

INTER-INDUSTRY LINKAGE OF SMALL AND MEDIUM SCALE ENTERPRISES AS A MECHANISM OF SMALL SCALE BUSINESS DEVELOPMENT AND POVERTY REDUCTION: EMPIRICAL EVIDENCE FROM NIGERIA

ABU ZEKERI

Department of Entrepreneurship, College of Social and Management Sciences, Joseph Ayo Babalola University Ikeji Arakeji, Osun State, Nigeria. Zekerlabu2007@yahoo.com

OLOWU, A. U.

Department of Entrepreneurship Joseph Ayo Babalola University, Ikeji-Arakeji Osun State Nigeria. seyeolowu@yahoo.com

Abstract

Emerging views on organizational strategy emphasized the importance of inter-industry linkages in mobilizing resources for better performance in modern organisations. However, the choice of the appropriate inter-industry linkage mix required to enhance small scale business development and poverty reduction is not properly understood in developing countries. The purpose of this study therefore is to conduct an empirical study on the use of inter-industry linkage mechanisms in small businesses for development and poverty reduction in Nigeria. Employment and income levels were employed to measure business development and poverty reduction. 540 participants from small scale enterprises in the manufacturing sector were studied through random sampling. Regression analysis was used to estimate the various relationships specified. Cronbach's alphas were used to determine internal consistency of items operationalized to measure constructs. Our findings showed that firms with many links and highly diverse structural relationships generate more employment and pay higher wages than less diverse ones. 21.9% of the variations in level of employment could be accounted for by linkage strategy. $R^2 = .219$, $F_{(1, 539)} = 23.66$; $p < .05$. 37.4% of the variations in level of wages could be accounted for by linkage structure. $R^2 = .374$, $F_{(1, 539)} = 78.604$; $p < .05$. It was concluded that the level of wages and employment generated depends on the number of links a firm can effectively mobilized.

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We recommend therefore that managers should encourage the formation of a larger number of links to reap maximum benefits from inter-industry linkage. It is hoped that our findings will contribute to economic development and poverty reduction in Nigeria.

Keywords: inter-industry, linkage, employment, wages, strategy, outsourcing, poverty, small scale business.

Introduction

Poverty reduction through Small and Medium Enterprises (SMEs) development has been a cardinal objective of regional and national policy arrangement in Nigeria such as National Economic Empowerment and Development Strategy (NEEDS), Small and Medium Enterprise Development Agency of Nigeria (SMEDAN), and New Partnership for African Development (NEPAD). However the small and medium enterprises sub-sector of the economy which could have served as foundation for economic development has remained disappointingly underdeveloped and unable to perform its traditional functions of employment generation, poverty reduction and wealth creation. Several factors including lack of effective linkages among SMEs, shortage of developmental finance, deficient entrepreneurial capacity, poor infrastructural facilities, high cost of business resources, shortage of expertise, inhospitable business environment, and availability of data and poor flow of information, have worked against the huge potential of SME to alleviate poverty in Nigeria. This has resulted in special focus of policy makers and scholars on the SME sub-sector of the Nigerian economy. The contributions of small scale businesses efforts to the economic progress of other countries notably the Asian Tigers-Korea, Taiwan, Singapore and Malaysia and the S economies Brazil, Russia, India, China and South Africa, some of which gained the status of newly industrializing countries, has contributed to the growing interest in small business development (Tambunlertchai, 1994). Also, the need to curb high rate of unemployment among the youths have called for more attention of policy makers and observers on the potentials of small businesses as a means to achieving gainful employment.

The role of inter-industry linkage or what Hamel, G., Yves, L. and Prahalad (1989) called "competitive collaboration" joint ventures, outsourcing, product licensing, cooperative research, subcontracting, franchising, development of small scale businesses and poverty reduction has just started to attract attention of policy makers in Nigeria. For example, Adelaja (2005) in the National Policy on Micro, Small and Medium Scale Enterprises

Government observed that as a result of the increasingly complex and dynamic national and international environment, organizations and businesses are now focusing only on core competencies. This same principle should apply in our joint resolve to put the Nigerian MSMEs boldly on the map of our national economic development.

However, reports on the role of inter-industry linkage mechanisms in mobilising resources for small scale business development and poverty reduction are still relatively absent in Nigeria.

A purpose of this study therefore is to bridge this lacuna in literature by conducting an empirical study on the use of inter-industry linkage mechanisms in mobilization of resources for small business development and poverty reduction in Nigeria. Inter-industry linkage is operationalised through its structural properties.

Hypothetically, intensive linkages between firms will not accelerate new business development and poverty reduction.

540 participants drawn from small scale enterprises in the manufacturing sector of the Nigerian economy will be covered in the study.

