

Technical Know-How, and Ease of Use of Library Management System for Resource Management in Nigerian Universities

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Abstract

The level or dexterity of individual technical-know-how determine to a great extent the level of user friendliness and ease of use of library management system for resource management. Therefore, this study aims at surveying the impact of technical know-how on the ease of use of library management system for resource management in Nigeria universities. The study relied exclusively on the qualitative data that were sourced from articles, journal, textbooks and the internet and also adopted the Resource Based Value Theory (RBV) as its theoretical framework. Findings from the reviewed secondary materials reveals that majority of the user's lack much skills (technical-known) required for utilizing this application. However, there was significant disparities among library staff and users across university in Nigeria in terms usage abilities. It was also discovered that challenges such as inadequate funding, poor infrastructure, outdated technology, weak policy coordination, and low motivation also contributed to its operational failure. Therefore, the ease use of library management system for resource management across university is south-western Nigeria is confronted by challenges of lack of skills, funding, weak policy among other challenges. Therefore, the paper recommended that there should be constants training and development of staff in other to increase technical know-how among facilitators and users, increase constant energy supply, improve modern facilities, and working conditions of services in other to motivate employees and public users.

Keywords: Technical Know-how, Library management, Resource Management, Nigeria Universities, Resource Based Value

Introduction

Resources management in university libraries is crucial for enhancing access to information and supporting academic pursuits in university libraries. With the growing need for efficiency, accessibility, and sustainability, many libraries in Nigeria have turned to Library Management Systems (LMS). It is a fact that university library is

one of the critical support systems for higher education, through the provision of access to vast and diverse collections of information resources that enhance teaching, learning, and research. In other to achieve this, the effectiveness of information resource management is central to fulfilling this mandate. Conceptually, resources

management refers to the planning, acquisition, organisation, utilisation, preservation, and evaluation of library resources in ways that ensure their availability, accessibility, and relevance to users' needs (Omeluzor & Adara, 2023). In the digital age, where information is abundant, and often in different formats and platforms, managing these resources strategically and sustainably has become even more vital. Resources management in academic libraries therefore, involves both tangible resources such as books, journals, databases as well as intangible assets such as knowledge organization systems, metadata, and user services.

It is important to note that university libraries operate in a dynamic environment marked by rapid technological advancement, budgetary constraints, growing user expectations, and increased demand for digital access. These factors necessitate a comprehensive approach to resources management that balances traditional library roles with emerging responsibilities such as digital preservation, open access, and information literacy instruction. Most importantly, the core objective of resources management in university libraries is to ensure the right information is available to

the right user at the right time and in the right format. In this digital era, effective management of library resources is increasingly dependent on the adoption and efficient use of Library Management Systems (LMS). These systems are designed to automate, streamline, and enhance the organization, retrieval, and circulation of information resources in academic libraries. In Nigeria, particularly in the South-west, universities have made commendable efforts to implement LMS such as Alexandria, Alice for windows, KOHA, Evergreen, New-GenLib, E-prints, Greenstone, Open Biblio, D-space, ABCD, among others to improve access to information and facilitate better resource management.

Library management system in south-west has not recorded much presented growth across its university libraries despite the availability of these systems that could foster its effective management and utilizations. Several challenges have curtailed the full flagged utilization of these resources however, the more recorded problem that occurs often across university libraries is related to that of technical know-how, and ease of use which has continued to impede their optimal utilisation (Oduwole & Oyesiku, 2020; Adebayo & Gbaje, 2022). For example, technical know-how among library

personnel is crucial for the effective deployment and use of LMS. Without adequate technical skills, library staff may struggle with system configuration, data input, troubleshooting, and maintenance tasks, which can result in underutilization or inefficient use of the system (Afolabi, 2021). Several studies have indicated that many librarians and support staff in Nigerian university libraries lack the necessary ICT competencies to maximize the functionality of LMS (Ibrahim, Abdulkadir & Oyelude, 2022). This skill gap leads to operational inefficiencies, delays in resource cataloguing

A. Conceptual Framework

University libraries are vital component of higher education institutions, serving as a hub for academic resources, research support, and learning spaces. In other words, university libraries are repositories of knowledge, both physical and digital, curated to meet the academic and research needs of students, faculty, and researchers. The concept of university libraries have varied conceptualization based on author's views, emphasizing different aspects of their roles and functions. In the word of Adeniran et al. (2023), the asserted that university libraries are pivotal in facilitating access to scholarly resources, promoting digital literacy, and enhancing the

and circulation, and ultimately poor service delivery to users.

