ASSESSMENT OF LIBRARY APPLICATION SOFTWARE PACKAGES FOR LIBRARY OPERATIONS IN COLLEGES OF EDUCATION IN NORTH CENTRAL NIGERIA

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Abstract
This study assessed Library Application Software Packages (LASP) for library operations in Colleges of Education in North Central Nigeria. It aimed to evaluate how LASP handle daily operations and identify challenges faced by librarians. The study Adopt a quantitative method and a correlational survey design, the study surveyed 216 out of 6,500 library staff using proportionate and random sampling techniques. Data analysis revealed that library application software packages are used for cataloguing and classification, circulation management, reserving materials, inventory management, overdue fines management, interlibrary loan management, report generation, integration with online resources, and RFID/barcode-based tracking. Challenges identified include high acquisition and maintenance costs, limited technical skills among staff, frequent software updates, data migration issues, lack of customization options, insufficient technical support, user resistance to new technology, data security concerns, and integration difficulties with other digital resources. The study concludes that despite these challenges, LASP significantly enhance library management in areas like cataloguing, circulation, reserving materials, managing overdue fines, interlibrary loans, report generation, and tracking items with RFID/barcode systems.
Keywords: Assessment, Library Application Software Packages, Library Operations.

Introduction
Library application software packages are essential tools for modern library management, streamlining a variety of tasks to improve efficiency and enhance user experience. These software systems typically encompass integrated library systems (ILS) or library management systems (LMS), which automate library functions such as cataloguing, circulation, acquisitions, and inventory management. One of the critical benefits of these software packages is their ability to manage vast amounts of data seamlessly, ensuring that library resources are accurately catalogued and easily accessible to patrons and staff alike (Breeding, 2021). A primary feature of library application software is its cataloguing capability, which organizes library materials using metadata standards like MARC (Machine-Readable Cataloguing). This standardization facilitates data sharing between libraries and enhances resource discoverability through online public access catalogues (OPACs). Another vital function is circulation management, which tracks the borrowing and returning of library items. This feature not only improves the efficiency of these processes but also integrates with patron management modules to monitor user activity and manage fines and fees. Advanced systems can offer automated notifications for due dates and overdue items, fostering better communication between the library and its patrons (Johnson, 2019). This automation reduces the workload on library staff, allowing them to focus on more personalized services and community engagement.

The advent of cloud-based library management systems has further revolutionized library operations and services by offering scalable, secure, and cost-effective solutions. Cloud-based library systems are secure, scalable solutions that revolutionize library operations by managing resources online. Cloud systems reduce the need for on-site IT infrastructure and maintenance, ensuring libraries can implement advanced technologies without significant capital investment. They provide remote access to library resources, supporting off-site work and distance learning, which has become increasingly important in the wake of global events like the COVID-19 pandemic (Johnson, 2019).
Libraries in college of education in North Central Nigeria play a crucial role in supporting the academic and professional development of future educators. These libraries serve as vital resources for students and

faculty, providing access to a broad range of materials including textbooks, academic journals, teaching aids, and digital resources. The effectiveness of library operations in these institutions significantly impacts the quality of education delivered, emphasizing the need for well-managed and adequately funded library services (Adigun & Ogundipe, 2020). Given the evolving nature of educational curricula, libraries must continuously update their collections to include the latest academic resources and teaching methodologies. Effective cataloguing systems, such as the use of the Dewey Decimal Classification and MARC records, are essential for organizing these resources and making them accessible to users (Usman & Adebayo, 2019). This integration of library application software simplifies library routine activities, provide access to a wide range of academic materials and supporting remote learning initiatives.

Statement of the Problem
The efficiency and effectiveness of library operations in colleges of education in North Central Nigeria are pivotal for the academic and professional development of future educators. However, these libraries face significant challenges in maintaining optimal service delivery and resource management. One of the primary issues is the inadequacy of traditional library management practices in meeting the growing demands of students and faculty for timely and comprehensive access to educational resources. The manual handling of cataloguing, circulation, acquisitions, and inventory management processes often leads to inefficiencies, errors, and delays, which can impede academic progress and research activities (Egunjobi & Awoyemi, 2021).