It is necessary for easy exposition to present our study in sections as follows. Section one is the introduction. Definition of small scale business in Nigeria and poverty reduction is presented in section two. Link structure and some technical issues are also covered in this section. Section three contains the description of the measurement instruments used in the study. Discussion of results is presented in section four. Section five contains conclusions and recommendations.

Poverty Phenomenon

Poverty can be defined in many different ways. Most economists and social scientists define poverty as a lack of essential items – such as food, clothing, water, shelter – needed for proper living. At the UN's World Summit on Social Development, the 'Copenhagen Declaration' described poverty as "a condition characterised by severe deprivation of basic human needs, including food, water, sanitation facilities, health, shelter, education and information." Various measures often used to define poverty are relative poverty measures and absolute poverty measurement. Using relative poverty measures the population is ranked in order of income per capita. The bottom 10% (or whatever the government chooses to use) is then considered impoverished.

Absolute poverty measures are more often used to define poverty. Absolute poverty measures set a poverty line at a certain income level per year level, based on the estimated minimum value required for a person to live.

basic necessities of life (food, shelter, water, etc). For example, if \$5 a day is determined to be the income poverty line in a country, then anyone with an income less than \$1860 would be considered impoverished. If instead a poverty line based on consumption was used, anyone consuming goods with a monetary value less than \$1860 would be in poverty (Sanjay, 2005).

One other factor many experts use to define poverty is empowerment. Empowerment refers to the ability of an individual to make choices regarding his or her life. Often, the poor are not empowered - they are forced to work at certain jobs and certain things, and often, this state of existence can be linked to poverty. Some people are disempowered, many times, they are in poverty (Sanjay, 2005). Obviously poverty is detestable. Poor countries all over the world have pursued policies that would help in poverty reduction. Poverty reduction can help in reducing quality in the society and guarantees a high quality of life. It can also help in improvement of education, improvement in quality health, higher economic growth and development. These claims have been supported empirically by the works of Sen, P., 2008; Ravallion, M., 1996; Stern N. L., 1991.

Yet results from poverty reduction programmes have failed in many cases to rate the situation.

Small Medium Scale Enterprises (MSME) in Nigeria

The spate of poverty in Nigeria have contributed to the growing need to turn small and small scale business sector as panacea to poverty reduction in the country. The Bureau of Statistics (NBS) in 2010 and 2012 put poverty and unemployment rate in Nigeria at 60.9 and 23.5 percent respectively (Sanusi, 2013). As a result, there is a national policy on the development of the MSME sub-sector. The target is to reduce poverty by 21.4 percent by 2015 (Sanusi, 2013). The policy outlines key objectives, strategies and programmes for influencing the development of MSMEs and proposed the institutional framework for the implementation and monitoring of the policy with Small & Medium Enterprises Development Agencies of Nigeria (SMEDAM) as the primary responsible institution. The development policy is anchored on the private sector as the engine for wealth creation, employment generation and poverty reduction. The national policy classified enterprises by employment and assets. Table 1 below:

Table 1: Classification of MSMEs in Nigeria

S/N	Size Category	Employment	Assets In Million Excluding Land And Building
1	Micro Enterprises	Less than 10	Less than 5
2	Small Enterprises	10 – 49	5 less than 50
3	Medium Enterprises	50 – 199	50 less than 500

Source: Federal Republic of Nigeria National policy on MSMEs by SMEDAM (2005)

The table shows that employment and assets criteria are used in the classification of enterprises in Nigeria. Organisations with less than 10 employees and assets below 5 million naira (about \$32,258) are in the micro enterprises category. Organisations with 10 to 49 employees and assets between 5 and million naira (\$32,258 to \$322,580) are small scale enterprises. Medium enterprises comprises of organizations employing 50 to 199 employees with assets between 50 and 500 million naira (\$322,580-\$3,225,806). Employment criteria provide a more stable definition given that inflationary pressure and fluctuating exchange rates may compromise the asset based classification. For this reason where there is conflict between employment and asset criteria, the employment based classification takes precedence.

Problems of MSMEs in Nigeria

Although the characteristics of MSMEs are different, they share common problems. These include low market access, poor access to information flow, discriminatory legislation, poor access to land, among different segments of the operations in the sector, weak operations in terms of skills, knowledge, attitude, as well as lack of entrepreneurial, managerial, technical and innovative capabilities. Environment, poor service delivery, low international competitive environment, inadequate macroeconomic framework, and low productivity. The high cost of doing business in Nigeria (Adelaja 2005; Alarape, 2007).

