Evidence Based Journal of Information Science
Volume 1 Issue 1 June 2025
ISSN: 1595-6148
https://journals.kasu.edu.ng/index.php/lib

ESSENTIAL ICT COMPETENCIES FOR INTEGRATED LIBRARY MANAGEMENT SYSTEMS (ILMS) IN NIGERIAN PUBLIC UNIVERSITY LIBRARIES: A CASE STUDY OF KADUNA STATE

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Abstract

The paper examined the ICT skills required for the utilization of integrated library management software by librarians in public university libraries in Kaduna State, Nigeria. The objective of the study is to determine the types of ICT skills required for the utilization of Integrated Library Management Software (ILMS) for Service Delivery in University Libraries in Kaduna State, Nigeria. Quantitative research methodology was adopted for this study using a cross-sectional survey design. A total of one hundred and sixty-five (165) copies of the questionnaire were administered to the respondents, out of which one hundred and thirty-three (133), representing 81% were duly completed, returned and used for this study. The data collected were analyzed using descriptive statistics. The study found out that KOHA is the dominant library management software in use and that only the ICT skills on the ability to understand the computer and its peripherals, and the skills on Information search, retrieval, and dissemination techniques were acquired. Other necessary skills were absent. The study therefore recommends that Management of public Universities in conjunction with relevant authorities should embrace the training and retraining of library manpower on a frequent and continuous basis to enlighten staff on the ILMS to adopt and utilize for library services. The study also recommends that library schools in Nigeria should incorporate practical training on the use of library management software and other related technologies into their curriculums to boost potential library workers ICT skills in handling ILMS and other library automation devices.

KEYWORDS: ICT Skills, Integrated Library Management Software (ILMS), Librarians, University Libraries, Utilization.

Introduction

In the digital age, libraries are increasingly adopting Integrated Library Management Software (ILMS) to streamline operations, enhance user services, and improve resource

Received: March 15, 2025. Accepted: June 16, 2025

management. These software solutions such as Koha, X-Lib, Atriuum, and Virtua, facilitate key library functions, including cataloging, circulation, acquisitions, serials management, and reporting. However, the effective utilization of ILMS demands a specific set of Information and Communication Technology (ICT) skills from library professionals.

As libraries transition from traditional to automated systems, librarians and support staff must develop competencies in software navigation, database management, troubleshooting, and digital literacy. Additionally, emerging technologies such as cloud computing, linked data, and application programming interfaces (APIs) are reshaping ILMS functionalities, requiring continuous skill upgrades.

This paper examines the essential ICT skills necessary for maximizing the potential of ILMS, addressing both foundational and advanced competencies. It also examines the challenges faced by library professionals in acquiring these skills and suggests strategies for training and professional development. By identifying the critical ICT proficiencies needed, this study aims to support libraries in optimizing their software investments and improving service delivery in an increasingly digital information environment.

The adoption of **Integrated Library Management Software (ILMS)** has revolutionized library operations by automating key functions such as cataloguing, circulation, acquisitions, and reporting. However, despite the availability of advanced ILMS solutions (e.g., Koha, Virtua, Atriuum), many libraries struggle to maximize their potential due to a **lack of adequate ICT skills among library professionals**, (Atanda, 2018)

If these challenges remain unaddressed, libraries risk:

- **Inefficient operations** (e.g., delays in cataloging, circulation errors).
- **Poor user experience** (e.g., difficulties in accessing digital resources).
- **Wasted investments** in ILMS due to low adoption rates.

This study seeks to **identify the ICT skills necessary for effective ILMS utilization** for service delivery by librarians in public university libraries.

Objectives of the Study

The following research objectives will guide the study:

Received: March 15, 2025. Accepted: June 16, 2025

1. To find out the types of Integrated Library Management Software utilized for Service Delivery in Public University Libraries in Kaduna State.
2. To determine the types of ICT Skills (Knowledge Skill) required for the Utilization of Integrated Library Management Software for Service Delivery in Public University Libraries in Kaduna State

LITERATURE REVIEW

This section reviews literature related to types of Integrated Library Management Software (ILMS) available to university libraries and ICT skills required for the utilization of ILMS by university libraries in Kaduna State, Nigeria.