Despite the potential of library application software packages to revolutionize library management and enhance operational efficiency, there is a noticeable lag in their adoption and implementation in these institutions. This gap can be attributed to several factors, including limited financial resources, inadequate technical infrastructure, and a lack of skilled personnel to operate and maintain these systems. Additionally, there is insufficient empirical evidence on the specific needs and challenges faced by these libraries, which hampers the development and deployment of software solutions that address their unique operational. Therefore, this study aims to assess Library Application Software Packages for Library Operations in Colleges of Education in North Central Nigeria.

Research Questions
1. What are the types of Library Application Software Packages used for library operations in Colleges of Education in North Central Nigeria?
2. How do Library Application Software Packages handle daily library operations in Colleges of Education in North Central Nigeria?
3. What are the challenges faced by librarians in the use of Library Application Software Packages for Library Operations in Colleges of Education in North Central Nigeria?

Research Objectives
1. To describe the types of Library Application Software Packages used for library operations in Colleges of Education in North Central Nigeria.
2. To assess how Library Application Software Packages handle daily library operations in Colleges of Education in North Central Nigeria.
3. To identify the challenges faced by librarians in the use of Library Application Software Packages for Library Operations in Colleges of Education in North Central Nigeria

Methodology
Quantitative research method was adopted for this study with a cross-sectional survey research design. The population for this study consist of six thousand five hundred (6,500) library staffs in Colleges of Education in North Central Nigeria Namely: Federal College of Education Kontagora - Niger State, Federal College of Education Okene - Kogi State, College of Education Akwanga - Nasarawa State, Kogi State College of Education Ankpa - Kogi State, Kwara State College of Education Ilorin - Kwara State, Kwara State College of Education Oro - Kwara State, College of Education (Technical), Lafiagi - Kwara State Niger State College of Education Minna - Niger State and FCT College of Education, Zuba - Federal Capital Territory.

The Library Staffs of the Nine Colleges of Education in North Central Nigeria were selected using a proportionate sampling technique. This was followed by a simple random sampling technique which was used to select library staffs in each college of education. Two hundred and Sixteen (216) which represent 3% of the library staffs were selected as the sample of this study. This number is appropriate according to Curry (1984) as cited in Khan et al., (2019) who believed that for a population of Five Thousand to ten Thousand (5001-10000), 3% should be selected. A self-designed closed-ended questionnaire was used to collect data. The instrument for data collection for this study was self-designed structured. Six (8) research assistants were employed and trained by the researcher to assist in the data collection within a timeline of eight weeks. Descriptive statistics was used to analyze the data collected from the research questions. The bench mark for decision for is 50% and above.

Literature Review

Library software has changed how libraries work. It combines different library tasks to save time and money. There are various software options, including paid and free ones. This software can manage books, digital content, loans, and references. Egunjobi & Awoyemi (2021) defined library application software as a sequence of instructions that tells the computer what to do, how to manipulate data and how to relate to users. It normally addresses one aspect of computing need or the other. (i.e. the readily available software) for microcomputers is referred to as "application software. it is a computer programs that are written individually to operate specific, tailor-made procedures and systems such as library housekeeping, words processing, database management, text retrieval, expert systems (Thomas, 2021). There are various types of library software, each with specific functions, including proprietary and open-source options like Koha, Virtua, Greenstone, Dspace, and others. While library software improves efficiency, there can be challenges like cost, infrastructure, and implementation. Choosing the right software is crucial for effective library services.

