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Application of Integrated Library Management Software in Academic Libraries for Information Services Delivery

Bala Ahmed, CLN
Abubakar Tafawa Balewa University Library (ATBU) Bauchi
ahmedbala72@gmail.com
Phone No: +2347038372196

Mohammed Bello Ahmed
Federal College of Education (Technical), Gombe
mbahmed26@gmail.com
Phone No: +2347065171412

Abstract
Technology is advancing at a rapid pace, which has drastically changed library operations from manual to automated. The important requirement for academic libraries in Nigeria to continue serving as information hubs is the acceptance of new technology. However, Integrated Library Management Software (ILMS) is now widely used in the daily operations of academic libraries. Nigerian library personnel are currently utilizing this software successfully to offer their valued patrons cutting-edge services. The paper goes further to examine the use of Integrated Library Management Software (ILMS) in academic libraries for information services. In conclusion, academic libraries now use different procedures for acquiring, organizing, storing, retrieving, and disseminating information due to the implementation of Integrated Library Management Software (ILMS). The study recommends that adequate managerial support be provided, particularly in terms of funding for the application and maintenance of ILMS. Additionally, regular training and retraining of library staff in the use of the software are essential.

Keywords: Application, Integrated Library Management Software, Academic Libraries.

1.0 **Introduction**

Libraries play a supportive role in institutions of higher learning by adopting cutting-edge technologies to meet the information needs of the user community. However, the shift from manual methods to software has presented challenges in organizing the growing volume of information.

With its invaluable online and offline resources and services, an academic library at any higher education institution plays a critical role in meeting the diverse requirements and desires of its user community. An academic library is any library established, maintained, and administered by tertiary institutions such as universities, polytechnics, colleges of education, colleges of agriculture, and other mono-technics (Chukwueke & Idris, 2023). Nonetheless, the primary goal of academic libraries is to support community services, teaching, and learning by offering a variety of information resources and library services. It is also regarded as an engine of any institution of learning in terms of providing access to diverse digital information resources and services to the clientele. Meanwhile, it is also a place where

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information is acquired, processed, organized, and disseminated to achieve the research and learning objectives of such an institution. In this regard, the application of Integrated Library Management Software (ILMS) by libraries to facilitate these core functions cannot be overemphasized. Consequently, academic libraries now need to choose Integrated Library Management Systems (ILMS) that are reliable and appropriate to support users in efficiently using the materials and services offered by the library as well as in carrying out library operations and services. Therefore, academic libraries must select appropriate Integrated Library Management Software (ILMS) using user-friendliness, efficiency, and cost-effectiveness criteria to provide effective information service delivery.

2.0 The concept of Integrated Library Management software

However, the shift from manual methods to software has presented challenges in organizing the growing volume of information. According to Muller (2011), integrated library management systems (ILMS) are flexible and multipurpose software programs that allow libraries to organize, inventory, and loan out their resources to users.

According to Sobalaje, Ajala, and Salami (2018), an integrated library management system (ILMS) is a computer program that facilitates the circulation and cataloging of information resources, the management of patron activities, the tracking of resource movement, and the interaction of users and librarians with databases from other libraries or institutions. By automating tasks that would otherwise need to be done manually, an integrated library management system (ILMS) is designed to boost a library's productivity and efficiency, as well as enhance users' access to resources (Reddy & Kumar, 2013).

Software refers to a set of instructions created so that a machine may perform particular tasks. It also describes one or more computer programs and data that are stored in a computer for specific uses. Consequently, automation programs are now handling the housekeeping responsibilities of procuring, processing, billing, and releasing library books. Many tasks in libraries that would otherwise be labor-intensive, repetitive, and wasteful are automated by library software. According to Ukachi, Nwachukwu, and Onuoha (2014), there are two types of library software: Open Source Software (OSS) and proprietary software, which require a membership fee. Breeding (2012), cited in Uzomba, Oyebola, and Chukwu (2015), lists several significant proprietary software products, including Symphony from SirsiDynix, Millennium from Innovative Interfaces, Aleph and Voyager from Ex Libris Group, Polaris from Polaris Library Systems, Library Solution from The Library Corporation, Virtua, Carl X from The Library Corporation, Spydus from Civica, and numerous others. The proprietary solutions are still the most widely utilized method for library automation since they are well-established, have been around for a long time, and are highly mature. Conversely, open-source software is free software designed to improve regular library activities. Although it's not always free, you can use, alter, and share it without any expense. Breeding (2012), cited in Uzomba, Oyebola, and Chukwu (2015), lists a few examples of open-source programs available today, which include: Emilda, EspaBiblio, Evergreen, Greenstone, Avanti, Fedora, Gnuteca, InfoCID, Jayuya, Koha, SLAM, SLIM, ABCD, NewGenLib, OPALS, OpenAmapthèque, OpenBiblio, PhpMyLibrary, PMB, Senayan, etc.