The Role of Inter-Industry Linkage

The role of inter-industry linkage in organizations is well known. According to Porter (1996), conditions generally conducive to economic growth and development are:

1. Appropriate factors conditions

1. Adequate local demand
2. Presence of inter-firm rivalry
3. Adequate infrastructure
4. Presence of related and supporting industries

These factors individually and collectively affect a firm's capacity to innovate and upgrade. For the purpose of this study, factor number 5 is considered. This factor is very critical to economic growth and poverty reduction as this study will reveal later. Even where conditions 1, 2, 3, and 4 are positive, the economy will still not grow at a faster rate, if inter-industry linkage is weak or completely absent.

Emerging views on strategy and organisation show that firms that engage in different forms of collaboration with other firms grow faster than firms that do not. Johnson et al (1989) observe that collaboration among companies to enhance competition is in fashion. General motors and Toyota assemble automobiles. Avastak, France's Thomson and Japan's JVC manufacture video cassette record. According to Hills (2003), Toyota only manufactures 27 percent of its components in-house. Ford and General Motors retains 48 percent and 67 percent respectively. Nike does not have its own manufacturing plants. It only design and markets its products.

Boeing which controls 55 percent of the aviation industry worldwide retains the production of its aircraft wing in-house and outsources nearly every other component part.

Outsourcing

Aswathappa (2006) defines outsourcing as the act of moving some of the firm's internal activities and responsibility for decision making to external service providers. The decision to outsource is often made with a view to reducing cost, improving quality, improving delivery and reliability, gaining access to resources, specialized skills and knowledge needed for operations (Bowersox, 1990; Quinn, 1990; Dean Elmuti, 2003). Small businesses often need help. Large corporations have plenty resources that small businesses do not have. One of the best ways to overcome this limitation and grow your business is through outsourcing. For example, a person can start a business with one potential investor in the Moringa herbal medicine sub sector. It is clearly that there are teething problems to overcome by small business entrepreneurs. With little resources, he had to set aside money for setting up a factory and office with furniture, equipments, employees etc. He is also very early concerned with regulatory agency demands before registration and sanitary, security etc. Observing all these requirements will be a huge task.

out from initial capital outlay. Outsourcing can help you narrow down your start up expenses. Several functions can be farmed out to contract workers while you operate within the comfort of your home. However, there is also a dark side to outsourcing. Control over proprietary and fear over opportunistic behaviour often discourage companies particularly small scale business from outsourcing arrangements. The need for innovative SMEs to protect secrets of their success may override the benefits of outsourcing. Patenting can protect such companies against opportunistic behaviour and the fear of their proprietary being stolen. However there is general phobia for patenting in Nigeria.

Sub-Contracting

A major determinant of success of SMEs is linkage between SMEs and large corporations through subcontracting arrangement. Subcontracting in industrial context, is a contractual arrangement between a primary company (purchasing company) and a secondary company (subcontracted company) for supply by the subcontracting company on order from the purchasing company. It is parts, components, sub-assembly and assemblies that are then incorporated into a product sold by the primary company, or the processing of material for the primary company- whether the materials are provided by it or not and the processing or finishing of parts provided by the primary company (UNIDO, 1988). All firms can reap tremendous benefits from subcontracting. They can acquire technology, production processes, markets, regular cash flows, programs, input raw materials and management methods. Also, it enables companies to concentrate their resources in core business areas, to be flexible and adjust to uncertainty in the environment. Productivity is increased and security for core employees is secured.

Japan, Korean and Indonesia have used subcontracting creditably. A good example is Indonesia Bap Anlat or foster-father scheme (UNIDO 1988).

Networking

Social networking explains how social interactions among networks lead to flows of resources to carry out economic activities. Through interaction with friends, kins and co-investors, firms can create opportunities by tapping resources of their contacts (Burt, 1992). Bourdieu (1977) has stressed the importance of social networks in mobilizing economics, social capital. He stressed that "the volume of social capital possessed by an individual depends on the size of the network of connections it can effectively mobilize and the nature of the capital- economic, cultural or symbolic, possessed by those to whom he is connected". One major contribution of networking is that it provides insight into how small businesses

...resource limitation problem. By developing relationships with friends, family members of associations and other companies, small companies can overcome critical social, economics, and cultural resources. Also access to information and knowledge is facilitated.

To help micro, small and medium enterprises reap the benefits of the action plan and institutional framework for implementation of the national policy on MSMEs in Nigeria incorporated strategies and measures that encourage strategic alliances and partnering between large firms and small firms among small firms themselves. For example, MSMEs were encouraged to form strategic partnering to access information on business start-up and expansion. They were to develop matching mechanisms that disseminate information, brings firms together and help built mutual trust between themselves and large companies. The enactment of laws that underpin partnering and collaboration between large firms and MSMEs and to implement the local content policy are in the mandate of DAN, Federal Ministry of Industries and Business Membership Organisations (28).