Edem, E. B. (2019). Conducted a study on Adoption of Software Packages in University Libraries in Nigeria. The researcher adopted a survey design and was guided by seven research questions. The population included all the 127 University Librarians in Nigerian university libraries; while the sample used for the study included 58 university librarians cutting across the six geopolitical zones in the country and reflecting the ownership status of federal, state and private universities. An instrument called Software Adoption Questionnaire (SAQ) was developed by the researcher for this study. The data gathered and collated was analyzed using percentages, pie chart and bar chart. The findings of the study indicated the software packages adopted in Nigerian university libraries. The findings also indicated that KOHA is the most widely adopted software package and the most widely used presently; and that the level of automation of university libraries in Nigeria is very low. It was recommended among others that management of the different universities should embrace the concept of automation of university libraries and give moral, financial and political support to the implementation of this innovation.

Ayodele, R. (2018) conducted a study on the study Assessment of Library Application Software Packages for Library Operations and Services in Federal University Libraries in North Western States of Nigeria was conducted to assess automation of library operations and services in Nigerian University Libraries. Four objectives and research questions guided the research. The study adopted descriptive survey research design. The research instruments used to collect data for the study were questionnaire and interview. Purposive sampling technique was used to select 218 sample subjects from five federal universities where library automation has begun. The population for the survey constituted of 113 subjects from Ahmadu Bello University, Zaria, 36 from Bayero University, Kano, 34 from Usmanu Danfodiyo University, Sokoto, 15 from Federal University Dutsinma, Katsina State and 20 from Federal University, Dutse, Jigawa State. Data were presented in frequency tables and percentages. Analysis and discussions were made to each table. Findings of the study revealed that all university studied are making use of KOHA, Virtua and E-lib as well as DSpace and Greenstone to manage their digital information resources, that available module, functionality and open-source features are some of the criteria used to choose the software packages.

In another study by Kari, K. H. & Baro, E. E. (2014) The use of library software in Nigerian University Libraries and challenges. Three research questions and three objectives were adopted for the study. A purposive sampling technique was used in the study and questionnaire instrument was adopted to elicit

data from respondents. The findings of the study revealed that 24 (66.7 per cent) university libraries in Nigeria use KOHA. Lack of skilled manpower, lack of funding, lack of system (computers) and erratic power supply were the major problems university libraries in Nigeria encountered while using library software. Data were presented in frequency tables, percentages and charts.

Shiloba, G. B. Umar, I. and Idris, A. D. (2020). Conducted a study on reasons for integrated library systems (ILS) switching in Nigerian university libraries. They adopted purposive sampling technique and used to select the participants. Also, Interview was the instrument used for data collection, and the researchers conducted five interviews with five (5) participants from university libraries across the geo-political zones of Nigeria. Data were collected from June 2016 through July 2016. The analysis of data was done using themes derived from the objectives of the study. Findings revealed that delay in getting vendors support to fix ILS problems, some ILS have limited storage space to accommodate large data, crashing and data loss, and political considerations, were some of the reasons given by Nigerian University Libraries for switching ILS. The study, therefore, recommended among others that Nigerian university libraries should conduct adequate and thorough feasibility study based on the peculiar needs of their libraries before selecting the appropriate library software, libraries should adopt and deploy open-source ILS which are more cost effective and easier to maintain rather than buying proprietary ILS which were developed based on US and UK standards and which might not fit their needs. The study concluded that the switching over from one ILS to another by NUL studied is too frequent. The frequency of change is associated with lack of proper feasibility study and knowledge involved in determining the implications of frequent switching on the libraries.

Data Presentation, Analysis and Discussion

Out of the two hundred and sixteen (216) copies of questionnaire distributed to the respondents, a total of 193 (89.4%) of questionnaire were duly completed, returned and found usable for the analysis.

4.3.1 What are the types of Library Application Software Packages used for library operations in Colleges of Education in North Central Nigeria?

S/N	Types of Library Application Software Packages	Frequency	Percentages (%)
1.	KOHA	137	71.0
2.	Libsis	90	46.6
3.	Vitual (VTLS)	94	48.7
4.	Dspace	108	56.0
5.	Greenstone	90	46.6
6.	E-Lib	121	62.7

In Colleges of Education in North Central Nigeria, various Library Application Software Packages are utilized to manage daily operations, with KOHA being the most widely used at 71.0%. E-Lib follows, with a usage rate of 62.7%. Dspace is employed by 56.0% of the libraries, while Vitual (VTLS) is used by 48.7%. Both Libsis and Greenstone have an equal adoption rate of 46.6%. These percentages highlight the diverse range of software packages in use, with a preference for KOHA and E-Lib due to their higher adoption rates.