Therefore, the paper seeks to underscores the level of technical know-how of librarians and system analyst in the use of library management systems to manage library resource in university libraries in Nigeria. The paper is segmented into six parts the introduction, conceptual framework, under pinning theory, empirical review, methodology, presentation of findings, conclusion and recommendations.

academic experience through innovative services. The went further to say that these libraries are not only house collections of books, journals, and digital resources but also provide modern learning environments, such as study rooms, maker spaces, and digital laboratories. In Nigeria, university libraries have taken advantage of evolving technologies to improve their operations and facilitate the dissemination of information in support of teaching, learning and research (Onoriode, 2022).

Baldwin (2023) avers that Library management system as a comprehensive system that automates the management of library resources, including acquisitions, cataloging, circulation, and reporting. This

traditional definition emphasizes the primary functions of managing library collections, facilitating the borrowing process, and generating reports. Similarly, the study of Olatunji et al. (2020), described LMS as a system designed to handle the library housekeeping operations which include acquisition, circulation, cataloguing, serials management, statistical reports and references. He argued that LMS are also designed with features to handle digital resources, e-books, e-journals and information searches. The system allows for adequate handling of information in different formats. LMS are capable of operating library functions at ease. The views of Araya and Mengsteab (2020), Ankrah *et al.* (2019) and Hase *et al.* (2019) indicated that LMS help librarians to perform various library operations (such as cataloguing and classification) with minimal stress. Also, Abbas (2019) reported that LMS has enhanced efficiency in library services and increased reduction of mistakes in service delivery process. This cannot be completely achieved without a fully integrated system.

The availability of libraries does not suffices alone. There must be availability of users and they are required to have the necessary skills for the optimum utilization of the library facilities. Therefore, technical

know-how refers to a body of practical knowledge, skills, and expertise that is essential for the design, development, production, operation, and maintenance of products, processes, or services. It encompasses tacit and explicit knowledge that is often acquired through experience, training, and practice, rather than merely theoretical understanding (Laudon & Laudon, 2020). This form of knowledge is typically proprietary, confidential, and critical to maintaining a competitive advantage in technological and industrial contexts. To Oberoi (2018), technical know-how goes beyond basic familiarity with technology; it involves the capacity to apply specialized knowledge in real-world tasks. In library settings, this includes the ability to use Integrated Library Systems (ILS), understand database structures, conduct system updates, manage metadata, and perform digital archiving. Librarians and IT staff with technical know-how are better positioned to customize LMSs to suit institutional needs and to train others effectively. Adeyemi and Olayemi (2020) emphasize that technical know-how is a key determinant of the success of library automation in academic institutions. Where such knowledge is lacking, libraries often experience system underutilization, frequent downtimes, and

dependency on external consultants for routine tasks. Conversely, well-trained personnel can exploit the full range of LMS features to enhance cataloging, acquisition, circulation, and information retrieval processes.

B. Underpinning theory

Resources Based View Theory (RBV)

The Resource-Based View (RBV) theory is a strategic management framework that focuses on the internal resources of an organization as the primary drivers of competitive advantage and superior performance. Proposed by Jay Barney in 1991, the RBV emphasizes the importance of leveraging valuable, rare, inimitable, and non-substitutable (VRIN) resources to create sustainable competitive advantages (Barney, 1991). According to RBV, an organization can be considered as a collection of physical resources, human resources and organizational resources (Barney, 1991; Amit & Shoemaker, 1993). The core principle of RBV theory posits that not all resources possessed by an organization contribute to its competitive advantage. Only those resources that meet the VRIN criteria can provide sustainable competitive advantages. For example, resources must add value to an organization by improving efficiency or effectiveness. Also, resources must be scarce

and not widely available among competitors. In the same vein, resources must be difficult or costly to imitate or replicate. Lastly, resources must not have equivalent alternatives that could achieve similar results.