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2.1 Growth and development of integrated library management software in academic libraries

Globally, the development and expansion of integrated library management software have facilitated the shift from "traditional" to "technology-based" library services, making it easier and more affordable to provide more effective services.

In their study on the development of ILMS, "Comparative Features of Integrated Library Management Software Systems in Delhi," Namrata and Shailendra (2011) noted that libraries began utilizing the internet in the 1990s to access websites, and that eventually, the web was incorporated into integrated library management software. Early iterations of ILMS were "module-based," allowing libraries to install specific modules according to their needs, with compatibility across various hardware and proprietary platforms. Subsequently, when UNIX and DOS-based systems were introduced, integrated library management software became platform-neutral. The integration between modules was built as a command-driven or menu-driven system. As a result of this advancement, relational database architecture-based integrated library management systems are now fully functional systems. Consequently, integrated library management software embodies a range of standards (including Graphical User Interfaces [GUI]), which provides a significant step towards Open System Interconnection (OSI). Today, integrated library management software (ILMS) is based on fully web-centric architecture and facilitates access to other servers over the Internet, as well as allowing multiple sources from one multimedia interface (Namrata & Shailendra, 2011).

A study by Muller (2011) on the significance of integrated library management software revealed that, in the UK, it has been developed and operated successfully in terms of flexibility, capacity, expandability, security, affordability, user-friendliness, module-based functionality, and updates with the newest technology for efficient information services delivery in libraries. In a similar vein, academic libraries in the USA can now provide their patrons with access to the catalogs of other libraries, both local and distant, in addition to the relevant materials housed within the library, thanks to the introduction of integrated library management software (Singh, 2003). In research titled "Application Factors of Integrated Library Management Systems (ILMS) in Selected Nigerian University Libraries," Adegbore (2018) quoted Agboola (2000), noting that a World Bank initiative was the primary driver of library automation in Nigerian university libraries. The researcher also mentioned that one of the World Bank's priorities for support was automation in university libraries. Consequently, each of the twenty-two participating libraries received a microcomputer and a four-user local area network version of TINLIB (The Information Navigator) software from the National University Commission (NUC) in 1992. This came about following a consensus between the NUC and university librarians to implement shared software across all Federal Universities (Adegbore, 2018, referenced Agboola, 2000). According to Adogbeji (2005), the University of Ibadan's Kenneth Dike Library in Nigeria was unable to continue using TINLIB software after previously using it due to the library's CDS/ISIS failure. Additionally, the University of Ilorin switched from using TINLIB to Alice for Windows software in the past. The incorrect selection of library software had a similar impact on the University of Lagos. This university first used TINLIB before switching to the Graphical Library Automation System (GLAS), a modified version of TINLIB. This program was also utilized by Ladoke Akintola University

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of Technology (LAUTECH) in Ogbomosho. Numerous other libraries have also embraced TINLIB software, including the University of Agriculture Abeokuta, Tafawa Balewa University, Bauchi, Bayero University, Kano, and Obafemi Awolowo University, among others.

According to Adegbule-Adesida (2005), who is cited in Uzomba, Akindele, and Ubogu (2021), several integrated library management software programs can effectively and efficiently gather, store, sort, retrieve, and distribute information through local area networks, the internet, and standalone computers. Consequently, Micro CDS/ISIS, Greenstone, Avanti, OpenBiblio, NewGenlib, KOHA, SLAM, CDS/ISIS, GLASS, ALICE for Windows, TINLIB, Virtua, SLIM, X-LIB, Millennium, Aleph, Voyager, Polaris, LIBRARIAN, Fedora, Evergreen, Adlib Library, Aura Online, and Bibliotheca are a few examples of integrated library management software (ILMS) of this type (Adegbule-Adesida, 2005, cited in Uzomba, Akindele, and Ubogu, 2021).

Researchers have studied the use of ILMS packages in certain Nigerian colleges, according to Edem (2016). TINLIB, ALICE, X-LIB, GLAS, CDS/ISIS, KOHA, SLAM, Liberty 3, Docuware, and others are ILMS systems used in libraries in Nigeria (Adogbeji, Onohwakpor, and Sylvester, n.d.; Okewale & Adetimirin, 2011; Udoh-Ilomechine & Idiegbeyan-Ose, 2011; Obajemu, Osagie, Akinade & Ekere, 2013).

