervention would seem like cutting off from cultural values, which could be assessed as symptoms of disorders (Clammer, 1996). This will eventually affect the quality of counseling intervention.

The researcher of this study is a married woman, who has two boys, aged 7 and 9. As a person, the researcher has gone through ten years of married life. Throughout these ten years of marriage, the process of deepening the marital relationship is like the process of peeling onion layer by layer. Each layer is peeled off, not out of bitterness, but for the good of the family, the children and the wellbeing of each individual who builds the marital relationship together.

Nevertheless, juggling between personal needs and the needs of family required courage and sincerity to come to terms with what one desires might not be the best. As a Western trained counselor as well as a Chinese wife, the Western thoughts and local beliefs sometimes mingle, but sometime clash. In the professional terms, the researcher's marital life has given her opportunity to walk through the process of differentiation and integration of self. This process of experiencing the West and the East, the researcher hopes, will come to truly honor human dignity by accepting the diversity.

Other than experiences and backgrounds, the researcher also brings in biases into this research. It is impossible to eliminate the biases of the researcher, but it is crucial to identify them and to monitor how the biases would have influenced data collection and interpretation (Merriam, 2009). As mentioned earlier, as a Chinese acquired Western Education, the Western frameworks are very precious knowledge for me. Having the opportunity to be exposed to Western education, there are some Western values and teachings which the researcher personally favor. For example, in conflict resolution, the researcher prefers the way Westerners deal with conflicts. Conflicts could be opened up for discussion and to recognize differences and working through them. If the researcher is not conscious and cautious about this, the researcher will tend to find answers to fit into the theoretical frameworks. The researcher might miss out the opportunity to understand from the participants' perspectives. This is described by Denzin (1988) as "the researcher may be imposing schemes of interpretation on the social world that simply do not fit that world as it is constructed and lived by interacting individuals" (p. 432).

Being a counselor, seeing couples and working with them have become part of the researcher's life. Another potential bias is the researcher might be tempted to do intervention, rather than collecting data from the participants. Particularly, when the participants know the researcher's study area is in marriage, they might look up to the researcher as an "expert." They might expect the researcher to give them suggestions or solutions for their marriage. Particularly, some authors cautioned that the relationship between the interviewer and interviewee could fall into a form of hierarchical relationship (Brinkmann, 2007; Bryman, 2004; Kvale, 2006).

To cross check the researcher's biases, the researcher would be transparent in the research procedures (Yin, 2011). It is impossible that the researcher could discard theories, values and assumptions during data collection. The researcher will document all data and make it available for scrutiny by others. Transparency is not to prove the researcher is clear from biases, but to understand how the researcher's values affect the research process and the outcome of the study (Maxwell, 1998). The researcher will keep a journal log for personal reflection and observations.

Equipment Used for This Study

An audio recorder, a video recorder, a tripod and a camera will be used during the interview process.

Practice of Research Ethics

Ethical practice demands much sensitivity from the researcher. This study will be grounded on the three moral principles, particularly, its relevancy to the context of this study. Firstly, respect for persons. The researchers will not use the participants as

"a means to an end" (Marshall & Rossman, 2011). Researchers respect their privacy, their anonymity and their right to participate or not. For this study, the researcher is wondering what the participants' experience is like. Are they genuinely comfortable with signing the form? Or are they obliging to the researcher?

In order to counter the issue mentioned above, the researcher will meet the potential participants first before the interview begins and explain to them the purpose of study, what would be expected from the interview (like tape recording, photo taking and reading their letters, if they permit), how the data will be kept and the participants' rights. The researcher will have them sign the informed consent form during the next meeting when the interview takes place. The rationale for signing the informed consent form during the next meeting is to allow a cooling off period for the participants to think over their participation. They will not be rushed to sign the informed consent form on the spot. That would reduce the possibility that the participants feel obligated to sign the informed consent form.

Another concern with the participants' privacy is this research is best suited if the interviews are carried out in the participants' home. Patton (2002) pointed out that observing the context could provide a holistic perspective on the participants. Also observing the physical context of the participants would allow the researcher the see routine behaviors that the participants might not be aware of. Thus, to respect their privacy, during the initial meeting, the researcher will seek their permission to have the interviews at their homes.

If the researcher is completely transparent that the researcher intends to visit the homes for holistic view of their relationship, the participants will be set up to behave in certain ways that represent "holistic." It might weaken the purpose of qualitative purposes (Marshall & Rossman, 2011). Thus, the researcher will choose to adopt Taylor and Bogdan's (1984) advice to be "truthful but vague" (p. 25) while explaining the research objective. For instance, while explaining the purpose of study, the researcher will say, "the objective of this study is to understand individuals as well as the couples' relationships. I am not sure would it be more convenient to you if the interview is carried out in your home?" If they refuse, the researcher will not coax them into the study to meet the researcher's end need.

Secondly, beneficence – the researcher will try the best to ensure the participants are not harmed by taking part in the study (Marshall & Rossman, 2011). In order to ensure the participants are free from harm by participating in this research, the researcher will keep confidentiality by keeping anonymity of the participants. A marker will be assigned to them to represent them. Their real names will be kept anonymous. They will be told how the data will be kept. The researcher will inform the participants that the researcher keeps the data and it is only accessed by the researcher and the research supervisors. The data will be destroyed after the study has successfully met the completion requirement of the university.

Also, the researcher will not make any interpretations or value judgments on their homes and the couples' interactions when carrying out the interviews. The researcher will respect their home settings as well as their interactions. The researcher will not also take any pictures without their consent.

Thirdly, justice – paying attentions of who benefit and who does not benefit from the study (Marshall et al., 2011). The researcher will not try to do anything that would cause discomfort or disruption to the participants. The participants' welfare will be prioritized above the researcher's need. The researcher will choose time

when it is suitable for them. The researcher will also prepare a small gift as a token of appreciation for their participation. The gift will be given to them after the researcher is over. If the participants withdraw or they refuse to say anything that they feel uncomfortable, the researcher will respect them.

Sample

For this study, purposive sampling and snowball sampling will be adopted. Recruitment of sample will be done through word of mouth among friends and relatives, emails, whatsApp, SMS and social media networking. The recruited couples could provide a link to their friends through snow balling. The sample for this research exhibits the following features:

a) Chinese Malaysian – Chinese who are born in Malaysia.
b) Couples who went through mid-life. Why do the participants have to go through mid-life? According to Levinson (1986) as well as Jung and Erikson, "the process of change begins in the Midlife Transition [roughly age 40-45] and continues throughout the era [age 45-60]" (p. 5). At this stage, the costs of living usually surpass the benefits. The major developmental task at this stage is individuation. When this took place successfully, the selves will be more reflective, compassionate, sensible and more loving of selves and others, less tormented by inner conflicts and external pulls. By understanding how the couples go through mid-life, it will allow the researcher to understand how the couples display marital strengths through transition of life.
c) Couples who have children. Since the 1960s, there have been a handful of studies recognizing that transition to parenthood took a toll on marriages (Hicks & Platt, 1970; Gottman & Notarius, 2002; Spanier & Lewis, 1980). In contrast, Schindler & Coley (2012) in their study reflected that marital relationship could be fortified through parent-child bonding. Children could also reduce the likeliness of unhappy married couples to divorce (Amato, Johnson, Booth, & Rogers, 2003). Though there are studies drawing the link between youth delinquency and marital satisfaction (Baharudin, Krauss, & Pei, 2003; Lai, 2008), there is no study on how the children impact on marriage and vice versa in Malaysia. Thus, the researcher would like to understand how long term married couples thrive through parenthood.
d) Couples who have in-laws. In-laws are considered an important factor that could influence of the quality or even the success of marriage (Bryant, Conger, & Meehan, 2001; Chang, 2013). Exploring how the long term couples deal with their in-laws would shed light on the beliefs and values which strengthen those couples.
e) Longevity of Marriage – minimum 35 years. Ideally, to witness the long term married couple to walk through different cycles of their lives, the ideal duration of marriage is more than 50 years. Although years of marriage do not directly reflect the quality of marriage, couples who have been married for a long time would provide the breadth of timespan for the researcher to look into how the couples go through "transition points" of their marriage (Spanier & Lewis, 1980). By going beyond 50 years of marriage, it will provide an angle to understand how the arrival of grandchildren impact on the marriage. In fact, having grandchildren has significant meaning for long term married couples in this

cultural context. However, capturing couples who could articulate (most Chinese in that generation had either low education or no education), married more than 50 years of marriage, both husband and wife are still alive, could be a challenge. As a result, with consideration of the rise in the age of first marriage, marital duration for the couples chosen would not fall below 35 years. This would increase the number of long term couples who could articulate better (most people around these ages received higher education than the couples who have more than 50 years of marriage), both couple still alive and willing to participate in this study.

In terms of sample size, Yin (2011) suggested that instead of finding a standard answer for how many participants to interview, the depth of data and the complication involved in this study should be considered. Merriam (2009) also stated that besides the research question, the availability of the resources to support the study is one of the considerations. Thus, in considering the depth of study and the resources available, for the study the sample size is 8 couples.

In-depth Interviews

To find out the marital strengths of those couples, it is not feasible for the researcher to observe the live experience of those couples in their home settings on a daily basis. Thus, in-depth interviews would be more appropriate for people to talk about themselves, their marriages and their experiences. The researcher will use life stories method to capture the data. Using life stories will reduce the chances that the participants have to answer from the researcher's theoretical frameworks. General question such as how they get to know each other, will be used to start out the interview sessions. Family pictures are another avenue to elicit the couples' marital experiences and rapport building. Talking about the family pictures would sound more relevant and natural to their experiences.

After considering the pros and cons of interviewing the couple together and separately, the potential pitfalls for doing separate individual interview, and considering the research objective, the researcher would opt for interviewing the couple together. The rationale for meeting the couple together is that it might open a window to explore the dynamics of the relationship. It may also help to elicit the "collective memory of events and feeling" (Hertz, 1995, p. 436) of the couples. This would serve as verification to ensure the quality of data. For instance, it might be possible that the husband feels satisfied with their marital relationship, but the wife might not be. Thus, the researcher cannot assume both husband and wife have the same marital satisfaction level (Hicks & Platt, 1970). With the relational dynamics, interviewing the couple together can validate the sample chosen.

Observation

The stance of observation for the research is participant observation (Creswell, 2013). For this study, it is impossible to adopt the observational stances as complete participant, observer participant and complete observer. As the purpose of this study is to explore the experiences of the married couples, by adopting participant observation stance, the researcher is able to immerse in the setting, though not completely, to feel the couples' home settings while participating in interviewing

sessions. Observing the home setting gives a holistic view of the couples (Patton, 2002).

Plan for Entry

Fontana and Frey (2005) stated that the success of the study relies on how the interviewer presents himself or herself. For this study, the researcher will present herself as learner. The researcher will also inform the participants that there is no right or wrong answer. The researcher's role is to understand the couples. The researcher is trying to minimize the hierarchical position in interview. According to Fontana and Frey (2005), when the researcher is able to show the human side and freely express feelings and concerns, methodologically, it invites wider dimensions of response and more insights into the lives of the participants.

To gain access to the participants of this study, other than the researcher's personal contact is used, referral by friends, relatives or others will be used. Using the researcher's network and referral are effective ways to get to the participants in this cultural context because people in general tend to trust someone they know (Jankowiak, 2009). Silverman (2013) also proposed the advantage of using personal network due to the existing trust between the researcher and the researched.

After getting their permission to have their contacts, the researcher will make initial contact by calling the participants (both husband and wife) before meeting them in person. After the brief introduction, the researcher's personal interest in studying marriage and the purpose of the study will be disclosed. In fact, the enthusiasm of the researcher's personal interest in the marriage could become a valuable channel to get access to the participants (Marshall & Rossman, 2011). The researcher will seek their permission to visit their homes for initial meeting before the interview takes place. Merriam (2009) pointed out that setting up a preliminary meeting could also be used to screen whether the participants are appropriate for the study. Thus, by making initial meeting, the researcher could determine whether the couples are appropriate for this study. At the same time, the participants are giving the opportunity to meet the researcher in person before they decided to take part in this study (Silverman, 2013).

This initial meeting will be useful also to elaborate on the research and my background, especially they have known me and the study through their friends. The researcher cannot assume that the participants are clear on what the researcher is going to do (Silverman, 2013). Thus, the initial meeting will help to elaborate, clarify, and create a cooling off period for them to reconsider whether to participate or not. It can also be useful to screen whether the participants are suitable for this study.

During the initial meeting, the researcher will explain the researcher's role (Marshall & Rossman, 2011). The researcher will prepare the participants what will be the likely activities involved in the interview and how the participants can take part in the research, the researcher's role is also to respect the participants for not to participate without questioning. The researcher will also play the role to answer their questions which pertain to the involvement of this research. Meanwhile, as truthful responses from the participants are crucial to this research, the researcher will prepare the participants to give truthful answers. The researcher would reduce the social desirable effects by telling the participants that "Thank you for willing to take

part in this research. In fact, during the interview, you do not have to feel you need to give me a standard answer or the right answer. Especially there is nothing right and wrong about how one experiences the marriage. It would be very helpful if you could just tell things as it is."

During the actual interview meetings with the participants, the researcher will respect their perspective even if it is against the researcher's values or frame of reference. The researcher will also try to refrain from using jargon or professional terms during the meeting and interviews because it would create a kind of "academic armor" (Marshall et al., 2011, p. 118) that would impede the needed "intimate emotional engagement" in qualitative research (as cited in Marshall & Rossman, 2011). Getting rid of the academic armor would facilitate participants' acceptance of the researchers.

The researcher will be patient and take the pacing of the participants accordingly during the meetings with them. The researcher will not rush into interview if they are not fully settled yet. For example, if the visitation time is just after the dinner time and the participants are still not ready. Instead of sitting there and waiting to tape record the interview session, the researcher will help in little way, as a returning of the favor they did to the researcher, Marshall and Rossman (2011) called it "reciprocity" (p. 121). This may involve allocating time to help, providing informal feedback, help in making drinks, being a good listener and so forth. For example, in relating to this research, the researcher will extend help in cleaning the table or help with making drinks.

These are some tentative plans for making entry to the couples who are willing to take part in this research. Once entering the participants' lives, how the data is collected will be addressed in the next section.

Plans for Exit

After spending hours listening to the sharing of the couples, the emotional bond between the researcher and the participants is fostered in some ways. Thus, a proper plan to say goodbye without making the participants feel abandoned, the debrief session for the researcher is needed (Marshall & Rossman, 2011).

For this research, during the initial meeting, the researcher will prepare the participants that the research relationship will end when the project is finishing. Being sensitive to the feelings of the participants, the researcher will exit gradually by talking about the completion of the research and giving a gift as an expression of appreciation when it comes to the end (Marshall et al., 2011). The researcher will also find time to debrief the feelings towards the participants with peers. These feelings will also be jotted down in the memo.

Exiting is not just getting something from the participants and leaving the fields. Reflecting on the relationship between the researcher and the researched is worthwhile to reflect upon how the researcher and the participants have made up the "reality" out there. This reflection will provide a perspective for the researcher to view how the researcher impacts on the relationships with the participants and the findings of this study. Silverman (2013) suggested that "whatever your theoretical model, it is good practice to address how your relationship with the people in your study might affect your findings" (p. 283).

Pilot Testing

Five couples participated in the pilot testing. Three couples came from the same rural area and two couples came from an urban setting. The backgrounds of the rural setting couples are rendered before the urban setting couples. The husbands' occupations for the rural couples before they retired were food hawker, fish wholesaler in the wet market and a small wood factory owner. The wives of the food hawker and the factory owner were the main business assistant. The wife of the fish wholesaler was a full time housewife. The years of marriage for these couples were 63 years, 50 years and 44 years. One couple lives with their adult child (who suffers from cancer). Another couple lives with their adult child family in the same house. Last couple lives with their adult child family, who live in the house next to theirs. One couple spoke Mandarin and two other spoke Chinese dialects during the interviews. These couples were introduced through friends and relatives of the researcher.

The years of marriage for the urban couples were 53 and 39. The husbands' occupations for the urban setting were government servant and bank officer. The wives were full time housewife. The urban couples stay by themselves. The language used for urban couples were Mandarin. They were introduced to the researcher through friends.

All the interviews were conducted in their home settings. The interview session for each couple lasted approximately 60 minutes.

Observations

Setting appointments with the rural couples were easier than the urban couples. The researcher can visit the rural couples on that day when phone calls were made. For urban couples, the researcher had to slot appointments between doctors' appointments and working hours (one urban couple still works as a babysitter).

The support networks for the rural couples come mainly from their children. For the urban couples, the support systems come from neighbors, their siblings and church.

Hobbies of urban couples are more diverse, like listen to music, reading, writing, baking, cooking, finding tasting food, watching television and community works. For rural couples, the hobbies are watching television, taking care of house chores, and hanging out with grandchildren.

The expressions of rural couples were simple. It reflects their behaviors in daily lives. For example, when the researcher asked the rural couples, "How do you deal with conflict between you and your spouse?" The common answer they gave was, "I walked away. Then we came back like nothing happened." For the urban couples, when the same question was asked, they replied, "It is very common to have conflicts. Every couple sure has conflicts." The researcher asked further what they do, they answered, "We would let things cool off. Then life would be like usual. We did not hold grudge."

In the home setting, the grandchildren and the children of the rural couples sat nearby listening to the sharing. This did not happen in the urban settings.

Lessons Learned from Pilot Testing

The researcher was quite amazed at how receptive the participants were when informed consent was rendered to them. The researcher was expecting they might feel uneasy or unfamiliar with this kind of protocol. Surprisingly, they just signed after the researcher explained to them. That could mainly because they know the persons who referred to the researcher. They trust someone they know.

Another surprise from the field was the urban couples sent the researcher off with food to bring along. The rural couples did not exhibit this kind of behaviors. Reciprocity in gift exchange is a way of politeness among the Chinese. The researcher was caught off guard as no preparation was made beforehand. Giving gifts to the participants has been a controversial issue in the field. In order not to set up the participants, the researcher did not prepare gifts during the interview visit. This was a big lesson learned. The researcher brought small gifts and kept in the bag afterwards. In case the participants give gifts in the future, the researcher is prepared to exchange as a show of courtesy.

Another lesson the researcher learned was, saying 'no' was not a common practice. The ways of expressing "no" were very subtle. When the researcher was being assertive by giving alternatives, some participants might perceive that as the need to accommodate to the researcher's requests. The researcher needs to be very sensitive to their first response or their first reaction. That first reaction or first response could say what they truly mean.

Through pilot testing, the researcher noticed questions with conceptual frameworks were difficult to grasp for most participants. Some participants even showed signs of anxiousness when they were unsure if the answers they provided were right or wrong. It was easier for them to talk about day to day things, incidents and stories. This shifted the research method. Life stories to capture the data, which could reduce contamination of the researcher's presupposed theoretical frameworks.

The meaning of marriage for the urban and the rural couples was very different from the West. In the West, love is the center of marriage. Also, presence of children had been identified to lower the marital satisfaction in the West (Amato, Johnson, Booth & Rogers, 2003). However, the buttress of marriage for the couples here is children.

Tolerance was one identified marital variable which is common to both rural and urban couples. From the couples' point of view, marital relationship and family relationship are all mingled as one. They did not see marital relationship as one relationship which needs special care. For them, if the children are good, then everything is good.

CONCLUSION

The process in the pilot testing has allowed the researcher to go through the experience when the researcher is the instrument for the research. As a Western trained researcher who grew up with the local cultural values as a person, the twirls and swirls in synthesizing the field experiences have been overwhelming. The guide posts at this point of the research include: the field struggling experiences of those experienced researchers, intuitive feelings of the researchers, discussions with supervisors and peer researchers, gut feelings and respectful for the participants.

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The Effects of Structural Change on Rural Poverty in Agrarian Economy: Evidence from Nigeria

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ABSTRACT

This paper examines the relationship between structural change and rural poverty in Nigeria. The change in the structure of the Nigerian economy from agricultural based to oil-industrial sector dominated economy is considered to be amongst the factors responsible for the rising level of poverty in the rural areas. Therefore, this paper asks what is the implication of the change in the fundamental structure of the economy has on rural poverty during the period 1980 to 2010. The study utilizes state-level poverty data from the Household income Survey (HIS). We employed the simple pooled regression to estimate the models. The findings of the study show that the impact of the industrial sector growth on rural poverty is relatively small. However, the impact of urban whole sale and retail trade components of growth is found to be substantially strong in reducing poverty. The study concludes that declining rate of rural agricultural growth has serious implication for rural poverty reduction. Our study adds to the previous literature on this topic by recognizing the sources and location of growth in the analysis. Also, the use of state-level data can reduce the possible biases arising from pooling data across countries.

Keywords: Labor Intensity, Rural Agriculture, Rural Poverty, Structural Change

INTRODUCTION

The agricultural sector hitherto was the mainstay of the Nigerian economy before the emergence of oil industry in the 1970s. Since then foreign exchange earnings as well as government revenue has increased dramatically due to oil exploration and production. Consequently, the government had embarked on serious economic restructuring, aimed at improving the economy's productive capacity and human resource with little effort to expand the agricultural sector which had been the key driver of the economy (Umaru, and Zubairu, 2012). The neglect of the agricultural sector arising from increased export earnings from rich nonagricultural resources and reliance on importation of agricultural products to meet domestic demands has

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abridged the need to modernize agricultural sectors and hence contributed to declining agricultural output (Byerlee et al., 2009).

There is no doubt the performance of the agricultural sector had been affected when basic structural indicators such as farm size and labor input are considered together with the sector's percentage point share. For instance, from 1970 to 2000, the agriculture sector grew at 1.7 percent per annum, very low when compared with its population growth of 2.7 percent (WDI, 2008). The low per capita income and lack of capital forced small-scale farmers to move out of the sector to the low-value services and informal sector where the prospect for sustained growth in output and incomes is limited. In the 1980s, the poverty incidence has become pronounced and widespread, the collapse of oil prices in the international market had also worsened the poverty situation in the country.

The effects of agriculture in agrarian economy cannot be overemphasized as changes in the economic structure from agriculture to industrial sector dominated may have profound impact on rural livelihood since the poor contributes relatively low to GDP growth and as a result the modern growth may by pass them (Todaro and Smith, 2003). For instance, larger proportions of the people in the developing nations live in rural areas and typically depend on agriculture as a source of livelihood. According to IFAD (2011) some 1.4 billion living on less than a dollar per day and 70 per cent of the extremely poor live in rural areas. However, the report indicates some progress have been achieved in reducing the incidence over the past three decades but the level of progress have not been equal; Eastern Asia and South-Eastern Asia have made remarkable progress, key areas of concern are Sub-Saharan Africa and South Asia. However Sub-Saharan Africa faces greatest challenge of overcoming rural poverty due to many interweaving constraints such as lack of infrastructure, physical assets and intricate web of deprivation due to urban bias.

Nigeria with a population of about 166.2 million, and is growing at 2.7 percent per annum, about 51 percent of the population live in rural areas and majority of them engage in agriculture for livelihood either as small farmers or low-paid farm workers. Therefore, investment in agriculture will improve overall growth and thus reduces poverty. The agricultural sector being the main driver of the rural economy and chief employer of the labor force, it is expected that increase in the sector's growth will offer a great potential in improving the wellbeing of the rural poor as hypothesized by Johnson and Mellor (1961) the proponents of the agricultural growth. On the other hand, Arthur Lewis (1954) in his dual-sector model assumes that rural agriculture is not enough for sustain growth on the ground that the rural sector's per capita productivity is low due to abundance labor supply in the rural areas. Hence, for sustainable growth and development a systematic reallocation of factors of production from agriculture sector to urban industrial sector where labor productivity is high is indispensable. This implies that poverty reduction policies need to look beyond agriculture.

Before the discovery of oil in Nigeria, the agricultural sector contributes about 60 percent of the total GDP during the period from 1960s to early 1970s but the sector's GDP share declined to about 20 percent in the 1980s. Even though, the fall in agricultural sector share of GDP growth had not caused a decline in total GDP growth due to corresponding increase in industrial and services sectors growth. In spite of the dwindling contribution of the agricultural sector to total income the sector employs nearly two-thirds of the country's total labor force. According to a

recent report from the National Bureau of Statistics, agricultural sector employs about 53 percent of the labor force, this is relatively high when compared with it industrial sector which employs just 9.1 percent. This suggests that the agricultural sector labor supply is perfectly inelastic. The reserved army of unemployed in the rural areas and low urban-industrial sector absorption of the excess labor from the rural areas threatens rural as well as urban poverty situation in the country. It was also noted by Diao et al (2010) that though the industrial sector is important for accelerating economic growth and development, it fails to create sufficient employment opportunities for the poor and unskilled workers.

The Nigerian poverty profile shows that the rural poverty incidence had been increasing steadily. The rural poverty trends and changes in the structure of the economy have called to question the compensating effects of the industrial sector growth performance. Whether the rising poverty incidence in the rural areas is a result of the structural change has created mixed results. Dorosh and Haggblade (2003) posit that poor tend to benefit more from investments in agriculture than investments in manufacturing based on studies from four Sub-Saharan African countries. As World Bank (2007) illustrates that agriculturally driven growth generates a larger welfare effect than non-agriculturally driven growth, especially for the poorest 20% of the population.

Similarly studies such as Christiansen and Demery (2007), Suryahadi (2007), Thorbecke and Jung (1996) have found that the indirect effect of agriculture growth is higher than its direct effects due to multiplier effects. Contrary to the results of the studies described above is the findings reported by Quizon and Binswanger (1986, 1989), who found that the Green Revolution in India has played a limited role in improving the wellbeing of the rural poor. The study concludes that the best route to reduce rural poverty is by raising the non-agricultural incomes. Similarly Warr and Wang (1999) find that the effect of industrial sector growth accounts for the largest poverty reduction in Taiwan. Discussing the prospects of industry and poverty reduction in Africa, Diao et al (2007: p.14) concludes that:

> "Even if the performance of the industrial sector were to improve dramatically and grew at the rates observed in many of Asia's "tiger" economies during their golden years, it would still take decades before a large enough share of the labor force could be pulled out of agriculture to lead to a serious reduction in poverty."

Is the change in the structure of the Nigerian economy a cause of concern? However, it has been argued that) growth performance of a sector on rural poverty depends on the sector's employment share of the rural people (Ravallion and Datt, 1996). There are many views in the development literature about the effect of growth and poverty. This study focuses on individual sectors rather than the overall growth we limit ourselves to these three views: those advocating for the development of the agricultural sector as the best way for poverty reduction and those arguing for the development of non-agricultural growth and the advocate of the balance growth.

The first view is that since majority of the people in the developing economies reside in the rural areas and many of whom earns their income from agricultural either as a farmer or part time worker, developing the sector enhances output and thus overall growth (Johnston and Mellor, 1961). Several country level

studies demonstrate the multiplier effects of agricultural growth in other sectors of the economy (Coxhead and Warr 1991, De Franco and Godoy 1993). The second view is that the development of the nonagricultural sector is necessary for economic growth as the rural per capita income is low due to abundance labor supply in the rural area (Lewis 1954). Hence investments on other productive sectors that will absorb the excess supply of labor will bring about growth both in the urban and rural sectors. The third view is that balance growth is more effective in reducing poverty, and this is gaining support in recent times. They argue that simultaneous investment in both agricultural and nonagricultural sectors is important, this may allow for backward and forward linkages which are crucial for sustain growth (Nurkse, 1952).

Empirical studies such as Datt and Ravallion (1998); Thorbecke and Jung (1996); Suryadi, Suryadarma and Sumarto (2009); Christiaensen, Demery, and Kühl (2006) and others have attempted to investigate the effects of sectoral growth on poor. For example, Ravallion and Datt (1996) find that changes in rural growth has a significance influence on poverty both in the rural and urban areas while the urban growth effect on rural poverty is less significant. Similarly, Thorbecke and Jung (1996) in the case of Indonesia have shown that the impact of agricultural sector growth on total poverty is largest, followed by services sector and informal sectors. Gollin, Parente, and Rogerson (2002) further argue that agricultural productivity growth is statistically significant in explaining growth in GDP per worker. Datt and Ravallion (1998) analyzes the effects of sectoral growth in reducing rural poverty in India, using state-level data from 1957 and 1991 and find that agricultural growth and agriculture infrastructure investments and initial level human resource accounts for the differences in poverty reduction across states.

In the case of Sub-Saharan Africa, Dorosh and Haggblade (2003) posits that the rural poor tend to benefit more from agriculture growth. Other studies corroborates with this findings include Christiansen and Demery (2007), Thorbecke and Jung (1996). Suryadi, Suryadarma and Sumarto (2009) in Indonesia, find that the rural agricultural growth is significant in reducing rural poverty but the impact of urban services growth has the largest impact on rural poverty reduction. They conclude that for effective poverty reduction both agriculture and service sector should be promoted. On the other hand, Quizon and Binswanger (1986, 1989) analyzing the economic growth effects of the Green Revolution in India, find that the benefit of the program on the rural poor is negligible. They conclude that to reduce rural poverty in India growth of non-agricultural sector is important. Similarly, Warr and Wang (1999) in Taiwan, find that industrial sector growth has largely contributed to poverty reduction.

Christiaensen, Demery, and Kühl (2006) examine the effects of sectoral growth composition on poverty reduction in Sub-Saharan Africa and find that the indirect effect of agriculture growth appears to be larger. Fan, Hazell, and Thorat (2000) argue that public investments on education, health services and rural roads are equally important for enhancing agricultural and non-agricultural sector. Similarly, Foster and Rosenzweig (2003) examine the role of agricultural growth and nonagricultural investments on poverty and find that growth in agricultural productivity and in rural factory employment accounts for the largest poverty reduction through increase in rural incomes and wages.

Most of the empirical studies mentioned above have used total sectoral growth to changes on rural poverty without disaggregating sectoral growth

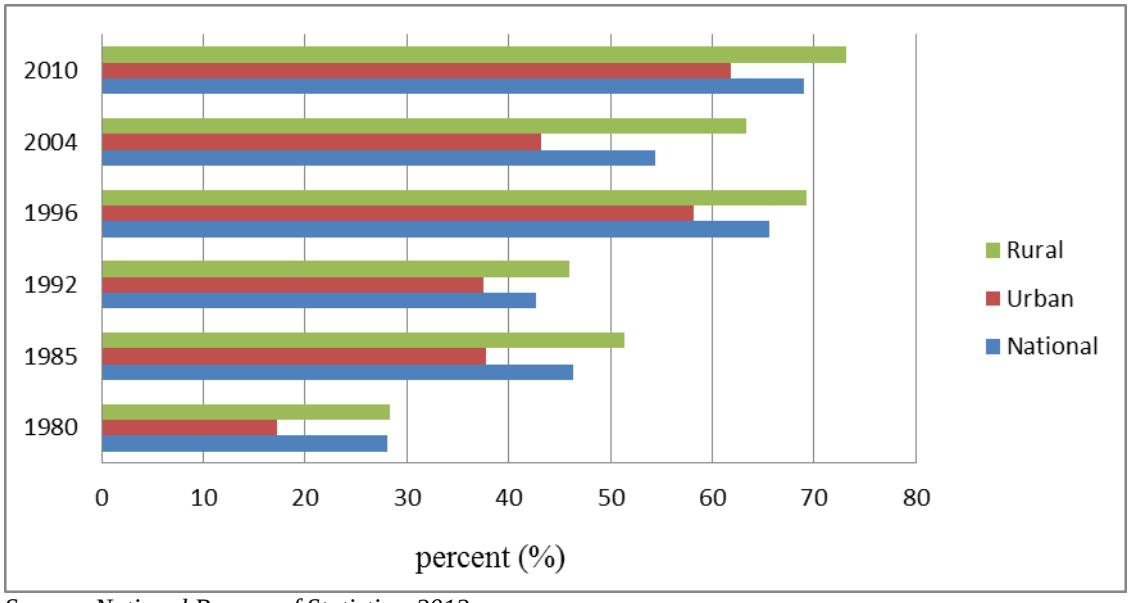
components into rural and urban locations. Therefore, this study differs from the existing studies in three respects: first it decomposes rural growth into four components: rural agriculture, rural industry, rural services and rural whole sale/retail trade. Secondly the study tries to control for the effect of urban growth and other initial conditions on rural poverty. Thirdly the study adds to literature by using state level panel data that enables us to circumvent the problem of time series data and heterogeneity bias.

The rest of the paper is structured as follows. Section 2 discusses the trends of rural poverty and rural developments efforts in Nigeria. Section 3 describes the methodology and data sources. Section 4 discusses the empirical results. Section 5 draws conclusions from the findings of this study.

TRENDS IN RURAL POVERTY AND RURAL DEVELOPMENT EFFORTS

Trends in Rural Poverty in Nigeria

The poverty trends depicted in Figure 1 shows that the nigerian rural poverty headcounts increased by 23 percent points from 28.3 percent in 1980 to 51.4 percent in 1985, dropped slightly to 46 percent in 1992, but rise to 69.3 percent in 1996, that is an increase of 23 percent in the following four-year period before falling to 63.3 percent in 2004. However, in the period 2004-2010, rural poverty incidence increased from 63.8 percent to 73.2 percent in 2010. On the other hand, urban poverty headcount increased by 20.6 percent (from 17.2 percent in 1980 to 37.8 percent in 1985) and remain relatively stable up to 1992, but increased to 58.2 percent in 1996 and again dropped to 43.1 percent in 2004. Rural poverty incidence, therefore, was higher than urban poverty in all the survey periods.



Source: National Bureau of Statistics, 2012

Figure 1 Headcount poverty rates

The falling and rising poverty in Nigeria could be attributable to lack of continuity in policy; the country had experienced frequent changes in antipoverty policies. For example, several policies had been established over the years in the name of poverty

alleviation to improve the quality of the rural poor but some of these programs were scrapped by new government in respective of their effectiveness and new ones are established. The progress recorded in poverty reduction between 1985 and 1992 is largely attributed to the implementation of the anti-poverty measures such as the national directorate of employment (NDE) and the directorate for food, roads and rural infrastructures (DFRRI), were implemented in 1986, the Better Life Programs (BLP) in 1987, among others that have direct impact on the rural poor. The DFRRI (though now defunct) has a strong record of rural development, especially in the area of rural infrastructure such as rural feeder roads, potable water supply, and rural electrification.

Also, the introduction of the structural adjustment programs (SAP) in 1986 to some extent contributed to the reduction in poverty at the early stage but the devaluation of the exchange rate and trade liberalization as part of the SAP worsens the living standard of the rural poor. Similarly, the reduction in poverty during the period 1996 to 2004 can be attributed to the commitment of the towards poverty alleviation by voting substantial percentage of its budgets to social services. For example, government expenditure to social services (education, health and social and community services) increased from 24.645 billion naira to 165 billion in 2004 and many poverty alleviation programs have been implemented the Nigeria Agriculture Credit and Rural Development Bank (NACRDB), Small & Medium Industrial Development Agency to mention a few. These programs are described in the following section 1.3. However, these efforts have not continued during the period 2005-2010 and the reduced commitment of the government towards "pro poor" programs further worsened the income inequality from 0.43 in 2004 to 0.49 in 2009 and hence heightened the level of both urban and rural poverty in the country.

Previous Rural Development Efforts in Nigeria

The rural development policies in the first Nigerian national development plan objectives are to promote growth, build capacity and to develop institution through effective health service delivery, education and employment opportunities. However, the rural and agricultural development efforts are quite explicit in the fourth national development plan aimed at improving rural agricultural infrastructure. The government had implemented many rural agricultural projects independently and in partnership with international development agencies. These include: the River Basin Development Authority (RBDA), the Agricultural Development Programs (ADP), the Agricultural Credit Guarantee Scheme (ACGS), the National Agricultural and Cooperative Bank and the National Agricultural Land Development Authority (NALDA). Other important anti-poverty measures implemented are Operation Feed the Nation (OFN) and Green Revolution Programs (GRP).

The DFRRI has been established to initiate, design, manage and coordinate rural development activities including the construction feeder roads in the rural areas and provision of rural electrification to accelerate the pace of rural development. The DFRRI though now defunct but some of the programmes objectives has been achieved particularly in the area of rural roads construction and rural electrification. The directorate constructed over 278,526 km rural roads between 1986 and 1993, and it provided more than 5,000 rural communities with electricity (CBN, 1998). The integrated approach to rural development had immensely contributed to rural

infrastructural development and growth of agro-allied small-scale enterprises in rural areas. Like any other poverty alleviation programmes the progress degenerated and it became defunct as a result of poor coordination between the directorate and the three tiers of government and due to poor project management (CBN, 1998).

Moreover, the National Directorate of Employment (NDE) was set up to articulate policies on skills acquisition and development. That is, to promote self-employment through provision of vocational training and creation of labour intensive jobs to reduce joblessness and unemployment among youth. The larger percentage of the population consists of youth and they lack the necessary skills. The impact of NDE on poverty alleviating is significant as the functions of the directorate are not only limited to the provision of training and job creation but also provides capital for setting up small businesses. The NDE trained more than 766,783 people between 1987 and 1996 under its national open apprenticeship scheme and 106,854 candidates benefitted from its resettlement scheme in 1996, in 1994, the programme's school on wheels scheme admitted more than 15,000 unemployed youths and from 1987 to 1996 its special public works programme employed about 155,000 (CBN, 1992 and1996).

The NDE trained to more than 2 million unemployed people and also provided business training to about 400,000 people and provided vocational training in different trades, and supported no less than 40,000 people to set up their own businesses and in addition over 160,000 people benefited from its labour-based organised forums (Oyemomi, 2003). The NDE is one of the few people's oriented programmes that survived the SAP era despite its enormous functions and it has continued to play its roles. The major problem of the NDE is that it is overburden by too many responsibilities and hence difficult for the directorate to effectively cover its scope. Another constraint facing the directorate is the problem of duplication of responsibilities with its supervisory ministry of labour and productivity.

The Better Life Programme (BLP) is another anti-poverty programme that was established in 1986 Nigeria to promote the socioeconomic wellbeing of the rural women. In Nigeria, the rural women are more vulnerable to poverty because they lack the basic skills and necessary training for gainful employment and most of them engage in farming for subsistence. The BLP committed to improving the earning potentials of the rural women through training and the provision of soft loans and farm inputs to the rural women. For training, the BLP had set up various educational schemes. The BLP had impacted positively on the lives of women from all spheres. The programme had contributed to the establishment of 11,373 cooperatives for women by 1993 and 3,613 processing mills. The programme had facilitated women access to fertilizer who ordinary do not have the opportunity to such inputs even though they are actively involved and carryout the bulk agricultural activities in the rural areas. The approach of targeting of rural women no doubt had reduced rural poverty in the country; for instance the poverty profile shows that the rural poverty incidence declined from 51.4 percent in 1985 to 46 percent in 1992. However, the programme just like other anti-poverty measures bedevilled by some challenges such as change in policy, weak institutions and corruptions. For example, (Ogwumike, 1998) posits that the programme was hijacked by position-seeking individuals and the resources were diverted for personal use.