The principle of RBV classifies resources into three main types: Physical capital resources (physical, technological, plant and equipment); Human capital resources (training, experience, insights), and Organizational capital resources (formal structure). This theory is relevant to this study. This is because, from the RBV perspective, the technical expertise of library personnel is a critical intangible resource that, when developed and effectively utilised, can lead to improved organizational outcomes. Skilled librarians who possess strong ICT competencies can better operate LMS, troubleshoot problems, adapt systems to changing needs, and deliver quality services. This technical know-how is not easily replicable and, therefore, can serve as a source of sustained advantage for university libraries (Barney, 1991; Grant, 1996). Also, RBV posited that user friendliness and ease of use of LMS platforms determine how effectively libraries can mobilize their technical and informational resources. While the LMS itself may not be rare or inimitable (as many libraries may use similar software),

the *ability* of an institution to configure, maintain, and exploit the system efficiently depends on internal factors such as user orientation, system training, and local customization.

. Hence, LMS usability mediated by staff competence and user experience becomes essential in transforming information resources into institutional value. The Universities in South-West Nigeria differ in their technical infrastructure, staff expertise, and system configurations. Those that invest in building internal capacities (such as through training, ICT support, and user-centered LMS design) are more likely to manage their library resources effectively and deliver superior academic support services. This aligns with RBV's argument that competitive advantage stems not from external positioning alone but from unique internal strengths (Peteraf, 1993).

By applying the RBV theory, this study highlights how universities can create sustainable value in their library services not merely by acquiring LMS technologies, but by developing and nurturing the internal capabilities such as technical know-how and user-centric systems that support the effective use of those technologies.

Empirical Studies

Technical Know-how of Library Personnel in the Use of Library Management System (LMS) to Manage Library Resource

The adoption and effective utilisation of LMS are crucial to modern library operations, especially in academic and research libraries. Multiple empirical studies have investigated the level of technical proficiency among library personnel, revealing varying degrees of competence, challenges, and influencing factors. For example, Adetunla and Chowdhury (2025) examined digital skills development of university library professionals in Nigeria by testing the UTAUT model. Similarly, Adeleke and Olorunsola (2022) investigated the trends and challenges in the adoption of library management systems in Nigerian university libraries. The study adopted qualitative approach. The researchers reported that library staff in selected Nigerian federal universities possessed moderate ICT skills, but many lacked specialized training in LMS-specific functionalities such as OPAC customisation, report generation, and user account management. The study found that the university library professionals in Nigeria lack digital skills to carry out some operational tasks, especially serials,

acquisition and some cataloguing tasks using z39 and OCLC.

Yusuf, Oshinaike, and Suleiman (2025) conducted an empirical study to examine the influence of knowledge management practices (KMPs) on the technical competencies of librarians in using advanced technologies including Library Management Systems (LMSs) to manage library resources in tertiary institutions in Lokoja, Kogi State, Nigeria. The researchers employed a descriptive survey research design and collected data from librarians and library staff in four tertiary institutions (two universities, one polytechnic, and one college of education). A total of 85 respondents participated in the study, selected through total enumeration sampling, since the number of professional librarians in these institutions was relatively small. The study found that librarians who regularly participated in knowledge-sharing activities (such as joint cataloguing sessions, in-house training, and professional workshops) demonstrated higher proficiency in performing LMS tasks including cataloguing, circulation management, metadata creation, and repository uploads.

Dube, Rammutloa and Matatiele (2024) carried out systematic review by

analyzing 27 works of literature related to the skills and competencies needed by academic librarians to use information technology (IT) tools effectively in the digital age. The review is carried out following the recommended Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines. Relevant literature was extracted from eight major academic databases, including EBSCOhost, Emerald Insight, Scopus, Sage Journal, Web of Science, Taylor and Francis, ScienceDirect, and Google Scholar. The retrieved articles were exported to RefWorks to identify duplicates and screen articles meeting the inclusion criteria. Only articles that are empirical in nature, published in a peer-reviewed journal, written in English, published between 2020 and 2024 with affiliation from five countries (Nigeria, South Africa, Pakistan, India and the USA) and addressing either one or all the objectives of this study were used. The study determined various IT tools used in academic libraries to improve service delivery in terms of efficiency, accessibility, and quality. This trend requires librarians to develop advanced digital skills and competencies to cope with the digital world.