3.0 Application of Integrated Library Management Software in Academic Libraries

Academic libraries are required by advancements in information handling procedures to adopt automation, which entails the use of integrated library management software (ILMS) to improve the services they provide to their patrons (Momodu, 2015). According to research by Abbas (2014), titled "Automation in Nigerian University Libraries: Mirage or Reality," the automation process typically involves several ICT components such as computers, telecommunication, broadcasting, microelectronic/micrographic, and reprographic technologies.

In light of this, academic libraries now operate differently due to the introduction of new technologies, altering the procedures for gathering, organizing, storing, retrieving, and sharing information (Pucciarelli & Kaplan, 2016). This may explain why Ukachi, Nwachukwu, and Onuoha (2014) confirmed that the use of technology in academic library routines has shifted from conventional to technology-based in their study "Library Automation and Use of Open Source Software to Maximize Library Effectiveness."

In a similar vein, Momodu (2015) stated that academic libraries worldwide have embraced the advancements of 21st-century ICT, particularly integrated library management software (ILMS), to provide efficient information services delivery in a study titled "Academic Libraries in Nigeria: Yesterday, Today, and Tomorrow." Meanwhile, Omeluzor, Bamidele, Ukangwa, and Amadi (2012) claimed in a study titled "Implementation of KOHA Integrated Library Management Software (ILMS): The Babcock University Experience" that academic libraries must use current software to manage routines and adapt to a changing environment to provide patrons with timely and adequate services, supported by research conducted in

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2015 by Ayodele, who examined "Assessment of Library Application Packages for Library Operations and Services in Federal University Libraries in the Northwest States of Nigeria."

As a result, academic libraries everywhere must switch from providing traditional services to utilizing Integrated Library Management Software (ILMS) for the simplest and most efficient management of their services. Integrated library management software is necessary for academic libraries to provide information services efficiently. It follows that to provide information services effectively, academic libraries ought to implement integrated library management software or ILMS.

In their research, Akpokodje and Akpokodje (2015) examined the assessment and evaluation of KOHA ILS for online library registration at the University of Jos in Nigeria. The research aimed to assess the implementation of KOHA ILS for online library registration at the University of Jos. The study's conclusions demonstrate that KOHA was chosen at the library out of need rather than with careful planning. The document went on to list the opportunities and difficulties that the employees dealing with the registration procedures faced. The poll also revealed that proprietary ILSs are more expensive than open-source ILSs.

A study by Uzomba et al. (2015) titled "The Use and Application of Open-Source Integrated Library Systems in Nigerian Academic Libraries: Koha Example" examined how open-source integrated library systems are used in Nigerian university libraries. It also aimed to demonstrate the potential and capabilities of open-source software (Koha) and its usefulness for academic libraries worldwide. Twenty-five employees from 25 distinct higher education institutions in Nigeria, including federal, state, and private universities, four polytechnics (federal and state), and two schools of education, were randomly chosen to be part of the study's population. Based on the results of the study, libraries in Nigeria and throughout the world are increasingly using free and open-source software. The main issues facing libraries include insufficient funds, poor management support, insufficient power supplies, and so on.

Tella and Oladeji (2017) conducted an empirical study to determine how Koha affected the services provided by certain academic libraries in Nigeria. Professional and paraprofessional librarians from Ladoke Akintola University, University of Ilorin, Redeemer University, Adeleke University, and Bowen University made up the study's population. According to the report, Koha has had a positive effect on their libraries. A few challenges in implementing Koha were limited funding and poor infrastructure.

4.0 Use of integrated Library Software in Academic Libraries for information services

To effectively supply information services in academic libraries, several Integrated Library Management Software (ILMS) solutions have been developed for the management and dissemination of information. Breeding (2012) claims that integrated library software offers computer automation for every facet of a library's operations. Typically, these items are arranged into modules that cater to specific functional domains. These modules include serials (keeping track of holdings of magazines and newspapers), circulation (lending materials to customers and receiving them back), cataloging (classifying and indexing items), and acquisitions (purchasing, receiving, and billing goods). Interactive and user-friendly

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solutions were lacking in the initial iterations of integrated library management software (Breeding, 2012). According to research by Kari and Baro (2014), 24 university libraries, including the University of Ilorin Library in Nigeria, employ KOHA for their library operations. Adekunle, Olla, and Oshiname (2016) confirmed that KOHA has been available in Nigerian university libraries for the past ten years.