The main objectives of establishing The OFN and GRP is to enhance the agricultural sector performance through provision of training to rural farmers on the

use modern farming tools for improved agriculture and food production. These programs have had profound impact on the rural poor, unfortunately many of these projects failed due to lack of sustainability and mismanagement (Ogwumike, 1998).

Though most of these programmes are well-conceived and have far-reaching impact in bringing development to the rural areas but still the wide income inequalities that exist between rural and urban sectors challenge the growth of other sectors such as services and retail sectors which have high unskilled labour absorption capacity.

METHODOLOGY AND DATA

Empirical Framework

To examine the impact of structural of change on rural poverty, we follow Datt and Ravallion (1998) poverty model which assume that change in poverty depends on growth and regional characteristics effect. Consider a general poverty-growth model

$$P = P(\mu, Y) \quad (1)$$

where P is a poverty measure a non-increasing function of the mean (μ), and a vector of parameters $X = (x_{1,\ldots,}x_n)$. This can also be represented as

$$rP_{it} = \beta Y_{it} + X_{mj} + \varepsilon_{it} \quad (2)$$

where rP_{it} denote rural poverty head count in state i and at time t, Y_{it} is the rural income of state i at time t and X_{mj} denotes the vector of initial conditions in state j. In order to examine rural sectoral growth impacts on rural poverty, we express the following simple estimating equation.

$$rP_{it} = \alpha + \beta_r^A\left(Y_{it}^{rA}\right) + \beta_r^I(Y_{it}^{rI}) + \beta_r^S\left(dY_{it}^{rS}\right) + \beta_r^R(Y_{it}^{rR}) + \beta_u^A\left(Y_{it}^{uA}\right) + \beta_u^I(Y_{it}^{uI}) + \beta_u^S\left(dY_{it}^{uS}\right) + \beta_u^R(dY_{it}^{uR}) + \delta_m X_{mj} + \varepsilon_{it} \quad (3)$$

where $Y_{it}^{rA}, Y_{it}^{rI}, Y_{it}^{rS}, Y_{it}^{rR}, Y_{it}^{uA}, Y_{it}^{uI}, Y_{it}^{uS}, Y_{it}^{uR}$ denote real GDP per capita in the rural agriculture, rural industry, rural services and rural retail urban agricultural, urban industry, urban services, urban retail respectively. While rP_{it} and X_{mj} as defined above, the symbols α, β and δ_m are the parameters of interest or slopes of the sectoral growth and initial conditions and ε_{it} denote the error term. The parameter of the sectoral growth shows a change in poverty due to a unit change in sector's growth. Since we are interested in examining the relationship between rural poverty and rural sectoral growth, we decomposed rural growth into its rural components. To estimate Eq. (3) we include some extraneous variables to control for the potential effects of urban economic growth, initial poverty incidence, initial income and

income inequalities on rural poverty as the literature suggest (see Chatti and El Lahga 2008; Son and Kakwani 2004; Datt and Ravallion 1998).

Data Sources

The data for the study are obtained from different sources: the national GDP at 1990 constant basic prices are from the Central Bank of Nigeria (CBN) while poverty rates and the data for initial inequality, initial income and initial level of poverty that are incorporated as control variables are obtained from NBS are from the National Bureau of Statistics (NBS). The study utilized rural growth and poverty state level data. There are no disaggregated RGDP data into rural and urban locations and rural-poverty data for states. Therefore we calculate each states rural poverty headcounts and real GDP using rural-national poverty and states rural consumption expenditure contributions respectively. In order to obtain each state's rural sectoral RGDP, we first obtain the national RGDP per capita by dividing national GDP at 1990 constant basic prices with the national population and multiplied it with each state's rural population, to get each state's RGDP.

EMPIRICAL RESULTS

The primary objective of the study is to determine the effects of structural change on rural poverty. The explained variable in the estimated model is rural poverty while the explanatory variables are share-weighted rural sectoral GDP controlled by urban sectoral growth and other initial conditions variables including gini index proxy for inequality. However, statistical investigation by a Breusch-pagan LM test suggests rejection of the random effects formulation against the simple pooled regression. Hence the simple pooled regression was favored overall for the estimated parameter values. Although the regression coefficients obtained under the random effects are virtually identical to the pooled OLS regression coefficients. The model was estimated using Pooled OLS and the standard errors are corrected for heteroskedasticity and serial correlation, the results are presented in Table 1.

Table 1 Results of Panel data analysis Dependent variable rural poverty

Variables	**Pooled OLS**	**t-stat**	**GLS**	**t-stat**	**OLS (HSC)**	**t-stat**
Constant	45.449**	7.99	45.449**	7.99	45.449**	9.79
Rural						
Agric. growth	-.002**	-3.89	-.002**	-3.89	-.002**	-4.18
Industrial growth	.001	0.81	.001	0.81	.002	0.79
Services growth	-.001	-0.36	-.001	-0.36	-.001	-0.41
Sales growth	.006**	7.10	.006**	7.10	.006 **	6.80
Urban						
Agric. growth	.013**	7.89	.013**	7.89	.013**	6.31
Industrial growth	-.001	-1.42	-.001	-1.42	-.0005	-1.48
Services growth	-.000	-0.26	-.000	-.0.26	-.000	-0.34
Sales Growth	-.011**	-8.55	-.011**	-8.55	-.011**	-6.94
population share	13.445**	2.23	13.445**	2.23	13.446**	3.000
Initial conditions						
Poverty incidence	.265**	7.29	.265**	7.29	.265**	7.05
Income Level	.000**	2.79	.000**	2.79	.000**	2.86
Income inequality	-53.965**	-4.24	-53.965**	-4.24	-53.966**	-5.59
Breusch-pagan LM test	0.01 (0.942)					
Observations	180		180		180	
R-Squared	0.438		0.438		0.438	

Note;* and** indicate the respective 5% and 1% significant levels; figures in the parenthesis are p-value; OLS (HSC) in table 1 refer to OLS with heteroskedasticity and serial correlation

The coefficients of the independent variables and their standard errors show that effects of rural sectoral growth on rural poverty are far from uniform. The rural agriculture growth is significant and negative, this suggest that agricultural growth is important for rural poverty reduction. The results show that 10% growth in rural agriculture sector's growth reduces rural poverty by 0.02 percent. The significance of the agricultural growth for poverty reduction cannot be overemphasized given its pivotal role in the life of rural poor. Agriculture is the chief occupation of the rural populace as it employs the greater percentage of the rural labor force.

The significance impact of the urban whole sale and retail trade to rural poverty reduction makes sense; petty trading or being a domestic aid are components of retail services that absorb greater percentage of the rural migrants. Therefore the subsector is assumed to have direct impact on rural poor than the modern financial sector. The results suggest that the effect of urban whole sales and retail trade growth is significantly larger than rural agricultural growth. These findings corroborate with the findings of other studies in Indonesia, Suryahadi et al. (2009); McCulloch et al. (2007) admit that the share of the petty trading activities in the services growth has played a significant role in reducing poverty. For example, Loayza and Raddatz (2010) and Azam and Gubert (2006) have described the possible ways through which urban whole/retail trade growth may lead to rural poverty reductions: first, they

argued that since petty trading activities in the urban cities requires a relatively small capital compared to rural agriculture results in large absorption of labor from the rural areas. Secondly, the enables migrants to escape poverty as a result of the remittances they provide, this also can reduce the burden of their families in the rural areas.

The non-significance of non-agricultural rural growth variables in the model such as rural industry growth and the positive correlation between whole sales/retail trade growth and poverty suggest that the poverty reduction effect of industrial sector can be more determine by its employment intensity rather than the growth rate of the sector. Similarly, an increase in industrial growth not translating into a rise in the income of the poor has implication for rural poverty reduction (Mitra, 1994). The positive correlation between rural industry growth and rural poverty may suggest that increased rural industrial growth resulting from increased exploration may have serious implications on agricultural productivity particularly on fish production. Schere et al. (2002) argue that environmental pollution causes eutrophication and oxygen depletion in the lagoon systems, resulting in decreased fish (reproduction) levels and waterborne diseases.

Furthermore, the results show that rural services growth is inversely related to rural poverty, implying that a rise in growth in the urban service sector has a declining effect on rural poverty. This is consistent with theoretical underpinning but the result shows that the impact of urban retail services is relatively larger for the rural poverty reduction. This might not be unconnected with the sector's capacity to absorb in large scale the semi-skilled and unskilled labor released from the agriculture sector. The retail trade is the most labor-intensive sector compared to other units within the services industry in Nigeria. The result of this study corroborates with other related empirical studies in India and Indonesia.

The results suggest that urban industrial growth though carries a negative sign but is not significant statistically, indicating that the effects of urban industry growth in reducing rural poverty are low. This implying that industrial sector growth seems to have a positive effect on the overall standard of living but its impact on rural poverty is less as the sector absorbs only a fraction of the rural poor due to lack of higher skills (Thorbecke and Jung, 1996). This tend to suggest that compensating effect of the industrial sector growth induced by petroleum exploration and production in terms of volume rather than value added in the form of employment generation is not crucial for rural poverty reduction therefor a great deal needs to be done to make the sector pro-poor.

CONCLUSION

This study makes an investigation into the relationship between sectoral growth and rural poverty reduction within a multivariate setting. The empirical exercise suggests that though the industrial sector growth is important for the overall growth and development of the economy as it has produced enormous wealth, the decline in rural agricultural growth has an adverse effect on rural poverty. The impact of structural change on rural poverty has been mixed the increase in urban sales growth has been the principal instrument of rural poverty reduction, whereas the declining in agriculture growth has had a greater impact on the rural and also on urban poverty as

the movement of labor to urban cities tend put upward pressure on the labor market. The socio-economic opportunities arising from increase growth in the urban sales services are relatively substantial in alleviating poverty in the rural areas. However, the results tend to suggest that growth's sheer size does not seem to be a sufficient condition for rapid poverty reduction rather labor employment intensity is necessary. Therefore, structural shift from agriculture based to oil industry dominated without accompanied compensation in terms of intensive use of unskilled labor tend to jeopardize the poverty situation in the rural areas hence the compensated gains in value of the decline in agricultural growth is of less effective in alleviating the sufferings of the rural poor.

Our rural-growth-poverty model can also be used to explain some initial conditions that should be included to the research outline. For instance, it provides a possible explanation of the effects of initial inequalities as well as the share of population on changes poverty. Because the extent of poverty depends upon the average level of income and the degree of inequality, our model may help us to understand this problem: state-level panel data show that change in population share, initial poverty, and initial income have a positive and larger influence on rural poverty, whereas initial income inequality has a negative and strong influence on rural wellbeing. This explains that the transition from rural agriculture to urban industrial growth tends to worsen rural poverty due to resulting initial widening income inequality.

In our view, the results of study should not be interpreted to mean that other sectors other than rural agriculture and urban sales need to be emphasized to reduce poverty rather, these sectors – especially labor intensive industries and services sectors – should be made more effective in creating employment for the unskilled labor by improving policy and institutional environments for rapid poverty reduction in Nigeria.

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Influence of Empty Fruit Bunch Biochar on Performance of Nitrogen-Fixing Bacteria Applied to Sweet Corn

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ABSTRACT

Adding biochar to soil has environmental and agricultural potential due to its long-term carbon sequestration capacity and its ability to improve soil quality and plant growth. The present glasshouse study was conducted at University Putra Malaysia (UPM) to determine the influence of oil palm empty fruit bunch (EFB) biochar at the rates of (0, 5, 10, 15 and 20 t/ha) with and without *Stenotrophomonas sp.* (Sb16) an N_2-fixing bacteria on growth of corn, nutrient uptake and soil chemical and biological properties. Plants and soil were sampled at taselling stage and analyzed for plant and soil properties. Application of EFB biochar at 10 t/ha significantly ($P<0.05$) improved corn growth (indicated as plant shoot, root biomass, plant height and chlorophyll content), plant nutrient uptake, such as N, P, K, Ca and Mg, soil microbial populations, including bacteria, fungi, actinomycetes and N_2-fixing bacteria (NFB) and increased soil chemical properties such as soil pH, organic carbon, total N, available P, cation exchange capacity (CEC), available K, Ca and Mg. Oil palm biochar at 5 t/ha and bacteria Sb16 significantly ($P<0.05$) enhanced growth of corn, nutrient uptake, soil microbial population except actinomycetes and soil chemical properties include Mg. Nevertheless, the highest level at 20 t/ha EFB biochar with and without bacterial plants was observed to be no significant ($P>0.05$) different to that found at lower EFB biochar and Sb16. The results suggest that the lower EFB biochar rate was sufficient to stimulate soil amendment and plant growth when N_2- fixing bacteria is being inoculated into soil. Therefore, application of biochar is very imperative to improve plant growth, nutrient uptake and soil biological and chemical properties.

Keywords: EFB Biochar, *Stenotrophomonas sp*, Corn Growth

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INTRODUCTION

Soil is the fundamental resource base for agriculture production systems. The tropical soil has a low organic matter, low CEC, extreme leaching, poor in water holding capacity and nutrient availability (Glaser et al., 2002). It is not well utilized due to its inherent poor fertility (Lehmann et al., 2011). The pH of the soil is insufficient in some of important nutrient for plant growth (Asai et al., 2009). Sustaining and improving soil quality is very important for enhancing organic production system. (Dobbelaere & Okon, 2007 ; Liang et al., 2006). The tropical soil is not a suitable condition for living organisms (Blue leaf, 2009). In Malaysia, more than 2 million tonnes of agricultural wastes are produced annually and major agricultural products are from oil palm plantations. It has significantly increased production of palm oil and provides a substantial amount of waste products which contained of empty fruit bunch (EFB) (Lim, 2000). From the commercial perspective, the oil palm EFB can be exploited because this waste is rich in plant nutrients. The EFB has been used in the production of biochar. Application of biochar produced from agricultural waste positively influences soil quality (Lehmann et al., 2006). Biochar is being used as a soil amendment to improve soil fertility as observed in Terra Preta soils (Glaser et al., 2002). Application of biochar significantly improved soil fertility by increasing soil pH (Van Zwieten et al., 2010), increasing water holding capacity, reducing nutrient leaching and adsorbing cations and natural organic matter (Topoliantz et al., 2005). The decomposition of biochar has been shown to improve mineral N in soil and increase the soil nutrients and developing of plant growth (Steiner et al., 2007). Abebe et al. (2012) confirmed that addition of biochar has the ability to increase soil pH, exchangeable K, Ca, Mg and crop production. The increase in the availability of important plant nutrients due to application of biochar was also observed by Glaser et al. (2002) and Lehmann et al. (2003). Biochar has been shown for its positively influenced on soil chemical and physical properties, and its impacts on soil microbial communities. Additions of biochar to the soil have shown definitively improves in CEC and soil pH (Topoliantz et al., 2005). Rillig et al. (2010) observed that biochar can have a positive influence on microbial community biomass by providing a suitable habitat, as well as providing substrates meets many of their diverse C, energy, and nutrient needs. Some research has suggested that changes in soil microbial community composition may occur due to biochar as observed in Amazonian Dark Earths (Terra Preta). Other than the application of biochar, the beneficial bacterial inoculation has become an important microbe to provide nutrients in soil (Grebus et al., 1994). Application of beneficial bacteria has been known to increase the soil fertility and plant growth. The inoculation of N_2-fixing bacteria are appreciated for agricultural fertility. The performance of N_2-fixing bacteria is influenced by different factors such as soil quality, including organic matter application (Rondon et al., 2007). Bacterial growth, increased when soil was amended with organic matter. Addition of biochar with beneficial inoculation improved nutrient uptake and crop productivity (Gosling et al., 2006). Application of biochar and bacterial inoculation can promote microbial activity (Lehmann et al., 2011). Consequently, this activity of microbial community can increase the release of nutrients and its availability such as N, P and K for soil improvement and plant growth. Therefore, the objectives of the present study were to asses, i. To determine the influence of EFB biochar and bacteria Sb16 on soil

chemical and biological properties and, ii. To determine the influence of EFB biochar on plant growth and nutrient uptake.

MATERIALS AND METHODS

Soil and EFB Biochar Preparation

The experiments were conducted at Faculty of Agriculture, UPM. The soil was collected from UPM farm top soil (0 - 15 cm depth). Soil samples were air dried and sieved through 4 mm mesh. The EFB biochar was made from an empty fruit bunch of oil palm and provided by Nasmech Sdn. Bhd., Selangor. This biomass gone throughout the pyrolysis process between 350-450 degrees Celsius to produce biochar based on the recommendation of Lehmann. (2007). The soil and EFB biochar were analyzed for their chemical characteristics and the results are presented in Table 1.

Table 1 The chemical analysis of soil (0- 15 cm depth) and EFB biochar

Soil		EFB Biochar %	
pH	4.6	pH	9.39
Carbon %	2.01	Carbon	52
Total N %	0.1	Total N	1.58
Available P (mg kg^{-1})	34	Available P	0.22
Exchangeable K (cmol (+) /kg)	0.2	Exchangeable K	4.9
Ca (cmol (+) /kg)	2.3	Ca	0.11
Mg (cmol (+) /kg)	0.8	Mg	0.14
CEC (cmol (+) /kg)	8.1	CEC (cmol (+) /kg)	63.23

Preparation and Application of Bacterial Inoculum

The bacterial culture of Sb16 was sub-cultured in 100 ml Erlenmeyer flask with Jensen's N_2-free broth and shaken continuously for 36 hours (100 rpm at 28^0C) (Radziah et al., 2013). One ml of the bacteria Sb16 was applied to each seed.

Experimental Procedure

In the glasshouse experiment, sweet corn was grown in 6 kg/soil/ pot of 4mm sieved dry soil and applied with 5 rates of EFB biochar as (0, 5, 10, 15 and 20 t/ha) and with and without inoculation of bacteria Sb16. The pots were arranged in Randomized Complete Block Design (RCBD) and replicated five times. Four seeds were planted into the soil and after germination only one seedling in each pot was left to grow till tasseling stage. All pots were watered daily. Chemical fertilizer was applied at the rate of 30 kg N ha of urea, 60 kg P_2O_5 ha of Triple Super Phosphate and 60 kg K_2O ha in the forms of Muriate of Potash respectively. Plants and soil were sampled at tasseling stage and analyzed for biomass nutrient uptake and soil chemical and biological properties.

Laboratory Analysis

The EFB biochar and soil sample were oven air dried and sieved to the size of <2mm. The chemical analysis of EFB biochar and soil were conducted as follows; Soil and EFB biochar were determined using the Beckman Digital pH meter in a 1:2.5 (w/v) soil or EFB biochar: water ratio (Jones, 1985). Determination of organic carbon was done by the LECO CR-412 carbon Analyzer using combustion method (Nelson & Sommers, 1982).Total Nitrogen was determined according to Kjehdahl Method (Bremner & Mulvaney, 1982). Available phosphorus was done using Bray ll Method (Bray & Kurtz, 1945) and analyzed by Auto Analyzer (Lachat instruments, Quik Chem® FIA+ 8000 series). Determination of CEC, K, Ca and Mg in soil was determined by using a leaching method (Sharifuddin & Dynoot, 1981) and analyzed by an atomic absorption spectrophotometer (AAS) (Perkin Elmer, 5100 PC), but for biochar was done by digesting EFB biochar technique (Thomas et al., 1967).

Plant Tissue Analysis

All the plants were collected and washed with distilled water. The air dried biomass were then ground into 0.25 mm size. Ground plant tissue was digested with concentrated sulfuric acid and 50% hydrogen peroxide and analyzed for P, K, Ca and Mg concentrations (Thomas et al., 1967). Plant total N was done according to the Kjeldahl method (Bremner and Mulvaney, 1982).

Plant Tissue Nutrient Uptake

Plant nutrient uptake was obtained by the multiplying the concentration of nutrient in plant tissue with the total plant dry matter weight divided by 100 (Jones, 1985).

Soil Microbial Populations

Soil microbial community (bacteria, fungi, N_2- fixing bacteria and actinomycetes) were determined using 10 g of fresh soil following the dilution plate technique (Parkinson et al., 1971). A 100 µl of sample at selected dilutions was transferred onto Nutrient agar (NA) for bacteria, Rose Bengal Streptomycin Agar (RBSA) (Martin, 1950) for fungi, Actinobacteria isolation agar (A.A) for actinomycetes and N_2-free media for NFB. The colonies were counted as colony forming unit (cfu) dry soil^{-1}, then transformed to log10 values for statistical analysis.

Statistical Analysis

The data were recorded and analyzed using two way analysis of variance (ANOVA) by Statistical Analysis System (SAS) version 9.3 for Windows. The significant difference in all parameters between different treatments was performed by the Duncan's General Linear Model Test (GLM) at the 5% level.

RESULTS

Chemical Characterization of EFB Biochar and Soil

The chemical composition of soil and EFB biochar are listed in Table 1. Soil is acidic soil, while the oil palm EFB biochar is alkaline pH (pH 9.39) and it was abundantly higher than soil.The EFB biochar had almost twenty six times higher of total carbon content, eight times of CEC and sixteen times of value total N than soil sample. EFB biochar was found to contain substantial amounts of nutrients with high concentration of K, Ca and Mg.

Effects of Bacteria Sb16 and EFB Biochar on Plant Growth and Nutrient Uptake

Many researches have done of biochar influenced on soil chemical and biological properties and plant growth at a higher rate with different soil and environment, but a few studies have done about the effect of biochar with inoculation on soil fertility and crop productivity. We therefore used 0, 5, 10, and 20 t/ha EFB biochar with and without bacterial inoculation in this glasshouse experiment.The maximum EFB biochar rate decreased with an inoculum beneficial bacteria Sb16 to increase soil nutrient and plant growth at lower rate 5 t/ha and Sb16. The influence of oil palm biochar and bacterial inoculation on corn growth is presented in Figure 1.

Treatment with bacteria Sb16 and EFB Biochar significantly ($P<0.05$) increased corn growth at tasseling stage. EFB biochar and Sb16 inoculation demonstrated better growth of corn (as indicated by shoot and root biomass, plant height and chlorophyll content) than non bacterial plants. EFB biochar provides a conducive environment for bacteria to fix N and solubilize P for improved plant growth. All EFB biochar levels were shown a relatively larger increase than no EFB biochar soil. The highest value (48.5 g/plant) of shoot biomass was observed at 5 t/ha EFB biochar, while the lowest (41.2 g/plant) was given at 20 t/ha EFB biochar. Dry root biomass were increased to a maximum weight at 5 and 10 t/ha EFB biochar according to SAS, while the lowest weight was found at 20 t/ha EFB biochar. The results generally had shown significant improvement in plant height with biochar application. Ten t/ha EFB biochar was higher than all EFB biochar rates. Addition of EFB biochar at 10 t/ha was given the highest value (36.4 SPAD/plant) compared to other EFB biochar treatments, followed by 5, 15, 20 and 0 t/ha EFB biochar. The results revealed that the highest value (61.4 g/plant) of shoot biomass was observed at 5 t/ha EFB biochar and bacteria Sb16, while the lowest (20.6 g/plant) was observed at 0 t/ha EFB biochar. Root biomass also increased 2 times than control when EFB biochar applied at 5 t/ha and bacterial inoculation. Chlorophyll content and plant height in corn plant were significantly improved by EFB biochar and bacterial plant application. Chlorophyll content was increased 144% times compared to unamended soil (control). N_2-fixing bacteria have the ability for N fixation from the atmosphere in the N form that can plant absorb easily from the soil.

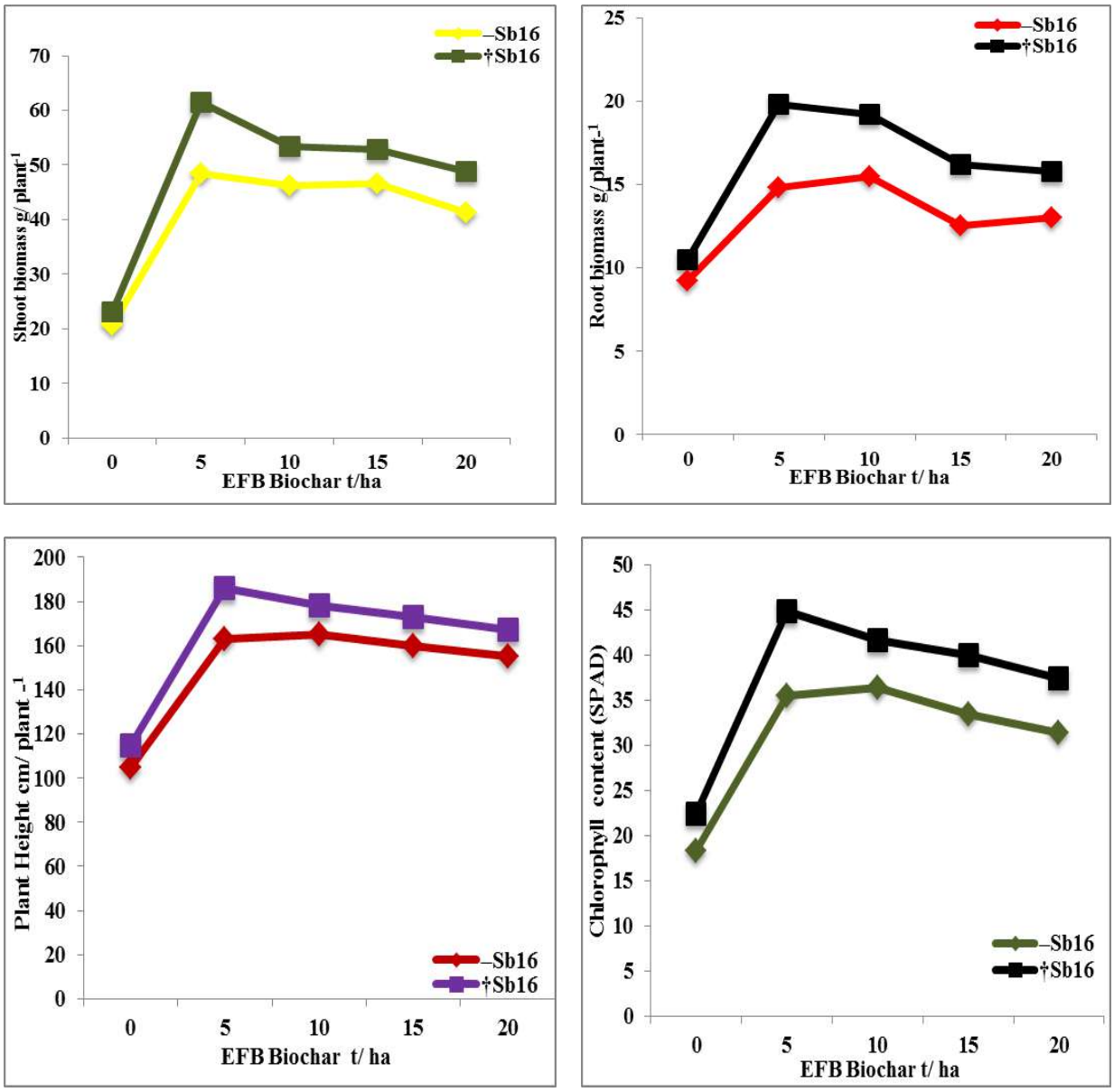


Figure 1 Effect of EFB biochar with bacteria Sb16 on shoot, root biomass, plant height and chlorophyll content

Source	Shoot	Root	Plant height	Chlorophyll content
EFB biochar	0.0001*	0.0001*	0.0001*	0.0001*
Sb16	0.0001*	0.0001*	0.0001*	0.0001*
EFB biochar*Sb16	0.0001*	0.0001*	0.0121*	0.0001*

Means in each column with the same letter(s) for each variable are not significantly different according to GLM at 5% confidence level (P>0.05).

Addition of EFB biochar and bacteria Sb16 positively responded plant nutrient uptake (Table 2 and 3). All EFB biochar rates were higher than no EFB biochar treatments. Addition of EFB biochar as a soil amendment at 10 t/ha was given the highest value of N, P and Mg, while 5 t/ha EFB biochar was recorded the best value of K and Ca. There was no interaction observed between EFB biochar and N_2-fixing bacteria (Sb16) of Ca and Mg. All results of bacterial inoculation were resulted better than non inoculated. The results of plant analysis revealed that the highest value of plant nutrient concentration and uptake were recorded at 5 t/ha EFB biochar and bacteria Sb16, while the lowest value was observed at 20 t/ha EFB biochar and inoculation. Application of higher EFB biochar (20 t/ha) in both bacterial and nonbacterial treatments caused in reduced biomass nutrient uptake compared to lower EFB biochar. However, these findings could be due to increasing N- fixing activity of bacteria Sb16 or penetrate into the organic matter and oil palm biochar to release more nutrient with other microbes and the beneficial influence of bacterial plants may also produce phosphatase enzyme and organic acids, which play an important role in the nutrient availability for plant uptake and modified plant growth regulators in the soil.

Table 2 Effect of EFB biochar and bacteria Sb16 on plant nutrient concentration

Bio char	N	P	K	Ca	Mg	N	P	K	Ca	Mg
	Without bacteria Sb16					With bacteria Sb16				
0	1.16 h	0.08 e	0.55 g	0.12 f	0.09 g	1.22 g	0.11 e	0.16 f	0.16 f	0.11 fg
5	2.81 cd	0.25 bc	1.55 b	0.34 cde	0.2 cd	3.03 a	0.37 a	1.74 a	0.45 a	0.28 a
10	2.85 c	0.28 b	1.58 b	0.35 cde	0.22 bc	2.94 b	0.35 a	1.69 a	0.42 ab	0.25 ab
15	2.68 e	0.22 cd	1.41 de	0.32 de	0.14 ef	2.79 d	0.27 b	1.48 c	0.38 bc	0.16 de
20	2.62 f	0.21 d	1.39 e	0.31 e	0.15 ef	2.73 e	0.26 b	1.46 cd	0.36 cd	0.17 de

EFB Biochar	0.0001*	0.0001*	0.0001*	0.0001*	0.0001*
Sb16	0.0001*	0.0001*	0.0001*	0.0001*	0.0024*
EFB Biochar*Sb16	0.0021*	0.0101*	0.0062*	0.1871^{ns}	0.2647^{ns}

Table 3 Effect of EFB biochar and bacteria Sb16 on plant nutrient uptake

Bio char	N	P	K	Ca	Mg	N	P	K	Ca	Mg
	Without bacteria Sb16					With bacteria Sb16				
0	0.24 g	0.016 f	0.113 g	0.024 g	0.021 e	0.28 g	0.025 f	0.140 g	0.036 g	0.025 e
5	1.36 d	0.121 cd	0.75 cd	0.164de	0.097 e	1.86 a	0.228 a	1.09 a	0.276 a	0.175 a
10	1.32 de	0.129 c	0.73 cd	0.162de	0.102 c	1.57 b	0.187 b	0.9 b	0.224 b	0.134 b
15	1.25 e	0.103 de	0.65 e	0.148 ef	0.065 d	1.47 c	0.142 c	0.78 c	0.2 bc	0.085 cd
20	1.08 f	0.087 e	0.57 f	0.127 f	0.062 d	1.33 de	0.127 c	0.71 d	0.175 cd	0.083 cd

EFB Biochar	0.0001*	0.0001*	0.0001*	0.0001*	0.0001*
Sb16	0.0001*	0.0001*	0.0001*	0.0001*	0.0024*
EFB Biochar*Sb16	0.0021*	0.0101*	0.0001*	0.0002*	0.0061*

Effects of Sb16 and EFB Biochar on Soil Microbial Population

Table 4 is presented the soil microbial populations which significantly ($P<0.05$) increased by EFB biochar amendment and bacteria Sb16 applications. Population in soil amendment was higher than no biochar rate. EFB biochar amended soil was observed to stimulate the soil microbial activity. The increase rates of EFB biochar resulted in differences of microbial populations, especially N_2-fixing bacteria. The results revealed a significant increased in bacterial population due to the addition of EFB biochar at 5 t/ha. The highest population of bacteria was found at 5 t/ha, and increased 17% times than control, while the lowest was recorded at 20 t/ha EFB biochar. The population of fungi, actinomycetes and NFB were significantly increased by addition of biochar at 10 t/ha. In soil EFB biochar treatment, the values (6.72 cfu log10 g^{-1}) and (6.69 cfu log10 g^{-1}) of the fungal population were observed in soils treated with 5 and 10 t/ha EFB biochar and it was in the same letter according to data analysis, while the lowest value (5.48 cfu log10 g^{-1}) was recorded at control (0 t/ha EFB biochar). Among EFB biochar rates, 5 and 10 t/ha were resulted the highest population of actinomycetes, followed by 15, 20 and 0 t/ha EFB biochar. The NFB population increased with EFB biochar rate application. The value (7.33 cfu log10 g^{-1}) at 10 t/ha EFB biochar was given the highest population,followed by 5, 15 and 20 t/ha EFB biochar. There was no interaction of biochar and Sb16 on actinomycetes community. Bacterial treatments were higher than noninoculated. The soil microbial population was increased due to addition of EFB biochar at 5 t/ha and bacterial inoculation except actinomycetes, which was affected by biochar at 10 t/ha and bacteria Sb16 application. The lowest population was found at 20 t/ha with and without Sb16. All EFB biochar treatments with and without bacteria Sb16 were shown more effective than no biochar in soil (control). Populations of soil microbes were double increased much higher in soil amendment than unamended. Commonly, EFB biochar amended soil was observed to stimulate the soil microbial activity. Enhancement of population of microbes could be due to available nutrient in soil was enhanced by EFB biochar or biochar may have a suitable habitat to protect beneficial microbes from predators in soil. The abundant bacteria in biochar amended soils might be attributed to the properties and characteristics of EFB biochar itself and soil.

Table 4 Effect of EFB biochar and bacteria Sb16 on soil microbial population

Biochar	Bacteria	Fungi	Actinomycetes	NFB	Bacteria	Fungi	Actinomycetes	NFB
	Without bacteria Sb16				With bacteria Sb16			
0	7.01 h	5.48 f	5.04 g	6.09 g	7.07 g	5.52 f	5.09 f	6.14 f
5	8.22 b	6.69 b	6.34 b	7.29 b	8.33 a	6.85 a	6.38 b	7.42 a
10	7.91 d	6.72 b	6.37 b	7.33 b	8 c	6.74 b	6.43 a	7.39 a
15	7.74 e	6.11 dc	6.16 c	6.66 d	7.88 d	6.16 c	6.19 c	6.71 c
20	7.64 f	6.03 e	6.03 d	6.41 e	7.66 f	6.06 de	6.03 d	6.45 e

EFB Biochar	0.0001*	0.0001*	0.0001*	0.0001*
Sb16	0.0001*	0.0001*	0.0001*	0.0001*
EFB Biochar*Sb16	0.0466*	0.0052*	0.7730^{ns}	0.0401*

Effect of EFB biochar application and bacteria Sb16 on soil chemical properties

Oil palm biochar was applied into the soil for a month before planting, to interact with acidic soil and sampled at the end of the experiment. Effect of EFB biochar rates and bacteria Sb16 on soil chemical properties significantly ($P< 0.05$) increased the nutrient availability of soil which is presented in Table 5. EFB biochar treatments showed higher than no biochar rate. Among EFB biochar treatments, the highest value of soil chemical properties was observed at 10 t/ha apart from of total N and available P were found at 5 and 10 t/ha EFB biochar. The lowest value of chemical properties was recorded at 20 t/ha EFB biochar except CEC and exchangeable K were found at 15 t/ha EFB biochar. There was no significant interaction observed between EFB biochar and Sb16 on soil pH, Ca and Mg. Laboratory analysis reported a significant increase in soil carbon, total N, available P and CEC due to the addition of EFB biochar at 5 t/ha and bacteria Sb16, while the soil pH, Ca and Mg were positively affected by application of biochar at 10 t/ha and bacterial inoculation. The highest value of soil chemical properties was increased 26% times in soil pH, 82% in soil C, 92% in total N, 213% in available P, 52% in CEC, 452% in exchangeable K, 104% in Ca and 116% in soil Mg compares to unamended soil (control). Improvement of soil chemical properties due to application of biochar was generally attributed to the high pH (8.9) of the EFB biochar applied and ability of bacteria Sb16 to enhance N_2-fixing activity in soil. Biochar has high surface area, highly porous, variable charge organic material that has the potential to increase soil CEC, surface sorption capacity and base saturation when added to soil (Glaser et al., 2002). The improve in soil carbon due to the addition of EFB biochar could be resulted from the presence of high amount of carbon in the oil palm biochar. The highest values of organic carbon in biochar treated soils indicate the recalcitrance of C-organic in biochar. High organic carbon in soils treated with biochar also reported by Lehmann, (2007). Increased soil soluble inorganic N according to biochar application and N_2-fixing bacteria may be due to the macronutrients abundant in the biochar and ability of Sb16 to increase the amount of N in the soil. The initial increase in N content was due to the mineralization of organic N in the biochar which released ammonium-N as one of the degradation products. The high mineral N content in soil may be influenced by increase in soil pH improved by EFB biochar application. This was similar to the exchangeable bases such as K, Ca and Mg that improved due to application of oil palm biochar or bacteria Sb16 or both. The finds of the present study also agree with Rondon et al. (2007) and Chan et al. (2008) who reported the highest exchangeable bases when biochar applied to acidic soils.