Dadzie (2025) conducted a study on ICT Use and the Application of Library Management Systems in Ghanaian

University Libraries. The purpose of the study was to assess the level of awareness, adoption, and technical competence of library staff in operating various Library Management Systems (LMSs). Using a descriptive survey research design, the researcher collected data from professional and paraprofessional librarians across five major universities in Ghana through structured questionnaires and interviews. Findings revealed that although awareness of LMSs such as Koha, Libwin, and Evergreen was relatively high among staff, a majority lacked the hands-on technical skills necessary to operate these systems independently. The study further noted that most library personnel depended heavily on system administrators for basic operations like cataloguing, circulation, and report generation. Dadzie concluded that the technical know-how of library staff was low, attributing this to insufficient ICT training, inadequate exposure to system use during library automation projects, and limited opportunities for practical engagement with the software.

Similarly, Dzandza and Dadzie (2024) in their joint study on competency levels of librarians in the use of library management systems in selected Ghanaian universities. The researchers investigated the

extent of librarians' practical knowledge of the LMSs implemented in their institutions. The researchers employed a mixed-methods design, combining quantitative data from questionnaires with qualitative insights from semi-structured interviews conducted among 96 librarians in three public universities. Their findings showed that while a majority of respondents were aware of the LMS used in their libraries and understood its basic functions, only a minority felt confident using the system without supervision. The study therefore concluded that the overall level of technical know-how among Ghanaian university librarians was low, particularly in advanced LMS operations such as system configuration, troubleshooting, and database maintenance. The authors recommended sustained training programs and mentoring as strategies to improve staff competencies.

C. Methodology

The study adopts the descriptive research design. The study also relied on secondary data from published and unpublished materials. The study seeks to determine the extent to which technical know-how, and ease of use influence the use of library management systems (LMS) in university libraries. This approach allows for the

collection of qualitative data from internets, articles, publication and journals from the period of 2015-2025 on the subject matter under study. The data were organized thematically around the present state of technical know-how and use of library management system on resource management.

D. Discussions of Findings from Reviewed Secondary Materials

Influence of Technical Know-how, and Ease of Use of Library Management Systems on Resource Management in University Library

The adoption of LMS has become essential for effective resource management. Recent empirical research emphasises that the combined influence of staff technical know-how, LMS user-friendliness, and ease of use significantly shapes the effectiveness of resource management activities including cataloguing, acquisitions, digital access, circulation, and inventory control. In a study of Kouassi and Lawson (2023) on determinants of library management system success in Togolese academic libraries. The researcher conducted a multi-institutional quantitative survey across five major academic libraries in Togo. The study used a multiple regression model and specifically

examined how technical know-how, user-friendliness, and ease of use jointly predict the success of LMS-driven resource management. The study revealed that the three factors collectively have influence in the effective resource management outcomes. Among the predictors, technical know-how emerged as the strongest determinant, followed by user-friendliness and ease of use. The authors concluded that while system design facilitates use, it is staff competence that sustains effective resource control and cataloguing accuracy.

Similarly, Tchalim and Douti (2022) conducted a study on technical proficiency and utilization of KOHA LMS in Togo's academic libraries. The study adopted a qualitative approach to explore how librarian training influences LMS use. Their interviews revealed that without adequate training in cataloguing standards, metadata formats, and system configuration, even user-friendly LMS platforms such as Koha were severely underutilized. Conversely, when staff received formal LMS training, their confidence and efficiency in performing tasks such as serials control, acquisitions, and digital repository management increased markedly. The study underscored that technical proficiency is a prerequisite for effective use of user-friendly systems. In

another study titled “interface design, navigation logic, and library system engagement in Lomé,” Adjayi and Akligo (2021) specifically examined how user-friendliness affects LMS adoption. Using a survey-based descriptive method, they discovered that majority of the respondents considered intuitive dashboards and logical search functions critical to frequent system use. This ease of interaction directly led to more consistent resource updates, improved circulation tracking, and greater user satisfaction. Their findings demonstrated that interface design quality directly predicts the level of LMS engagement among librarians.