Measures used in the Study

Classification of Links:

To measure diversification of links, we asked respondents to classify each link in their alliance as a customer, a consumer, a supplier or a competitor, or otherwise. Similarly, respondents were asked to indicate on a 5-point Likert - type scale (ranging from 'not important at all' to 'very important'), how important each link was in mobilizing resources needed for the growth and development of the organization and for poverty reduction.

In addition to the scales described above, basic demographic questions including gender, age, job status, industry type, size of the firms by number of employees, income and annual sales were included in the survey.

Data collection starts with eighty-four (84) participants drawn from 18 small and medium scale firms in Aluminum Village Dopemu Lagos. The instrument is administered on two hundred and sixty six (266) students in Lagos State University who are managers in small scale enterprises. The 540 participants were selected through

Regression analysis was used to analyse the various results. Previous studies have used regression analysis technique to study performance problems (Soni, et al. 1993; Svetina and Prodancic). Factor analysis was used to examine the internal consistency of the instrument. Cronbach's alphas were calculated to measure the construct.

...the internal consistency of data generated in
...their constructs

Interpretation and analysis of data

Number of Employees
The total of 540 participants took part in this study. The number of participants in the distribution revealed in table 1 (Appendix one), shows that 100 participants reported that their firms had 1-9 employees representing 12%, 22% reported that their firms had 10-49 employees representing 42%, and 78% reported that their firms had above 50 employees representing 46%. The participants covered in the study are in the high (12%), small (42%) and medium (46%) scale sub-sector.

Link Structure versus levels of employment and revenue
The level of employment and revenue as they are accumulated or shared in link structure were analysed (see Appendix 1 table 2). The relationship shows regression as link structure increases, level of employment and revenue increases.

Result of Regression Analysis

Link Strategy versus Employment

It was postulated in this study that intensive linkage will accelerate business development and poverty reduction. The result of the regression reported in appendix one tables 3 and 4.

Simple regression analysis was used to estimate the model of relationship between independent variable and the dependent variable. The model summary of the simple regression equation for employment. The explanation of the values presented is given below.

The model summary table provides useful information about the model. In this study, 21.9% of the variations in level of employment is explained by linkage strategy. $R = .468$, $R^2 = .219$, $F_{(1, 539)} = 11.559$. This indicates that inter-industry linkage strategy as measured by contracting is likely to achieve high levels of employment and revenue. The growth of small scale businesses and poverty reduction.

Link structure and level of wages

Simple regression analysis was used to estimate the relationship between link structure and dependent variable.

The moderation of the number of links in a network as a moderator is given below:
 $F(1, 174) = 174.7, p < .001, \eta^2 = .50$. This implies that the extent to which the number of links in a network moderates the relationship between employment and wages as performance.

Properties of measured variables

Cronbach's Alpha is higher than 0.80, which indicate high overall consistency.
 First order confirmatory factor analysis (CFA) was performed using AMOS to measure the ability of the indicators to measure the theorized performance. The model combined items from the employment and wages as performance to improve power.

The CFA model exhibited excellent maximum likelihood estimated fit indices. The χ^2/df ratio of 1.73, with GFI = .94, NFI = .95 and RMSEA = .059. These indicate that only 5.9% of the variance in the data was unexplained by the employment wages as performance variable and in general the model fit the data very well (χ^2/df ratio < 2.0, GFI and NFI > .90). This indicates that the majority of variance in each indicator was explained by the theoretical construct.

Conclusion and Recommendations

Inter firm linkages are critical for mobilizing social, economics, and cultural resources. Also access to information and knowledge are necessary to generate combinations of capital (Ethiraj & Levinthal, 2004). The study findings indicate that firms with highly diverse structural relationships with other firms generate more employment and pay higher wages than less diverse ones. This is in line with the findings of (Ethiraj & Levinthal, 2004).

Firms with larger number of links have control over the flow of information resources in a network (Conkhu, 2009; Patel and Conclin, 2009; Iyer, B. et al., 2001) emphasized the importance of number of links in mobilizing social and cultural capital as a means of acquiring and mobilizing resources. From both theoretical and empirical findings we conclude that the level of employment generated depends on the number of links a firm can mobilize. The study recommends therefore that managers should encourage the formation of larger number of links to reap maximum benefits from inter-firm linkage. Similarly, firms should pursue diversified contacts.

It is hoped that the study findings will contribute to economic development and job creation in Nigeria by:

showing inter-industry linkages can be mapped by new companies to reap

- maximum benefit from collaboration
- providing a framework for managers, public policy makers and the general public for sound and well informed decisions.
- Showing a novel contribution to link research by modeling the combined effect for outsourcing and subcontracting on small business development and poverty eradication.

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