Table 5 Effect of EFB biochar and bacteria Sb16 on soil chemical properties

Biochar	pH	C %	N %	P mg/kg^{-1}	CEC	K	Ca	Mg
	without bacteria Sb16					Cmol(+)kg^{-1}		
0	4.6 f	2.11 i	0.12 f	40 f	8.8 j	0.25 g	2.4 e	0.85 i
5	5.6 bc	3.71 h	0.19 c	111 b	12.34 d	1.19 c	4.38 b	1.37 d
10	5.7 b	3.75 b	0.19 c	114 b	12.62 c	1.25 b	4.84 a	1.73 b
15	5.5 c	3.22 e	0.14 e	96 c	10.81 g	0.81 f	4.19 c	1.15 f
20	5.4 d	3.09 g	0.16 d	91 d	11.17 e	1.03 d	3.91 d	1.06 g

Biochar	pH	C %	N %	P mg/kg^{-1} with bacteria Sb16	CEC	K	Ca Cmol(+)kg^{-1}	Mg
0	4.7 e	2.16 h	0.13 ef	46 e	9.4 h	0.3 g	2.45 e	0.95 h
5	5.7 b	3.85 a	0.23 a	125 a	13.34 a	1.38 a	4.43 b	1.48 c
10	5.8 a	3.78 b	0.21 b	121 a	13.04 b	1.29 b	4.89 a	1.84 a
15	5.6 bc	3.29 d	0.14 e	99 c	10.98 f	0.92 e	4.22 c	1.24 e
20	5.5 c	3.16 f	0.17 d	97 c	11.23 e	1.07 d	3.94 d	1.11 fg

EFB Biochar	0.0001*	0.0001*	0.0001*	0.0001*	0.0001*	0.0001*	0.0001*	0.0001*
Sb16	0.0001*	0.0001*	0.0003*	0.0001*	0.0001*	0.0001*	0.0001*	0.0001*
EFB Biochar*Sb16	0.8889^{ns}	0.0015*	0.0267*	0.0010*	0.0001*	0.0015*	0.9354^{ns}	0.5424^{ns}

DISCUSSION

The objective of this study to investigate the influence of EFB biochar and bacterial inoculation Sb16 on growth of corn and soil chemical and biological properties in acidic soil which was conducted in the glasshouse. Results showed that addition of EFB biochar with and without bacteria Sb16 was impacted soil fertility and corn growth. Aiseuni & Omoti (2001) reported that addition of biochar has been indicated to improve plant growth by enhancing soil physical and chemical conditions. The increase plant growth with biochar application may be due to chemical and biological properties in biochar to promote plant system (Asai et al., 2009). Several groups of microorganisms recognized in biochar were able to regulate plant growth through nutrient cycling (Rutigliano et al., 2014). Enzymes and more compounds were promoted characteristics in biochar and could also enhance plant growth (Steinweg et al., 2013). Dobbelaere & Okon (2007) discovered that the amount of organic fertilizer demanded can be decreased significantly via beneficial microbe symbiosis. There was some inorganic nutrient movement from soil through beneficial bacteria to plants, while energy moved from plant to bacteria (Abebe et al., 2012; Jeffery et al., 2011). Combined EFB biochar and N, P and K fertilizer possibly provide adequate nutrient with bacterial plants to increase nutrient in soil and plant growth. The application of biochar generally increased the root hairs and effective root surface areas beyond common root absorption zones causing in higher nutrient transfer beneficial for plant production and nutrient uptake (Kim, 2007;Steiner et al., 2007). The ability of bacterial plant to amend plant physiological and enzymatic activities for better plant growth has been commonly reported (Bailey et al., 2010). The lower rate of EFB biochar and Sb16 may release adequate nutrient and can be easily taken up for plant growth by beneficial organism. This was through increased uptake of immobile resources by the bacteria as they can acquire these nutrients beyond the depletion zone surrounding the roots. Production of phosphatase enzyme by Sb16 may play an important role in the nutrient availability for plant uptake. Lehmann et al. (2011) reported that N_2-fixing bacteria could both enhance decomposition and increase N capture from complex organic material in soil. Jin, (2010) observed that beneficial organism in an organically managed soil was effective in improving crop available P similar to that of super phosphate. Application of organic matter stimulated to supply suitable conditions for mediating

mineralization process, soil microbial community which also breaks down more organic matter and therefore increased plant growth and nutrient uptake such as N, P, K, Ca and Mg. Previous studies reported that the application of biochar helped to improve soil pH, when alkaline biochar added to an acidic soil (Amonette & Joseph.,2009; Zaharah & Lim, 2000). Another reason for the increase in soil chemical properties due to high surface area and porous nature of biochar that increases the CEC of the soil. Some of the organic carbon added to soils remains in the soil as humus and microbial biomass-C and dead microbial cells may also directly increased the soil organic carbon pool (Johnson & Curtis, 2001; Lehmann et al., 2006). The initial increase in N content was due to the mineralization of organic N in the biochar which released ammonium-N as one of the degradation products. It has been shown that microbial biomass N contributes to the primary N source of potentially mineralizable N in the soil (Durenkamp et al., 2010; Kellys et al., 2012; Khalil et al., 2005). The increase in soil pH and CEC, that reduce the activity of Fe and Al, or the bacteria Sb16 have ability to solubilize P in the soil, also increasing soil pH and CEC could also contribute to the highest values of available phosphorous in soils treated with biochar. Wong et al. (1999) noted that soluble PO_4^{-3} increased significantly according to biochar application rates due to the abundant micronutrients in the biochar. Growth and improvement of microbial activity could be influenced by a number of factors. Appropriate pH, temperature and soil nutrient availability such as nitrogen, phosphorus, organic matter, and microbial status are the main soil factors influencing soil microbial population (Jin, 2010). This also influences the capability of Sb16 to affect the plant growth and physiology. The presence of hormones, enzymes, nutrients and other growth promoting compounds in biochar could also stimulate the microbial population. Nutrients and living organisms, hormones, and nutrients in biochar are essential for enhancing of the indigenous soil microorganisms (Steinweg et al., 2013). The abundant amount of organic carbon in organic matter such as EFB biochar may provide a good carbon source for microbial populations in soil amendment. In fact, adding EFB biochar and bacteria Sb16 to soil dramatically changes the chemical and biological properties of the soil and plant growth.

CONCLUSION

The results revealed that addition of oil palm biochar and bacteria Sb16 tremendously improved plant growth regulators, plant nutrient concentration and uptake, soil microbial populations and chemical properties were also positively improved with the addition of EFB biochar and bacteria Sb16. The availability of plant nutrients in soil and ash in the biochar, high surface area and porous nature of the biochar plays an important role to improve plant growth and soil fertility. High EFB biochar amendment rates could dramatically impact the properties of the soil and the availability of nutrients, special attention should be paid to processing conditions, levels and types of biochar applied. Premixed biochar and soil with inoculation look necessary for stabilization of the soil and better growth. Smaller additions and longer mixing times are strongly recommended. The results suggest that the lower biochar rate and Sb16 inoculation was sufficient to stimulate plant growth and other soil properties. Moreover, further researches are required to

evaluate the influence of lower rates of biochar with other beneficial microbes on the soil fertility, enzyme activity and plant growth.

ACKNOWLEDGEMENTS

This study was fully financed and managed by University Putra Malaysia, Faculty of Agriculture, land management department. We express our thanks for supporting this publication. Special thanks to soil technicians at UPM for their encouragement, assistance in data collection and laboratory sample preparations.

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Malaysian Rice Farm Efficiency: Application of Parametric, Non-Parametric and Bootstrapped DEA

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ABSTRACT

Malaysia's stance on food security is largely translated in terms of achieving self-sufficiency in rice production at about 75 percent of local consumption. Intervention of Malaysian authority to increase rice production, however, is still hampered by the low paddy yield. Factors that contribute to this fact include noncompliance with good farm practices and inefficient farm practices. Therefore, this study aims to measure technical and scale efficiency of rice farm based on parametric, non-parametric and Bootstrapped Data Envelopment Analysis (DEA) approaches as well as the production elasticity. The finding of this study shows that the sampled rice farms were not fully technically efficient. Parametric and non-parametric approaches provided the quite similar technical efficiency level at 84.6 and 85.2 percent respectively. However, efficiency score obtained from both approaches were overestimate since after correcting the bias, as result of the bootstrapping methods, technical efficiency reduced to 41.48 percent. Further, scale efficiency level implied that essentially average farms were very close to optimal scale since only 15 percent additional productivity gain was feasible to reach the optimal scale by assuming no other constraining factors. The production elasticity showed there was ineffectual yield of inputs in the rice farms since production was inelastic to the changes of inputs. Therefore, promoting the extension program in order to increase farmer's awareness to use the optimal input is strategic effort to to improve the rice farm efficiency.

Keywords: Rice, Efficiency, Stochastic Frontier Analysis, DEA, Bootstrapped DEA

INTRODUCTION

Rice is a staple and strategic crop in Malaysia. Although rice production increased from 1.08 million tonnes in 1981 to 1.75 million tonnes in 2013, the local consumption grew over time much higher than production. The local consumption

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achieved an increase of 2.94 percent growth annually or from 1.47 million tonnes in 1981 to 2.82 million tonnes in 2013. As a consequence, rice import registered a considerably increase of 6 percent per year in the same period. This fact has prompted Malaysian authority to consistently increase rice production by the improvement on yield through the utilization of the optimal input used, new technology, farm management and even by providing the incentive for farmers in increasing production such as the price support and the yield increase incentives. For example, the government provides various input subsidy schemes which are 240kg/ha of mixed fertilizer and 80 kg/ha of organic fertilizer as well as RM200/ha/season subsidy for pesticide control.The price support is currently at RM 248.1 per ton with the guaranteed minimum price of RM750 per ton(Vengedasalam et al, 2011).

Although there have been many efforts and policies on paddy farming, however, there was no significant improvement in the yield. Currently, the average yield at 3.9 ton/ha (Department of Statistics Malaysia, 2013) and it was not differ from the previous studies by Singh et al in 1996 that mentioned the actual paddy farm yields in Malaysia vary from 3–5 tons/ha. Further, this yield was lower than neighboring countries such as Indonesia and Vietnam at 4.9 ton/ha and 5.5 ton/ha respectively (FAO, 2012).

Those conditions conceive that difficulties in improving the yield is potentially caused by the un-intensive use of inputs due to the inefficient farm practice in rice production. Thus, in this context, the measurement of the existing farms efficiency including the relationship between input and output much more useful since it could provide the information about the gap of input used and efficiency performance among the farms and the potential to be improved (Kumbhakar and Lovell, 2000). It also shows the possibility to increase the yield without increasing the resource base or developing new technology (Padilla-Fernandez, 2012).

Related to the efficiency measurement, up to now, there have been limited studies on the the efficiency of Malaysian paddy. Radam *et al* (2001) and Thean *et al* (2012) conducted that study and focused on one method, either parametric or nonparametric methods. While Lewin (1990) and Banker (1994) pointed out that using more than one methods to obtain the farm efficiency from the estimation of frontier in order to benefit from the advantages of both is more useful to depict the holistic feature of production units. Therefore, in order to address those problems, this study aims (1) to measure the production elasticities and return to scale of Malaysian rice farm; and (2) to measure the farm technical and scale efficiency based on Stochastic Frontier analysis, Data Envelopment Analysis (DEA) and bootstrapped DEA in order to depict more holistic feature of rice farm efficiency in Malaysia.

THEORETICAL FRAMEWORK

After Farrell's seminal work (1957) as the first empirical work to address the problem on efficiency for a set of decision making units, the measurement on production efficiencies were studied extensively. Farrell distinguished the efficiency into technical and allocative efficiency. Technical efficiency measures the ability of farms to produce the maximal potential output from a given inputs. Then, allocative efficiency measures the ability of farms to utilize the inputs in optimal proportion

given their respective prices and available technology. These two measurement are then combined to measure the total economic efficiency (Coelli *et al*., 2005).

The measurement of production efficiency has been intimately linked to the use of frontier production function and supported by two principle methods which are non parametric and parametric approaches. Non parametric frontier (was first used by Farrel, 1957) does not require the specific functional form and utilize the mathematical programming. On the contrary, the parametric frontier rely on the specific functional form. Stochastic approach reflects the parametric frontier which was proposed by Aigner *et al* (1977), and Data Envelopment Analysis (DEA) approach by Charnes *et al.* (1978) is a well known approach in measuring the nonparametric frontier.

Stochastic Frontier Analysis

Parametric approach have been term the stochastic production frontier as the model in this approach which deals with stochastic noise and permits statistical test of hypothesis pertaining to production structure and the degree of inefficiency (Coelli *et al*.,2005). Stochastic frontier production function has been widely used to estimate technical efficiency of agricultural products. In this paper we use the stochastic frontier production function which was proposed firstly by Aigner *et al* (1977) and was followed by Battese and Coelli (1992). These authors proposed the following model:

$$y_i = f(x_i, \beta) + \varepsilon_i \quad (1)$$

where yi is the output obtained by the farm i, xi is the vector of used input, β is a vector of parameters to be estimated and εi is a composed error including v_i and u_i. The error component "vi" account the measurement error in the output variable due to the weather, the combined effect of the unobserved input on production, errors in the observation and measuring of data. Then, the error component "u_i" account the existence of technical inefficiency on the production and is assumed to be distributed independently of v_i. According to Omondi (2013), the error component u_i is a non negative error component that depicts deviation from the frontier caused by controllable factors in production. It is assumed to be half normal, identically and independently distributed with a mean of zero and constant variance.

The error component v_i represents the symmetric disturbance due to random error including errors in the observation and measuring of data. This component is assumed to be identically and independently distributed as a N $(0,\sigma^2_v)$. The error component u_i is an asymmetric term that captures technical inefficiency and is assumed to be distributed independently of v_i. Aigner *et.al.* (1977) analyzed the cases of half-normal and exponential distribution as a statistical distribution for u_i.

With given input vector, x_i, the potential output is defined by the function:

$$Y^* = \exp(x_i\beta + v_i) \quad (2)$$

The estimated technical efficiency of the *i*th farms can be defined as the ratio of the observed output for the *i*th farms relative to the potential output or the production

frontier, given the available technology and can be formulated as follows.

$$TE_i = \frac{Y}{Y^*} = \frac{\exp(X_i\beta + v_i - u_i)}{\exp(X_i\beta + v_i)} = \exp(-u_i) \qquad (3)$$

Principally, Aigner *et al*. (1977) suggest to use a likelihood function to allow two variance parameters, which are:

$$\delta^2 = \delta_u^2 + \delta_v^2 \; and \; \lambda = {\sigma_u}/{\sigma_v} \qquad (4)$$

In this model, when λ is greater than 1 means that the variance of the inefficiency effect (u_i) is greater than the stochastic error (v_i) and vice versa when the λ is less than 1. Further, Battese and Cora (1977) suggest to replace σ_v^2 and σ_u^2 with $\sigma^2 = \sigma_v^2 + \sigma_u^2$ and $\gamma = {\sigma_u^2}/{(\sigma_v^2 + \sigma_u^2)}$. The parameter value of gamma must lie between zero and one, whereas 0 indicate that all deviations from the frontier are due to entirely to noise and 1 indicate that all deviations are due to technical inefficiencies.

According to Radam *et al* (2010), SFA differs from simple regression analysis in term of estimated method used, whereas simple regression uses ordinary least squares to estimate the frontier function, SFA utilize the maximum likelihood estimation.

The log likelihood function that is to be maximized is:

$$\ln L(y|\beta, \sigma_v, \emptyset) = N\left[\ln\frac{1}{\emptyset} + \frac{1}{2}\left(\frac{\sigma_v}{\emptyset}\right)^2\right] + \sum_{i=1}^{N}\left[\ln F^*\left(\frac{-\varepsilon_i}{\sigma_v} - \frac{\sigma_v}{\emptyset}\right) + \frac{\varepsilon_i}{\emptyset}\right] \qquad (5)$$

where $\phi = \sigma_u$ and F* is the cumulative distribution function of the standard normal distribution. Maximum likelihood estimation (MLE) fit a surface over data where it measure the best practice, compare to OLS that fit a line through the center of data using regression method where it measure the average practice.

Data Envelopment Analysis

Nonparametric approach proposed by Charnes et al (1978) which rely on convexity assumption have been term Data envelopment analysis (DEA). Data Envelopment Analysis (DEA) was formally developed and named by Charnes e*t al* (1978) where efficiency was defined as the weighted sum of outputs over the weighted sums of input in the constant return to scale assumption. Constant return to scale is appropriate when all farms are operating at an optimal scale and this assumption cannot be fulfilled when farms operate on imperfect competition, constraint on finance, etc. Further, Banker *et al* (1984) extended the model to include variable return to scale (VRS) and named as the pure technical efficiency.

DEA involves the use of liner programming methods to construct a non parametric piece wise surface of frontier over the data. Then, efficiency measure are calculated relative to this surface and this technique identifies efficient production unit which belong to frontier, otherwise the inefficient ones is remain below the frontier (Coelli *et al, 2005*). Thus, DEA assumes that there are no random effects in the production.

Technical efficiency can be examined from an input-orientation or output-orientation. Input orientated technical efficiency means a farm minimizes the quantity of inputs while holding output constant and the output orientated technical efficiency means a farm want to maximizes given the fixed current quantity of inputs. This paper focus to measure the technical efficiency by using the output orientated since the paddy farms is directed to maximize the output from a given set of input. By assuming there are *n* farms which produces a single ouput using *i* different inputs and the variable returns to scale (VRS) output oriented DEA model, developed by Charnes *et al* (1978) can be expressed as.

$\max_{\phi\lambda} \phi,$

$$\begin{aligned} &\text{subject to } -\phi qi + Q\lambda \geq 0, \qquad (6)\\ &xi - X\lambda \geq 0,\\ &N1'\lambda = 1\\ &\lambda \geq 0, \end{aligned}$$

where $1 \leq \phi < \infty$ and $\phi - 1$ is the proportional increase in outputs that could be achieved by the i-farm, with input quantities held constant. Technical efficiency score is defined as $1/\phi$ and varies between zero and one.

It is possible that even though the production units technically efficient but they are not equally productive due to the effects of scale. If the underlying production technology is a globally constant return to scale (CRS), then the production unit is automatically scale efficient. However, when the farms might be too small in its production scale or the production unit are too large and it may operate within the decreasing return to scale, efficiency level might be improved by changing their production scale or the size of operation. Scale efficiency is measured as the ratio of technical efficiency on CRS to technical efficiency on Variable Return to Scale (VRS). Therefore, we can define an output orientated measure of scale efficiency at a given input, x and the output, q as follows:

$$SE(x,q) = \frac{d_i(x,q|VRTS)}{d_i(x,q|CRTS)} = \frac{TE_{CRTS}}{TE_{VRTS}} \qquad (7)$$

Bootstrapped DEA

The bootstrapped DEA was recently advance on DEA estimate due to some disadvantages of DEA approach. According to Schmidt (1986), DEA approach did not assume the statistical noise so that all the error term was attributed to inefficiency. Therefore, the efficiency scores generated by DEA were not robust and

highly sensitive to sample selection. Besides, the DEA method assumes that data noise does not exist so that the height of the DEA frontier is biased downward in finite sample. Hence, the efficiency scores are biased upward. Further, Simar (2000) mentioned that DEA as the nonparametric approach has been characterized as the deterministic as if to suggest that the method lack any statistical properties.

The bootstrapped DEA was suggested by Simar (2000) that derived from some unobservable data generating process, could remove inherent dependency among efficiency scores and obtain the bias corrected DEA efficiency scores. The bootstrap is defined as the re-sampling technique as a mean of approximating the properties of the sampling distribution of an estimator when this is difficult to be obtained by using alternative means and hence allowing one to construct the confidence interval (Simar and Wilson, 2000).

According to Nastis *et al* (2012), the bootstrap method is aimed to analyze the sensitivity of efficiency scores relatives to the sampling variations of the estimated frontier and provide the statistical basis for nonparametric efficiency measures. In particular, the width of the confidence interval for the efficiency of farms located on the fringes of the data set will tend to be quite wide, indicating that the degree to which these estimates are generally based upon rather thin data and hence should be interpreted cautiously. Then, the confidence interval tends to be wide when one has a small sample and a large number of dimensions (Diler, 2011).

Production Elasticity and Return to Scale

According to Sharma *et al* (1999), the production elasticity cannot be obtained directly from the translog production frontier. Recent study on this aspect can be also found in Chiang Fu-Sung, *et al* (2004). Production elasticity is evaluated at sample means for each input factor X_j (j=1,2,...5). Production elasticity is defined as the percentage change of the ith paddy farm's output for 1 percent change in the jth inputs. EX_{ij} can be written as :

$$EX_{ij} = \frac{d\ln Y_i}{d\ln X_{ij}} = \frac{dY_i}{dX_{ij}} \; x \; \frac{X_{ij}}{Y_i} = \beta_j + \sum_{k=1}^{5} \beta_{jk} \ln X_{ik} \qquad (8)$$

Under the translog frontier production function, the production elasticity respect to each input depends on the relative input levels used by various farms. When $\beta_{jk} = 0$ for all j and k, the function reduces to Cobb Douglas frontier production function where the production elasticity for the *j*th input is defined as β_j. Since EX_{ij} is different for each farms, this study uses the sample mean of each input factor j across all farms.

Return to scale measures the output response when all inputs are varied simultaneously (Coelli, et,al., 2005). The return to scale can be represented as follows.

$$\epsilon = \frac{df(kx)}{dk} \; \frac{k}{f(kx)_{k=1}} = \sum_{n=1}^{N} E_n \qquad (9)$$

where ε is the output elasticity. In practical, the sum of production elasticity respect

to all inputs equals to the estimated return to scale.

METHODOLOGY

Model Specification

This study used the stochastic frontier analysis (SFA) as a parametric approach to obtain the technical efficiency scores and the production elasticity that reflect the respon of output respect to the change on inputs and the relationship among inputs as well as the return to scale. In SFA, Cobb Douglas and transcendental logarithm (translog) functional forms were included which were Cobb Douglas functional form employed the simplicity which was associated with the number of restrictive properties across all farms in sample and elasticity of substitution is assumed equal to one. Then, the functional form of translog model imposes no restriction upon return to scale or substitution possibilities. The empirical model of Cobb Douglas and Translog frontier production function could be written as follows:

Cobb Douglas Frontier Production Function

$$\ln y_i = \beta_0 + \sum_{i=1}^{5} \beta_i \ln x_i + \varepsilon_i \qquad (10)$$

Translog Frontier Production Function

$$\ln y_i = \beta_0 + \sum_{i=1}^{5} \beta_i \ln x_i + \frac{1}{2} \sum_{i=1}^{5} \beta_{ii} \ln x_i^2 + \sum_{i=1}^{5} \sum_{j=1}^{5} \ln x_i \ln x_j + \varepsilon_i \qquad (11)$$

where β_0 is the constant, β_i, β_{ii}, β_{ij} are the production function parameters to be estimated for each input, yi and xi represent the quantity of output paddy in ton/ha, land in hectare, seed in kg/ha, fertilizer in kg/ha, pesticide in liter/ha, labour in man-day during the production period, and ln represents the natural logarithms.

Further, both estimations were compared by applying the generalized likelihood ratio (LR) statistic test. This test provided the information on which of the Cobb-Douglas and translog function is the representative in the analysis by specifying the null hypothesis $\beta ij = 0$ in the translog production function and reflected the Cobb Douglas production function was suitable for the analysis. The generalized likelihood statistic test is defined as follows.

$$LR = -2\,[L(H_1) - L(H_0)] \sim \chi^2 (J) \qquad (12)$$

where L(Ho) and L(H1) were the values of the likelihood under the null and the alternative hypotheses respectively. The value of LR is compared to the critical value of chi-square from the table of chi-square distribution. When the value of LR is greater than chi-square, the null hypothesis is rejected and otherwise (Coelli *et al.*, 2005).

Data and Analysis Method

Data were collected from the survey that conducted in six granary areas in Malaysia which were KADA, IADA KETARA, MADA, IADA Pulau Pinang, IADA Barat

Laut Selangor and IADA Seberang Perak. Sample size of 430 farmers were calculated using the Taro Yamane's formula and those sampled was chosen using simple random sampling. The data collection used a structured questionnaire on farmer's production activities including input and output on paddy farm as well as socio-economic characteristics.

In measuring the technical efficiency level of individual farms, one output and five inputs were used whereas the output was defined as the quantity of paddy production for one season (ton). Five production inputs included land (hectare), seed (kilogram), fertilizer (kg), pesticide (litre), labour (man hour). After detecting the outlier, from 430 samples, we dropped nine extreme observations as the outliers in order to reduce the possibility of DEA estimates sensitivity to those outliers. Then efficiency scores were recalculated using the final sample of 421 farms using the software package Frontier Efficiency Analysis with R (FEAR) 1.11 developed by Wilson (2008). The parameters of the stochastic frontier production function estimated by the method of maximum likelihood using the computer program, FRONTIER version 4.1.

RESULT AND DISCUSSION

Respondent's Profile

The summary of statistics for variables gathered from the survey is reported in Table 1. The average paddy production of sampled farms was 2.37 ton with the minimum production at 1.05 ton and maximum production at 5.42 ton. Standard deviation of the production was lower than average (77.38) which indicated there was no large variability on paddy production among the sampled farms.

On average, farmers utilized 4.25 ha land to cultivate the paddy and even some farmers cultivated paddy on 9.5 ha. Further, the average seed used in paddy farms was about 68 kilogram and there were some farms used it until 113 kilogram. Yet, the variability of used seed among the sampled farms was not large since the standard deviation for seed was lower than for other inputs.

Farmers applied on average 351.97 kilogram fertilizer and 3.89 liter of pesticide during on production session. Based on the standard deviation, practically there was no large variability on fertilizer and pesticide used among farms since the standard deviation was still lower than the average. Further, the average labour used in rice production was 78.49 man hour with the maximum use reach at 159 man hour.

Table 1 Summary Statistics of Variables Used on the Study

Variable	Average	Minimum	Maximum	Standard deviation
Production (kg)	2373.79	1054.85	5421.68	77.38
Land (ha)	4.25	1.03	9.53	2.14
Seed (kg)	68.04	15.06	113.68	18.05
Fertilizer (kg)	351.97	237.59	659.92	83.79
Pesticide (litre)	3.89	2.10	8.18	1.39
Labor (manhour)	78.49	16.09	159.02	54.24

Production Elasticity and Retun to Scale

Two production functions as the technology representation which were Transcendental logarithm and Cobb Douglas production function have been estimated in order to obtain the production elasticity and return to scale. However, the generalized log likelihood ratio test that specifying the null hypothesis βij = 0 in the translog production function, showed that the Cobb-Douglas production function was suitable for the analysis of production elasticity since the LR (14.80) was lower than critical value at 5 percent level (34.17). Therefore, further discussion of production elasticity was obtained from the Cobb Douglas production function whereas the estimated coefficients of a Cobb Douglas function could be directly interpreted as the production elasticity.

Before proceeding to the production elasticity, we discuss about the variance parameters which were the sigma square (σs^2) and the value of gamma(γ). As shown in Table 2, the sigma square for the model was 0.1404 and statistically significant at 1 percent level indicated a good fit whereas the specified distribution assumption of the composite error term was correct. Further, the estimated value of gamma (γ) in the Cobb Douglas model at 0.9304 and statistically different from zero at 1 percent level. It reflected that 93.04 variation in the output of rice farms attributed to the presence of technical inefficiency in the resource use of production. Thus, these result finally confirmed the relevance of stochastic parametric production function and maximum likelihood estimation in this study.

Table 2 Estimation Result and Production Elasticities on Rice Production

	Cobb-Douglas Production Frontier		
Variable	Parameter	Coefficient	t-value
Production elasticity			
Constant	b0	0.7735	1.6473
Land	b1	0.0966	3.4638***
Seed	b2	0.1196	2.9058***
Fertilizer	b3	0.2004	2.3456**
Pesticide	b4	0.0851	2.5846**
Labour	b5	0.0068	0.3412
Return to Scale		**0.5085**	
Variance Parameter			
	σs^2	0.1404	2.4311***
	γ	0.9304	32.8021***
Log-likelihood Function		172.10278	

Note: ***= significant at 1 % level
** = significant at 5% level
* = significant at 10% level

All production inputs in sampled rice farms had the positive sign as expected and significantly influence the production, except for labour. This indicated the additional use of input did increase the production, However, the elasticity values which less than one indicated the output was inelastic to changes of input. It was occurred potentially due to the improper combination of input use in rice production applied by farmers.

Out of five inputs, fertilizer had the highest production elasticity at 0,20. It implied that 1 percent increase of fertilizer could increase the production at 0.20 percent. Therefore, this result suggested the strategic function of fertilizer in rice farms. The same finding was obtained by Omondi et al (2013), however, was not consistent with the value found by Thean et al (2012) and Wadud et al (2000). Further, the estimated coefficient of land and seed described that both inputs were significantly influenced the production at less than 1 percent level of significance. This finding also suggested the significant function of both inputs in rice farms and even the seed had the larger production elasticity after fertilizer (0.1196). It implied that 1 percent increase in seed use would lead to 0.1196 percent increase in production. Then the production elasticity of land (0.096) reveal that rice farms was inelastic to the changes of land. These result was consistent with studies by Wadud *et al* (2000) and Shehu (2010).

The return to scale of 0.5085 implied that rice farms was operated in decreasing return to scale. It revealed the additional increase of output was less than the proportion increase of all variable inputs. This result consistent with finding by Kumbhakar (1994) for paddy production in West Bengal India, Wadud (2002) for rice production in Bangladesh, Srisompun and Somporn (2012) for rice production in Thailand. It suggested the ineffectual yield of the input factor use to rice performance.

Technical Efficiency

The comparison of technical efficiency scores obtained from the stochastic frontier analysis, data envelopment analysis and bootstrapped DEA are presented in Table 3. The average efficiency score estimated by parametric and non parametric approach were about 84.6 and 85.2 respectively. This result indicated that sampled rice farm were not fully efficient and thereby there was a possibility to increase the output achieving the potential output without additional inputs at a given technology. With the given bundle of inputs, the rice farm output could be increased by 15.4 percent.

This result also indicated the overall average technical efficiency scores obtained from DEA was quite higher than those from SFA. Even the maximum estimation of efficiency level in DEA reached at 100 percent and SFA only reached at 95.1 percent. This can be explained that DEA estimation was not included the error term and thereby the efficiency level was overestimate. This result was consistent with finding by Wadud (2003) for rice in Bangladesh, Minh and Giang (2009) for agricultural production in Vietnam and Linh (2012) for rice farming households in Vietnam.

Table 3 Summary statistics of efficiency estimated by SFA, DEA and Bootstrapped DEA

	Technical Efficiency (%)		Bootstrapping DEA (%)			Scale Efficiency
			Bias Corrected	Confidence Interval		
	SFA	DEA	TE	Lower Bound	Upper Bound	(%)
Average	84.6	85.2	41.48	35.3	54.2	89.2
Minimum	62.3	31.4	9.9	8.8	11.6	37.8
Maximum	95.1	100	82.9	73.3	97	100
Std. Deviation	7.4	20.4	20.9	17.2	30.6	14.9

Nevertheless, the general efficiency level of parametric and non parametric approach suggested that principally both scores were quite similar and thereby this result could be considered more consistent. However, after applied the bootstrapping method in DEA and correcting for the bias, the technical efficiency score was reduced substantially to 41.48 percent. This result showed clearly both stochastic frontier analysis and data envelopment analysis (DEA) were overestimate. Therefore, the bias corrected TE score obtained from the bootstrap methods was more robust due to its adjustment to the sample variation. Same result was obtained by Thiam (2001) on the study of technical efficiency in developing country agriculture, Nargis, F et al (2013) in the study on Efficiency Analysis of Boro Rice Production in North Central Region of Bangladesh, and Padilla-Fernandez et, al. (2012) with study about Farm Size and its Effect on Productive efficiency of Sugar Cane farm in Central Negos, Phillipines.

Confidence interval that represents the statistical ranges of values which the true value of sampled efficiency score was expected to lie become other important result in the bootstrapping method. The average lower bound of technical efficiency scores was 35.3 percent, while the average upper bound reached at 54.2 percent at 95 percent confidence level. It implied that rice farms practically could increase its output in the range from 45.8 percent to 64.7 percent of the existing output to gain the potential production.

The scale efficiency scores described the scale of operation or the size of operation in rice farm. The average scale efficiency of 89.2 percent means that rice farm was still not on the optimal scale. However, it quite closed to optimal scale actually since only 10.8 percent additional productivity gain is feasible, assuming no other constraint factors to achieve to optimal size in rice farm in the study areas. Further, 100 percent of the maximum value of scale efficiency showed that in fact, there were some farms have achieved the optimal scale of their rice farm. Further, the lower technical efficiency scores compared to the scale efficiency scores suggested that inefficiencies were mostly due to the inefficient technical practices rather than the scale of production or the size of operation. This result is consistent with study by Padilla-Fernandez (2012), Yusuf and Malomo (2007) and Rios (2005).

Table 4 Distribution of farms based on DEA and bias corrected technical efficiency level

	Number of Farms			
Technical Efficiency Scores (%)	DEA-TE		Bias Corrected TE	
	Number of Farms	Percentage (%)	Number of Farms	Percentage (%)
<20	29	*6.89*	192	*45.61*
20-29	60	*14.25*	84	*19.95*
30-39	53	*12.59*	96	*22.80*
.40-49	41	*9.74*	31	*7.36*
50-59	47	*11.16*	12	*2.85*
60-69	30	*7.13*	0	*0.00*
70-79	15	*3.56*	6	*1.43*
80-89	11	*2.61*	0	*0.00*
90-100	135	*32.07*	0	*0.00*
	421	**100**	**421**	**100**

The composition of respondent based on the efficiency level estimated by DEA and bias corrected efficiency score from bootstrapping method as presented in Table 4. It revealed clearly the shift in number of farm from DEA efficiency tp bias corrected efficiency level. Based on DEA as non parametric approach, one third of farms were technically efficient since they had the efficiency level higher than 80 percent. However, after correcting the bias, no farm were efficient and mostly shift to be inefficient farms with the efficiency level lower than 40 percent. Even, there were 45.61 percent of them had only 20 percent efficiency level. This result confirmed again that DEA efficiency score were potentially not robust. Therefore, the efficiency measurement should be enrich by the bootstrapping method to corrects the bias and obtain the robust result.

CONCLUSION AND IMPLICATION

The findings of this study showed that land¸seed, fertilizer and pesticide significantly influenced the rice production. However, the production was inelastic to changes of input and rice farms operated at the decreasing return to scale. It reflected there was ineffectual yield of input use to rice farms. Further, rice farms in this study were not fully technically efficient with the average efficiency level of 84.6 percent. The significant difference between technical efficiency scores estimated by DEA in non parametric approach and SFA as the parametric approach as well as the corrected TE in bootstrapping suggests that efficiency score obtained from DEA and SFA were overestimate. After correcting the bias, efficiency score reduced to 41.48 percent and thereby there was a possibility to increase the output at 58.52 percent achieving the maximum output without additional inputs. Farm composition based on the efficiency scores depicted clearly the shift on number of farm between VRS DEA efficiency score and corrected efficiency score whereas most of them become

technically inefficient with the efficiency level at less than 20 percent. Therefore, the effort to increase the farmer awareness to use the optimal input in rice production through the extension program on good farm practices is very useful to increase the yield and thereby increase the production. Further, in order to evaluate the rice farms performance, the efficiency measurement should be conducted regularly by applying the bootstrapping method to correct the result of SFA and DEA efficiency estimation.

ACKNOWLEDGEMENT

This research was financially supported by the LRGS Food Security: Enhancing Sustainable Rice Production through innovative Research, Vot. Number 5525017, Universiti Putra Malaysia. The authors would like to express thanks for their support in the conducting of the surveys in the studied areas in Malaysia.

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Review of Generation Expansion Planning (GEP) in the Restructured Power Market with the Presence of Wind Power Plants

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ABSTRACT

Concerning about the environmental challenges obliged the governments to reduce the greenhouse gases, and increase the efficiency of electricity generation with fossil fuel resources and increasing the usage of renewable energy. Restructuring the power markets from regulated to deregulated led to enter the private investors to this section. Although governments intend to develop the renewable energy (RE), renewable investors were encountered more risks rather than other investors. Thus, RE investors have to provide a compatible planning by considering the uncertainties in power market, RE uncertainty, and also regulator's policies. In this paper has been investigated the effective parameters in investing under the restructured power market. And also has been given the various methods for modeling of these parameters. And finally, has been reviewed the GEP by considering the wind plants.

Keywords: Generation Expansion Planning, Restructured Power Market, Wind Power Plants, Stochastic Uncertainties, Rational Uncertainty

INTRODUCTION

During the last two decades, deregulated power markets replaced with the centralized power markets in several countries. With this transformation, not only the structure of electricity market changed, also the new regulations are entered into the restructured power market. Versus the centralized power markets, in which different sections of power systems, from generator to consumer, are controlled by the government, in restructured power markets each part are planned with individual authority. Furthermore, in this new situation, the participants meet more uncertainties. These uncertainties such as electricity demand, price, fuel price, and regulatory policies have occurred due to the nature of the deregulated power market. According to these risks, traditional methods for expansion planning may not be

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appropriate any more. Therefore, new approaches, considering different time scales, need to be developed. These time scales are of the short, medium, and long terms. Challenges related to the decreasing availability of fossil fuel and the increase in environmental problems has motivated the authorities to develop sources of renewable energy. Due to the fast growth in the technology of wind turbines, wind generation attracts most attention compared to other methods of generating clean power. Also, the environmental and economic benefits of wind generation include minimal pollution, no greenhouse gas emissions, low footprint, no water pollution with mercury and no water needed for operation, the creation of jobs in rural communities, increased tax revenues and decreased outflow of money to import petroleum products, all of which are helping to expand wind power development. Beside the wind advantages, challenges related to the volatility of wind speed and also the high capital investment of this technology are the barriers for their deployment. In addition, above mentioned uncertainty related to the wind causes that the wind plants cannot compete with the heat power plants in a power market. Recently, the aim of most investments has been to decrease the gas emission and increase the energy efficiency and also using renewable energy. To develop the renewable energy in a restructured power market offer different type of incentive policies such as Feed In Tariff (FIT), Tradable Green Certificate (TGC), and subsidies. In this paper, will be investigated the different types of power markets as well as the main factors for this replacement from centralized to deregulated power market. Also, will be conducted the different methods for generation expansion planning (GEP) and techniques for modelling the uncertainties in long term planning. And finally, will be investigated the effect of wind power plants on the GEP.

Restructuring in the Power Market

In past decades, the demand growth of electricity caused more economic challenges in several countries. In fact, the oil crisis of the 70's decade caused this problem. So that, some countries changed in their structures and regulation to provide electricity during the past two decades. This restructuring, actuate the vertically integrated utility (VIU) to restructure power market [1-3].

The economic problems are the most important factors in the restructured power market. So, it can be mentioned as a fundamental parameter in any changes in the power system. The benefits of liberalized economy lead to the development of countries. In this competitive market each participant tries to maximize of their benefits by increasing their commodity quality and reduce their costs. This competition not only increases the customer's satisfaction, it is also developing the technology [4].

The main reasons to enter the competitive power markets are as follows [5, 6]:

1. No need for monopoly markets
2. non-essential for government services
3. Reduce the costs in competitive environments
4. Develop the new technologies

These motives can classify in two general groups. In other words, two fundamental attitudes offer in social systems for long term planning of power systems. The first one is the cost efficiency that causes more deregulation in industries. And the second one relates to the environmental challenges. The second attitude causes more studies on clean energies [5].

The aims of the participants in competitive power markets are different from the objectives that described by the government in centralized decisions. Traditionally, the aims of GEP are to find the ideal technology, capacity, time, and the place of construction of power plants by considering the acceptable reliability to respond the demand and also considering the social welfare [7, 8]. While, maximize the benefits is the aim of the participants in the restructured power market [9-11].

Uncertainties in Power Markets

In traditional systems, generation capacity expansion has been planning in the centralized environments. So, there was a standard and reliable pattern for GEP. But in the restructured power market the GEP's pattern is strictly depend on the private investors decisions. And also, these decisions affect with the uncertainties in restructured market. The uncertainties can classify in two groups include the random or stochastic and non-random or strategic uncertainties. The random uncertainties it's related to the repeatable parameters. In which, can be modeled by probability distribution function such as the growth electricity demand. But the strategy of other investors and their pattern to play in a power market is in the non-random uncertainty group, it's not a repeatable parameter[12, 13]. The amount of the effect of some of these uncertainties has been revealed in Table (1).