A quantitative study by Mensah and Agbeko (2024) on ease of use and resource management efficiency in Togolese universities. The study surveyed library staff from both public and private institutions. The researchers assessed ease of use based on task simplicity, system responsiveness, and availability of help tools. Results showed that user-friendly LMS interfaces enabled librarians to process acquisitions faster and maintain cleaner catalogues than their counterparts using more complex systems. The study concluded that ease of use promotes operational accuracy and workflow efficiency, particularly in time-sensitive processes such as acquisitions and

circulation. The synergy between technical know-how, user-friendliness, and ease of use was further validated in a mixed-methods study by Amouzou and Koffi (2023) who conducted a study on triadic predictors of LMS efficiency in West African academic libraries. The study combined quantitative surveys with focus group interviews to assess how the three factors jointly influenced resource management outcomes. Findings revealed that libraries scoring high on all three dimensions such as cataloguing accuracy, circulation tracking completion, and three times higher frequency of digital resource updates than libraries emphasizing only one or two variables. The authors concluded that LMS performance peaks when all three enabling conditions co-exist.

In Nigeria, Omeluzor, Anyaoku, and Okezie (2023) conducted a quantitative study on user-friendliness, ease of use, and technical competence as predictors of LMS efficiency in Nigerian federal universities. The study used multiple regression analysis for the analysis of data. The researchers evaluated data collected from federal university libraries in the South-East region. Their findings showed that user-friendliness, ease of use, and technical competence jointly explained the variance in effective resource management. The study further established

that technical know-how mediates the relationship between usability factors and LMS utilization, enhancing the ability of staff to explore advanced modules such as acquisitions and serials management on systems like Koha and Liberty. Another empirical study by Adebayo and Ezeani (2022) on modeling the relationship between technical skills, interface design, and ease of use in university libraries. The study employed Structural Equation Modeling (SEM) across five universities in Southwestern Nigeria. The analysis yielded a strong model fit and revealed that the combined influence of technical skills, user interface satisfaction, and system ease of use significantly enhanced metadata accuracy, acquisition speed, and query resolution efficiency. The authors concluded that user-friendly systems amplify the advantages of technical know-how, particularly when managing hybrid or digital collections.

In the same vein, Aliyu and Yahaya (2024) investigated 140 academic librarians across ten Nigerian universities in their study on moderating role of technical know-how in LMS user-friendliness and resource management. The study used hierarchical regression analysis, and found that user-friendliness and ease of use alone explained the variance in resource management

efficiency, but when technical competence was added as a moderating factor, predictive power increased. The study emphasized that technical proficiency magnifies the impact of usability on LMS performance, highlighting the critical need for digital literacy training in academic libraries.

In an experimental study titled “impact of technical training on LMS usability and resource efficiency” by Udo and Okonkwo (2021). The researchers conducted an intervention at two Nigerian federal universities using Koha. Staff underwent targeted training sessions followed by system usability testing. Post-intervention results showed substantial improvements in both user-friendliness and ease of use perceptions. Quantitatively, cataloguing accuracy was improved while resource update efficiency was also raised. The researchers attributed these outcomes to the synergistic effect of enhanced technical proficiency and improved user-centered interface design. A national survey conducted by Ikechukwu and Adediran (2023) on technical competence and perceived usability of LMS in Nigerian academic libraries. The researcher gathered responses from 250 library professionals across 25 institutions. The study reported that majority of the respondents linked effective inventory and e-resource control to their ICT

competence combined with the system's usability. Moreover, librarians who found the LMS intuitive were twice as likely to explore advanced functionalities, including batch uploads and MARC record imports, leading to enhanced cataloguing accuracy and collection completeness.

Conclusion

The reach of technical know-how among universities staff has a very strong determinate and impact in library management system in retrospective to

resource management. However, there is lack of technical know-how (dexterity) among staff in library management which in long run undermines the effectiveness of resource management system in libraries. Therefore, there is need for training and development which will in long-run acquaint and equipped library staff with necessary skills and knowledge needed for the library management in order to be able to maintain and control the resource management of respective libraries in Nigeria.

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