According to Ayodele (2015), the Adeyemi College of Education Library in Ogun State makes use of KOHA. The report also suggests that certain academic libraries outside of universities, such as those at polytechnics and colleges of education, use KOHA as open-source software. In contrast, the rate at which one library utilizes KOHA may differ from that of another library. This suggests that the distribution of information services can be accomplished successfully and efficiently using the KOHA modules, which include OPAC, Circulation, Serial, Acquisition, Cataloguing Module, Patron Management Module, and Custom Reporting Modules.

When choosing the software for information services delivery in academic libraries, Udoh-Ilomechine and Idiegbeyanose (2011) stressed that factors such as hardware connections, user rights, the supplier's history, and the possibility of previewing the product should be carefully considered. According to Abbas (2014), the use of computers in libraries and their applications has maximized the efficiency of library services through increased error reduction, convenience, proper statistical data keeping, control over the growth of the literature, labor savings, and simple documentation exchange. It follows that, for an efficient supply of information services, academic libraries ought to make use of integrated library management software (ILMS).

5.0 Challenges Associated with the Use of Integrated Library Software in Academic Libraries

According to Ukachi, Nwachukwu, and Onuoha (2014), academic libraries are currently facing several challenges in working with the digital environment. These include changes in users' information behavior, ways to organize the deluge of information, rising costs for printed reading materials, geometrically progressive information growth, and shrinking space.

According to Jayaprakash and Balasubramani (2011), every institution encounters issues when new policies and services are put into place. Chisenga (2004), focusing on Africa, hypothesizes that a lack of funding, inadequate ICT facilities, lack of ICT strategies, low user skill levels, lack of qualified ICT staff, lack of institutional management commitment, and staff reluctance to use ICT are among the challenges facing library automation projects in Sub-Saharan Africa. The most significant of the difficulties mentioned above is the lack of funding needed to complete the projects. Some organizations have immediately halted the installation of library management systems in their libraries for the simple reason that they were surprised to discover that the project would be too costly to complete. Thus, budgets must be created to cover every phase of the systems' development, testing, and implementation. It is imperative to allocate sufficient budgetary resources to offset the rising costs of logistics-related items like barcode scanners, servers, and network equipment. According to Lungu and Mwamba (2010), libraries should seriously consider using open-

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source versions of library management systems in light of this. In addition to the findings of Chisenga (2004), Lungu and Mwamba (2010) discovered that library management in the context of Zambian academic libraries lacks the drive and passion to begin implementing library management software initiatives. At that time, most were content with the current state of affairs, which involved their libraries being managed entirely by hand.

Singh (2013) cautions, however, that users of open-source library management software will inevitably run into issues like a lack of functional modules and insufficient staff technical expertise even as they break free from vendor lock-in and dependence, high initial costs, and ongoing maintenance costs of library management systems.

Similarly, when Ahenkorah-Marfo and Borteye (2010) studied networking the catalog using KNUST as a research location, they identified the primary hurdles as the release of funding and the supply of project equipment. Similarly, Boateng (2014) lists the following as some of the difficulties KNUST faced when implementing library management software: contractor-caused delays in project execution, errors made when entering data into the new system, a shortage of experts to continue the project after the contractor left, re-accessioning, inadequate training, power outages, and computer phobia.

According to Thompson and Pwadura (2013), there are several issues that Ghanaian academic librarians deal with, such as regular power outages, a culture of poor maintenance, a lack of necessary technical skills, a lack of project financing, and insufficient security measures to prevent theft of servers, LAN equipment, and books.

6.0 Conclusion and Recommendations

The paper highlighted the concept of integrated library management software (ILMS) and its growth and development. Libraries began using the internet in the 1990s to browse websites, and eventually, the web was integrated into ILMS. However, the paper discusses the application of ILMS in academic libraries for library operations.

Information handling methods have advanced to the point that academic libraries must embrace automation, which involves using ILMS to enhance the services they offer to users. The paper further examines the use of integrated library software in academic libraries for information services. With adaptable and multifunctional software applications, ILMS allows libraries to inventory, arrange, and lend out their resources to patrons.

Based on the findings of this paper, the following recommendations were made:

1. Adequate managerial support, in terms of funding for the application and maintenance of ILMS, should be provided in academic libraries.
2. Academic libraries should make the right selection of ILMS and provide training and re-training for library staff on the effective use of the software for information service delivery.
3. ILMS should be fortified against virus attacks to ensure effective and efficient use in academic libraries.
4. An uninterrupted power supply should be provided by libraries to facilitate the effective use of the software in academic libraries.

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