Table 1 Variations in uncertainties by restructure

Uncertainties	Type of power markets	
	Centralized	**Restructured**
Electricity price	Low	Medium/ High
Demand	Medium	High
Costumer's option	Low	Medium/ High
Regulator's policies	Low	Medium/ High
Competition	Low	High

Because of these uncertainties, GEP has been encountered more risks. Different methods are available to evaluate the uncertainties. Usually, these methods are based on the probability and statistical methods. The key interconnections between uncertain factors and decisions are illustrated in Figure (1) [14].

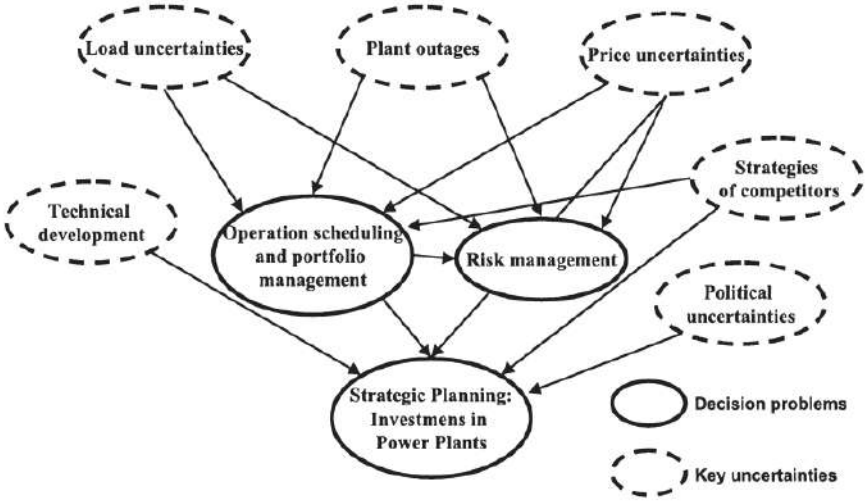


Figure 1 Uncertainties and key decisions in competitive electricity market

Modeling the Uncertainties

Modeling the Stochastic Uncertainties

Portfolio Selection Theory

The portfolio selection was given from the 50's. it was the economic tool for modeling the uncertainties in planning. In the method the parameters with uncertainty has been revealed by the random variables with the specific probability distribution [15, 16].

Stochastic Programming

Stochastic programming (SP) investigates the various states by allocating different future scenario. In this method considers different scenarios and a probability of happening to each scenario. Each scenario maybe has a given probability, or all scenarios can be equal. An event tree from the "root" to "leaf" can be described for uncertainties.

SP can be used for energy planning. For example, Canada investigate the effect of two major uncertainties include the carbon dioxide and rate of economic growth with SP [17].

Stochastic Dynamic Programming

Stochastic dynamic programming (SDP) is the useful tool for modeling the random behavior of decision variables. SDP can describe a model based on the connection between time, investment decisions, construction periods, an uncertainties[18]. In SDP the stochastic behavior of variables are modeled with Markov decision process [18, 19]. Markov method, educe the optimum path of planning based on expected value of objective function.

Fuzzy Theory

Fuzzy algorithm is the method for modeling the uncertainties. In this method, some parameters in the objective function consider as a fuzzy quantity. Then, by using the fuzzy optimization or fuzzy decision find the optimum point[17].

Rational (Strategic) Uncertainty

Rational uncertainty is related to the strategic behavior of each player in a competitive power market. It calls rational because each of the players decides based on the logical strategies. Therefore, the investors should equip with suitable tools for modeling and analyzing the behavior of their competitors [20]. Game theory is useful method to analyze the competitive behaviors of each player [20, 21].

Various games are considered in a competitive environment. Cournot, Bertrand, and van Stackelberg are the famous models in game theory. Augustin Cournot introduced the Cournot Model in 1838. In this game should be considered following features [8, 20, 21].

1. Competition happens based on the quantities

2. Non-storage product

3. Uniform product

4. The price is determined by auction

5. No player enter during the game

6. All players decide simultaneously

In Bertrand model, investors maximize their profit according to the product price. In this model assume that the firms produce a homogeneous product, i.e. players produce commodities that are perfect substitutes. Also, the products assume are non-storable. In addition, the firms have no capacity constraints on their productions[8, 21].

The strategic Stackelberg model in economics is based on the leadership game in which one company play as a role of leader and move first and the others move sequentially.

In game theory terms, in the power market, transmission can play as a leader that the generation company (GENCO) decide their generations in quantity as followers [22].

The similarities between Cournot model and the restructured power markets make it compatible for GEP in liberalized generation markets.

Generation Expansion Planning

Generation Expansion Planning (GEP) can be considered as the most significant problem related to the long term decisions. Traditionally, GEP determined the type of the technology and capacity, time, and the location of investment by considering the acceptable level of reliability and social welfare [7] or depicts an acceptable trade off among multiple objectives [23]. The aims of generation companies (GENCOs) in

restructured electricity markets are to maximize their profit during the operation and planning. The main components effect on the GENCOs' objective function include the operating cost, capital cost, revenues from the spot and bilateral contracts, and incentive policies offer by the regulator.

Generation Expansion Planning in the Regulated Power Markets

Before the nineties, some more studies has been given in the literature examining the GEP procedure in centralized power market, see [18, 24, 25]. An excellent review paper by Zhu and Chow [11] discusses both mathematical programming based and heuristic based techniques used to solve GEP problems in regulated settings. Papers mentioned above solved the GEP problem with the objective of minimizing generations and investment costs.

On the other hand, GEP in restructured markets needs to be formulated as a non-cooperative game, where the generators compete to maximize their profits. In both cases, however, the constraints have to include energy balance, capacity, investment, transmission, and system reliability. While commercial software like Wien Automatic System Planning (WASP [26]) and Electric Generation Expansion Analysis System [27](EGEAS) exist to address GEP in regulated markets, GEP research in deregulated markets is still in its early stages. Hence, there is a need for more research to explore and understand the GEP problem in the current competitive environment. The current competitive environment has introduced some rather new challenges in the already complex GEP problem. The first of which is the modeling of competitive behavior of generators. Second, the generators investing in the market have to consider individual risks due to volatilities in profits. Third, emissions and environmental regulations are set to become critically important in the coming years, due to which, comprehensive models incorporating cap-and-trade/carbon trading mechanisms will become necessary.

Generation Expansion Planning in the Deregulated Power Markets by using the Game Theory

In the next few paragraphs, we focus our attention on some of the recent research contributions addressing GEP in restructured markets by using the game theory. Chuang et al. [8] proposed one of the initial GEP models in a restructured power markets. They have modeled GEP as a Cournot game by making the following main assumptions: generators compete only in quantities, new entries do not occur in the middle of the game, and all generators make investment decisions simultaneously.

Chuang et al. assign the price and quantity of generators using the California ISO/Power Exchange (PX) system, which buys and sells energy through auctions. Finally, the solution of the GEP Cournot game is obtained using a simple iterative search procedure. Furthermore, modeling and estimate the GEP by regardless of uncertainties. Murphy and Smeers [28] present three different GEP models. The first model, which considers perfect competition, is developed to serve as a baseline state to compare with the other two models. In the second model investment decisions and power dispatch occur simultaneously. The third model is a 2-stage equilibrium problem with investments in stage 1 and power dispatch in stage 2. This 2-stage model is an extension of the MPEC type problems, which while realistic, are often extremely difficult to solve and are fraught with convergence related challenges [29].

One of the important features missing from the models in [8] and [28] is the consideration of transmission constraints. Kaymaz et al. [29] include transmission constraints and extend Hobbs's LCP formulation [30] for power markets by incorporating GEP-related decision variables in the objective function. Their model results, as expected, show that transmission constraints affect the capacity expansion decisions. They also show that transmission constraints adversely affect the consumer benefits, which often tend to reduce due to high electricity prices and congestion rents.

The reliability have been considered in [31] for modelin the GEP according to the game theory to solve the generation investment problem. Also, the average market prices have been considered as known parameter. In [32] has been proposed a model based on the nash Cournot equilibrium to determine the GEP without considering the uncertainties. A two-stage oligopolistic game has been given for calculating the generation investment problem in restructured power markets by considering the security of power system has been investigated in [33].

For managing the GEP problem a game theoretic model has been applied by neglecting the uncertainties in [34]. And then, the GENCOs' optimization problem has been solved by using particle swarm optimization (PSO). In [35] the investment problem for each GENCO has been solved with genetic algorithm in the regulated power market. Then, an improved genetic algorithm has been proposed in [36] under the deregulated power markets.

Annual average price of electricity and load have been considered with stochastic optimization model in [19] for investigating the investment problem in the restructured power market.

The interactions among the players in a competitive power market has been revealed by a conjectured variation approach in [37], where the generation investment problem has been solved based on the agent-based model.

A combination of DP/GAME has been proposed in [6] to investigate the effect of regulatory policies on the dynamic behavior of investments in new generation capacity in deregulated power market. Demand and fuel price have been modeled as two important uncertainties for GEP by Markov chain. And the dynamic programming (DP) has been used to solve the optimization investment problem. The main contribution of this study is combining the Cournot game with DP. The strategic behavior of other investors is modeled as constraints. For each stage and state of DP the nash equilibrium point has been obtained.

In Table (2) the summary of the GEP literature by considering the constraints and without assuming the uncertainties has been indicated.

Table 2 Important Modeling Attributes from GEP Literature without considering the uncertainties

	Model	Stochastic Price	Generation technology	Short term uncertainties	Long term uncertainties	Renewable energy	Multiyear horizon	Bilateral contract	Regulator policies for wind
Chuang et al [38]	CG	No	Yes	No	No	No	No	No	No
Centeno et al [39]	CG	No	Yes	No	No	No	No	No	No
Murphy & Smeers [28]	CG	No	Yes	No	No	No	No	No	No
Kim et al [31]	CG	No	Yes	No	No	No	Yes	No	No
Botterud et al [40]	Optimize	Yes	No	No	Yes	No	No	No	No
Roh et al [41]	CG	No	No	No	No	No	Yes	No	No
Kaymaz et al [42]	CG	No	No	No	Yes	No	No	No	No
Nanduri et al [43]	Supply function	No	Yes	No	No	No	No	No	No
Barforoushi et al [44]	CG/ DP	Yes	No	Yes	Yes	No	Yes	Yes	No
Alishahi et al [45]	CG	Yes	No	No	No	Yes	Yes	No	Yes
Askari et al [46]	CG	Yes	Yes	Yes	Yes	Yes	No	Yes	No

Wind Sources Opportunity and Challenges

Although the policy makers try to provide a suitable conditions due to participate the wind energy in power market, the wind plants are not able to compete with conventional power plants. The major reasons are include the intermittent nature of wind that causes to reduce the reliability of power systems and also high capital investment of wind plants that the barrier to develop it [47].

The average generation costs for different type of generation technologies have been indicated in Table (3). This information indicates that the renewable energy cannot compete with traditional power markets. Therefore, incentive policies need to expand the wind plants.

The main ground works of smart grid emphasis on environmental challenges, expanding the sustainable energy (such as wind, solar…), demand response, and distributed generation[48, 49]. The importance of wind sources in smart grid has been indicated in Figure (2).



Figure 2 The role of renewable resources in smart grid

Table 3 Investment and generation cost per technology (OECD countries) [50]

	2008		2030	
	Investment (US$/kW)	Generation (US$/MWh)	Investment (US$/kW)	Generation (US$/MWh)
Nuclear	1600–5900	42–137	3200–4500	55–80
Hydropower	1970–2600	45–105	1940–2570	40–100
Biomass	2960–3670	50–140	2550–3150	35–120
Wind-onshore	1900–3700	50–234	1440–1600	70–85
Geothermal	3470–4060	65–80	3020–3540	55–70
CCS coal	3223–6268	67–142	1400	94–104
Combined cycle LNG	520–1800	76–120	900	78
CSP	3470–4500	136–243	1730–2160	70–220
Wind-Offshore	2890–3200	146–261	2280–2530	80–95
Tidal	5150–5420	195–220	2240–2390	100–115
Solar PV (Central Grid)	5730–6800	333–600	2010–2400	140–305

Review of Generation Expansion Planning of Wind Sources

By developing the renewable energy in power systems as electricity generation resources the expansion planning of the system should be considered with more attention. Although there is not more study in this field for renewable energy, the review has been offered in this section.

The problem GEP of wind firms has been studied in [51]. The output of wind power plants has been simulated based on the Monte-Carlo method.

For modeling the capacity expansion planning has been proposed a two hierarchical multi-criteria. The incentive policy has been introduced at the upper level of hierarchy multi-criteria problem and at the lower stage electricity generation firms prove their planning by considering the state policy. The model is indicated by the case study in the Baikal by considering the wind conditions in this region.

Incentive policies have been used in this study are include the Subsidies and credits at low interest rates, guarantees on bank loans, fixed purchase prices of renewable electricity, exemption of the tax on part of the profit invested into non-conventional energy, accelerated depreciation scheme, and funding the R&D works on renewable energy sources.

The use of renewable energy sources can be indirectly stimulated economically through various mechanisms of environmental policy, namely, payment for the environmental pollution, and for emissions of greenhouse gases, different environmental taxes.

The incorporation of wind power generation to the power system leads to an increase in the variability of the system power flows. The assessment of this variability is necessary for the planning of the necessary system reinforcements. For the assessment of this variability, the uncertainty in the system inputs should be modeled, comprising of the time-dependent stochastic of the system loads and the correlated wind sources. In [52], a unified Monte-Carlo simulation methodology is presented that addresses both issues. In this study, the risk of overloading the system lines for various penetration levels of wind plants has been evaluated. This assessment has been done based on measuring the wind speed and the correlation among the wind sources.

In [53] analyze the impact of climate policy and technology learning on future investments in the Swedish power sector and how future investments in the Swedish power sector can be affected by carbon pricing policies. In this paper, has been mentioned that the WTG have to enter the competitive power market and compete with other plants such as heat, coal, and combined cycle gas turbines. And also, the effect of implementing the carbon policy has been investigated in [53]. In continue, answer to this question that what level of the price of carbon will be required to equalize the generation costs of different renewable energy technologies with that of combined cycle gas turbine?

And finally concluded, despite the supportive policy of renewable energy solely the onshore wind turbine as a cheapest renewable energy can compete with combined cycle gas turbine.

The wind energy is developed extensively in the future.The intermittent and fluctuation nature of wind generation makes it problematic for investors and operators to

determine the amount of valuable energy that can be generated. In [54] proposed a method based on a discrete convolution process. In this study, has been defined capacity value for wind production in order to covering the forecasting peak load.

In [55] has been investigated the effect of large scale WTGs on the security of power systems. The proposed method is based on contingency analysis. Inputs to the simulation are power network model, forecasted load, conventional generation profiles, and wind variability of proposed projects. A time-step simulation is run for the time horizon to produce benefit indices for every location (bus) in the system. The congested transmission elements that require expansion are identified and ranked as part of the simulation. Each wind project in the proposed portfolio can result in benefits or costs for power network security. Policy makers can then use the method to design policies that ensure preservation of long-term system security. This study proposed a methodology to assess generation impacts on system reliability and locational value representations for strategic siting, portfolio evaluation, and policy design. Integration of a large-scale wind project depends on different elements that may be observed as dimensions of a planning problem:

1) The location of the wind generation project and its point or points of connection (spatial dimension).
2) The size of the project and the variability of wind output across time (temporal dimension).
3) The different events that result in overloaded elements requiring transmission system expansion (contingency dimension).

In [56] proposed a method to determine the optimum location of wind sources based on the Geographic Information Systems (GIS). The conflicting interest of the different authority such as investors, utilities, environmentalist, and social groups causes more complexity in this selection procedure. For example, the aim of utilities and investors to select a suitable location to center their facilities is to minimize their cost, while other agents, such as environmentalist groups, might consider some of these places as unacceptable from an environmental impact standpoint and will always look for locations with the minimum environmental impact.

The selection of locations for new wind farms is a multi-agent decision-making process with significant geographical characteristics. The two main stages of the process for determining tolerance maps are include, the creation of criteria maps for each group (the economic group and the environmentalist group), and then create the tolerance maps of the groups. In the first stage, each group defines their criteria maps and attribute sets. Then, in the second stage, the tolerance maps of the groups that describe their preference order are obtained, essentially through the definition of criteria weights and the aggregation of criteria.

In [57] has been referred to the importance of wind power. Wind power seems to be a good candidate because it is quick to install, no fuel cost, and is environment friendly. In this study, the impact of the penetration level of wind power generation to be integrated into the Thailand system has been investigated. And also, the economic analysis of wind farm investment has been also considered.

In [58] was proposed a new method based on the load duration curve (LDC) for generation expansion planning of large-scale wind plants. This paper combines analysis of load and generation characteristics, generation adequacy and base and peak load variations to assess the future role of wind generation. For seasonal wind regimes like India that the wind speed varies seasonally, neither the capacity factor, nor the capacity credit reflects the monthly variation in the wind generation. A load duration curve based approach has been developed in[59]. Renewable energy sources have been treated as negative loads to obtain a modified load duration curve from which capacity savings in terms of base and peak load generation can be computed.

In [60] the effective load carrying capability (ELCC) as a metric has been used to determine the capacity value of a wind farm when performing generation expansion studies.

The investment strategies has been developed for WTGs by considering the flexibility in generation capacity and investment resources in [61]. The investment problem is formulated as a mixed-integer programming (MIP) problem with the constraints specified as intervals and the net present value (NPV) of generation profits as the objective. The output of this model revealed the number and size of each WTGs.

The screening &ranking method is proposed to identify the most attractive investment plan among multiple optimum solutions. Sensitivity analysis is then performed to assess the impact of investment parameters. The model has been applied in the southern cost of Thailand with the real wind speed data. The optimum solutions were obtained by using the General Algebraic Modeling System (GAMS) solves the optimization problems.

Since the environmental challenges poses a huge threat to human welfare. Decarbonization of power generation, will be a critical option for CO emission mitigation. In [62], an integrated power generation expansion (PGE) planning model towards low-carbon economy is proposed. And also, attention to wind plants to complete the model.

CONCLUSION

A comprehensive overview of generation expansion planning under the restructured power market by considering the wind power plants has been presented in this study. This study can be so useful for investors which they intend to invest for RE. The RE investors not only should model the uncertainties related to the restructured power market but also have to model the wind uncertainty. These uncertainties use as input parameters in GEP. By considering these uncertainties in GEP the investors can be met less risk.

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Effectiveness Investigation of Web Guide and Impact of Graphics in Ensuring Success of Blended Learning

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ABSTRACT

Blended learning and minimalism play major roles in simplifying knowledge transfer. The impact of these two fields are already proven and supported by many studies. In previous studies, most of them are discussing about the impact both fields could have in order to hasten the speed of learning. Using Visual Basic as programming language, this study focuses on the impact of graphics on how they influence the users to refer to Web Guide, YouTube, friends, lecturer, other Visual Basic website, and lab notes. Apart from that, we are also interested in finding out whether graphics, as an element in the interface, has a significant role in determining the outcome of knowledge transfer and nullifies the impact of blended learning and minimalism. In our study, we found that even though graphics have a significant impact in ensuring knowledge transfer success, it is not the only factor to be taken into consideration. Among the factors include the size of menu items, the location of buttons, and colour templates. The observation from this study can be useful for educators who wish to create their portal in order to assist their teaching.

Keywords: Computer Assisted Instruction, Human-Computer Interface, Blended Learning, Web Based Instruction, Programming and Programming Languages.

INTRODUCTION

Computer-aided training has gained much ground since the popularisation of the Internet. Many fields have taken advantage of the advancements of computing technology. Computer literacy has become a requirement for job seekers as computers became ubiquitous.

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Much research has been done to lower the learning curve for computer usage. As a result, minimalism, human-computer interaction (HCI) and blended learning have become important fields in order to quickly teach new users computer topics.

Minimalism, invented by John M. Carroll in 1990, is intended to take less time to increase user proficiency and allow users to start immediately with their day-to-day activities while learning new skills (Carroll 1990). The ideas of shortening the learning period, eliminating unnecessary reading, recognising error and recovery, and allowing users to randomly pick topics according to their interest, have gained ground in the last decade. Major players like Apple Computer, IBM and Microsoft have adopted it in their own documentation to assist users with training and error recovery.

Human-computer interaction (HCI) plays a major role in setting rules and standards for software developers on the dos and don'ts in creating software interfaces. HCI mainly focuses on the user interface as this is where the interactions between humans and computers occur. Research has shown that if the interface is done well, the user's interaction with the computer is simplified and this results in willingness of the user to use the software (Bálint 1995). The interface could be a major contributing factor for a piece of software to become a success or a failure.

There are many contributing factors to ensure success in creating an interface: the menus and their location in the interface, the size of the menus, the colour chosen, and even delays and interruptions affect user satisfaction with the software (Michalski *et al.* 2006).

Blended learning, on the other hand, a relatively new field created since the Internet became widely available to the general public. This field focuses on enhancing and enriching education and training by utilising the widespread availability of the Internet and computers. Blended learning combines traditional face-to-face learning with e-learning.

A key factor contributing to the success of blended learning is the human desire and need for face-to-face interaction between new users and instructors. Blended learning also mitigates the time and space constraints of the traditional classroom by giving users online resources to study on their own time and at their own place (Glogowska *et al.* 2011). All this results in better understanding of the subject, and at the same time, reduces the time needed to master skills.

This study combines these fields in order to observe the impact they have on teaching Visual Basic programming. The focus of this study is the impact of how graphics are displayed. Is it better to show small graphics directly on the page, or to have the user clicks a link to view them in detail? When the user clicks the link, a new tab or window is displayed. This is to display the graphics at their original resolution. These graphics are mostly used as checkpoints for progress evaluation.

RESEARCH RATIONALE

Both minimalism and blended learning are already proven successes, so this will not be tested. Instead, the impact of the availability of graphics will be tested. Prior research

had shown that delays in getting responses from software will trigger uneasiness in users (Szameitat André *et al.* 2009). The study however, does not take knowledge transfer process in consideration. The researchers are keen to see the impact of graphics while reducing the difficulty level of the task to easiest in order to hinder it from creating bias in his result. In this study, we would like to see the impact of graphics could have in a portal that utilises two methods of transferring knowledge, namely minimalist and blended learning.

We test whether the interruption caused by the attention being divided between reading and viewing the checkpoint graphic will have significant impact over users' choice of guides.

Test subjects are not limited to only the guide provided, but also have the option of using other materials to assist them in their learning. This mimics the real world, where users are not limited to only the guide, but have the option to go to other websites, colleagues, or books in order to guide them in achieving their tasks. Test subjects could refer to the original web guide, YouTube, other test subjects, the instructor, other Visual Basic websites, or lab notes. This means that if the subject prefers to use any other materials to increase their understanding regarding the specific task, they are allowed to do so.

BACKGROUND STUDY

Minimalism and blended learning have a long history in writing technical documentation, and to assist new users effectively. Minimalism entered the spotlight and had been highly debated since 1990 when John M. Carroll published his first book titled *The Nurnberg Funnel* (Carroll 1990).

The second component, blended learning, combines the advantages of traditional classroom instruction with e-learning in transferring knowledge to students. Since knowledge transfer was first documented, the teacher had been the centre of the universe and almost all knowledge came from the teacher. Knowledge transfer occurs in a specific time and a specific place. This method is known as the traditional classroom approach.

Around the world, school syllabi normally follow traditional guides. These guides emphasise following the instructions strictly on a step-by-step basis. The traditional guide normally assumes that no problem would occur if students follow it exactly as intended. Aside from that, the traditional guide instructs students to read the information sequentially from the beginning to the end. The amount of information in thetraditional guide is normally enormous as it describes everything, including the background information and the concepts that made the knowledge work.

Table 1 shows a comparison between traditional and minimalist-inspired guides.

Table 1 Comparison between traditional guide and minimalist-inspired guide.

Traditional Guide	Minimalist-Inspired Guide
• Emphasis on background knowledge and conceptual understanding.	• Gives only minimal information regarding the concept and background. Some minimalist-inspired guides put the background and conceptual materials towards the end of the chapter when it is crucial.
• Users need to read lengthy texts before proceeding to the exercise.	• Supports immediate action. Users start the exercise and read as they proceed.
• No or minimal error recognition and recovery.	• Error recognition and recovery is one of the main parts of a minimalist guide.
• Users need to read from the beginning until the end. The flow of knowledge is sequential, thus not allowing random access.	• Minimalist notes allow random access. This means users may skip to any topic they find relevant to what they need to know.
• Exercises might not tally with real-world problems.	• Exercises are tied to real-world problems to ensure users are able to make sense of what they are learning.

Minimalism

Minimalism first made its debut in 1990. Since then, minimalism had been criticised and supported by many researchers as documented in John Carroll's *The Nurnberg Funnel* and *Minimalist Documentation* (Farkas & William 1990), *Minimalism and Quick Reference Documentation* (Oatey 1993), *Minimalism as a Framework* (Oatey & Cawood 1997), *Minimalism - Can You Have Too Much of a Good Thing* (Tylak 1997), and *Ten Misconceptions about Minimalism* (Carroll & van der Meij 1996).

The debates and discussions about minimalism made the original creator write another book in 1998, *Minimalism beyond the Nurnberg Funnel* (Carroll 1998). Since then, minimalism had been accepted and implemented by many fields such as found in *Minimalism Beyond Computer Documentation* (Manning 1998), *Online Help Systems* (Foster 2002), *Fun Learning Stagecast Creator* (Seals *et al.* 2002), transferring design patterns knowledge (Ho *et al.* 2007), *Frameworks of Object-Oriented Code* (Ho *et al.* 2009), writing framework documentation (Ho *et al.* 2013), and *Guide for Visual Basic 2010* (Dollmat *et al.* 2010).

Blended Learning

The emergence of the Internet made it possible to include blended learning in the learning process. Prior to this, other than books and other static printed materials, knowledge transfer occurred strictly at a specific time and place. Both the teacher and students need to be in the same place at the same time for the knowledge transfer to occur. This method is still used as the primary method of transferring knowledge today.

E-learning potentially could become a popular way of transferring knowledge as, in theory, this could overcome the time and location barrier of the traditional classroom approach. As pointed out in *Blended Learning Design for Software Engineering Course Design* (Wang 2008), e-learning introduces new weaknesses. For example, it focuses too much on student initiative to study and at the same time reduces the importance of teachers in the system. Hence, students might not be diligent in their lessons, and end up not achieving the intended learning objectives. Aside from that, in many third world countries, the network infrastructure limits access to e-learning as the infrastructure is limited to only urban areas.

The limitations and restrictions of both the traditional class approach and the e-learning approach shift researchers' attention to blended learning. Blended learning takes advantage of both approaches and combines it to create a new approach to transferring knowledge to learners. The usage of web 2.0 makes the blended learning approach easier to implement (Köse 2010). This approach had been tested in various fields and it shows a significant impact in boosting learners understanding, for example, in a Software Engineering course (Wang 2008), at a general tertiary education level (Garrison & Kanuka 2004, Hayashi *et al.* 2006), and even in health education(Glogowska et al. 2011).

Table 2 shows a comparison between the traditional class approach and the blended learning approach.

Table 2 Comparison between traditional class and blended learning approach

Traditional Class Approach	Blended Learning Approach
• There is no continuation after the class. The students are expected to do their own revision, usually without guidelines or relevant exercises.	• Knowledge transfer starts before the class via e-learning. The students take initiative to study on their own, in their preferred time.
• Knowledge transfer begins in class. Thus, the students have limited time to understand the concept and many students will end up lost in class.	• When the students come to class, they already have basic knowledge. Thus, the teacher could focus on giving real world problems for students to solve.
• The traditional approach occurs at a specific time and place. The students who miss the class will not have any opportunity to properly learn the topic.	• The students who miss the class could refer to the e-learning portal and try the same exercise as others who came to class.
• There is limited time for the teacher to align the topic to real world problems as time allocated in the traditional approach often is not enough to transfer the knowledge and to do exercises.	• The students are guided in their revisions after class in a post-class session. In this session, students are expected to try solving another problem in the e-learning portal.

Human Computer Interaction

Much research has been done on how to maximise the effectiveness of software. Human computer interaction is crucial as it could affect user acceptance. The interface of a piece of software could affect user experience both positively and negatively. The research focuses on the user and how the menus could be designed for ease-of-use (Bálint 1995). This is important as in order to get users to use the software, the interface needs to be built to minimise the learning curve of that software. A piece of software may have a lot of functionality, but a non-user-friendly interface hides such functions behind various steps and this hinders the usability of the software.

Michalski *et al.* (2006) shows the geometrical placement of objects in the interface has significant impact towards software acceptance. Another important issue marked by this study is the importance of the object size where the author found that small objects should be avoided. There is an optimum size for the object, because as the menu space increases, it consumes the work space, thus reducing the positive impact.

HYPOTHESIS

H1: The delay created from the need to click to view the graphic will shift the subjects' preference to other guides available on Internet.
H2: The completion rate will not be affected by the delay of the graphics.

Based on these hypotheses, web pages for the guide are created. They require users to click the link in order to display graphics. The click produces a delay as users need to pause their learning in order to view the graphics and another pause occurs when they click the guide to return for the next step. These graphics serve as checkpoints. The checkpoint will allow users to monitor their progress and to ensure that they are following the right instruction.

DESIGN

This study is divided into three stages. The first stage is content selection and improvement, followed by the learning approach design, and the final stage is the implementation stage. This study is a continuation from the previous research that been done in order to see the impact of a minimalist guide in creating learning material for Visual Basic (Dollmat *et al.* 2010).

Content Design

The content is based on the minimalist methodology and we use the same content taken from our previous study, *a minimalist approach in creating a guide for Visual Basic 2010* (Dollmat *et al.* 2010). The content alone, when tested, shows significant improvement over the traditional guide that had been previously provided for this course. Based on the statistics from the previous study, the minimalist-inspired guide shows a 65.96% increment in total problem completion as compared to the traditional method.

In this study, we improved the grammar in the guide as well as increased the numbers of topics included. The alteration however, does not change the structure of the guide. The guide is divided into *title, brief explanation, guide and checkpoint, try it yourself,* and *tips to carry on* section. This guide follows the principle of minimalism and makes all topics as independent as possible from each other.

Learning Approach Design

In this study, the main goal is to see the impact caused by the delay of the graphic. Since blended learning is well-known and it is proven to be better than the traditional class (Garrison & Kanuka, 2004, Hayashi *et al.* 2006, Glogowska *et al.* 2011), we decided to use blended learning as our approach to deliver the content of the course. The next step is to develop the e-learning portion. In this study, HTML is used as a platform to display the guide.

HTML was chosen as it is versatile and it could be accessed from almost all computer operating systems including IOS and Android. The website contains only basic HTML code with a small amount of CSS code to format the output. Flash and animation are excluded in the web interface to ensure that the interface is as simple as possible to avoid clutter and delay in understanding the interface.

Much previous research in HCI had shown that colour plays an important role in enhancing user interaction with the computer (Norman 1988, Michalski *et al.* 2006, Te'eni & Sani-Kuperberg 2005). However, other research shows that colour does not have a significant impact. Therefore, we conclude that colour selection is important to enhance the overall experience, but it may not be so major a factor. For this reason, we choose a soft and cool colour palette for our background, banner, and buttons. For the background and banner, we choose light blue and white to give a calming impact on users.

We divide the buttons into two groups: the course buttons, and the chapter and topic buttons. For the course buttons, we choose a combination of light green and white. For the chapter and topic, we use bright green and black to contrast it with the other button. These colour selections allow a distinction between chapters and topics from the rest of the buttons and graphics. The complete guide website is shown in figure 1. The graphics are hidden in the link. The subjects need to click the link in order to view the graphics.

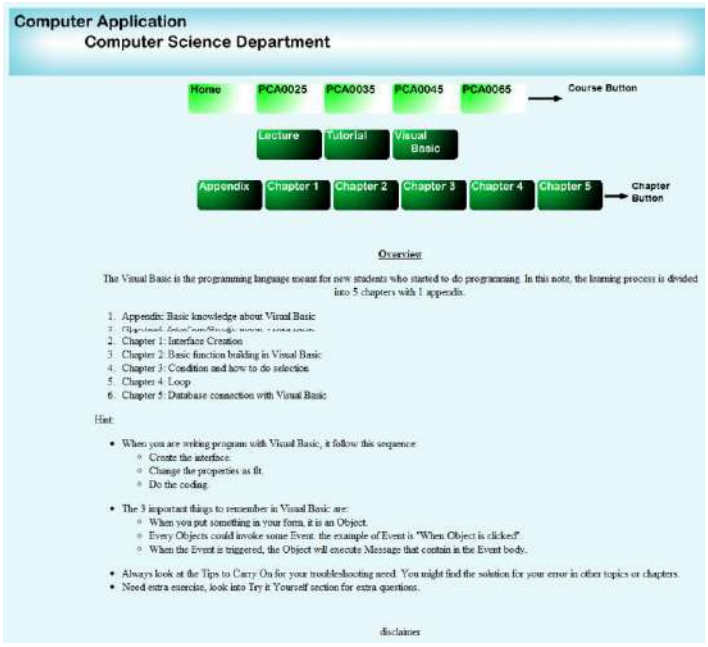


Figure 1 Main menu

Test Subjects

There are 59 subjects in this study. The subjects are in their pre-university year, and are divided into two groups, consisting of 29 subjects in group 1 and 30 subjects in group 2. Group 1 consists of subjects who will be majoring in Information Technology while group 2 consist of subjects who take Engineering as their major field in the university. Some of these subjects are going to select electric, electronic, mechanical and other engineering field in the future but in the pre-university level, they are all in a single group.

The test subjects are about 18-19 years old. The test subjects are in pre-university level during the testing period and have a very limited knowledge about programming language or none at all.

Development

The subjects were given a task to complete in five weeks. The duration of the blended learning session is expanded over four weeks with four dedicated hours every week in 2-hour sessions each for face-to-face problem solving. The test subjects were free to use any guides or videos as their preparation for class beside the notes given to them.
In the first week, the main menu, and first button in the main menu, week 1, 2 and 3 is available for subjects to explore and accomplish. In the second week, the second button, the lessons for weeks 2 and 3 is made available. During the third week, the third button is made available for the subjects, and similarly for the 4th week. The students have four weeks to accomplish their tasks and then submit their coding with questionnaire in the beginning of the fifth week. The main menu is shown in figure 2.

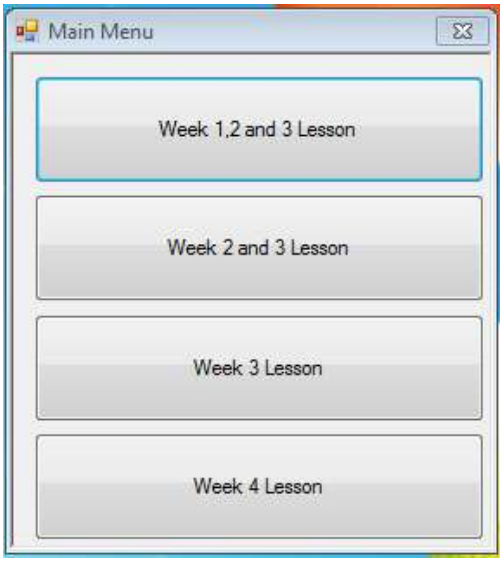


Figure 2 Main Menu

In the first week, the subjects have two options to start their exploration of Visual Basic. For the first option, they can start their exploration with the main menu as shown as figure 4. For this option, the subjects need to understand how to create a button interface and how to make the button work so that when the button is clicked, the main menu is hidden and another form is loaded. The goal that they need to achieve is given on Monday in every week so that the student could familiarise themselves with the interface that they needed to create.

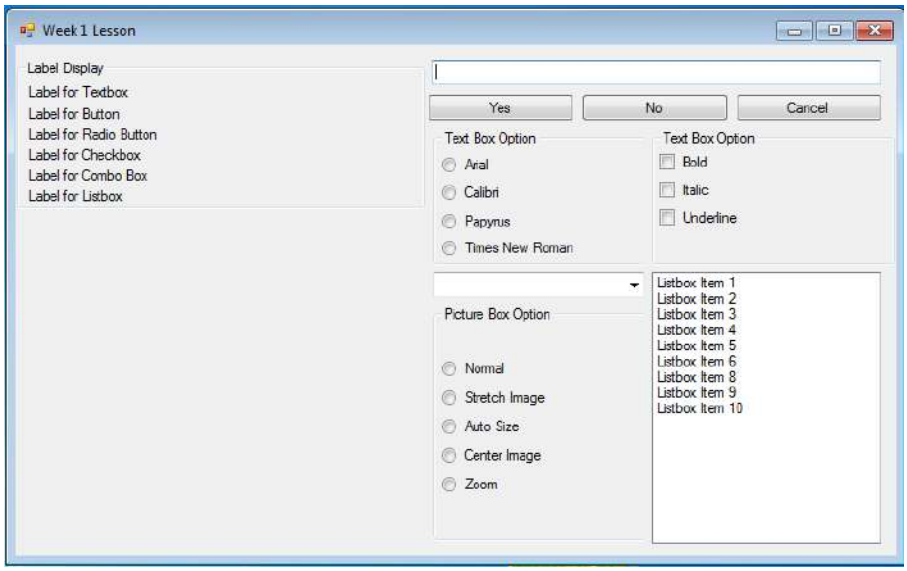


Figure 3 First Task

The other option skipped the main menu and starts straight away with the first button as in figure 3. In this problem, there are goals set for each week. The first week's goal is to understand the type of interface, how to create that interface, and how to change the properties of every object in the interface. The second, third and fourth week's goals are to complete the interface with actions that make all the objects work according to their intended purpose.

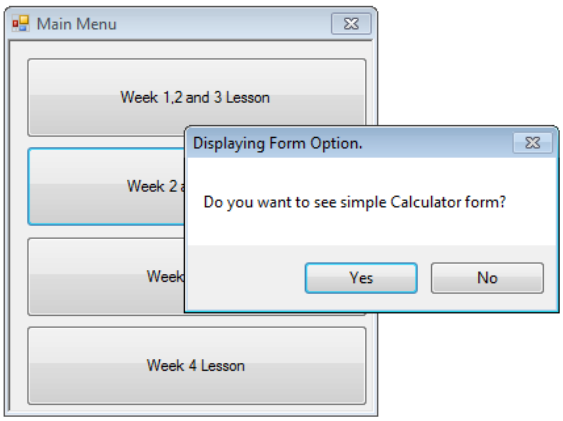


Figure 4 Second task

In the second week, the second button is made available to the subject. The goal is to familiarise subjects with logical error handling. The second week goal (as shown in figure 4 and figure 5) would first test the subject's comprehension of how to capture a reply from the message box. After completing this task, the exercise captures all logical errors that occur if the user clicks the '=' button with empty values in any text box or both, and if the operator in the combo box was empty. It also shows an error message if the value entered in any text box is not a number.