4.3.1.1 How do Library Application Software Packages handle daily library operations in Colleges of Education in North Central Nigeria

The data on the how Library Application Software Packages handle daily library operations in Colleges of Education in North Central Nigeria were collected.

S/N	How Library Application Software Packages handle daily library operations	Frequencies	Percentages (%)
1.	Cataloging and classification of library materials	101	52.3
2.	Circulation management (issuing, renewing, returning)	108	56.0
3.	Patron registration and management	90	46.6
4.	Reserving library materials	133	68.9
5.	Inventory management and stocktaking	94	48.7
6.	Overdue fines and fee management	114	59.1
7.	Interlibrary loan management	111	57.5
8.	Reporting and statistics generation	116	60.1
9.	Integration with online databases and resources	126	65.3
10.	RFID or barcode-based tracking	137	71.0

Table 4.1 shows the respondents opinion on how Library Application Software Packages handle daily library operations in Colleges of Education in North Central Nigeria. Based on the benchmark of 50%, the table shows that items 1, 2, 4, 6, 7, 8, 9 and 10 have response scores above the acceptable benchmark of 50% Thus, it can be said that they are the ways in which Library Application Software Packages handle daily library operations. On the other hand, item 3 and 5 are below the acceptable benchmark hence, they are not the less of the ways Library Application Software Packages handle daily library operations.

The study on how Library Application Software Packages handle daily library operations in Colleges of Education in North Central Nigeria revealed that these software packages play a crucial role in various aspects of library management. The data collected from the study indicated that the most common functions of Library Application Software Packages include cataloging and classification of library materials, circulation management (issuing, renewing, returning), reserving library materials, overdue fines and fee management, interlibrary loan management, reporting and statistics generation, integration with online databases and resources, and RFID or barcode-based tracking. These findings highlight the significance of Library Application Software Packages in enhancing the efficiency and effectiveness of library operations. Automating tasks such as cataloging, circulation, and resource sharing, these software packages help libraries streamline their processes and provide better services to their patrons. The integration with online databases and resources also enables libraries to offer a wider range of information sources to their users.

However, it is crucial for libraries to invest in appropriate ICT infrastructure, provide training for library staff, and establish strategies for the sustainability of the software packages. The findings of this study emphasize the importance of Library Application Software Packages in modernizing library operations and services. These technologies when properly use, libraries can improve their efficiency, enhance resource sharing, and provide better access to information for their users. However, the successful implementation of these software packages requires a comprehensive approach that addresses both technological and organizational factors.

4.3.1. 2. Challenges faced by librarians in the use of Library Application Software Packages for Library Operations in Colleges of Education in North Central Nigeria

The data on the challenges faced by librarians in the use of Library Application Software Packages for Library Operations in Colleges of Education in North Central Nigeria were collected.

S/N	Challenges faced by librarians in the use of Library Application Software Packages for Library Operations	Frequencies	Percentages (%)
1.	High cost of acquisition and maintenance	121	62.7
2.	Limited technical skills among staff	121	62.7
3.	Compatibility issues with existing systems	94	48.7
4.	Frequent software updates and upgrades	129	66.8
5.	Data migration challenges	126	65.3
6.	Lack of customization options	125	64.8
7.	Insufficient technical support	129	66.8
8.	User resistance to new technology	142	73.6
9.	Data security and privacy concerns	108	56.0
10.	Integration difficulties with other digital resources	126	65.3

Table 4.1 shows the respondents opinion on the challenges faced by librarians in the use of Library Application Software Packages for Library Operations in Colleges of Education in North Central Nigeria. Based on the benchmark of 50%, the table shows that items 1, 2, 4, 5, 6, 7, 8, 9 and 10 have response scores above the acceptable benchmark of 50% Thus, it can be said that they are the challenges faced by librarians in the use of Library Application Software Packages for Library Operations. On the other hand, item 3 is below the acceptable benchmark hence, it is less of the challenges faced by librarians in the use of Library Application Software Packages for Library Operations.