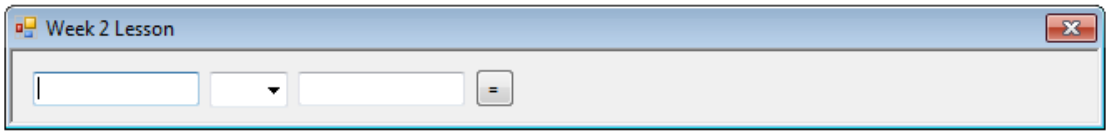


Figure 5 Task 2

In the third week, the third button is made available to the subjects. The goal is to create a complete simple calculator as in figure 6. In this week, the subject is required to understand everything taught in the guide website, except loops. The completion of this exercise proves that the subject truly understands what they learnt, and is not just memorising the code.

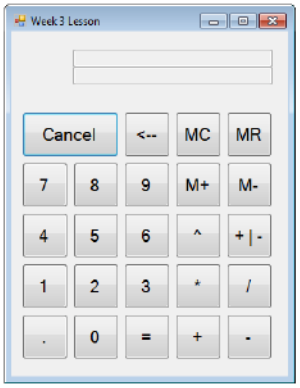


Figure 6 Task 3

In the fourth week, the fourth button is made available to the subjects. This exercise tests the subject for their understanding of loops. The exercise is shown in figure 7.

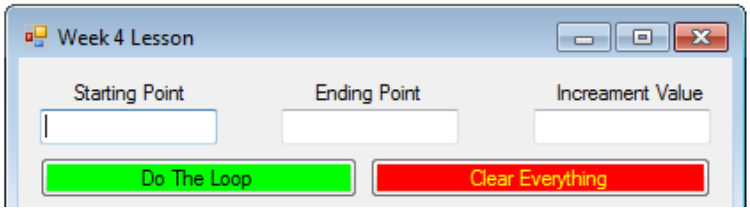


Figure 7 Task 4

They are taught about three kinds of loops. The *while* loop, the *do* loop and *for* loop. The task allows user to increment as well as decrement. The subject is required to understand how to write the loop code in order to achieve this goal.

During the testing period, the subjects' behaviour was noted. From the observation, the subjects' dependency upon the instructor is minimised. In the first session, some subjects raised their hands and asked the instructor on every difficulty they had, from as simple as 'I do not know where the Visual Basic icon is' to 'I do not know how to use the web guide'. This dependency, however, greatly decreased in the second session.

From the second session onwards, the subjects preferred to get assistance from their peers rather than the instructor. The question asked focused towards solving their problems with Visual Basic. The shift from teacher-centred learning to student-centred learning was indeed visible in the study.

OBSERVATION

During the observation period, many subjects raise concerns regarding difficulties in accessing the graphics and how the delay makes them move to another source of information. The sources include YouTube, their friends, the lecturer, other Visual Basic websites, and lab notes.

Another concern is the lack of immediate availability of the picture when the subjects need to check their progress. Whenever the subjects click the link to view the image, they are transferred to a new tab or window and this introduces a delay. Most of the subjects do not prefer this as the delay irritates them and slows their progress. These subjects mostly would start seeking help from their friends, the instructor, other guide websites, and the lab notes.

When the subjects were asked about the colour palette in the website, most of the feedback stated that the colour selection does not have any positive or negative impact on them. However, a few subjects prefer the lighter colour palette as it may make the visibility of the guide clearer.

All subjects successfully complete their task in the allocated time. The subjects complete all questions. The accuracy check shows all subjects submitting the complete

solution without any syntax or logical errors in their coding. When the subjects were asked how they managed to complete the task, most subjects replied that they relied on the website guide for basic knowledge, and referred to their friends, the instructor, and YouTube in order to extend their knowledge.

RESULTS

At the end of the observation, all subjects submitted their work and upon checking, all subjects successfully completed all the tasks given to them. After the completion of the observation, the subjects were given a survey form in order to gauge the effectiveness of the web guide and other external guides that assisted them in order to complete their task.

Table 3 and 4 shows rating of the guides as well as the other websites. The subjects were asked how frequently they refer to the guides during the observation period. The scale 0 is never, 1 is rarely, 2 is part of the first task, 3 is part of the first and second tasks, 4 is part of the first, second, and third tasks, 5 is sometimes, 6 is frequent referral to two out of four tasks, but rarely for the other two tasks, 7 is moderately on all tasks, 8 is often, and 9 is all the time. The first group shows dependency for the web guide on range of 5-9. The same goes for the second group. Both the groups are students at the pre-university level. The first group comprises of information technology (IT) students, while the second group consists of engineering students.

For external sources, the IT group shows 10 out of 29 subjects do not refer to YouTube at all, while the rest refer to YouTube from sometimes to frequently. The result also shows that most subjects do refer to their peers for assistance. The dependency of the subjects upon the lecturer who is their instructor is reduced from the second session onwards. However, most subjects do refer to hints given by the instructor in order to solve their problems. For other VB websites and lab notes, the results show most subjects refer to other websites to learn VB while the distribution for lab notes is about equal.

Table 3 IT Group Dependency

Element	0	1	2	3	4	5	6	7	8	9	
1. Web Guide						1	7	15	6		29
2. YouTube	10				8	3	1	7			29
3. Friends						8		5	16		29
4. Lecturer							13	7	9		29
5. Other VB Website					22		7				29
6. Lab Notes							14	15			29

For the engineering group, the distribution of external sources is scattered throughout the preferences. While some of the subjects do not refer to YouTube at all, the same number of subjects refers to YouTube all the time. The rest of the subjects are distributed almost equally throughout the answers option.

However, most of the subjects do refer to their peers in order to get assistance. Six subjects rarely refer to their peers and these same subjects refer to YouTube all the

time or almost all the time. The dependency towards the lecturer is lower in this group. The number of the subjects who frequently need hints and assistance from their lecturer is lower than those who rarely need it. A similar pattern is observed for other VB websites and lab notes.

Table 4 Engineering Group Dependency

Element	0	1	2	3	4	5	6	7	8	9	
1. Web Guide						3	5	7	7	8	30
2. YouTube	5	7		5				6	2	5	30
3. Friends		6						5	10	9	30
4. Lecturer			9		3	5		7	6		30
5. Other VB Website		9	7	3					11		30
6. Lab Notes		11			15				4		30

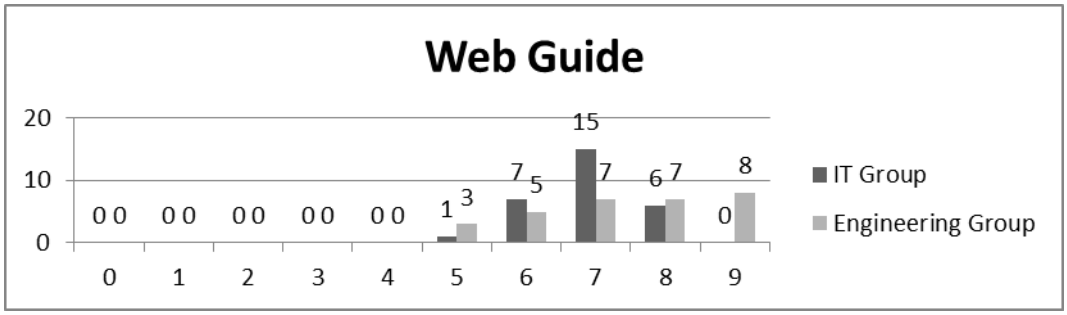


Figure 8 First Element Dependency

From the dependency table 3 and 4, we have created individual graph for each element under consideration. Figure 8 shows the dependency for the *web guide*. The IT group shows a normal to high dependency on the web guide. The highest point is at dependency level 7 which consist of 15 out of 29 subjects.

The engineering group shows a similar dependency distribution but eight out of 30 subjects completely rely on the web guide to get assistance. This is the highest point for the second group.

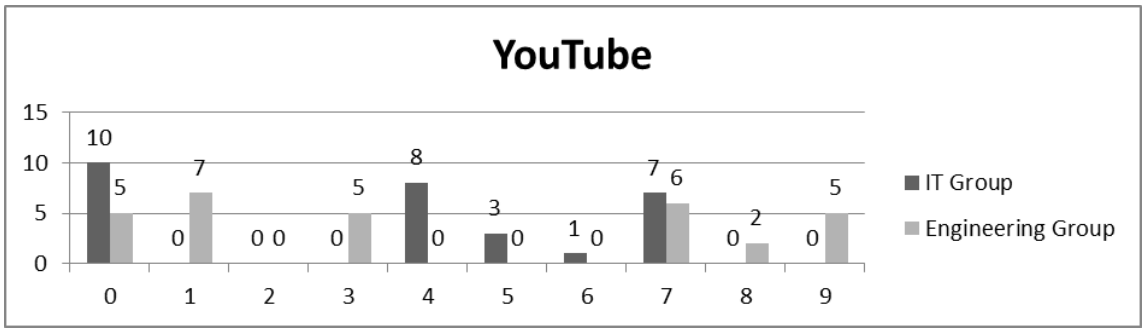


Figure 9 Second Element Dependency

From figure 9, *YouTube* sees a small difference between the IT group and the engineering group. The IT group mostly does not rely on YouTube at all. 10 out of 29 subjects do not use YouTube at all. The rest of the subjects mostly fall in normal ranges from 4-6 and only seven subjects rely on YouTube for half of the tasks.

The engineering group dependency to YouTube varies. About half of the subjects do not or rarely depend on YouTube while the others heavily rely on YouTube to assist them in understanding Visual Basic.

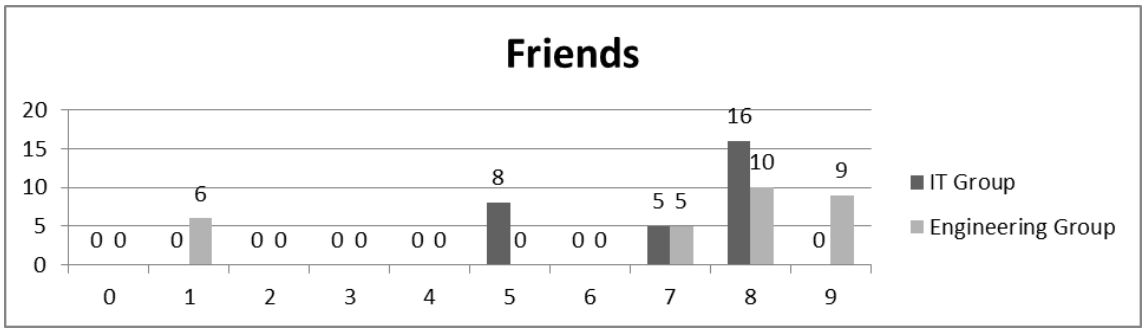


Figure 10 Third Element Dependency

The element of relying on *peers* (see figure 10) shows a similar trend for both groups. eight out of 29 subjects in IT group rarely depend on their peers to get assistance while eight out of 30 subjects in engineering group show neutral dependency. The rest of the subjects in both groups fall toward high dependency.

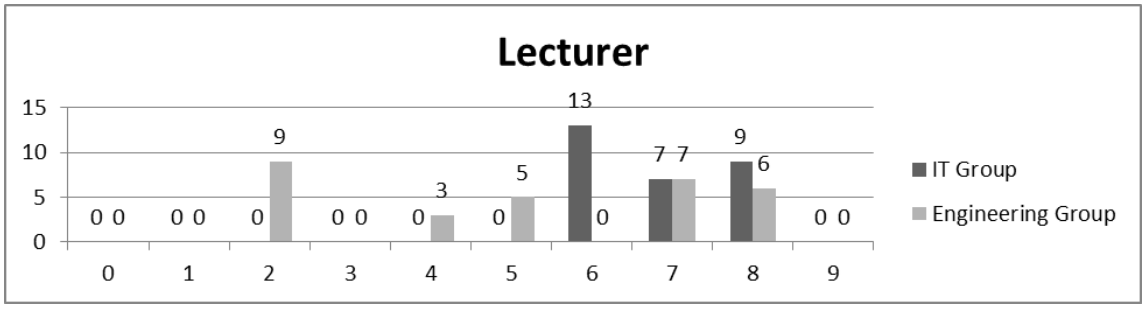


Figure 11 Fourth Element Dependency

The element of relying on *the lecturer* shows the IT group falls to level 6-8 on the graph as shown in figure 11. This mean all in IT group rely heavily on their instructor to get assistance when they have problems understanding Visual Basic.

The engineering group shows a different pattern, where nine out of 30 subjects rarely depend on their instructor. This is also the highest point for the second group. The rest of the subjects are scattered between neutral (4-5) and heavy dependency (7-8). The subjects in the engineering group show heavy dependency toward other elements and this may have impact towards their dependency on their instructor.

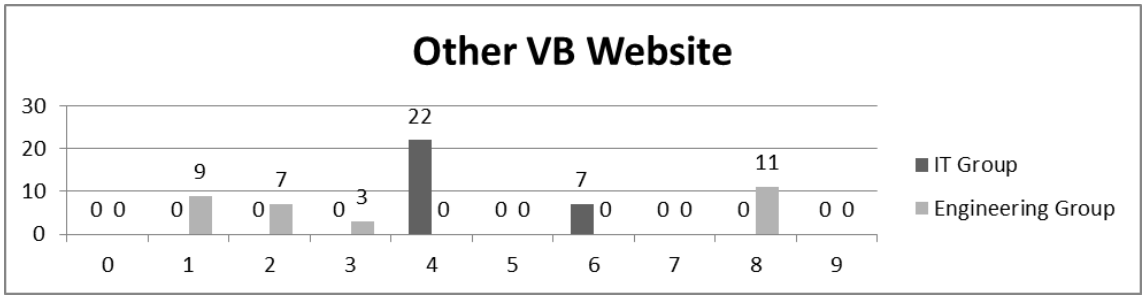


Figure 12 Fifth Element Dependency

In figure 12, the element of relying on *other VB website* shows all subjects in the IT group fall to neutral dependency (4-6). The subjects in the IT group shows heavy dependency towards element 1-4 and this may be the reason why the subjects in the IT group do not rely on other VB websites as they received enough assistance from the other elements.

The engineering group shows a variety of dependencies as most of the subjects rarely depend on other VB websites while 11 out of 30 subjects show heavy dependency toward other VB websites.

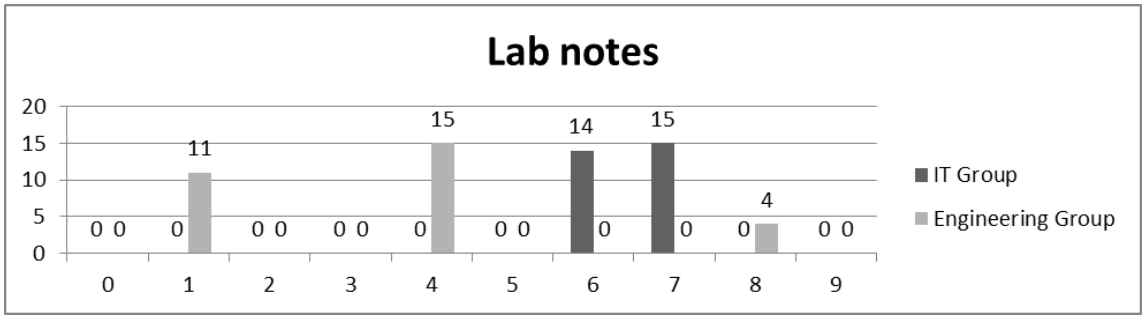


Figure 13 Sixth Element Dependency

The last element, the *lab notes*, shows the IT group's subjects rely on it at least for half of their problems (see figure 13). All subjects show their dependency on lab notes in the 6-7 range which mean they depend on the lab notes heavily in at least two tasks or moderately in all tasks.

The result of the engineering group shows 11 out of 30 subjects rarely use lab notes while 15 out of 30 subjects shows neutral dependency towards this element. The rest of the engineering group show heavy dependency towards lab notes.

Aside from dependency, the subjects were also asked when they start referring to external guides. This is important as all subjects successfully completed the whole tasks given to them. The impact from the delays created by the images will, in theory, shift the subjects' preference after they start learning with the guide website. The scale on the survey answers ranging from the beginning to after the second session.

Table 5 shows the subjects start using the guide website in the first session. Prior to the first session, about half of the subjects refer to YouTube, peers, and other VB websites in order to learn about Visual Basic. In the first session, about half the subjects

start to use the guide website as well as referring to their peers in order to gain knowledge about Visual Basic. Some subjects were absent in the first session and that is the reason why the other half start using the guide website in the second session. In the first session, the shift away from the guide website starts. Most subjects start referring to external guides in order to solve their problem. This is explained in the observation period where the subjects prefer direct feedback and the graphic delay indeed has an impact over their choice of guides.

Table 5 First Group (IT) Dependency Start

Time Start:	0	1	>1, <2	2	>2	
1. Web Guide		12	3	14		29
2. YouTube	14		7	3	5	29
3. Friends	14	15				29
4. Lecturer		7	1	21		29
5. Other VB Website	14		10	5		29
6. Lab Notes		21		5	3	29

The engineering group shows the similar result as can be seen from table 6. Most of the subjects start using the guide websites in the first session. However, their preference shifts to external guides once they experience the delay in the guide website.

Table 6 Second Group (ENGINEERING) Dependency Start

Time Start:	0	1	>1, <2	2	>2	
1. Web Guide		20	3	7		30
2. YouTube	5	17	3	5		30
3. Friends		12	15		3	30
4. Lecturer		18	6		6	30
5. Other VB Website	6	12	6	6		30
6. Lab Notes		18	6	6		30

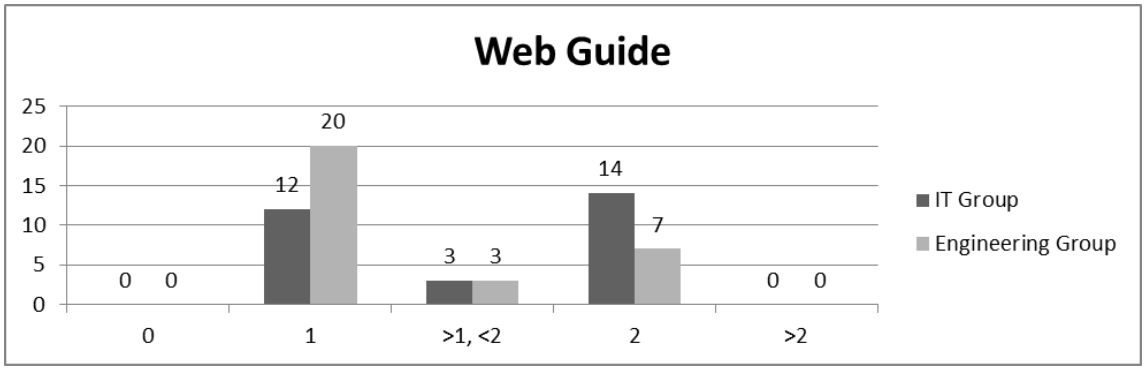


Figure 14 First Element Time Start

Figure 14 shows that no subject start using the web guide before entering the first session. This possibly due to the subjects not understanding how to use the guide effectively and how the guide could assist them in understanding Visual Basic.

There are 12 subjects who start to use the web guide in the first session. This could be due to the explanation given during the class and the subjects being eager to

start with their lesson. Three subjects start using the web guide after they finish the first session and most subjects start with the web guide in the second session.

A similar outcome could be seen in the engineering group. 20 subjects use the web guide in the first session. three out of 30 subjects start using web guide after the first session and seven subjects start using the web guide in the second session onward.

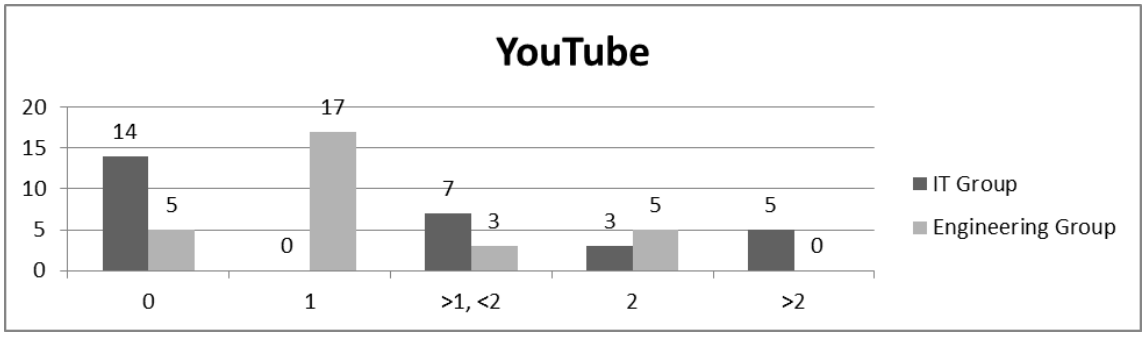


Figure 15 Second Element Time Start

The second element shows different trends between both groups in figure 15. The IT group mostly starts exploring Visual Basic with YouTube. This tallies with the dependency graph which shows most of the subjects in the IT group have neutral to heavy dependence on YouTube.

The engineering group subjects mostly start exploring YouTube in the first session. This point is the highest point for the second group. The same pattern is shown towards the web guide; this could become, after they found the delay in the web guide, they start to explore alternative ways to assist them.

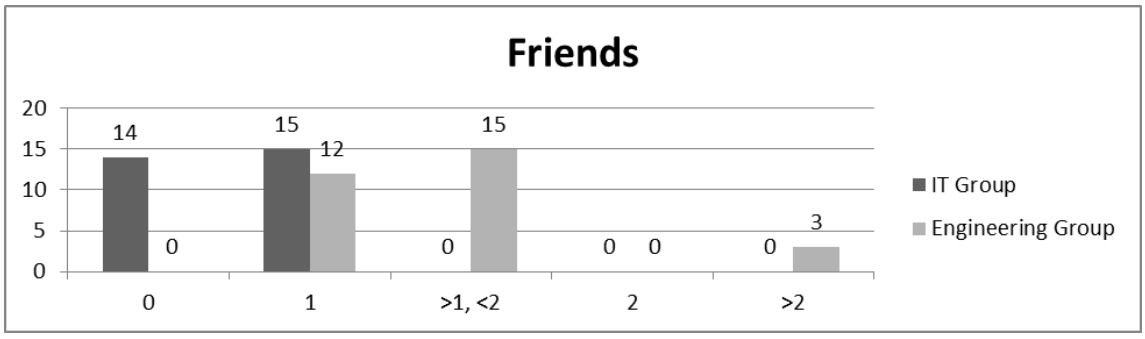


Figure 16 Third Element Time Start

In figure 16, the third element shows that most of the subjects in the IT group start asking for assistance from their peers in the beginning. The reason for this is because they prefer direct interaction and they could meet their peers outside the class with ease.

The third element's result for the engineering group shows a similar pattern with the second element's result. This is because the subjects started looking for alternative ways in the first session after they encounter the delay.

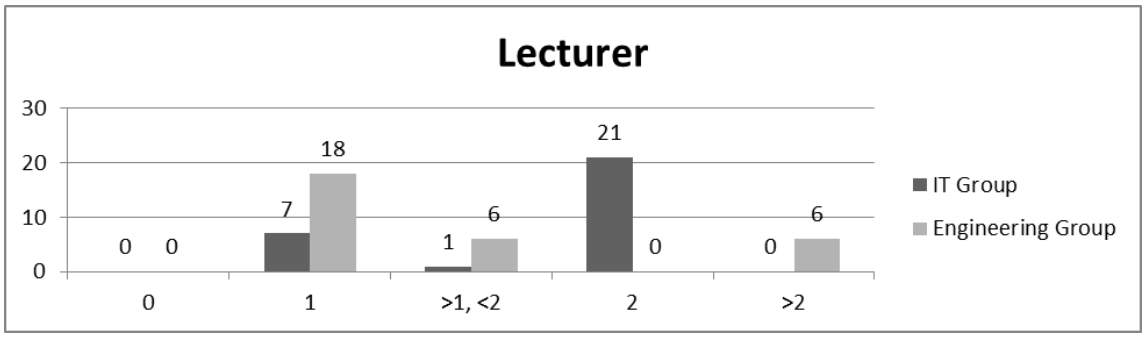


Figure 17 Fourth Element Time Start

In figure 17, the IT group starts refering to their instructor in the second session onward. This is the moment when they cannot find the solution directly from the web guide. The subjects ask for hints from the instructor on how to solve their problems.

The engineering group, however, mostly start refering to their instructor in the first session. This is because they are seeking clarification regarding the website design and also have many suggestions regarding how to eliminate the delay they discovered.

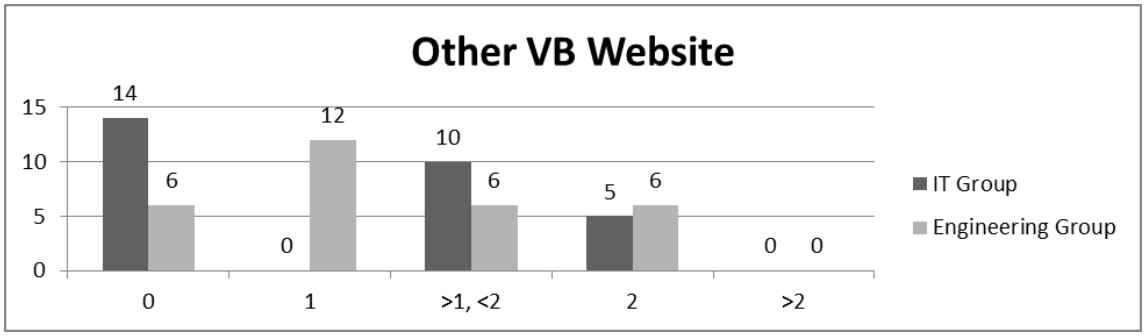


Figure 18 Fifth Element Time Start

From figure 18, there are 14 subjects in the IT group who start their exploration with other Visual Basic websites. The others start using another website as they become frustrated with the delays. This is shown in the pattern where the other subjects only start refering to other websites after the first session.

The subjects in the engineering group show a similar pattern with the element regarding using other Visual Basic websites: most start using them in the first session.

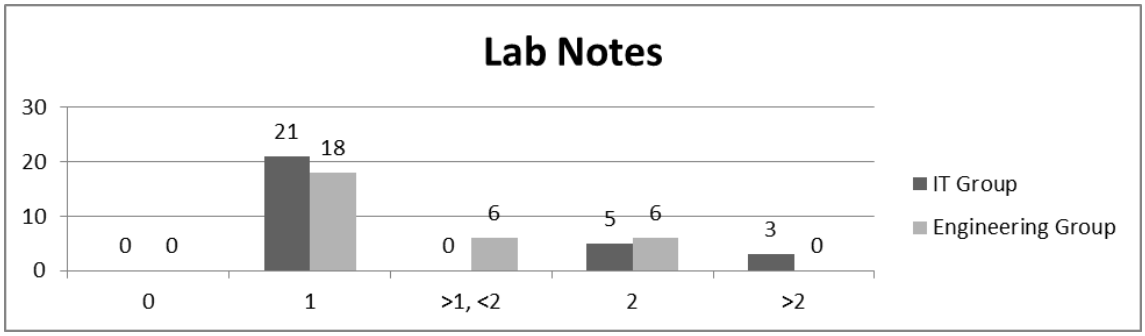


Figure 19 Sixth Element Time Start

In figure 19, the usage of lab notes shows similar patterns in the elements showing the subjects in both groups start using the lab notes in the first session along with the web guide. 21 out of 29 subjects in the IT group and 18 out of 30 subjects in the engineering group start using the lab notes in the first session. From the feedback, this is because they feel that the lab notes could assist them in understanding basic problems such as creating interfaces and objects on their form.

CONCLUSION

This study is conducted with the consideration of two hypotheses. In this study, we are sure that the results support our first hypothesis. The second hypothesis is taken into consideration as we are interested to see the impact of graphics over the completion of the task. The hypotheses are:

H1: The delay created from the need of clicking the graphic will shift the subjects' preference to other guides available on internet.
H2: The completion rate will not be affected by the delay of the graphics.

In a controlled environment, where the subjects could refer to only the web guide, most probably the second hypothesis could be rejected. The delay does shift away a large number of our subjects to other external sources. If these external sources were cut off, it will have a negative emotional impact on subjects. If the subjects have option to quit halfway without any consequences, many subjects would prefer to quit.

However, in this study the subjects were free to choose multiple external guides other than the web guide itself. This is what going to happen if the blended learning is conducted in real world. The lecturer or instructor does not have any control over how the subjects gather their knowledge.

The observation stage and result compilation stage show that both hypotheses are assessed quantitatively. The subjects in this study do notice the delay created from the need to click the link in order to display the images. From the observation stage, the number of subjects who raise concern about this issue supports the hypothesis. From the feedback in the result stage, we could see that, in the first session, the subject started

with the guide but quickly shifted their preferences towards other external methods to assist them with their problem. This result is consistent in both groups.

The results support our hypothesis that graphics do play major role in keeping users motivated in using a guide. Even though the study uses a web based guide, it will likely have a similar impact in other types of guides, whether software or printed guidelines. Even if a graphic exists, the delay in accessing the graphics meant to be a checkpoint could alter the usefulness of the minimalist concept.

The second hypothesis is also supported. The results show that all subjects successfully completed the whole task in the allocated time. This is because, in blended learning, the drawback of a guide could be remedied by freedom of choices the subjects have. It is extremely difficult to control how the subjects gain their knowledge outside the class session.

The Internet is widely available today and indeed, there are many similar guide websites and videos posted on the Internet to assist those who have limited or no background knowledge about programming.

As both hypotheses are supported, this could be a guideline for any instructors who wish to create a blended learning module. From this study, the graphics immediate availability is crucial in order to keep the user motivated and to limit the possibility of users referring to other guides. This, in turn, could save time in transferring knowledge to the users as they do not need to navigate through other websites.

In case the creator of the blended learning module does overlook any minor detail in their guide, users would find their own way and learn the missing steps on their own. This could motivate many instructors who are still instructing their students with the traditional method of transferring knowledge to move towards blended learning and active learning.

FUTURE WORK

The conclusion of this study raises new questions. The test subjects of this study are in the range of 18 to 19 years old. What happens if we change test subjects to include younger age groups? More teenagers start to learn programming language as early as 13 years old now with the appearance of Lego Mindstorms (2012), Alice (2012), Android OS (2012), and XNA Framework (2012).

The second question is, the iteration of the Technology Acceptance Model (TAM) (Venkatesh & Davis 1996) through the first version, second (TAM2) (Venkatesh & Davis 2000), third (TAM3) (Venkatesh & Bala 2008), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al.* 2003) did not include external sources in evaluating the system. While the acceptance model is true in controlled environments, this may seldom be practiced in the real world.

In our study, we gave freedom to our subjects to refer to any websites or sources as they prefer. In the real world, this is what is going to happen when a user encounters problems. They are not going to refer to only the given guide. Most users would definitely go to Google for the solution or refer to their colleagues.

The software or the guide is no longer the whole universe for the learner. The Internet has a lot of resources and this has become the new universe. The user's acceptance towards software, in theory, could be perceived by how well the subject is presented in the whole Internet universe.

As observed in our study, even though our guide has its drawback, it is still well perceived among our subjects. It is not because the website built is solid, but rather, because Visual Basic is extremely well-defined in the whole Internet. This, in turn, assists in the user's acceptance towards our guide website.

In this study, we did not gauge the impact of external sources over the original guides. Therefore, we could not make any conclusion on whether external sources have an impact on user acceptance of the webguide. However, we are planning to formulate ways to effectively measure the impact of multiple groups of external sources.

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Socio-Demographic Factors Influencing Visitor Satisfaction in Kilim Karst Geoforest Park, Langkawi

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ABSTRACT

As an ecotourism destination, the management of the Kilim Karst Geoforest Park (KKGP) is committed in managing the use of natural resources to ensure a high quality experience to visitors. Many development of facilities and services have been undertaken achieve the strategic objectives in sustainable tourism development in the future. In order to achieve the objectives, focus should be given on the visitors' perspective to find out the factors that influence satisfaction during their visitation. The information is important for the management of the park, which is expected to contribute to the conservation of the natural resources and development of local people. The main purpose of this paper is to determine the level of visitors' satisfaction towards services and facilities provided in KKGP and the effects of socio-demographic and visit characteristics on the level of satisfaction. The study has found the level of visitors' satisfaction is low. The analysis indicates that the level of dissatisfaction is significantly influence by the nationality of the visitors (Malaysian), by the type of employment of the visitors (private sectors workers) and whether the visitors come on package tours or not. Thus, the study provides important information especially to managers, planners, and tourism business operators of KKGP, to strategize their target markets in KKGP. It also can be used to determine visitors' needs in terms of services and facilities.

Keywords: Ecotourism, Visitor Satisfaction, Socio-Demographic and Visits Characteristics.

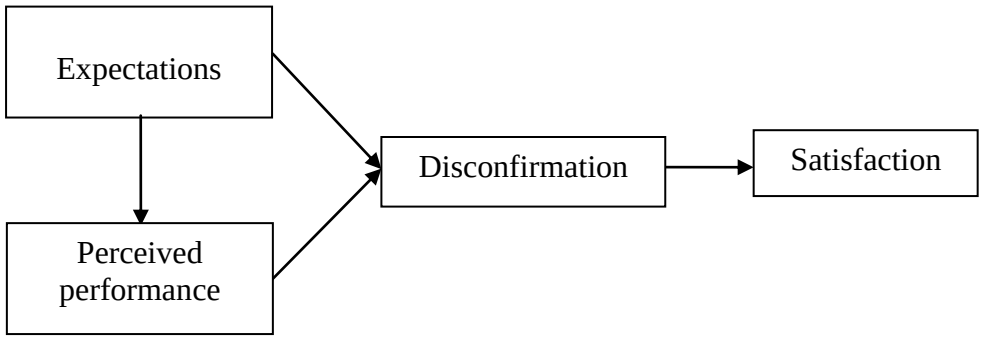
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INTRODUCTION

The KKGP is located in the northeast of Langkawi Island. It is approximately 14.2km from the Kuah Jetty (main entrance for water transport) and about 22.3km from the Langkawi International Airport. The unique of limestone that has been formed about 490 million years ago has become a coastal tropical landscape or 'topography coast' and is a well-known trademark of KKGP. It provides nature-based attraction for visitors, for example wildlife watching, karst landscape, mangrove river, and karst caves. As an ecotourism destination, the management is committed to managing the use of natural resources while providing a high quality experience for visitors. Thus, various development have been undertaken to catch the visitors' especially in terms of services and facilities. However, in the context of ecotourism destination, the development should be made carefully and the focus should be given from the visitors' perspective, so that it matches the visitors' need to yield high quality experience. Past studies suggested that the tourism product and services should match the tourists' need in order to achieve their satisfaction (Kozak & Rimmington, 2000). The term satisfaction is the most important issue in the tourism business as it can determine successes and failures of a business organization. This is because satisfaction of visitors influences the choice of destinations, the consumption of products and services and the decision to return (Kozak & Rimmington, 2000). However, it is not enough to determine visitors' satisfaction only, but additional analyses about the effect of socio-demographic and visit characteristics on satisfaction is needed for better understanding of the customer psychology and market segmentation as well. Thus, the aim of this paper is to determine the level of visitors' satisfaction towards services and facilities provided in KKGP and the effect of socio-demographic and visit characteristics on the level of satisfaction.

LITERATURE REVIEW

The Satisfaction Process



Sources: Oliver, (1980)

Figure 1 The Expectancy Disconfirmation Theory

Customer satisfaction is based on the customer's perception of the experience. This perception is an interpretation of the value received against the expectation. Thus, this study used the expectancy disconfirmation theory (EDT) as a theorytical framework to measure the visitors' satisfaction. The EDT was proposed by Oliver (1980) (Figure 1) and it is broadly used in the business and tourism research. The EDT conceptualized in four stages. The first stage is the expectation of the product. In the expectation stage, each consumer has a different knowledge level about a product, which leads to a different estimation of the product's performance. The second stage is perceived performance, in which each consumer develops certain attributions about the product's performance. Lastly, the third stage is disconfirmation, where the actual product's performance is compared with the consumers' initial expectations. Disconfirmation occurs when there are discrepancies between initial expectations and actual performance that leads to satisfaction or dissatisfaction among consumers. The final stage is satisfaction, whereby based on the measurement of the perceived product's performance, individual consumers determine whether it is up to their expectation or not (Reising & Chandek 2001 in Norzalita, Ahmad Azmi, Nor Asiah and Siow (2011).

Factors Influencing Satisfaction

The levels of satisfaction have been found to be influenced by visitors' background characteristics, for example the past travel experience and background knowledge. It has been proven by the past researchers, for example, Torres-Sovero et al., (2011) identify that age, level of education, income, and motives are influencing the level of satisfaction towards ecotourism lodge in the southeastern Peruvian Amazon. Their study was shown that the satisfaction level is highly influenced by the typology and characteristics of tourists. Older visitors with high incomes and education found are less satisfied. The result implies that the senior visitors require a higher level of service deliveries, comfortableness and more attention. The middle-age group also with high incomes and university level education are more concerned about biodiversity and local cultures.

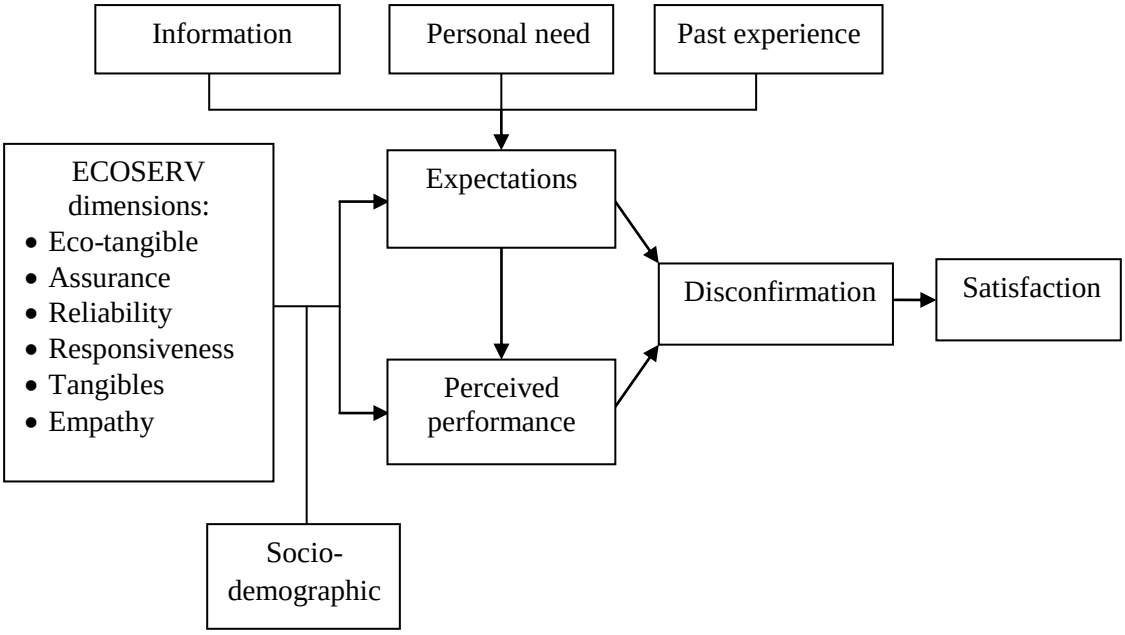
Meanwhile, Ahmad et. al, (2012) identify the socio-demographic factors influencing the satisfaction towards services provided at a National Park. Their study has found that the socio-demographic variables such as gender, age, occupation and nationality of visitors significantly influence of the level of satisfaction. Furthermore, Christopher and Hans (2002) when assessing the relationship between satisfaction and visitors' characteristics (frequency of visit, expenditures, age, gender, level of education, income, distance travelled, duration of visit and group size) towards ecotourism developments in Carolina also found that the repeat visitors were more satisfied compared to the first-time visitors. They also found that age variable had significant relationships with the satisfaction whereby the level of satisfaction increased for older visitors.

METHODOLOGY

Conceptual Framework

The conceptual framework used in this study as shows in the Figure 2. It has been adapted from the expectancy disconfirmation theory (EDT) and the Eco-tourist Service Quality (ECOSERV) model that is adapted from the Service Quality (SERVQUAL) model. The study seeks to identify the level of the visitors' expectation and satisfaction towards ecotourism development in KKGP. Thus, in order to archive the objectives, a conceptual framework adapted from Parasuman et al., (1985), Oliver, (1980), and Khan (2003) was designed and is shown in Figure 2.

The conceptual framework is grounded on the theory of disconfirmation, which states that the satisfaction processes occur through expectation and performance. The expectancy disconfirmation theory has been used in numerous researches, especially for measuring the level of tourist satisfaction towards tourism destinations for example Abd Norzalita et al., (2011). Meanwhile, the ECOSERV dimension is used as an instrument to measure tourist satisfaction towards ecotourism destinations for example, Mohamad Kazar and Zainab (2012), Ahmad et al., (2012) and Abas et al., (2013). The present study use the eco-tourist service quality (ECOSERV) model proposed by Khan (2003) that encompasses the attributes of services, facilities and environment in the ecotourism destination. The level of satisfaction is measured by comparing the overall mean of perceived performance and expectation. In order to obtain the score values for expectation and perceived performance of visitors, a 5-point Likert scale ranging from 1 (very dissatisfied) to 5 (very satisfied) are used.



Adapted from Parasuman et al., (1985), Oliver, (1980) and Khan (2003)

Figure 2 Conceptual Framework

Sampling

A questionnaire is distributed to those who visit KKGP. A non-probability sampling is used whereby respondents are selected using the convenience sampling method. This method is used because of the availability and ease of access to samples, especially among the KKGP' respondents. This is because most of visitors to KKGP do not spent much time at KKGP as they are only interested in the mangrove tours. Thus, convenience sampling is appropriate for the study in KKGP because of the convenience in gathering data. The sample is selected among visitors who have prior engagement with the services and facilities in KKGP. Thus, respondents are conveniently sampled at the jetty points immediately before and after their mangrove tours. This method has been often used during the preliminary research and is sometimes referred to, as 'accidental samples' because respondents might be drawn into the sample simply because they just happen to be present, spatially or administratively, near to where the researcher is conducting the data collection (Kenneth, 2005)

Survey

The survey of 400 respondents conducted through a self-administrated at the jetty point of the park. The questionnaire was distributed to respondents comprising two groups, which were the local and foreign visitors. The distribution was carried out during weekdays and weekends. Operating hours for the mangrove tour and activities in KKGP are from 9.00am - 7.00pm; therefore, the survey was conducted from 9.00am to 7.00pm. The survey was conducted at the Kilim Jetty (main entrance for mangrove tours) and the respondents were interviewed through a self-administrated session. However, to ensure the return of the questionnaire and quality of the data, the interviewer guided the respondents in completing the questionnaire. In appreciation of the respondent's willingness to participate in the survey, they are given a token at the end of the interview session.

DATA ANALYSIS AND FINDINGS

Socio-demographic Characteristic of the Respondents

The socio-demographics of the respondents are shown in Table 1. The survey has found that out of the 400 samples, the majority of the respondents (52.2%) are females. In terms of age, the study found that the highest percentage of visitors were in a range of 21-30 years (36%). The majority of visitors to KKGP were found to be in the middle age group of between 21 and 50 years of age (74.9%). Meanwhile, approximately 6.8% were aged between 51 - 60 years and about 2.5% of them were more than 61 years old. This result shows that visitors to KKGP are mainly young adults.

In terms of educational level, 67.5% of the respondents had attended an institution of higher education (first degree or higher degree). Categorization of a higher degree refers to postgraduate degrees such as PhD and Masters while the first degree refers to the undergraduate and diploma levels. This means that most of the respondents

have university-level educational background. Meanwhile, 28.5% and 1.2% of respondents had secondary and primary school education, respectively. The rest 2.8% of respondents had no formal education.

In regards to the visitors' occupation, students dominated the largest group (29.5%), followed by private sector employees (27.2%) and public sector employees (21.3%). The finding might imply that during the sampling (convenience sampling) and data collection, most heads of families did not answer the questionnaire but rather passed it over to their sons, who were mostly students representing their families. During the survey, numerous groups from the public and private sectors were visiting KKGP through programs organized by their organizations. However, the results also imply that the majority of visitors (63.5%) to KKGP are individuals attached to the public and private sectors or are self-employed. The data indicates that visitors to KKGP have the purchasing power. Therefore, the relevant authorities should encourage members of the local community to be involved in tourism related businesses in KKGP to increase their incomes.

Lastly, Table 1 shows the percentage of respondents according to their nationality; Malaysian visitors form about 63% while the remaining are non-Malaysians. The non-Malaysian visitors were mainly from Asia, America, Europe, Africa and Australasia, with Asia making up the highest number of visitors (19.5% compared to the other continents). Meanwhile, the lowest percentage of visitors were from Australasia (2.2%), followed by America (3%) and Africa (4%).

Table 1 Demographic Characteristics of Visitors (N=400)

Characteristic		Frequency	Percentage (%)
Gender	Male	191	47.8
	Female	209	52.2
Age	18 - 20	63	15.8
	21 – 30	144	36.0
	31 – 40	85	21.1
	41-50	71	17.8
	51-60	27	6.8
	61 or above	10	2.5
Income	RM999 or less	11	2.8
	RM1000 -RM 1999	25	6.2
	RM2000 - RM2999	32	8.0
	RM3000 – RM3999	32	8.0
	RM4000 – RM4999	17	4.2
	RM5000 or above	60	15.0
	No income	136	34
	Total	**313**	**78.25**
	Did not answer	87	21.75
Education levels	No formal education	11	2.8
	Primary school	5	1.2
	Secondary school	114	28.5
	First degree	241	60.2
	Higher degree	29	7.3
Occupation	Public sector	85	21.3
	Self-employed	60	15
	Private sector	109	27.2
	Unemployed	18	4.5
	Student	118	29.5
	Retirees	10	2.5
Nationality	Malaysia	252	63
	Asia	78	19.5
	America	12	3
	Europe	33	8.3
	Africa	16	4
	Australasia	9	2.2

Travel Companions

Table 2 shows the results concerning the visitors' travelling companions to KKGP. The data collections was conducted during the school holidays so it is not surprising that most of the respondents were traveling in groups, especially with family members and

friends. As shown in Table 1, most of the respondents (76.1%) travelled with family members and friends whereas only 11.3% travelled in organized groups, such as schools, universities or organizations. Meanwhile, the remaining 11.5% and 1.3% were travelling with spouses or alone, respectively. KKGP has the amenities and services to provide a suitable vacation for family members and visitors travelling in groups.

Frequency of Visits

The result shows the frequency of repeat visitors to KKGP found that the highest percentage of respondents were first time visitors (83.5%). Only 10% of respondents were second time visitors followed by 6.5% who had visited more than three times. It is not uncommon that visitors living faraway would go to a tourist destination only once in their lifetime unless they had experienced something exceptional during their stay that was beyond their expectations such as the services provided, affordable prices, good safety features during their visitation, and so forth. Thus, it is necessary that the park's management identify elements that would attract new and repeat visitors.

Time Spent on the Site

The study has found that majority of respondents (37.8%) spent about two hours for tour boat rides in KKGP while approximately 22.8% spent about one hour and the rest of 12.5% and 15.8% spent three and four hours, respectively. Knowing the time spent in ecotourism sites by visitors is important because length of time spent at the site correlates with level of satisfaction.

Use of Tour Package

Another important finding about visiting characteristics was the purchase of tour packages. Table 2 shows that most visitors (56.75%) did not purchase tour packages. Those who did not purchase it were visitors who came to Langkawi and visited KKGP as free independent travellers and purchased transport, accommodation, food and activities on the spot. Meanwhile, only 15.5% of the 400 visitors purchased tour packages for the whole trip. This group represents visitors who paid a lump sum for round-trip travels that were inclusive of transport, accommodation and activities. Lastly, approximately 27.75% of visitors purchased tour packages in Langkawi itself. This group refers to visitors who bought packages in Langkawi for activities, such as boat tours, scuba diving, cruise and so forth.

Table 2 Visiting Characteristics of Visitors

Characteristics		Total	Percentage (%)
Travel companions	Alone	5	1.3
	Spouse	46	11.5
	Family	185	46.3
	Organization	19	4.8
	Friends	119	29.8
	School/university	26	6.5
Frequency of visits	First time	334	83.5
	Second times	40	10.0
	More than three times	26	6.5
On site time	One hour	91	22.8
	Two hours	151	37.8
	Three hours	50	12.5
	Four hours	63	15.8
	More than five hours	45	11.3
Use of Tour Package	Do not buy tour package	227	56.75
	Tour package for overall trip	62	15.50
	Tour package in Langkawi only	111	27.75
	Total	**400**	**100.00**

Level of Satisfaction

In this study, the term "satisfaction" is measured by the difference in the overall mean scores (overall mean score for perceived performance minus the overall mean score for expectation). The gap value indicates the level of satisfaction, in which a positive gap indicates satisfaction and a negative gap value indicates dissatisfaction. The visitors' level of satisfaction is calculated using the formula proposed by Parasuraman et al. (1988): Service Quality Score (perceived performance score) – (expectation score). Table 3 shows the results of the visitors' mean expectation and perceived performance for each of the 27 items. The result shows that the mean for overall expectation (3.77) is greater than the mean for perceived performance (3.60), which indicates negative disconfirmation because the visitors are not satisfied with the service and facilities provided in KKGP. Based on the expectancy-disconfirmation theory, a positive disconfirmation indicates that the performance is better than expected, while a negative disconfirmation indicates that the performance is worse than expected. In addition, the better a performance is or the more positive the disconfirmation, hence, the greater the satisfaction.

Table 3 Mean for perceived performance and expectation (N=400)

Dimensions	Mean Performance	Mean Expectation	Gap
1. Cleanliness of river	3.89	3.73	+0.16
2. Attractiveness of mangrove swamps	3.85	3.69	+0.16
3. Equipment that minimizes degradation	3.08	3.43	-0.35
4. Facilities are suitable for the environment	3.23	3.66	-0.43
5. Facilities that are environmentally safe	3.33	3.63	+0.03
6. Variety of wildlife	3.16	3.41	-0.25
7. Minimal disturbance to wildlife	3.39	3.69	-0.30
8. Non-crowded park	3.25	3.86	-0.61
9. Nature-based activities	3.38	3.91	-0.53
10. Staff have sufficient knowledge to answer questions	3.24	3.41	-0.71
11. Staff and boatmen are consistently courteous	4.15	3.95	+0.20
12. Staff provided the necessary information	4.37	4.28	+0.09
13. Feel safe during transactions	3.59	3.92	-0.33
14. Safety condition at the point of attraction	3.36	3.59	-0.23
15. The condition of Kilim jetty	3.98	3.72	+0.26
16. Staffs are able to communicate	3.65	3.87	-0.22
17. The service is worth the money paid	3.28	3.85	-0.57
18. Staff provided services at the promised time	3.89	3.54	**+0.35**
19. Staff provided accurate & correct information	3.35	3.66	-0.31
20. Staffs and boatmen are helpful	4.50	4.26	+0.24
21. Staff understand the specific needs	4.14	3.92	+0.22
22. Comfortableness of the facilities	4.35	4.21	+0.14
23. Condition of prayer room	3.15	3.45	-0.30
24. Condition of food court	3.37	3.71	-0.34
25. Cleanliness of the toilet	3.52	3.89	-0.37
26. Adequate parking spaces	3.05	3.91	**-0.86**
27. Adequate signage's around the site	3.72	3.85	-0.13
Overall mean	**3.60**	**3.77**	**-0.17**

Note: The level of expectation and performance measured using the five points Likert scale (1=very dissatisfied, 2= dissatisfied, 3=neutral, 4=satisfied, 5=very satisfied).
-ve gap implies expectation> perception; implies dissatisfaction; implies service quality < expectation. = gap implies expectation = perception; implies satisfaction
+ve gap implies expectation < perception; implies more satisfaction implies service quality> expectation

Multiple Regression Analysis

The multiple regression analysis is intended to estimate the causal relationship between dependent variables (gap value) and several independent variables (socio-demographics and visiting characteristic). In addition, the multiple regression procedure is employed in order to provide an accurate interpretation of independent variables. The dependent variable is the gap value (overall score of perceived performance minus overall score of expectation). Meanwhile, the independent variables of the model include gender, age, income, level of education, nationality and occupation. This study also included the visiting characteristics of visitors as independent variables (travel companions,

frequency of visits, time spent at the site and type of tour packages) to properly identify the relationship between visitors' socio-demographic characteristics and their level of satisfaction after visiting KKGP.

In order to conduct the multiple regression analysis, the nominal and ordinal variables are re-coded as multiple dummy variables, with the values '0' and '1'; for example, 0= male and 1= female. The variables such as age, income, frequency of visits and time spent at the site are tested using continuous variables. Meanwhile, in order to analyse the effect of "nationality" on the visitors' level of satisfaction, the study uses six dummies, CONT1 equals "1" if the visitor is Malaysian, CONT2 equals "1" if the visitor is Asian, CONT3 equals "1" if the visitor is European, CONT4 equals "1" if the visitor is from Australasia and CONT5 equals "1" if the visitor is American. Meanwhile, the African category is excluded and is represented as a reference category.

Creation of a dummy variable is done using the formula (*n-1*) in which *n* is the number of categories. It is used to avoid the singular matrix problem in multiple regression analysis (Hair, Anderson, Tatham and Black 1998). Meanwhile, the reference categories (REF) is necessary as not all dummy variables resulting from one nominal variable can be inserted into the regression analysis at once. For this reason, it is claimed that the findings associated with the dummy variables be interpreted with reference to the reference category (Wicker, Hallmann and Zhang, 2012). The multiple-regression model is intended to investigate the causal relationships between visitors' satisfaction of the services and facilities (gap) and the selected socio-demographic and visiting characteristic variables, which are as follows:

$$Gap_i = \beta_o + \beta_1 x_1 + \beta_2 x_2 + \ldots\ldots\ldots + \beta_k x_k + e_i$$

In which,

Gap_i	= dependent variable (perceive performance minus expectation)
β_o	= intercept
$\beta_1 \ldots \beta_k$	= parameter to be estimated from the sample
$x_1 \ldots x_k$	= independent variables
e_i	= random error term

The regression model for this study is:

$$Gap_i = \beta_o + \beta_1 DV_{gender} + \beta_2 AGE + \beta_3 INCOME + \beta_4 DV_{mas} + \beta_5 DV_{asn} + \beta_6 DV_{aut} + \beta_7 DVus + \beta_8 DV_{eurp} + \beta_9 DV_{high} + \beta_{10} DV_{degree} + \beta_{11} DV_{sec} + \beta_{12} DV_{gov} + \beta_{13} DV_{privt} + \beta_{14} DV_{std} + \beta_{15} DV_{self} + \beta_{16} DV_{alone} + \beta_{17} DV_{spouse} + \beta_{18} DV_{family} + \beta_{19} DV_{org} + \beta_{20} DV_{friend} + \beta_{21} DV_{first} + \beta_{22} DV_{second} + \beta_{23} TIME + \beta_{24} DV_{package} + e_i$$

Table 4 shows the results of the multiple regression analysis for factors influencing the satisfaction of visitors regarding the environment, services, and facilities

provided in KKGP. The results in the table indicate the influence of socio-demographics and visiting characteristic attributes on the visitors' level of satisfaction. The multiple regression analysis reveals that eight independent variables were found to be significantly influential towards the satisfaction of services and facilities provided in KKGP. These variables are gender, nationality, level of education, occupation, travelling companions, frequency of visit, time spent at the site and the purchase of tour packages as tested using the t-test.

Table 4 Multiple Regression Results

Variables	**β**	***t***	**Sig.**
(Constant)	0.689	4.513	0.000***
Gender	0.123	3.640	0.000***
Age	0.002	1.042	0.298
Income	-5.512E-006	-1.274	0.203
Nationality			
Malaysia	-0.155	-1.705	0.089*
Asia	-0.004	-0.048	0.962
Australasia	0.007	0.049	0.961
America	0.201	1.576	0.016
Europe	-0.266	-2.552	0.011**
Level of education			
Higher degree	-0.378	-3.059	0.002***
First degree	-0.283	-2.626	0.009***
Secondary and Primary	0.006	0.053	0.958
Occupation			
Government servant	0.039	0.527	0.599
Private employed	0.136	1.907	0.057*
Student	-0.038	-0.532	0.595
Self employed	0.163	2.123	0.034**
Travel companion			
Alone	-0.107	-0.656	0.512
Spouse	-0.291	-3.327	0.001***
Family	-0.146	-2.055	0.041**
Organization	0.000	-0.008	0.994
Friends	-0.081	-1.090	0.276
Visit frequency			
First time	-0.292	-3.963	0.000***
Second time	-0.482	-5.442	0.000***
Usage of tour package	0.062	1.809	0.071*
On site time (hours)	-0.079	-5.794	0.000***
R^2	0.499		
Adjusted R^2	0.470		
F	17.095***		

Note: * p< 0.1
** p< 0.05
*** p< 0.01

To predict the goodness-of-fit of the regression model, the coefficient of determination (R^2), and F ratio are examined. The results show that about 50% (R^2 0.499) of the variance in satisfaction towards the services and facilities are explained by the socio-demographics and visiting characteristics of visitors. Meanwhile, the F test value (17.095) indicates that the model is a fit for the data at a 0.01 level of significance; implying that at least one of the independent variables influences the dependent variable.

The regression analysis found that gender has a significant influence at a 0.01 confidence level. Thus, the result indicates that female visitors (0.812) are more dissatisfied compared to male visitors (0.689) (the equation is shown in Table 5). The attitude and lifestyle of female visitors could be the reason for demanding more attention when they are on vacation. However, they are not able to obtain it in KKGP especially in terms of services and facilities. This finding substantiates the findings by previous researchers. Ahmad et al., (2012) have found that gender has a significant influence on the level of satisfaction; female visitors were very dissatisfied with the services provided in Bako National Park compared to male visitors. The result for the variables of age and income however, were not significant.

The findings also show that visitors' dissatisfaction with services and facilities provided in KKGP are influenced by their nationality. Malaysian visitors are less dissatisfied compared to foreign visitors, with gap values of 0.534 and 0.689, respectively (according to the equation shown in Table 5). Ahmad et al., (2012), showed similar results, in which dissatisfaction of visitors to Bako National Park was influenced by visitors' nationality. Moreover, Perovic et al., (2012) also claimed that the tourists' country of residence was associated to their satisfaction. Generally, tourists who stay far away from the destination do lack information about the quality of services compared to local residents and this might be the reason for the difference in expectations. Thus, the result indicates that foreign visitors place high expectations on services, facilities and the environment provided in KKGP because they do not have or lack the information about KKGP compared to local visitors, who possess the necessary information regarding the quality of the services and facilities at tourism destinations in Malaysia.

Regarding the visitors' level of education, the result shows that visitors with tertiary education, such as a higher degree or a first degree, are significantly correlated to dissatisfaction at 0.01 level of significance. The higher degree refers to a PhD or Masters while the first degree refers to undergraduate degrees and diplomas. This result implies that the higher the level of education the more aware and concerned the visitors are about the importance of services and the environment. This result is consistent with the finding from previous researches. For example, Torres-Sovero et al., (2011) found that the level of education influenced the level of satisfaction, in which tourists with a high level of education demanded higher levels of services, attention and comfort.

In terms of occupation, the model shows that the dissatisfaction of visitors is influenced by their occupation. The result indicates that self-employed visitors are more

dissatisfied compared to unemployed visitors like students, homemakers and pensioners, with gap values of 0.852 and 0.689 respectively (the equation is shown in Table 5). The results also showed that visitors' employed in the private sector were less dissatisfied compared to the self-employed visitors, with gap values of 0.825 and 0.852 respectively. The working style of self-employed visitors could be one of the reasons for their dissatisfaction, as they are conscious about quality of services, time, and value for money.

The regression model also shows a significant coefficient for visitors' companions. Based on the model, influence is significant for those traveling with family or spouse at 0.05 or less. The result indicates that visitors who visit KKGP with family members are less dissatisfied than those who visit in a group representing an organization, alone or with friends, with gap values of 0.543 and 0.689, respectively (the equation is shown in Table 5). This could be due to the spirit of kinship among family members and the similar purpose of visit among family members compared to those who travel alone, with friends or in a group representing an organization. The result also shows that visitors who travel as couples also indicate dissatisfaction at 0.01 level of significance as they expect to get individualised service during the boat tour. However, they failed to obtain this kind of service because the mangrove tours comprise 10 to 12 passengers in a boat at any one time. Thus, to enjoy privacy during a boat trip, they need to pay the fare for the whole boat and this might cause the dissatisfaction. There is a recommendation by the visitors that the tour boat operators should provide smaller boats meant for two persons, especially couples on honeymoon.

The result of the regression analysis indicates that repeat visitation influences satisfaction, whereby first time visitors are more dissatisfied compared to second time visitors, with gap values of 0.397 and 0.207 respectively (the equation is shown in Table 5). Theoretically, the satisfaction would influence re-visiting. Thus, not surprising that second timers are less dissatisfied compared to first timers. The result shows that visitors who are satisfied would probably re-visit KKGP.

The regression analysis also shows that visitors who do not use tour packages (independent travellers) are more dissatisfied compared to visitors who use tour packages, with gap values of 0.751 and 0.689 respectively (the equation is shown in Table 5). This finding is consistent with Weiler and Ham (2004). They found that visitors in guided tour groups in the Panama Canal Watershed had consistently higher levels of satisfaction compared to independent travellers. These tour packages usually include food and drinks, a tour guide and some other additional services during the visit and the rates are slightly cheaper. Thus, the visitors who purchase tour packages would get extra benefits especially in terms of activities, pricing and services compared to visitors who do not purchase tour packages.

Lastly, the finding also shows that the dissatisfaction of visitors is influenced by the number of hours spent in KKGP. The number of hours spent is found to have a negative significant coefficient (-0.079) with the dissatisfaction of visitors at 0.01 level of significance. This negative coefficient indicates that visitors become less dissatisfied with the increasing number of hours spent in KKGP because they get the additional services of a tour guide and extra information about KKGP. Besides, another possible

explanation for this nature is the lack of activities and places of interest for those who take the short one-hour tour package, which only allows visits to a few places compared to the more than one-hour package.

CONCLUSIONS

The results of the study show that visitors are less satisfied with the services and facilities provided in KKGP. The low level of visitor satisfaction is influenced by their socio-demographic and visiting characteristics, as suggested by previous studies, for example, Torres-Sovero et al., (2011), Woodside & Lysonski (1989), Um & Crompton (1990), Chen (2009) and Ahmad et al. (2012). Thus, to complete the study, analysis of the socio-demographics of the visitors that influences dissatisfaction is needed. The regression analyses is used to examine the factors that influence the dissatisfaction among visitors, in which the gap analysis (dissatisfaction) is the dependent variable and socio-demographic and visiting characteristics are independent variables, including gender, age, income, nationality, level of education, occupation, travel companion, frequency in visits, onsite time, and tour package. An examination of the socio-demographic and visiting characteristic factors influencing dissatisfaction is very important in terms of determining the target market. It enables the identification of visitors' needs and wants according to specific characteristics because visitors to KKGP originate from the different socio-demographic backgrounds. The visitors' socio-demographic variables provide important information, especially for managers, planners, and tourism business operators associated with KKGP regarding the actual target markets in KKGP. It can also be used to determine visitors' needs in terms of services and facilities.

Table 5 Equation for Regression Analysis

Equation for Gender: $Dissatisfaction = \beta_o + \beta_1(DV_{gender}) + e_i$	
Dissatisfaction = 0.689 + 0.123(1) female	= <u>0.812</u>
= 0.689 + 0.123(0) male	= 0.689
Equation for Nationality: $Dissatisfaction = \beta_o + \beta_1(DV_{mas}) + (\beta_2 DV_{asn}) + (\beta_3 DV_{aut}) + (\beta_4 DV_{us}) + (\beta_5 DV_{eurp}) + e_i$	
Dissatisfaction = 0.689 – 0.155(1) Malaysian	= <u>0.534</u>
= 0.689 – 0.155(0) others	= 0.689
Dissatisfaction = 0.689 – 0.266(1) European	= <u>0.423</u>
= 0.689 – 0.266(0) others	= 0.689
Equation for Occupation: $Dissatisfaction = \beta_o + \beta_1(DV_{gov}) + \beta_2(DV_{privt}) + \beta_3(DV_{std}) + \beta_4(DV_{self}) + e_i$	
Dissatisfaction = 0.689 + 0.136(1) private sector	= <u>0.825</u>
= 0.689 + 0.136(0) others	= 0.689
Dissatisfaction = 0.689 + 0.163(1) self employed	= <u>0.852</u>
= 0.689 + 0.163(0) others	= 0.689
Equation for Travel Companion: $Dissatisfaction = \beta_o + \beta_1(DV_{alone}) + \beta_2(DV_{spouse}) + \beta_3(DV_{family}) + \beta_4(DV_{org}) + \beta_5(DV_{friend}) + e_i$	
Dissatisfaction = 0.689 – 0.291(1) spouse	= <u>0.398</u>
= 0.689 – 0.291(0) others	= 0.689
Dissatisfaction = 0.689 – 0.146(1) family	= <u>0.543</u>
= 0.689 – 0.146(0) others	= 0.689
Equation for Visit Frequency: $Dissatisfaction = \beta_o + \beta_1(DV_{first}) + \beta_2(DV_{second}) + e_i$	
Dissatisfaction = 0.689 – 0.292(1) 1st time	= <u>0.397</u>
= 0.689 – 0.292(0) others	= 0.689
Dissatisfaction = 0.689 – 0.482(1) 2nd time	= <u>0.207</u>
= 0.689 – 0.482(0) others	= 0.689
Equation for Use of Tour Package: $Dissatisfaction = \beta_o + \beta_1(DV_{package}) + e_i$	
Dissatisfaction = 0.689 + 0.062(1) not use	= <u>0.751</u>
= 0.689 + 0.062(0) use	= 0.689

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Assessing the Governance of Co-Management Eco-Tourism using Social Network Analysis: Case of Kampung Luanti Baru, Sabah and Kampung Kuantan, Selangor

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ABSTRACT

Recent researches have found that stakeholder inclusivity is essential in overcoming the problems and dilemmas in governing eco- tourism. The main objective of this study is to identify the stakeholders and their roles in the social network and to characterize the relationships between them Social network analysis (SNA) is utilized to investigate governance of fish massage eco-tourism at Kampung Luanti Baru, Sabah and fire-flies ecotourism at Kampung Kuantan, Selangor. SNA is used to probe into the following research questions namely in understanding the interests and roles and in identifying the critical or key stakeholders within the governance network of co-management tourism in the two sites. The measurement criteria used are the degree, closeness and betweenness centralities. Both study sites were selected as they fulfill the criteria of co-management practices. The social network maps obtained suggest that the local community operator at Kampung Luanti Baru is the most critical stakeholder in ensuring the effective operation of the fish massage ecotourism set-up while the Municipality at Kampung Kuantan is the most critical stakeholder in managing the fire-flies attractions. It could be concluded that the Kampung Luanti Baru site practices a bottom-up management approach with high measurements of participation and commitment of the stakeholders while Kampung Kuantan site practices a top-down management approach with low measurements of participation and commitment from various stakeholders.

Keywords: Ecotourism, Social Network Analysis, Governance Network, Community Based Tourism

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INTRODUCTION

Tourism has become one of the largest industries and job creators in national and regional economics. Travel and tourism sector has contributed US 2.2 trillion to the world gross domestic product (GDP), 101 million jobs and US 754 billion in investment. Travel and tourism represent 9.5% of the total world economy GDP, 1 in 11 jobs in the world, 4.4 % of total investment and 5.4% of world exports (World Travel Tourism, 2014). In recent years, tourism industry in Malaysia has also shown a positive development. Malaysia's tourism industry received nearly 188% increase in tourists since 2002 to 2013. In the year 2013, Malaysia has received RM 65.44 billion from the tourism industry.

However, local community living inside the tourism site is often been left out from the receiving end of this benefit. There is a need to move from the situation like simple tourism where only travel agents, operators, visitors and attractions are being emphasized. The local peoples that inhabit the territories need to have their rights heard and the policy work for their wellbeing (Bodin et al, 2004). Situations where communities maintain their own natural resources in their localities are still something of a rare occurrence. The communities rarely employed at protected areas with the job given to someone outside the community (Ahmad Puad et al, 2011).

There are many literature showing the importance of including the local people in developing sustainable tourism (Bodin and Crona,2009; Mohd Shahwahid et al, 2013). Nor Asmah *et al* (2012) showed that the local community is capable in handling different type of actor and different types of stakeholder in tourism site by themselves. They also stated that tourism is a better approach by being bottom-up and broad based management in order to avoid manipulation by the local elite.

Recent researchers have found that the social network have been effective in overcoming the problems and dilemmas in governing tourism (Mohd Shahwahid et al, 2012, Folke et al,2005 ; Ollson et al 2010). The social network has been proven to be more important that any existing formal institutions in encouraging the stakeholders to deal with the environmental law and enforcement (Scholt and Wang, 2006).

The research questions for this study concern the identification of the tourism ecosystem and stakeholders that are playing important roles in the tourism network, their interests and their effects upon the community and visitors represented in the network. Hence, the main objective of this study is to identify the stakeholders and their roles in the social network and to characterize the relationships between them. The second objective is to compare the social network of two types of governance (top down management and bottom up management) in the tourism industry.

LITERATURE REVIEW

To better understand how social networks affect tourism governance processes, one needs to start by acknowledging some key characteristics which differentiate social networks from other types of method usually use in social science study. SNA focuses on relationship between entities, and on the implications of these patterns and their

relations. Bodin and Crona (2009) stated in resource management there are two types of analysis on social network that can be analyzed. The first analysis is on the pattern of relations. The pattern will differ depending on which network is in focus or in other words, depend on the type of relations involved in the network. The term for this different pattern of relational ties is referred as structural characteristics of network. The other analysis on social networks is how the relational ties differed between each type of groups. The network like friendship might be different compared to the network inside the office. It also can be seen in broader ranges such as the network between two countries is different from the network inside a TV drama.

Based on the two types of analysis on social network mentioned above, there are several categorization that are typically in use in social network analysis (SNA). The categorization of social network that will be analyzed in this study are how number of ties affects the network, the cohesive and centrality of the network and how this can affect the tourism governance.

SNA major limitation is the fact human social network are rarely static. Human natures are constantly changing with time and this affect their ties with each other that are changing as well. Thus, it is important to make sure that the research undertaken understands the nature of this change and the consequences of it. In the literature, much of the researches have focused on the static network analysis (Bodin and Nordberg, 2005). To overcome this problem, the researchers need to understand the consequences of the change in the network.

METHODOLOGY

Study Site and Survey

The study sites were chosen after a wide review of information about the interactions between the stakeholders and their way of managing protected areas in this respective village. Two study sites selected for this study are Kampung Luanti Baru in Sabah and Kampung Kuantan in Selangor. Both study sites fulfill the criteria for the case study where co-management has been practiced and legal or other formal mechanisms have been set up to promote co-management.

These sites were chosen based on (a) geographic representativeness (i.e., different locations throughout the state; with different compositions in terms of urban, suburban and rural counties), (b) different type of governance (Kampung Luanti Baru is full community governance (bottom up approach) while Kampung Kuantan is on a state property with little bit of community involvement (top down approach)), and (c) being generally viewed as settings that have had some important successes in tourism activities.

The network study will begin by identifying the actors or stakeholders, how the ties or relationships between two or more actors are described and the network boundary defined. The demographic characteristics of the network actors such as their gender, income and other traits are recorded. Actors included in this study are the ones who are involved or affected by the tourism activities conducted and offered to visitors. In this study the actors will be defined as a respondent that belong to certain stakeholder

categories such as tourist activity provider, material suppliers, government administrators, visitors and non-governmental organisations (NGOs). The actors are the ones that have a stake in the tourist site and will be affected with any policies or law being implemented. An individual even though lacking in formal mandate to govern can be included as an actor in a SNA of a tourist site. These actors will later be place in several stakeholder categories depending on their functions.

For the SNA, the questionnaire answers will be inputed into a datasheet by following the SNA data entry system. UCINET and NetDraw software will be used to analyze the network data in this study. SPSS software will be used to conduct regression analyses of the relationships between the stakeholders and their responses to the network centrality questions of each category of stakeholder.

The data was collected through field survey using a standardized questionnaire. Before starting the data collection process, the draft questionnaire was pre-tested at the study sites. Based on the results of the pre-test, some minor corrections were made to the questionnaire. This study relied heavily on the survey, field level observation and insights gained from detailed discussions with individuals that have been verified as stakeholders. A team of four experienced enumerators visited the study area to get information from the respondents. Trainings were given to the enumerators to acquaint them with the objectives of the study and purpose of the survey before and during the fieldwork data collection process.

The sampling method used in identifying respondents is through the snowballing technique. This method use one respondent to nominate one or more respondents that he or she thinks may have an important contribution or are involved with the tourism site. Biernacki and Waldorf (1981) said that this method that works through referrals made among the actors would normally identify respondents who know or share same characteristics in line with their interests. The interview will continue until no new names have been mentioned. This type of data collection approach does have a weak point in that it might exclude any actor that is isolated from the other individuals involved and affected by the tourist site.

The survey will have 10 maximum respondents for each actor category being interviewed. This to make sure that every actor that is involved in this network will have his/her interests and roles be recorded. The questionnaire also will ask about the frequency of the interactions within the network for each actor. The frequency will be grouped into four types. The categories for frequency of interaction are:

I. Daily
II. Weekly
III. Monthly
IV. Once or twice a year

The first category of actors interviewed are individuals in the management. Each individual in management interviewed will later identified another for interviewing. Each person will be asked the same questions and then ask for a new name. The process will be the same until there are no new actors being described and the desired population targeted. This snowball method allows the actors inside the network to set the network boundaries. This method is the most suitable network method as the study needs to

capture both formal and informal actors inside the network. Sandstrom (2010) said that in network studies, a snowball-sampling reflects the actual population better than using informed experts. Further as Scoot (2000) observed that it will be too time consuming to generate relational data through observation since it is hard to expect the network size. Next, through the comprehensive interviewing process of nominated respondents, has helped complete the mapping of social relations of each study site in order to get the network structure.

This paper will analyzed network in term of the total number of ties, network density, mean geodesic, degree centrality and betweeness centrality. The network starts with a bunch of isolated actors being put together and interacting with each other. In order for this situation to happen, a social relation has to be created. This study tries to analyze this situation, the reason being is that when the actor interacting with each other, the more possibility for collaborations among them are happening and the more way to avoid any conflict with each other. The type of centrality measurements that will be used in this study will be shown in Table 3.1 and the details of each type of measurement will be discussed in the table.

Table 3.1 Netwotk centrality measurements

Centrality	Definition	Formula
Density	How fast the information diffuses among the actors and the extent of the level of influence certain type of actor have inside the network.	$\sum \frac{i_a}{i_p}$ Where $i_a$is the actual number of ties inside the network and i_p is the numberof possible ties inside the network.
Degree	Number of other actors a particular actor is directly connected to	C_D^{SN}(i) = $\frac{d\ (i)}{n-1}$ for normalized node (node i) and $C_D^{SN}(G) = \frac{\lvert N\ (G)\rvert}{n-\lvert G\rvert}$ For a group node (node G)
Betweenness	Frequency with which an actor falls in between pairs of other actors on their geodesic (i.e., path of shortest distance between any two actors)	$C_B^{SN}(i) = \frac{2 \times \sum_{i \neq j \neq k} \frac{p_{jk\ (i)}}{p_{jk}}}{(n-1)(n-2)}$ for node i and $C_B^{SN}(G) = \frac{2 \times \sum_{j<k} \frac{p_{jk(G)}}{p_{jk}}}{(n-\lvert G\rvert)-(n-\lvert G\rvert-1)}$ for a group of G nodes
Geodesic Distance	Number of relations in the shortest possible walk from one actor to another. This measurement will look at how fast information can travel inside the network.	

Source : Social Network Analysis Handbook, 2005

Validity and Reliability Issues

There are three types of common threats of validity issues identified by Yin (1994). The threats are: construct validity, external validity and reliability. According to Yin (1994), in order to solve these threats, several steps have to be implemented. In order to neutralize construct validity, there is a need to have multiple sources of evidence, establish chain of evidence and have informants review the case study results.

This study collected data using surveys, interviews, observations and document review to make sure it have multiple sources of evidence. The original data, analysis and findings are documented to make sure that this study establishes its chain of evidence. The outcome of the network analysis is discussed with the supervisor and the management of both study sites to make sure the informants review the case study results.

Yin stated that the solutions of external validity are to use rival theories in a single case and the need to replicate the multiple cases. This study will use both quantitative and qualitative approaches towards the analysis of social network. This study uses two studies sites mentioned earlier and the limitations are discussed in the conclusions to make sure it uses the replication of multiple cases.

Yin also stated that the reliability issues will be overcome by using a case study protocol and case study database. This study uses the SNA protocol whereby all data collected is archived and the results documented.

RESULTS AND DISCUSSION

Demography of Respondents

The demographic profiles of the respondents surveyed from the two study sites are given in Table 4.1. The breakdown of the stakeholders surveyed for each study sites are provided in Figures 4.1 and 4.2.