The study on the challenges faced by librarians in the use of Library Application Software Packages for Library Operations in Colleges of Education in North Central Nigeria sheds light on the obstacles encountered in the adoption and utilization of these software solutions. The data collected from the study revealed various challenges experienced by librarians, including high cost of acquisition and maintenance, limited technical skills among staff, compatibility issues with existing systems, frequent software updates and upgrades, data migration challenges, lack of customization options, insufficient technical support, user resistance to new technology, data security and privacy concerns, and integration difficulties with other digital resources.

These findings emphasize the complexities and hurdles that librarians encounter when implementing and utilizing Library Application Software Packages in their daily operations. The high cost of acquisition and maintenance, coupled with limited technical skills among staff, pose significant barriers to the effective utilization of these software solutions.

Additionally, challenges such as compatibility issues with existing systems, data migration issues, and lack of customization options further complicate the integration and use of Library Application Software Packages in Colleges of Education in North Central Nigeria. Factors like frequent software updates and upgrades, insufficient technical support, user resistance to new technology, data security and privacy concerns, and integration difficulties with other digital resources highlight the multifaceted nature of challenges faced by librarians in the use of Library Application Software Packages for library operations. Addressing these challenges requires a comprehensive approach that includes investing in staff training, enhancing technical support mechanisms, ensuring data security measures, and fostering a culture of openness to technological advancements among library staff.

Conclusion

This study has highlighted the pivotal role that Library Application Software Packages (LASPs) play in streamlining and enhancing daily library operations in Colleges of Education in North Central Nigeria. The data collected indicates that LASPs significantly improve various aspects of library management, such as cataloging, circulation management, reserving materials, managing overdue fines, facilitating interlibrary loans, generating reports, integrating with online resources, and tracking items using RFID or barcode systems. These functionalities emphasize the importance of LASPs in modernizing library services, thereby increasing operational efficiency and improving access to information for library patrons. However, the study also identifies several challenges faced by librarians in the adoption and utilization of these software packages. The most prominent issues include high costs of acquisition and maintenance, limited technical skills among staff, frequent updates and upgrades, data migration difficulties, and lack of customization options. Additionally, insufficient technical support, user resistance to new technology, data security concerns, and integration difficulties with other digital resources further complicate the effective implementation of LASPs. To overcome these challenges, it is crucial for libraries to invest in adequate ICT infrastructure, provide continuous training for library staff, and develop comprehensive strategies for the sustainable use of these software packages. Addressing these barriers will not only enhance the functionality of library operations but also foster a more efficient and user-friendly environment for both library staff and patrons.

Recommendations

1. Implement Robust ICT Infrastructure and Ensure Regular Maintenance: To effectively harness the Library Application Software Packages (LASPs) it is essential for Colleges of Education in North Central Nigeria to invest in robust ICT infrastructure. This includes ensuring that the hardware and network capabilities are sufficient to support the software, minimizing downtime due to technical issues. Regular maintenance and updates should be scheduled to keep the systems running smoothly and to address any compatibility issues with existing systems. With this, libraries can enhance the efficiency of operations such as cataloging, circulation management, and integration with online databases.

2. Provide Comprehensive Training and Develop a Supportive Technical Environment: To overcome the barriers of limited technical skills and user resistance to new technology, it is crucial to provide comprehensive training programs for all library staff. These programs should cover the use of LASPs, troubleshooting common issues, and adapting to software updates and upgrades. Additionally, establishing a supportive technical environment that includes readily available technical support, either in-house or through the software vendors, will help address issues promptly. This approach not only improves staff proficiency but also fosters a culture of adaptability and openness to technological advancements, ensuring a smooth transition and continuous improvement in library operations.

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