Table 4.1 Summary of the demography data from the two study villages

Population Metrics		Kampung Luanti Baru		Kampung Kuantan	
Characteristic		**No. of Respondent**	**%**	**No. of Respondent**	**%**
Gender	**Male**	44	62	62	77.5
	Female	27	38	18	22.5
Age (years old)	**Below 20**	6	8.5		
	21 - 30	13	18.3	14	17.5
	31 - 40	17	23.9	31	38.75
	41 - 50	23	32.4	18	22.5
	More than 50	12	16.9	17	21.25
Marital Status	**Married**	55	77.5	68	85
	Single	16	22.5	12	15
Education	**No formal education**	6	8.5	5	6.3
	Primary School	25	35.2	11	13.8
	Secondary School	30	42.3	36	45
	Diploma	7	9.9	18	22.5
	Degree and above	3	4.2	10	12.5
Income Per Month (RM)	**1001 – 2000**	24	33.8	52	65
	2001 – 3000	16	22.5	9	11.3
	3001 – 4000	18	25.4	12	15
	4001 – 5000	4	5.6	3	3.8
	> 5000	9	12.7	4	5

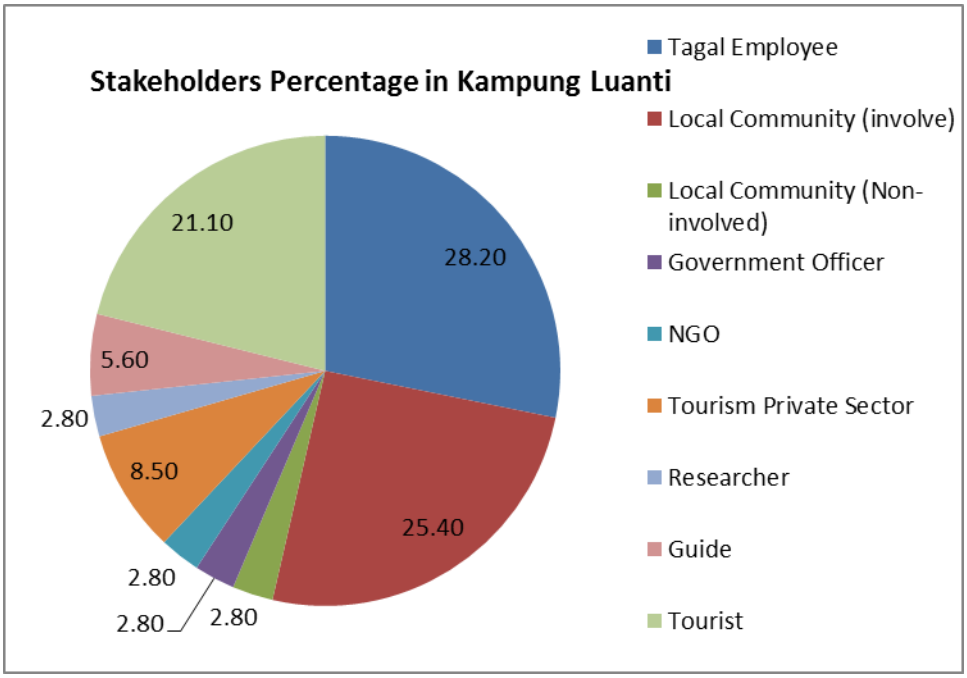


Figure 4.1 Stakeholder Percentages in Kampung Luanti Baru

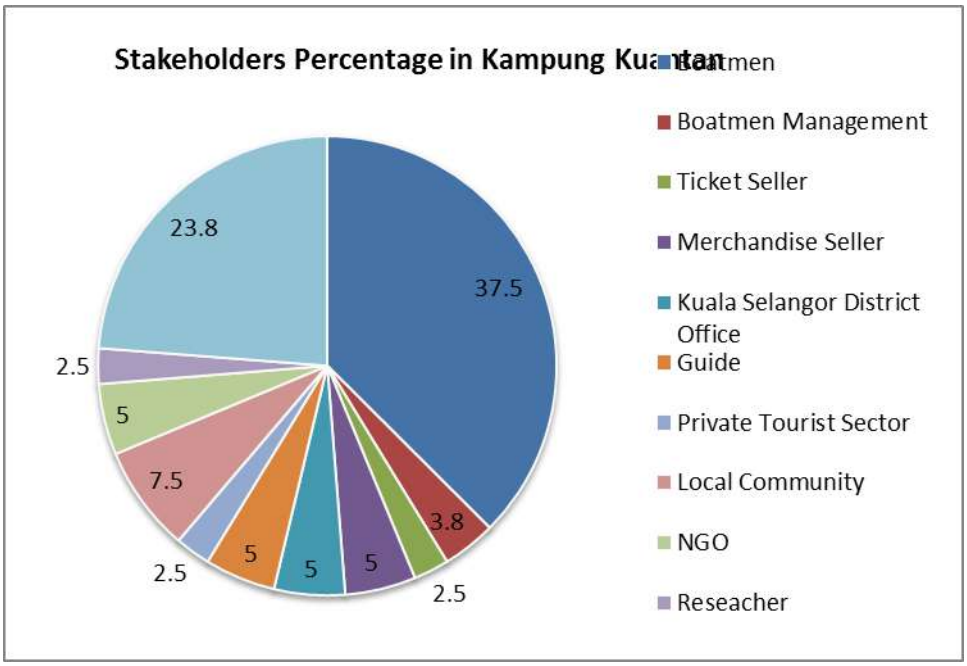


Figure 4.2 Stakeholder Percentages in KampungKuantan

Social Network Measurement

Table 4.2 shows the summary of measurement for both study site social networks. In Kampung Luanti Baru the social network has identified 71 individuals as part of the tourism network. The network is completed and there is no respondent beeing excluded from the network. This social network contains 1,185 number of ties and the mean geodesic are 1.80 people.

In Kampung Kuantan, 80 individuals were identified as part of the network. This shows that Kampung Kuantan has a slightly larger network with 9 more actors than Kampung Luanti Baru. The network also like Kampung Luanti Baru is held together and did not have any isolates. The total number of ties from this network is smaller than Kampung Luanti (1,084) with a mean degree of 2.19.

Eventhough Kampung Kuantan network is larger than Kampung Luanti Baru, the density for Kampung Luanti Baru is higher than Kampung Kuantan (0.24 to 0.17). This suggest that Kampung Luanti Baru network is highly cohesive then Kampung Kuantan. Based on the literature, the network with the higher number of social ties can get a higher participation in joint management. The different in mean geodesic also show the different between these two sites. From the literature, it shows that for a co management to have a good chance of surviving, the level of information sharing needs to be high and fast. Kampung Luanti Baru has a good geodesic distance; where for every information regarding tourism activities, it only need 1.8 people to pass the information around, while Kampung Kuantan need 2.19 people to do that. With a low number of geodesic, the information move faster.

Table 4.4 also shows the mean degree of both networks. Kampung Luanti Baru network can be considered more tightly connected than Kampung Kuantan Network. In Kampung Luanti Baru, the respondent that has been tagged as respondent 1 has a highly central position in the network. The actors are the person in charge of Kampung Luanti Baru CBT and belong to the Tagal Employee stakeholder. The number of degree this actor is connected to are 48 and it is clearly shown in the figure that this actor connects diverse actors who would otherwise be disconnected, and bridges numerous organizational borders. This person has the highest influence in the network and with his position he can take advantage of it to take care of the study site. This can be proven as this actor has shown that his action has improved this tourism site and this might be the result of his position in the network.

Table 4.2 Summary of measurements for the social network

Network Indices	Kampung Luanti Baru	Kampung Kuantan
Number of Respondents	71	80
Total number of ties	1184	1084
Network Density	0.24	0.17
Mean Geodesic	1.80	2.19
Mean Degree	16.68	13.55
Highest/Lowest Degree	48/3	38/3

Kampung Kuantan network is significantly less centralized than Kampung Luanti Baru network. The most centralized actor by degree of 38 is coming from the boatmen category. However, the person with the highest influence in the network, respondent 2 did not have any power to change the policy of the tourism site. As been mentioned in the literature the effect of high degree centrality and a high ranking in formal authority can make the actor have a good influence and better information in making any decision for the sites. As these individuals did not have both, they were ranked lower in terms of influence. This also can be hard for any policy change, where the one in power need to have this respondent vote of trust if they want the network to give full support of it. There need to be collaboration between one in power and this respondent to make an improvement in this tourism site.

Table 4.3 Betweenness Score for both case study sites

Betweenness	Kampung Luanti Baru	Kampung Kuantan
Mean	56.38	76.80
Standard Deviation	127.808	187.74

Betweenness centrality for Kampung Luanti Baru scores reveals that the network mean is 56.38. The highest betweenness score are the respondent that has been at the network center. The respondent seems to be important in this network because when he or she is at the center, he or she has a high influence on how the information flow inside the network. Respondent "2", male and aged 43 from the "tagal" stakeholders' category is the most central point to the network, his betweenness score are 672.24 (Figure 4.3). The second highest is respondent "1", male and aged 41 also from the "tagal" category with a score value 645.36. There are also a respondent that have a betwenness of zero (respondent 49 and respondent 50). This respondent is located far from the center and this make them isolated from other types of stakeholder. They will received any

information slower than the other stakeholders and the information might be distorted. The respondents come from "Tourism Private Sector" category.

Betweenness centrality in Kampung Kuantan scores revealed that the mean score is 76.80. As in Kampung Luanti Baru,the most central located respondent has the highest score and he or she is having a strong influence in the way information flow in the network (Figure 4.4). In Kampung Kuantan network, respondent "1" has the highest betweenness score of 714.57. The respondent comes from the boatmen stakeholder category and held a position as the head of boatmen communities. The second highest respondent is respondents "41" with betweenness measures of 652.78. The respondent comes from the Kuala Selangor District Office, he is the deputy director of tourism in Kuala Selangor.

Table 4.3 shows the betweenness mean and standard deviation score for both villages. From the table, Kampung Kuantan has à higher score than Kampung Luanti Baru. From this analysis, Kampug Kuantan has more actors to act as broker. As both village that have the highest degree centrality and highest betweenness centrality comes from the community leader, it shows that their influence in the community is big and important. The social network analysis also shows the betweenness mean score for each stakeholder. From this score, it can be determined which stakeholder plays central roles in this network. Table 4.4 and Table 4.5 show the betweenness score for each stakeholder in both study site.

Legend for Kampung Luanti Baru

Type Of Stakeholder in Kampung Luanti Baru	Colour
Tagal Employee	
Local Community (Tagal)	
Local Community (Non Tagal)	
Government Official	
NGO	
Tourism Private Sector	
Researcher	
Guide	
Tourist	

Legend for Kampung Kuantan

Type of Stakeholder in Kampung Kuantan	Colour
Boatmen	
Boatmen Management	
Ticket Seller	
Merchandice Seller	
Kuala Selangor District Office	
Guide	
Private Tourist Sector	
Local Community	
NGO	
Researcher	
Tourist	

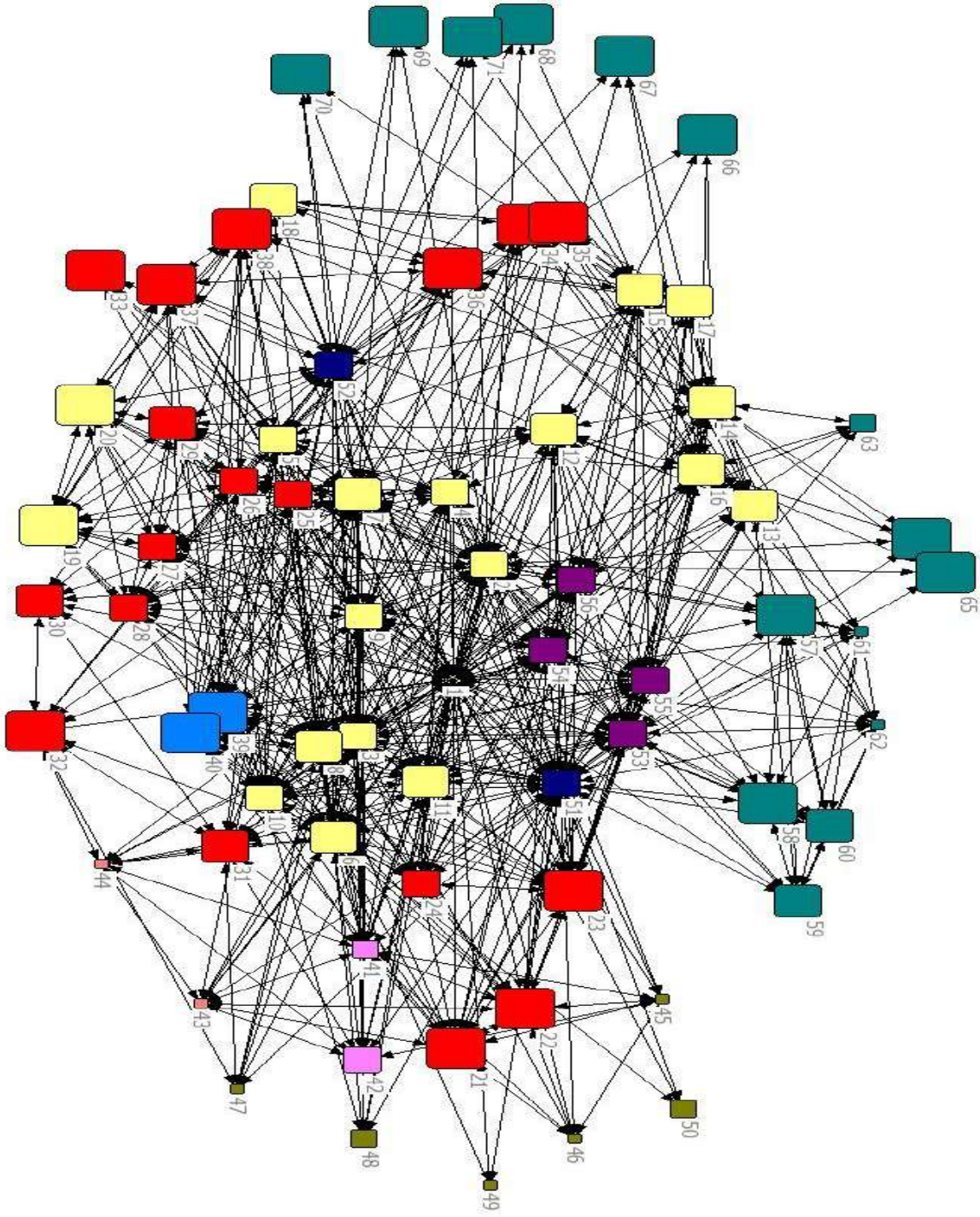


Figure 4.2 Whole Network of Kampung Luanti Baru

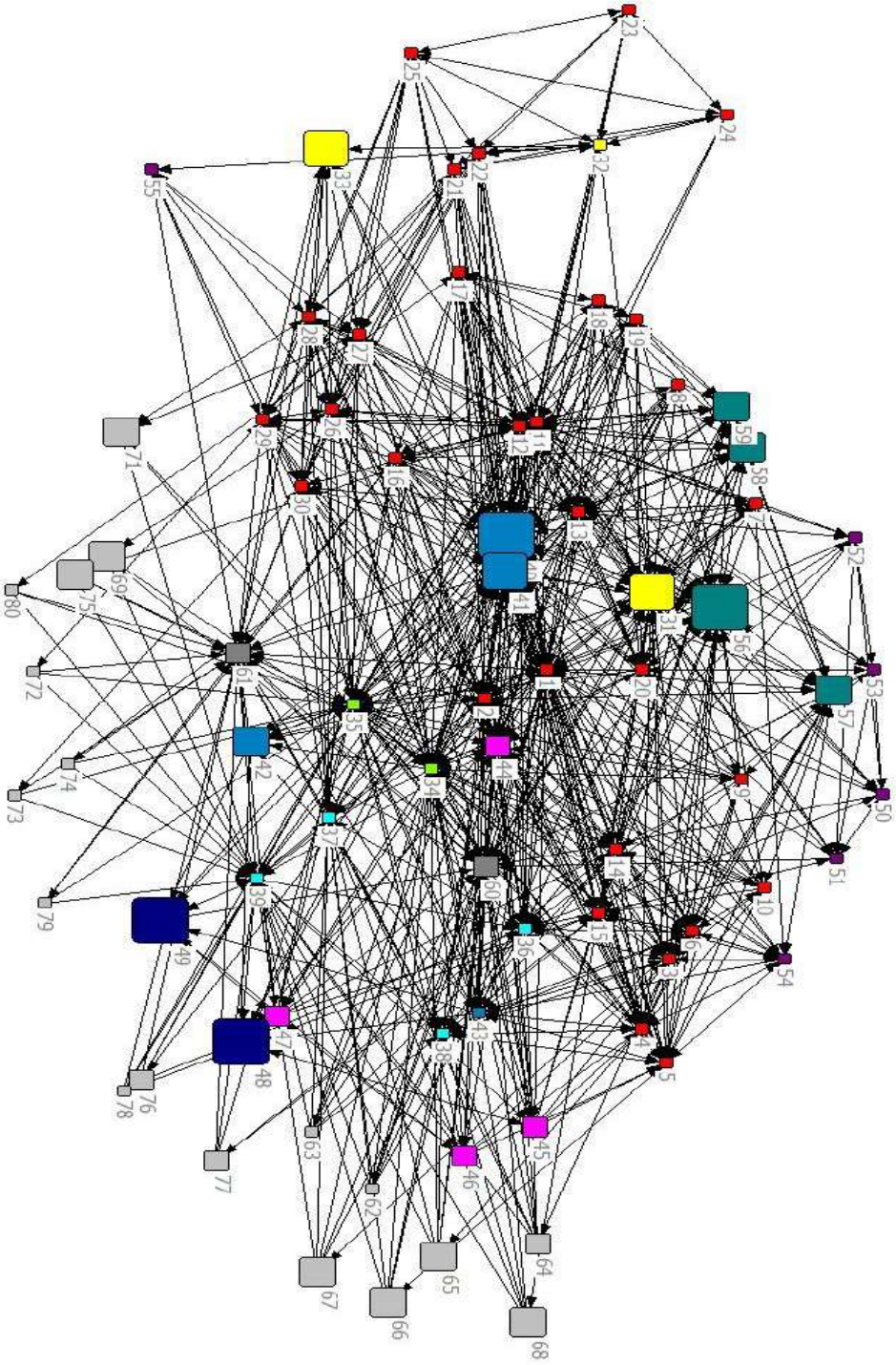


Figure 4.3 Whole Network of Kampung Kuantan

Table 4.4 Betweenness Score for each stakeholder in Kampung Luanti Baru

Type Of Stakeholder	Mean
Tagal Employee	126.51
Local Community (Tagal)	14.42
Local Community (Non Tagal)	35.02
Government Official	18.21
Ng0	4.05
Tourism Private Sector	1.14
Researcher	10.50
Guide	60.37
Tourist	1.48

Table 4.5 Betweenness Score for each stakeholder in Kampung Kuantan

Type of Stakeholder	Mean
Boatmen	138.68
Boatmen Management	89.20
Ticket Seller	295.24
Merchandice Seller	134.78
Kuala Selangor District Office	237.96
Guide	69.79
Private Tourist Sector	6.41
Local Community	2.38
NGO	95.55
Researcher	25.55
Tourist	0.28

Betweenness centrality analysis shows that the Tagal Employee that comes from the village community plays central roles in this network. The second highest stakeholder also comes from the village community, the tourist guide stakeholder. The lowest betweenness centrality comes from the Tourism Private Sector and Tourist stakeholders. These two sub-networks can be considered isolated than other sub-networks. In Kampung Kuantan, the most central stakeholder is coming from the Ticket Sellers Stakeholders and the second comes from the Kuala Selangor District Office. Both of these stakeholders come from the government agency. The lowest betweenness centrality score comes from the tourist stakeholder.

Overall Network Comparison

As been stated in the literature, the economic value of one project is not enough in portraying sustainable development. The environment and society value also need to be emphasized as these three dimensions are important and need to be put together as one to achieve sustainability. The society's value that has been analyzed in this study is the network of the entire stakeholder involved with tourism in the study sites.

When comparing the network of the two study sites, Kampung Luanti Baru is having an overall better social network than Kampung Kuantan. The network is also better because of the involvement of the stakeholders are higher for Kampung Luanti Baru than Kampung Kuantan. This happened because of the practice of Bottom Up management approach by Kampung Luanti Baru is better for the stakeholders than the Top Down approach of Kampung Kuantan. Bodin and Crona (2) stated that for a tourism site to sustain itself, it needs stakeholders' positive perception and participation. Stakeholders in Kampung Luanti Baru are proud of their own community managed tourism site while stakeholders in Kampung Kuantan feel isolated because of the lack of power they have in decision making in the tourism offerings at their site.

Stakeholders in Kampung Luanti Baru is closer to each other than stakeholders in Kampung Kuantan. This happened because Kampung Luanti Baru community is having more ties than Kampung Kuantan. With more ties, different types of stakeholder can be easily organized and Kampung Luanti Baru stakeholders have shown that they are happy with the development that have been happening in their community. This is consistent with the literature that suggested higher density network will have more collective actions.

Kampung Luanti Baru also is having a lower number of geodesic distance than Kampung Kuantan. With a low number of geodesic distance, the information move faster. This is good for joint management because the actor gets the information faster and not been isolated from the others. This is good for tourism initiatives involving the community. With a lower number of people needed for information to spread, the information provided is more accurate, is easier to be retained and the information also is more transparent.

However, a higher density did not mean a good thing all the time. As stated in the literature, higher density can lead to a homogenization of knowledge and information that can result in the loss of resources and with no capacity to adapt to change. In Kampung Kuantan, there are many actors involved and each of them has

different ideas and opinion on how to manage the sites. In Kampung Luanti Baru, even though there are many types of stakeholder, there are like one group that thinks and acts alike. It might be good for a new tourism venture in the short run, but it will have a negative effect for the long run.

In Kampung Luanti Baru, the actor that has the highest degree and betweeness ties is the one who has the power in changing the policy of tourism site. This is in contrast with Kampung Kuantan, where the ones who is in power is only having an average number of degree and betweenness. This affected the policy making initiative, as actors in Kampung Kuantan will think that the one who make the policy did not understand the issues enough because they did not know enough people inside the community.

When an actor with a higher degree and betweenness is holding the power, they know a lot of people and they can get better support when engaging in a new policy change. In Kampung Kuantan, the policy maker cannot please the actors and sometime it leads to a conflict where the community did not cooperate when a new policy comes. In Kampung Luanti Baru, everyone follows the policy of fishing control and for about 10 years, there is a strong compliance record.

CONCLUSIONS

The main objective of this study is to identify the stakeholders and their roles in the social network and to characterize their relationships between them. The second objective is to compare the social network of the two types of governance (top down management and bottom up management). As shown from the result, Kampung Luanti Baru actor's relation is better than Kampung Kuantan. This affects their interest in the tourism site as some of the actors in Kampung Kuantan feel isolated and their views not heard. The relationship between each actor in Kampung Luanti Baru is better than Kampung Kuantan based on the density and geodesic distance results.

However, a tight relationship between each actor is not a positive thing for a long run development. With strong relations, actors tend to have same ideas and this can be bad for the sustainability of the tourism site. Even though, Kampung Luanti Baru shows a good joint management initiative, for the long run they need to involve new stakeholders for more sustainable development. This is because when the initiatives are new, it might require a high degree of centralization to make sure that other stakeholders can be influenced by certain types of actor. However this can be unfavorable for the long term because the need to engaging various actors are more important in the long run because of the complex ecosystem of the tourism initiative

In conclusions, Kampung Luanti Baru need to involve more actors and different types of stakeholder in the management wants to develop a more specialized knowledge-based tourism attractions. The presence of multiple subgroups in the governance of tourism can enhance a development of knowledge by high degree of interaction with each other's if use accordingly. This can contribute to the development

of diversified knowledge by enabling different knowledge to develop in different type of actors and stakeholders.

Meanwhile, Kampung Kuantan needs to involve more stakeholders in the tourism activities in term of overall participation. When a stakeholder does not think that they are needed, the policy is hard to be observed as there is no collaboration. The community did not think that they have a reason to care about the site and some of them perceive themselves as merely involving in part time job and they did not have any say about the management of the site.

Thus in order to have sustainable tourism, it is important for the stakeholders in various sub groups to raise their interactions with each other. The management needs to have a balance between the presence of one sub group than the other in raising the network cohesiveness.

Limitations and Recommendation of Future Study

As been mentioned in previous chapters, SNA in this study can be subjected by personal bias and the limitation of the SNA itself. The study might be following the view of the researcher as some of the respondent might want to make sure that the researcher have\ a good response. The SNA also is not sufficient to explain every cause of the network in both studies sites. As been mentioned before, the use of snowballing technique might put the person who is isolated out of the analysis. These aspects cannot be revealed using SNA because SNA requires a nomination by other actors which currently is one of the basic way to do data collection. The constraint time and resources also affected this research as the two study sites are far from each other and the researcher cannot take a long time at each site due to budget constraint. This study also is having a problem in the changing of nature of the community social interaction. This happened because some of the mentioned names by the respondents are no longer living or work in the CBT.

A larger scope of the same research methodology can be applied to several years of syndication data. By using the social capital theory and social network analysis, different patterns of syndication can be drawn on various things. Another possible area of research is combining the social network theory with other theories. Using game theory or transactions cost theory, as opposed to social capital, to explain patterns of syndication in the networks. Furthermore, linking the network characteristics to attributes, such as economic characteristic can make the study more interesting. This study examined the social network structure and information sharing structure regarding sustainable development of CBT in Kampung Luanti Baru and Kampung Kuantan. The results suggested that bonding social capital formed by a closed network structure is beneficial to routine activities such as patrolling and monitoring, whereas lack of leadership caused by a decentralized network structure prevented the setting of policy direction for conservation activities. It also demonstrated that a heterogeneous network structure produced rich bridging social capital, which is essential to natural resource governance where many actors are involved

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Industry Structure and Market Concentration: Case of Malaysian Construction Industry

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ABSTRACT

A dynamic study of the Malaysian construction industry is carried out to determine the structure of the industry. The industry structure is examined using the degree of market concentration. Base on construction firms level data which has listed in Bursa Malaysia, is analysed for 10-year period since year 2000 until 2010. The analysis has focuses on five measurements of concentration approach, which are proposed in most of the industrial organization theory. The result shows that Concentration Ratio (CR), Hanna Kay Index (HK) and Gini Coefficient Index (GINI) has exist certain level of concentration. The analysis has illustrated that the degree of concentration is vary along the years. However, the Herfindhal-Herschman Index (HHI) and Entropy Index (EI) show towards approaching the concentrated market. Thus, the conclusion has support the analysis that the Malaysian construction industry is an oligopolistic market structure.

Keywords: Construction, Concentration Measurement, Market Structure, Oligopolistic.

INTRODUCTION

Industrial organization is developed with several different analyses which lay the emphasis on the firms, markets and the industry which represents the market structure, its conduct and market performance. Such work has been formalized by Mason (1939) and was explained further by Bain (1951) in the Structure-Conduct and Performance (SCP) paradigm approach. Many of the past study have used the SCP paradigm approach to examine the structural characteristics in order to explain the relationship between the industry structure and performance of the industry or the performance of the firms.

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According to Ferguson and Ferguson, (1994), industry structure is defined as the characteristics and composition of market and industries in an economy. The structure characteristic of a particular industry can be identified using the market concentration approach. An industry is considered concentrated when it is in a monopolistic market situation, while if in the monopoly market, the industry is considered as highly concentrated market. Empirical studies has reveal that in certain condition of the high degree of concentration level are exists due to the ability of the firm to control over the industry. This has shown that when the concentration market occur, the industry tend to be dominated by few large firms.

However, in the real-world situation, normally the structure of the construction industry is significant with the industry concentration (McCloughan, 2004). Where, the industry concentration will henceforth impact towards the competitiveness of the market. Hence, with the competitive market structure will encourage efficiency to grow the industry to be a better industry performance. The aspect of the industry structure will also bring about desire government regulation and observation of the industry particularly the industry concentration. Consequently, the implication of the government regulation such as the competition policy is importance when the practices of the industry are more likely to occur in the high concentrated industry.

Therefore, the attempt of this study is to identify the structure of the Malaysian construction industry using the concentration measurement. The degree of concentration level in the construction industry may capture the nature of the market structure. Thus, certain characteristic of the industry structure will lead to the performance of the construction industry. This analysis is seems to be crucial for the purpose of understanding the market situation which has linked with the government efforts in order to increase the market competition in the Malaysian construction industry. By having the knowledge of the firm or industry structure, it will help the government in emphasizing certain policy decision and increase in the market performance to become more competitive market (Waldman, 2001).

The paper is organized as follows. Section two provides a brief overview of the growth of the Malaysian construction industry. Summary of the literature is covered in section three. The data and methodology is developed in section four, while section five summarizes the findings. Last but not least section six is the conclusion and the policy implications.

THE GROWTH OF MALAYSIA CONSTRUCTION INDUSTRY: AN OVERVIEW

According to Wells (1985), in his study define the term of construction industry which describes the activity of physical infrastructure and facilities. The physical infrastructure is by implementing the various construction activities, for instance, residential, industrial building and public amenities. These activities are the effort in order to improve the development in standard of living. Without the development of the infrastructure, a country cannot grow further in order to spur the economic growth.

Since the construction industry plays an important role in the economic growth, the process of development should be established. The establishment of this sector may also extensively benefit for the other industries as well.

While, the Malaysia Department of Statistic (2013) has characterized the construction industry into four main sectors which consist of residential sector, non-residential sector, civil engineering and special trade. The residential and non-residential is the process of building which comprise the building of houses, factory, school and public amenities. While, civil engineering is mainly involve with the activities such as roads, bridge and dams. However, in special trade sector is comprised with the activities of metal work, plumbing, sanitary work, painting work and tiling work.

In the past few years the construction industry has gone through several growing and diminishing period of the development growth as shown in table 1. Early year 2000, this industry has recorded an increase in the growth of construction activities due to the government implementation of several mega project which nowadays has become the most established building for the nation. For instance Malaysia's main international airports (known as Kuala Lumpur International Airports) motorsport race track (known as Sepang International Circuit) and the development of special economic zone (known as Multimedia Super Corridor, Cyberjaya). After the period of the commendable growth, the construction industry has trough the deflation growth. This was largely impact from the Asian Financial Crisis (Economic Reports, 2012/2013). However, in year 2007, the construction industry has resulted in the positive growth with increase in most of the development of construction activities. The government has responded to the crisis by implementing the Stimulus Package during 9th and 10th Malaysia Plan.

The 10th Malaysia Plan has started from the year 2011 until 2015. Consequently, in the Malaysia plans', the government intension is to improve the construction industry as well as other sector as a whole (Economic Planning Unit, 2010). This has expected from the Malaysia Plan's to give high impact on the construction industry, where the industry GDP is estimated to grow from 3.7% (in year 2011) per annum to 6% per annum (in year 2012). The 10th Malaysia plan is also to remain sustainable growth of the social and economic betterment for the Malaysian society. For example, underlying the main agenda in the development of the National Key Economic Areas (NKEA) is the building of the Mass Rapid Transit (MRT) and the Economic Transformation Programs. Thus, this has brought about the construction sector as one of the major role to play towards fulfilling the objectives of the national economic infrastructure growth plan.

Study has done by Choy, (2012) in construction industry and the economic development in Malaysia has shown that there exist causality between the growth in the construction sector and the growth in Gross Domestic Product (GDP) from 1970 to 2009. Hence, growth of construction industry activities may give an impact towards changes in the growth of GDP.

Table 1 The MCI contribution to the GDP

Year	GDP	Construction Output	GDP Growth (%)	Construction Industry Growth (%)
	(RM billion – constant price 2000)			
2003	399,414	15,031	5.8	1.8
2004	426,508	14,903	6.8	-0.9
2005	449,250	14,685	5.3	-1.5
2006	475,526	14,639	5.8	-0.3
2007	506,341	15,707	6.5	7.3
2008	530,683	16,365	4.8	4.2
2009	522,001	17,329	-1.6	5.9
2010	559,554	18,220	7.2	5.1

Source: Department of Statistic

LITERATURE REVIEW

The structure of an industry is emphasized by the structure-conduct and performance paradigm approach, which has been known as the traditional approach in the industrial organization theory. Industry structure can be describes as the size of firms distribution. There are few element in determine the industry structure. The elements of the structure for instance; the number of sellers and buyers, firms' product differentiation, barrier to entry and exit of firms, vertical integration and firms' cost structure. From the element of the industry structure, hence the market concentration of a particular industry or firms can be identified.

Measurement of Concentration

There are various measurements of the market concentration. Bikker and Haaf (2002)have explained in detail the literature of the concentration measurement[72].There are ten types of index measurements for concentration which has been proposed, namely'; Concentration Ratio (CR), Herfindahl-Hirschman index (HHI), Entropy index (EI), Hall-Tideman Index (HTI), Rosenbluth Index (RI), Comprehensive Industrial Concentration Index (CCI), Hannah and Kay Index (HKI), U Index (UI), Multiplicative House Index (H_m) and Additive House Index (H_a). It is important to define the most suitable measurement, but at the same time it has to be based on the availability of the data and the type of the industry.

The choice of the measurement and concentration is highly correlated which they are positively related in determining the degree of concentration. Thus, this study uses five methods in calculating the firm concentration. The method use is based on the measurement which satisfies the axiom of the Hanna Kay criteria. The axioms have

[72] Biker and Haaf (2002), Measures of Competition and Concentration in the Banking Industry: A Review of the Literature.

postulated a criterion of high degree in the concentration process (Latreille and Mackley, 2011). The criteria are as follows;

i. A transfer of market share from a smaller to a larger firm should always increase concentration
ii. There should be a market share threshold such that if a new firm entrants into the industry with a market share below the threshold, concentration is reduced. If an incumbent firm with a market share below the threshold exit from the industry concentration is increased
iii. A merger between two incumbent firms should always increase concentration

The five methods are; firstly, the Concentration ratio. It is used because the sensitivity of the result is more common. This is because the Concentration Ratio is basically rank the largest firm in the industry based on the firms' market share, which is determined through various variables such as revenue, employment and total work completion (McCloughan, 2004). However this paper uses only the 4th (CR_4) and 8^{-th} (CR_8) firm concentration ratio as an analysis as they are easy to understand. Both indices are comparable in determining the market power of the total firm in the industry. CR is also considered as the simplest measurement in order to make international comparison between firms available in other countries as well, because the data is easy to obtain with simple method of measurement (Ratnayake, R., 1999).

Secondly, we use the Herfindhal-Hirschman Index (HHI), which attempts to reflect the information of all the firms in the industry. According to Calkins (1983), the information or the value of HHI is highly responsive to the market share (i.e., market share is equal if the value of HHI is the lowest, or market share is unequal if the value is increasing). The range of HHI is 10,000 for pure monopoly and as the index approaches 0 the industry is considered as purely competitive. Bikker and Haaf (2002) explain the HHI index as more credible than the concentration ratio because concentration ratio will only show the ranking and degree of concentration. The difference between both measurements lies on the fact that HHI includes all the firms in the industry, whereas concentration ratio takes into consideration only the largest firm and ignoring the rest.

Thirdly, the measurement used is Entropy index. A value of zero for the entropy index would indicate that there is only one firm in the market. Jacquemin, & Berry (1979) explained that the higher the value of entropy index is harder to understand it intuitively. The maximum value that can be taken by the entropy index is in the case of firms with equal market share would be the log value of the number of firms in the market. The advantage of this measurement is that it can be decomposed to show how different do the sub-groups of firms can contribute to the overall level of concentration. This index is useful for investigating markets containing strategic groups (Ferguson and Ferguson, 1994). The strategic groups which may have share the similar concept of business nature or business strategies in the same industry but within the different firms. It is more likely the example of construction industry, which all the firms have same business nature that involve in building an infrastructure, yet they have different kind of business strategies in minimizing the production cost.

The forth measurement is called the Hannah and Kay index. It is considered as the special case of the HHI index because the market share is raised to the power of α, which is was left to the study for estimation (Ferguson and Ferguson, 1994).The parameter of the α was suggested by Hannah and Kay (1977) between the range of 0.6 to 2.5.The result shows most significant when α is specified as an elasticity parameter (for instance; changes in concentration result from the barrier to entry and exit). The value of the index is sensitive to the parameter α. When α=0, the value of the index is approaches to the number of firms in the industry, and α=∞, it will convey towards the market share of the largest firm. This has illustrate that the HK index has a negative relationship with the degree of concentration (the value of HK is small, thus the degree of concentration is high).

Finally, the fifth measurement is Gini Coefficient. It is also known as relative measurement, which use the information only from σ^2 (Latreille and Mackley, 2011). Besides, the index was developed from the Lorenz curve. It describes the inequalities in the size distribution of firms (Lipczynski J. *et al.*, 2005).The range of G = 1 is correspondent to the case of one dominant firm. While G = 0 is described as equal distribution among firms. The Lorenz curve is the main idea of inequality in the firm size, while Gini is the idea to measure the industry's market power (Heather, 2004).The Lorenz curve can be plotted using the cumulative of the firm in the industry and the cumulative of total sales. The absolute equality line shows the uneven distribution if the curve is far from the line.

Empirical Study and Evidence from the Construction Industry

Several studies on the structures and market concentration of the Malaysian industries have been carried out in the past. For example, Beng and Yen (1997) have analyzed the market structure in Malaysia manufacturing industry and found barrier to entry (industry structure) is positively related to the industry performance. Later Bhatchraya (2002) has also analyzed the same industry but examines further on the industry concentration and concludes the existence degree of concentration, which indicates the industry as oligopolies market structure. While Katib (2004) in his study has investigated banking industry and shows that the degree of concentration is significant in determining the banking performance.

Table 2 presents the results of the empirical studies on construction industry carried out by various researchers and using various methods of concentration indices. The results for most of the findings have concluded that there is concentration in the industry under studied, but vary in terms of its interpretation of the results. In each case, the estimation indicator is also different based on each researcher's interests and the objectives of the study.

Table 2 Literature on the Studies of the Construction Industry

Researcher	Country	Measurement of concentration	Result
Chiang *et al.* (2001)	Hong Kong	HHI and HNE	Result in concentrated market in civil engineering sector regarding to the strong barrier to entry (technologies and capital)
Ye. *et. al.* (2009)	Japan, US and China	CR, HHI, Entropy, Gini	CR, HHI and Gini recorded in concentration, while Entropy is less concentrated
Liao Yuping (2010)	China	CR, Gini, Lorenz Curve	The concentration of China construction industry market has developed
Patrick McCloughan (2004)	Britain	five-firm CR	The results suggest that the British construction sector is dynamic in terms of their levels and trends in concentration
J. Lowe (2011)	UK	five-firm CR	The paper concludes that construction is one of the most competitive sectors in the economy and its input structure is also amongst the least concentrated
Zeng *et. al.* (2011)	China	CR, Lorenz curve and Gini Coefficient	The Gini coefficient shows a very low concentration of firms in the construction industry.

METHODOLOGY AND DATA

To evaluate the concentration level of the Malaysian construction industry we use five models of concentration measurement as shown in Table 3. These models will be calculated based on the construction firm data level. There are few axioms which all the five measurements of concentration have to fulfill based on Hanna Kay (1977) characteristics.

Table 3 Measurement of the concentration

Method	Description	Model	Range	Literature
Concentration Ratio (CR)	Cumulative market shares of the largest firms. Where *n* is arbitrary and absolute value	$CR_n = \sum_{i=1}^{n} s_i$	(4/ n ,1) $0<CR_n = 1$	Curry and George (1983)
Herfindahl Hirschman Index (HHI)	The sum squared market shares of all the firms in the industry.	$HHI = \sum_{i=1}^{N} s_i^2$	(1/ n ,1) 1/n =HHI= 1	Heather (2002); Cawling and Waterson (1976);
Entropy Index (EI)	Measuring the degree of disorder, uncertainty or random to reflect competition	$E = \sum_{i=1}^{N} S_i \log_e \left[\left(\frac{1}{S_i}\right)\right]$	(0,log n) $0 = E_H = \log n$	Lipczynski J. *et al.*, (2005)
Hannah Kay Index (HK)	Sensitive in measuring of firms size of distribution	$HK(\alpha) = \sum_{i=1}^{N} s_i^{\alpha}$	(1/ s_i , n) $1/s_i$= HK = n	Hanna and Kay (1977)
GINI Coefficient (GINI)	Measuring the unequal in the firm size distribution	$GC = \frac{n+1}{n-1} - \frac{2}{n(n-1)\mu} \times \sum_{i=1}^{n} (NiSi)$	(0 , 1) O < G = 1	Lipczynski J. *et al.*, (2005)

Data Selection

The data is drawn from the Malaysian construction industry where the firms have been listed in Bursa Malaysia. The firm level data is taken from each year annual report which is for 10 years period; beginning from 2000 until 2010. However the number of firms varies across the years. As at the end of year 2010, there were 42 firms registered in Bursa Malaysia. The registered firm's are classified under the construction sector; also operate in various sub-sectors of the construction activities; such as residential, non-residential, civil engineering and special trade. Meanwhile, most of these companies are also involved in other sectors such as property, manufacturing, marine construction and infrastructure.

In order to measure the market share, McCloughan (2004) has elaborated that market share of a particular industry can be calculated by using employment, net output, turnover (basically known as the value of total sales) or work done (or job completed) so as to show the size of the market distribution. Recent studies on construction industry has used various indicators (such as employment, work done, number of contractor

awarded, and number of registered enterprise) to measure the industry size. However, in this study we choose firm's revenue as a proxy to 'total sales' by the firms. According to Bursa Malaysia, the format of financial statement has been standardized using 'total sales' as 'revenue' in construction sector firm data. Due to the paucity of the data we thought revenue seems best represents the returns on each firm in the industry. Besides, in this particular case, revenue is considered the best indicator of market share for each individual construction firm. The total revenue of all firms illustrates the size of the industry as a whole.

DATA ANALUSIS AND FINDINGS

Trend in Concentration

The trend of the market concentration is examined, in order to classify the market structure of the Malaysian construction industry. In this study the industry concentration level is measured using five methods of concentration measurements; in order to make comparison across the several methods used in determining the concentration level.

Table 4, shows the trend of concentration in the Malaysia construction industry. Within the 10 year' period, the construction firm listed in Bursa Malaysia has increased. In the early 2000, the total firm in the industry is 36 firms, however in 2010, the firms has increased to 42 firms. This has shown that the industry has growing in term of the registered firms involve with the construction industry. In addition there is also an increasing trend in the concentration level of the industry as shown by the results obtained from the data analysis.

Table 4 The Trend of Concentration in Malaysian Construction Industry

Years/ Measures	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
No. of Company	36	38	36	37	38	40	40	41	41	40	42
CR											
CR4 (%)	0.33	0.36	0.42	0.44	0.36	0.38	0.38	0.42	0.51	0.51	0.42
CR8 (%)	0.55	0.59	0.64	0.59	0.55	0.57	0.55	0.6	0.69	0.69	0.61
HHI	520	565	673	622	528	539	546	748	903	952	650
Entropy	1.42	1.45	1.59	1.5	1.38	1.37	1.35	1.5	1.7	1.72	1.5
Hanna Kay											
HK (1.5)	0.21	0.22	0.24	0.23	0.21	0.21	0.21	0.24	0.27	0.27	0.23
HK (2.0)	0.05	0.05	0.06	0.06	0.05	0.05	0.05	0.07	0.09	0.09	0.06
HK (2.5)	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.00	0.03	0.02
GINI Coefficient	0.46	0.59	0.50	0.51	0.48	0.50	0.48	0.55	0.63	0.62	0.58

Source: Calculated by authors

The Analysis Measurement of Concentration

Each model applied in the analysis provides different results and interpretations. Where concentration ratio is concerned, following Gwin's (2001) scale of concentration when $CR_4 = 0$, the market is perfectly competitive; when $0<CR_4< 40$, the market is monopolistically competitive; and when $40<CR_4<60$, the market is considered as an oligopolistic. If CR4>60 it is highly oligopolistic and when; $CR_4> 90$, the market is a monopoly.

Thus, based on the above given scales, the results in figure 4 show that, in early 2000 and 2001, CR_4 indicates that the industry is a monopolistic market, however in 2002 and 2003, result has increased in concentration. While in 2004 until 2006, the industry has become less concentrated. The CR_4 has shown a slight increase in high value from 2008 to 2009. Hence, this has made the characteristic of the industry as an oligopoly market structure. The comparison of CR_4 and CR_8 has resulted into different conclusion, where CR_8 indicates the industry as an oligopoly market structure from 2000 until 2010. Generally, the concentration ratio measurement for the Malaysian construction industry can be classified as an oligopolistic market structure. Even there has been result in monopolistic market, but the degree of concentration is approaching towards the oligopoly structure.

However, the HHI result has recorded lower than 1000; which according to the US Department of Justice if the value of the HHI is less than 1000 no concentration has occurred in the industry and there is no challenge for competition. Even though the above HHI result has not postulated any concentration level which less than 1000, the value is somehow approaching to the existence of the concentration (above 1000). While Hannah and Kay (HK) index shows the increasing trend of the concentration at the end period of the study, with the large of α indicates the value of the index become smaller.

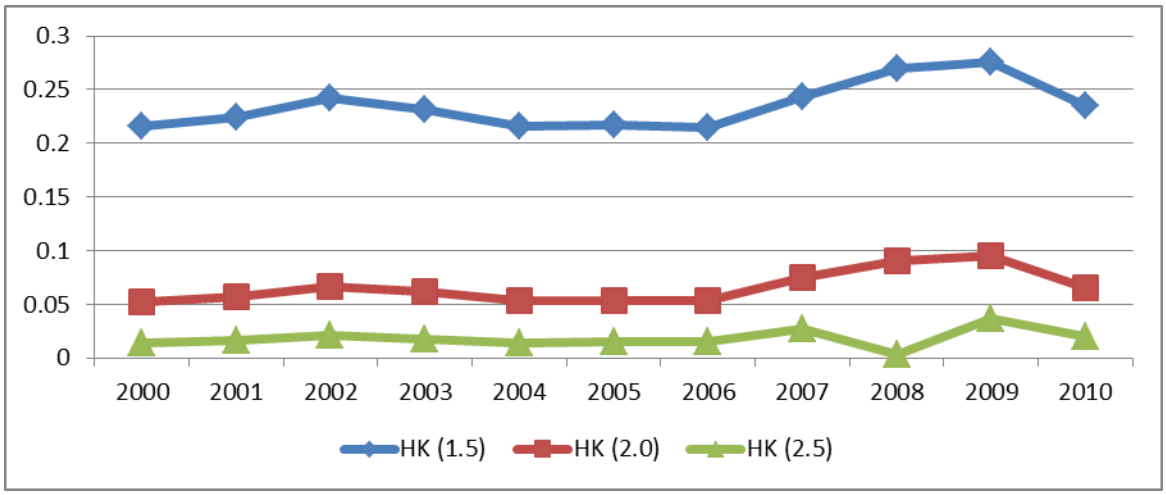


Figure 4 Hanna Kay Index

Conversely, Entropy index has elaborated the measurement of concentration at different range. The small index of the entropy is considered as highly concentrated industry (Bikker and Haaf, 2002). Thus, entropy results in the industry as lower in concentration. Besides, the entropy value also indicates the higher degree of competitiveness. Thus, construction industry is increasing in competition over time.

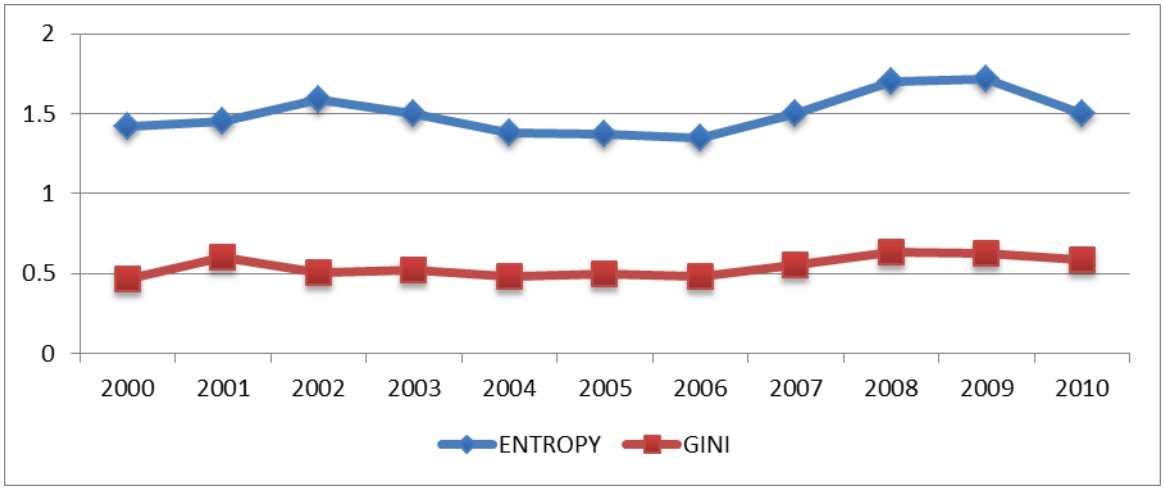


Figure 4.1 Entropy and Gini Coefficient

GINI Coefficient has implied the maximum value of G=1 correspondent to the one dominant firm. From the finding, the value of G is approaching 1. It indicates that the construction industry is approaching the dominant firm criteria which inequality in the market share that will generate market power (Curry and George, 1983).

Figure 4.2 shows the Lorenz curve in year 2008. From the result of Gini Coefficient, the highest value of the index is in 2008 (0.63; which approaching to 1 that indicates as market power). From the Lorenz curve, it gives an illustration of the inequality of industry's market size (Heather, 2004). The curve is plotted from the percentage of cumulated largest firm until the smallest firm. Hence, the Lorenz curve is far from the equality line which concludes there are uneven of market distribution. The curves explain that there are few largest firms have controlled the market. This has support that the result in Gini coefficient might be responding to the market power of a dominant firm in the Malaysian construction industry.

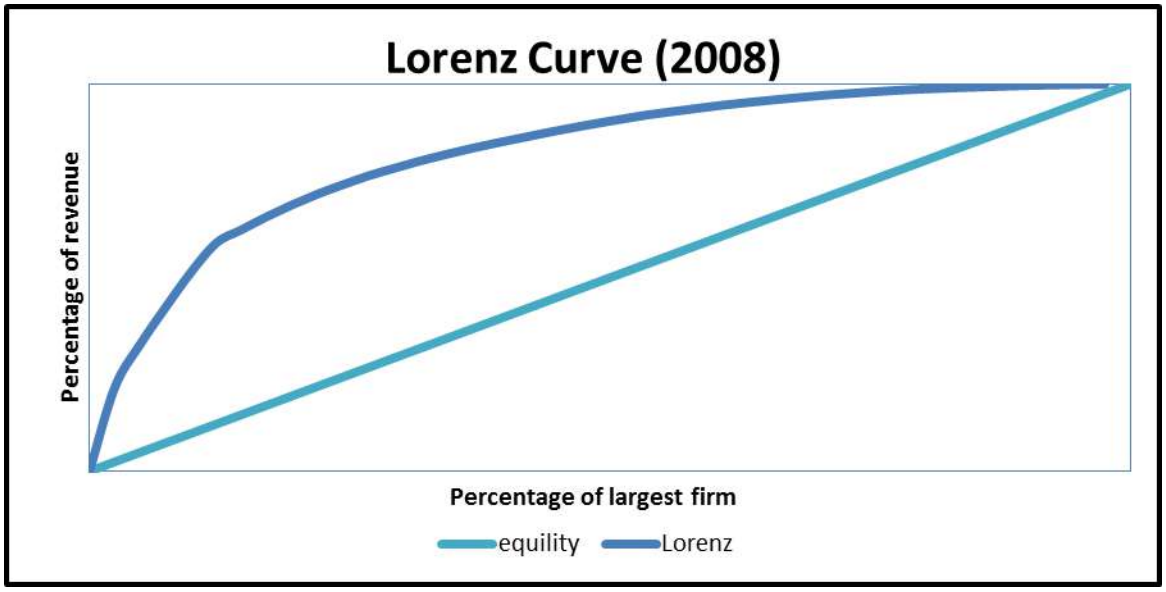


Figure 4.2 Lorenz Curve and Gini Coefficient

CONCLUSION AND IMPLICATION

The level of concentration varies among the five measurements approach. CR, HK, and Gini have indicated that the construction industry as a concentrated market which concludes as the oligopoly market structure. In consequence, HHI and Entropy index results indicate the construction industry as less concentrated market, but the findings is close in conclude as oligopolies. Thus, HHI and Entropy indicate the construction industry as monopolistic market structure.

Generally, the criteria of the construction industry has the oligopolies characteristic structure is such as; there is less number of firms in the industry, the barrier to entry and exit is high because of high technologies (high in economics of scale), the size of the industry almost rely on capital and labor intensity. Hence, the possibility of the behavior to collude among firms in the industry may occur. There is a higher chance of the industry itself to determine the output price. Therefore, with this certain criteria has exist in the Malaysian construction industry. As a result, the hypothesis has indicated the Malaysian Construction industry is classified under the oligopolies market structure.

Considering the phenomena in the Malaysian construction industry, over the issue of construction material price has brought slightly increase towards the soaring price of the industry output. In the economic report (2008/2009), reported that the construction material price is monitor under government authorities and the annual price of construction output is controlled by the government board. However, in the middle of year 2008, the government has liberalized the price of construction material, where the price is determine by the market, trough the demand and supply. Hence, this adjustment

has given greater impact of the construction output, particularly the residential building. This has also change the industry structure towards the oligopoly market structure which will lead to the market power of certain firms (Bain, 1956). Therefore, the government may need to consider reverting towards controlling the price of raw material which can bring about the decreases in the issue of the price output of the industry.

Empirical findings have provided some basis of the industry structure base on the determination of concentration level of the Malaysian construction industry. The result may bring about to the policy measure in order to ensure that the market structure does exist the monopoly practice. This analysis also may provide policy implications parallel with the government objective in delivering the competitive market of an industry. Inconsequence with the competition act, this can result in the observation under the competition policy.

Limitation and Future Research

The limitation of the study which the analysis made has focuses on the Malaysian construction firms listed in the Bursa Malaysia, where it is consider as the big firms in the industry. Due to the limitation of the data regarding to the annual report, has brought the analysis is not covered of all the entire firms in the industry. Besides, the analysis of the concentration measurement is limited up until five measurements, where there still more choices of concentration measurement. Such measurement are not included here because of the analysis measurement is vary in term of the Hanna Kay axiom.

There is a lot of empirical work that could be done in the area of industrial concentration. The structure of the industry may result towards its performance which can determine the relationship according to the SCP paradigm. Some policy implications could impose better performance of the industry which will create a more competitive environment.

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Experiences and Positive Deviance towards Environmental Disclosure Quality

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ABSTRACT

This paper presents a theoretical proposition based on institutional theory for environmental disclosure quality. The argument is based on the internal behavioral governance mechanism, which is the cognitive influence of board of director's environmental experience, towards environmental disclosure quality through positive environmental deviance as the mediator. This paper contributes to the literature by providing a fundamental explanation of how organizations deviate positively from its peer, which solely focus on the external motivation for corporate environmental reporting practices, whereby the internal motivation, the cognitive influence of board of director, should be the focus towards better environmental disclosure practices. The concept of positive environmental deviance is relatively new, hence, it offers an interesting avenue for further research especially in the developing countries context. Overall, this paper shed some insight on internal behavioral governance mechanism and positive environmental deviance towards environmental disclosure quality, which hopefully would attract researchers, practitioners and policy makers to look into this area seriously.

Keywords: Environmental Disclosure Quality, Positive Environmental Deviance, Board of Directors, Environmental Experience

INTRODUCTION

Malaysia and other ASEAN (Association of Southeast Asian Nations) economies are increasingly vulnerable to the impacts of climate change, biodiversity loses and water scarcity. These disasters often bring along serious social and economic implications,

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which affect the security and stability of the region. Published news about the Typhoon *Haiyan* in the Philippines (CNN, 2013) major water crisis in one the highest populated states in Malaysia (Goh, 2014), biggest floods in the east coast of Malaysia (Nazari, 2013), and air pollution caused by forest fire in Kalimantan and Sumatera (The Wall Street Journal, 2013) all makes us apprehensive what will happen next. A recent study by the Asian Development Bank showed that disasters loses have outpaced the region's economic growth, and will continue to threaten the development gains in these emerging markets (Asian Development Bank, 2013).

Given the emergence of environmental issues and their massive impact to our economy, there has been growing pressure over the past decade on corporation to be more transparent in disclosing their business related environmental impacts (Marquis & Toffel, 2013). The increasing CSR (corporate social responsibility) and sustainability awareness drive corporate sustainability reporting to be more focus on the materiality issues emphasized and interested by the stakeholders and investors. In fact, the importance of environmental sustainability concern has leads companies worldwide to improve their corporate environmental sustainability practices via measuring, managing, and reporting on their environmental impacts beyond regulatory compliance as part of their corporate environmental responsibility practices (KPMG, UNEP, GRI & UCGA, 2013). Nowadays, environmental issues has indeed been a major concern by majority of the world's largest corporations, including the global top 250 (G250) companies (KPMG, 2013).

To ensure environmental accountability, among the renown standards and best practices, Global Reporting Initiative (GRI) has been recognized as the most prominent voluntary standard-setting which regarded as "de facto global standard" for sustainability reporting worldwide (Hahn & Kühnen, 2013; KPMG, 2011). The performance indicators listed in the GRI framework have been widely used in measuring and reporting economic, social and environmental performance of corporations, which is also known as 3P (people, planet and profit) or triple bottom line disclosure (GRI, 2012).

Survey research among practitioners put forward diverse array of corporate motivation for sustainability reporting practices worldwide, which include the external motivation arise from external pressures for CSR related behavior, as well as the internal motivation for sustainability management related practices improvement at the organization level (Perez-Lopez, Moreno-Romero, & Barkemeyer 2013). For instance, the external motivation includes (1) compliance to legal requirements and social norms; (2) to be transparent to their stakeholders; (3) credibility and reputation management; (4) communication efforts; and lastly (5) to obtain license to operate. Meanwhile, the internal motivation covers (1) risk management improvement; (2) strategic opportunities identification; (3) resources allocation and cost reduction; (4) collaboration and process improvement within organization; (5) employee motivation; and lastly (6) innovation and learning (GRI, 2012; KPMG et al., 2013; SustainAbility, Futerra Sustainability Communications, & KPMG, 2010).

Previous research has examined the various kinds of determinants that lead to environmental disclosure quality or sustainability disclosure quality (Fifka, 2013; Hahn

& Kühnen, 2013). Nevertheless, only corporate size and corporate visibility has been found to have consistent positive result with environmental disclosure quality and sustainability disclosure quality. Furthermore, less clarity exist from the institutional perspective whereby the pattern of CER practices do not follow strategically the institutional expectation (Meyer & Rowan, 1977). If this is the case, then the extent and quality of CER will gradually align due to institutional isomorphism (DiMaggio & Powell, 1983). However, in reality, companies do not adopt uniform response to institutional expectation as some companies outstandingly report their environmental information, whereas others disclose only limited information (Pedersen, Neergaard, Pedersen, & Gwozdz, 2013). Hence, this paper fill in the gap by providing insight into the underlying mechanism of institutional deviance by recognizing the role of internal behavioral governance mechanism in the interpretation of institutional pressures and their subsequent implications for organizational deviance in CER practices.

LITERATURE REVIEW

Environmental Disclosure Quality

Corporate environmental reporting (CER) is one of the component in environmental accountability (Alrazi, de Villiers, & van Staden, 2009). CER is a practice to measure, and then report organizational environmental performance in the pursuit of sustainable development to external and internal stakeholders (GRI, 2006). There are various forms of CER, ranging from part of the hardcopy annual reports, part of sustainability reports, as a standalone report or even available online (Wangombe, 2013).

There are various CER definitions. Wilmshurst and Frost (2000, p. 16) define CER as "those disclosures that relate to the impact company activities have on the physical or natural environment in which they operate". Meanwhile, Berthelot et al. (2003, p.2) define CER as "the set of information items that relate to a firm's past, current and future environmental management activities and performance. [It]...also comprises information about the past, current and future financial implications resulting from a firm's environmental management decisions or actions." Specifically, environmental information disclosed should covers risky and uncertain environmental related issues, such as climate change, biodiversity and water scarcity, which cause significant impacts on the future performance and prospect of the organization (Iatridis, 2013).

CER implementation can be structured, based on environmental reporting guidelines or voluntary. With the most comprehensive and influential reporting guidelines, GRI, the quality and inconsistency of CER practices have been improved tremendously (Alazzani & Wan-Hussin, 2013; KPMG, 2013; Ling & Mowen, 2013; Perez-Lopez et al., 2013). Compare with the extent of CER (volume of information) disclosed, the quality of CER is still preferred by stakeholders as it is argued that a quality report, which covers quality of corporate governance, company risk management, reputation and future financial prospects (Iatridis, 2013), is more reliable and credible (Darus, Othman, & Arshad, 2014). There are several quality reporting

criteria to be included: (1) strategy, risk and opportunity; (2) materiality; (3) target setting and indicators; (4) suppliers and value chain; (5) stakeholder engagement; (6) governance; and lastly (7) transparency and balance (KPMG, 2013).

Previous CER research on the determinants of the quality disclosure ranging from descriptive disclosure research to specific, quantifiable, and monetary data (Hahn & Kühnen, 2013). Among those determinants been researched were: (1) Corporate size (Brammer & Pavelin, 2008; Clarkson, Li, Richardson, & Vasvari, 2008; Clarkson, Overell, & Chapple, 2011; Morhardt, 2010); (2) Boards characteristics (Amran, Lee, & Devi, 2013; Oba & Fodio, 2014); (3) Financial performance (Clarkson et al., 2008; Clarkson, Overell, et al., 2011); (4) Ownership structure (Brammer & Pavelin, 2008);(5) Industry affiliation, country-of-origin, and legislative requirement Brammer & Pavelin, 2008; Clarkson et al., 2008; Clarkson, Overell, et al., 2011; Morhardt, 2010; Vormedal & Ruud, 2009) (6) Board effectiveness (Ben-Amar & McIlkenny, 2014); and lastly (7) Corporate visibility (Brammer & Pavelin, 2008; Clarkson et al., 2008; Clarkson et al., 2011).

In the Malaysian context, there is still not much research on the quality of CER based on GRI requirement (Ahmad & Haraf, 2013; Alazzani & Wan-Hussin, 2013; Mokhtar & Sulaiman, 2012). Most of the previous research work on the extent or levels of CER and focus on very narrow scope (Darus et al., 2014); location of CER in the annual report (Othman & Ameer, 2010; Yam, 2013) and environmental sub-themes (environmental preservation; environmental expenditures and investments; pollution abatement; and environmental preservation) (Alazzani & Wan-Hussin, 2013; Amran et al., 2012). Hence, in the absence of specific CER guidelines, it is vital to improve the robustness, reliability, credibility, and consistency of CER practices, which lead to the call for further investigation of the role of board of directors in CER process, as the company board has the ultimate responsibility in dealing with the regulative pressure to disclosure CSR information. In this case, this paper suggests that positive environmental deviance play an important role to improve the quality of environmental disclosure.

Positive Environmental Deviance

Positive environmental deviance is crucial in the context of environmental sustainability. This positive organizational strategic response take place when organizations mitigate their operational impact to the environment beyond the legislation (Walls & Hoffman, 2013). This positive deviance may attribute to the proactive strategic response by organizations that recognized the importance of environmental responsibility in their business operation (Toppinen, Li, Tuppura, & Xiong, 2012). Furthermore, this proactive strategic response also involved the voluntary practices to improve environmental performance (González-Benito & González-Benito, 2006). The companies that deviate positively in their environmental practices addressed environmental issue with sustainable solution that require coordination between various team member within the organization such as environmental team and engineering, production, marketing, and distribution managers (Albertini, 2013). They also have developed some specific environmental capabilities such as historical orientation, network embeddedness, endowments, managerial vision, top management skills, and

human resources (Walls, Phan, & Berrone, 2011), while they always addressed the requirement of environmental regulation at any given time (Albertini, 2013).

The potential impact of company that deviates positively in their corporate environmental practice is examined at two levels: (1) environmental performance, and (2) environmental capital expenditures (ECEs) (Rodrigue, Magnan, & Cho, 2013). Environmental performance is measured as either regulatory or voluntary, which regulatory performance represent a reactive approach to corporate environmental management practices, while voluntary performance such as pollution prevention performance constitutes a proactive environmental strategy aiming to exceed compliance expectation (Walls & Hoffman, 2013). ECEs are measured regarding to capital expenditures dedicated to pollution control and abatement and represent specific environmental management decision owing to their relevance for regulatory, strategic, and financial purposes (Rodrigue et al., 2013). ECEs represents a significant elements of corporate environmental strategy and contribute to environmental performance management (Clarkson, Li, Gordon & Vasvari, 2011).

Besides environmental performance and ECEs, organizations that deviate positively in their corporate environmental management practices also emphasized internal motives of CER (internal practices of corporate environmental management practices) along with the external motives of CER (external communication of corporate environmental management practices)(Perez-Lopez et al., 2013).

Perez-Lopez and colleagues (2013) found that the focus solely on external requirements does not guarantee any of the internal benefits frequently associated with CER. Previous study revealed that companies which deviate positively in their corporate environmental management practices disclosed higher quality environmental reporting (Albertini, 2013). As the positive environmental deviance may lead to the improvement of CER quality, this relationship can be explained more clearly by studying the mechanism behind this positive environmental deviance.

Board of Directors' Environmental Experience

Board of directors is crucial in understanding the connection of the organizational field to the organizational internal governance (Rodrigue et al., 2013; Walls & Hoffman, 2013). Boards of directors are the assets of knowledge and resources that can directly or indirectly affect corporate strategy through either board discussion or by forming board committees (Kim & Ozdemir, 2014). Coro Strandberg (2008) revealed the global trends toward greater board oversight of material sustainability issues that affect corporate performance. Globally, about 60% of PLCs have set up their dedicated board members to oversees sustainability related issues (Hall & Cruse, 2011).

Boards of directors interpret the institutional pressures on the experience of its members and shapes organizational response strategically based on their interpretation (Walls & Hoffman, 2013). Some boards seeks additional expertise by recruiting directors with environmental background while others steer executives' behavior by incorporating environmental incentives in their executive compensation schemes (Berrone & Gomez-Mejia, 2009). It is argued that board of directors have two functions that are complementary but which also create some tension such as monitoring of managerial decisions and control systems as well as providing resources, mostly advice

and counsel, to management (Armstrong, Guay, & Weber, 2010). The monitoring function induces board of directors to protect stakeholders particularly shareholder interest by monitoring managers' behavior while the advice function implies that boards members shape and evaluate strategic decisions that will help facilitate access to the resources necessary for corporate success (Rodrigue et al., 2013). Walls and Hoffman (2013) argued that the board's participation in decision on environmental sustainability is fitting due to problematic environmental issues which are often institutionally complex.

Environmental governance mechanism which originated from the boards of directors can be conceptualized into two approaches (Rodrigue et al., 2013). The first approach is substantive approach with boards implement environmental governance mechanism to respond to stakeholders' environmental expectations, address environmental performance issues and the monitor the firm's environmental performance. While the second approach, is symbolic which suggest that environmental governance mechanism are merely symbols of boards environmental involvement without a real impact on environmental investment decision. Regardless of the those approaches, all of these environmental governance mechanism are influenced by the filter of the decision makers' prior experience (Snook, 2000).

Pertaining to the relationship between internal environmental governance mechanism and positive environmental deviance, Rodrigue et al. (2013) found that the existence of environmental committee; the proportion of environmentally aware directors in the boards; and the presence of environmental incentive in executive compensation have negative relationship with positive environmental deviance as those internal environmental governance mechanism being predominantly part of symbolic approach to manage stakeholders perception on corporate environmental management. This study argue the inconsistency between those internal governance mechanism with quality of CER as well as positive environmental deviance may be attributed to the lack of study from the behavioral governance perspective.

THEORETICAL BACKGROUND

Previous studies revealed that CER was subjected to different levels of pressures which influence the state of environmental disclosure quality (Wangombe, 2013). As the Malaysian public listed companies (PLCs) faced external pressure such as the mandatory requirement of CSR framework by Bursa Malaysia in 2007, it is worthwhile to examine CER quality from the institutional perspective. According to the seminal papers, institutions context includes internal structures and external rules, such as public norms, environmental policy, environmental legislations and regulation (DiMaggio & Powell, 1983; Suchman, 1995). Institutional theory underlined how organizations opt for certain behavior or practices such as CER trough isomorphism (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Therefore, institutional theory offers a possible lens for examining CER practices.

Previous study has investigated the association between the extent of CSR disclosure and organizational governance structure from the institutional perspective (Ntim & Soobaroyen, 2013). The study found that organization with higher government ownership, diverse and larger board size, and more independent board members, was positively related to the extent of CSR disclosure. Besides, Amran et al. (2012) has used institutional theory to explain the relationship between firm attributes, ownership structure, and business network and climate change mitigation effort, whereby company size, profitability, industry membership, government ownership and business network were found to be positively related to environmental related practices. Institutional theory explained the importance of regulatory, normative and cognitive pressures that influence an organization to adopt specific organization structure and practices.

As an extension to those two study (Amran et al., 2012; Ntim & Soobaroyen, 2013), this study employ institutional theory to look into the role of internal governance mechanism rather than institutional context to examine the differences in organizational responses. This study adopts the idea from Walls and Hoffman (2013) to explain why some organizations deviate from institutional norms to improve their environmental management practices at the company level. With this kind of positive environmental behavior, companies will emphasize the technical and organizational elements that would be needed in order to integrate CER into corporate environmental management practices rather then solely focus on the external motivation of CER (Perez-Lopez et al., 2013).

PROPOSITION DEVELOPMENT

Not without critics, CSR practice has been gaining momentum steadily throughout the years. Many governments have implemented mandatory CSR disclosure requirements. For instance, all PLCs in Malaysia has been required to disclosed CSR information in their annual report (Bursa Malaysia, 2007). Since then, the number of Malaysian companies disclosing their environmental information is increasing tremendously due to this governmental pressure. Observation indicated that the information disclosed is in heterogeneous manner, which revealed that companies response in various way to the institutional pressure (ACCA, 2010; KPMG et al., 2013).

Variation and inconsistency of environmental information disclosed by the Malaysian companies was highlighted by several researchers. The information disclosed was incomplete and incomprehensive, which largely confined to the general, narrative statements which cannot be verified (Othman, Darus & Arshad, 2011; Ahmad & Mohamad, 2013; Darus, Yusoff, Azhari & Khadijah, 2013). Most of the environmental information reported were merely to meet the Bursa Malaysia reporting requirements, and not due to the strategic value of disclosure (ACCA, 2013). Besides, some of the companies obtained independent third-party assurance for their environmental report (ACCA, 2013; Yam, 2013); whereas others opt for voluntary standard assessment system such as GRI Sustainability Reporting Guidelines and GRI Application Level Check in their corporate environmental reporting practices (Alazzani & Wan-Hussin, 2013; Samuel, Agamuthu, & Hashim, 2013). Some of the companies even go extra

miles to disclose their business carbon footprint and climate change business strategy (PwC, 2013).

Hence, the corporate environmental reporting (CER) practices in Malaysian companies raised questions whether the diversity and inconsistency is attributed to the institutional deviance, which make some of them deviates from institutional norms (Hoffman & Georg, 2013), which is confirming symbolically to institutional pressures by decoupling their core activities from the practices and procedures force upon them from the outside (Marquis & Toffel, 2013) or confirming substantively to institutional pressures by positively improving their environmental sustainability management practices at the company level beyond what is required by the regulations (Walls & Hoffman, 2013).

As such, institutional deviance will lead companies to behave symbolically or substantively, hence, there is a critical need to examine environmental disclosure quality, especially in the environmentally-sensitive industry, to investigate in case the CER is simply a reputation management tool to obtain legitimacy or a accountability channel towards the company stakeholders (Ahmad & Haraf, 2013).

One of the possible avenues to understand this kind of institutional deviance is by identifying companies' strategic approach towards institutional pressures (Scott, 2008; Walls & Hoffman, 2013). Normally, the strategic approach stemmed from external motivation, which focuses on the external communication of sustainability related information (Perez-Lopez et al., 2013). Nevertheless, recent study has call upon investigation pertaining to the institutional pressure which stem from internal motivation, which relates to the improvement of sustainability related practices internally (Perez-Lopez et al., 2013).

The organization's strategic approach to institutional pressure is closely related to the internal governance mechanism of the organization. Hence, CER should be assessed from the internal strategic perspective, as the board of directors governs the company operations through corporate disclosure practices and risk management processes (Ben-Amar & McIlkenny, 2014; Cormier & Magnan, 2013). Survey has revealed that CER, as a core business practice, has been the focus of the practitioners, with roughly 60% of the companies practiced CER, which implied the ultimate responsibility of the board of directors (KPMG, 2013).

From the managerial perspective, decision makers always respond strategically to the external institutional context (Walls & Hoffman, 2013), which involved experiences (Snook, 2000). Therefore, board of directors may influence CER practices of an organization (UN Global Compact, 2013), through the cognitive influence of board of directors, as this internal governance mechanism help them to interpret the institutional pressure, based on their skills and experiences (Walls & Hoffman, 2013). Previous study which focus on the structural and characteristic of the internal governance mechanism to the improvement of environmental disclosure quality or sustainability disclosure quality (Amran, Lee & Devi, 2013; Said, Omar & Abdullah, 2013; Ben-Amar & McIlkenny, 2014; Oba & Fodio, 2014), fall short in providing the consistent result between internal governance mechanism and environmental disclosure

quality, which leave more room to internal behavioral mechanism in explaining the relationship.

Since previous research has revealed the inconsistency of the relationship between various kind of determinants of environmental disclosure quality (financial performance; ownership structure; sector affiliation, country-of-origin, and legal requirement; board effectiveness; boards characteristics) except for corporate size and corporate visibility, it is necessary to scrutinize on the internal behavioral governance mechanism as a determinants of environmental disclosure quality.

The environmental experience of Board of directors enable company to deviate positively form institutional norms (Walls & Hoffman, 2013) by the improvement of ECEs, which are dedicated to pollution control and abatement and represent specific environmental management decision owing to their relevance for regulatory, strategic, and financial purpose (Rodrigue et al., 2013). Moreover, the present of positive environmental deviance through the corporate environmental governance mechanism and intensity of ECEs (Rodrigue et al., 2013), as well as proactive environmental strategy (Clarkson, Li, et al., 2011) lead to openness, comparability and sufficient transparency of environmental and social performance which has become the key principles today. In contrast, without the positive environmental deviance in corporate environmental governance mechanism and intensity of ECEs, which show substantial investment and a long term commitment to environment, companies may not reach to a level, whereby can be expected from a positively environmental deviated companies since is not easy, risk-free or without cost (Toppinen & Korhonen-Kurki, 2013). This positively deviated company will signal their exceptional effort in environmental effort and increase the transparency of the report, which subsequently lead to the improvement of the quality of CER (Clarkson, Fang, Li & Richardson, 2013) Hence the following propositions were proposed:

P1: The cognitive influence of board of director's environmental experience will be positively related to positive environmental deviance.

P2: Positive environmental deviance will positively related to environmental disclosure quality.

P3: Without the mediating effect of positive environmental deviance, the relationship between cognitive influences of board of director's environmental experience will negatively related to environmental disclosure quality.

Figure 1 depicts the proposed model and the relationships between the variables

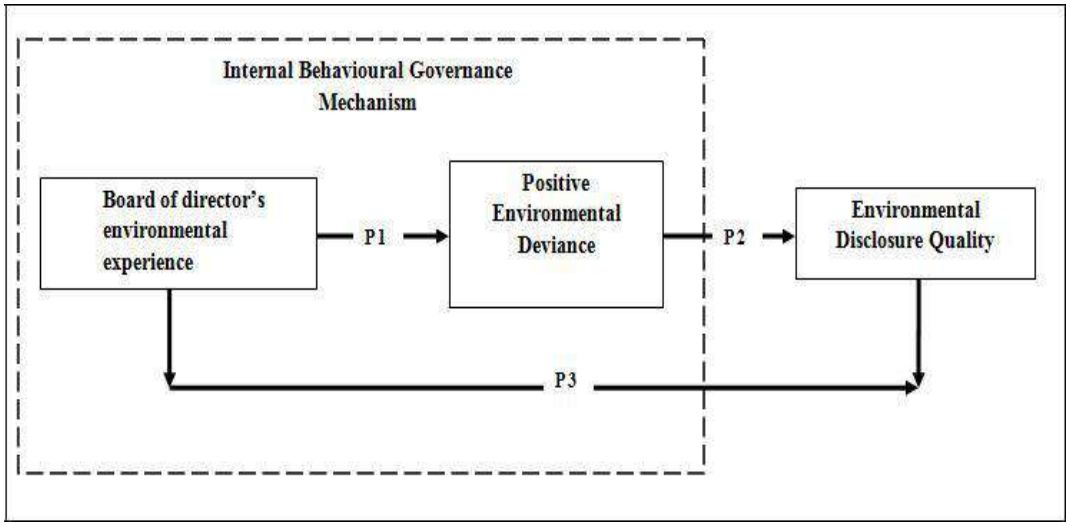


Figure 1 Proposed Research Model

CONCLUSION

This paper attempts to present a conceptual framework that describes the relationship between internal behavioral governance mechanism, positive environmental deviance and environmental disclosure quality. This paper proposed that internal behavioral governance mechanism would have a positive influence on positive environmental deviance which would lead to better environmental disclosure practices.

The importance of positive environmental deviance is significant to understand the connection of board of director's environmental experience to environmental disclosure quality. With this, board of director's environmental experience has the potential to drive positive environmental deviance, which attribute to proactive strategic response that recognized the importance of environmental responsibility related issues in the overall business operation, which subsequently lead to the improvement of environmental disclosure quality. Moreover, the proposed framework is in line with institutional theory which presumed that with the present of institutional pressures, in this context which is the internal behavioral governance mechanism, would lead to proactive strategic response due to environmental responsibility, hence, increase the quality of organizational environmental disclosure.

Lastly, if the empirical findings were found to be supportive, then, the findings can assist practitioners and policy makers to make appropriate decision and take necessary actions to enhance positive environmental deviance which in turn leads to better environmental disclosure, which may assist companies to survive is this highly competitive business environment.

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ISBN 978-9983-2408-22-2



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