Integrated Library Management Software Available to Academic Libraries

The growth of Integrated Library Management Software (ILMS) is no doubt more visible in the 21st Century. Many academic libraries now make use of the available ILMS to render services to library users. Several integrated library management software have penetrated the Nigerian libraries. The early generations of integrated library management software were not user friendly and interactive. This made it difficult to use by library staff, though they were more efficient than the paper systems libraries had been using for generations. (Olatunji & Tiamiyu, 2022).

Oyovwe-Tinuoye and Omosekejimi (2022) said the list of available ILMS includes: Micro CDS/ISIS (free), Library Plus (which replaced x-lib software), Green Stone Software, Graphical Library Automation System (this replaced The Information Navigator Library Software, TINLIB), Alice for Windows Software and Alexandra, others are: Docuware, Strategic Library Automation Management (SLAM), Liberty 3 Software and Microsoft Access Software. Concourse Book System and Atriuum are proprietary library management software. Most integrated library management software separate functions into discrete programs called modules, each of the modules integrate within a unified interface.

Adamu, Ibrahim and Gbaje (2020) alluded to the fact that many Integrated Library Management Software (ILMS) packages are available to Nigerian libraries. These according to them includes Liberty, LIBS+(X-Lib), CDS/ISIS, TINLIB, GLASS, Alice for Windows, Innovative Millennium, Virtua, KOHA, Voyager and most recently NewGenLib. Muller

Received: March 15, 2025. Accepted: June 16, 2025

(2011) stated that integrated library management software is multifunction, adaptable software applications that allow libraries to manage their daily tasks in a more efficient way.

Olakoge and Kolawole (2019) submitted that the integrated library management software that have been introduced into the Nigerian academic libraries includes: Alice for Windows, Web-Based Integrated Library System (WEBLIS), The Information Navigator Library Software (TINLIB), Automated Library (AUTOLIB), Graphic Library Automation System (GLAS), Koha, Automation of Libraries and Centres of Documentation (ABCD), Integrated Library Management System, Evergreen Software, NewGenLib, Computer Documentation System/ Integrated Set of Information Systems (CDS/ISIS). Due to the limitation of some software, many libraries had migrated from one software to another in order to improve performance and service efficiencies (Ajani & Buraimo, 2022).

The use of ILMS started in Nigeria in the mid-1970s and early 1980s, when three notable universities – the University of Ibadan, the University of Lagos and Ahmadu Bello University, Zaria - started computerization. The National University Commission (NUC) presented a microcomputer and local area network together with the Information Navigator (TINLIB) software to 20 academic libraries in Nigeria (Uzomba, Oyebola, & Izuchukwu; 2015). Due to the efficiency in library operations and services as a result of using this software, many other academic libraries now began to introduce automation. In 1980 Ahmadu Bello University (ABU) library in Zaria also started, while in the year 1990, the University of Jos library joined in the automation movement.

As reported earlier, the University of Ibadan Library started library automation with TINLIB in 1994, as did the Federal University of Agriculture Abeokuta, but later migrated to the GLAS software. Olabisi Onabanjo University library in Ogun State started automation in 2000 using Alice for Windows software but they later migrated to Koha (Adegbore; 2010). A notable private university, Bowen University, started library automation in 2007 using Koha Integrated Library Systems Software (Otunla & Akanmu–Adeyemo; 2010).

A review of literature on ILMS by Kari & Baro (2014) in Nigerian academic libraries reveals that most libraries depend on free and donated software. For example, the University of Ibadan Library started with CDS/ISIS that was developed and distributed freely by UNESCO in 1993. In 1994, the library migrated to TINLIB which was introduced by the World Bank Project in 1994-1995. Citing a study carried out by Idowu and Mabavonku (1999)

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Bozimo's findings reveals that 92.3 per cent of the 13 federal universities studied were using TINLIB for their automation projects, while 15.4 per cent of the universities were using CDS/ISIS. The reason for the prevalent use of TINLIB was because the NUC made the software available for universities under the World Bank intervention loan package to Nigerian Universities (Bozimo, 2006). This software, according to Bozimo, did not carry the universities very far.

Similarly, Emasealu (2019) attributed the discontinuation of TINLIB by Ibadan University to the need for change in the operating system from DOS to Windows. DOS-based software lack flexibility and were incapable of performing the advanced functions required for delivering smooth library services. By 2004, Ibadan acquired ALICE for Windows. Although the software was Windows-based, it did not meet their needs because it was not MARC 21-compliant and, as a result, it had no interface for sharing resources. Oyedokun *et al.* (2018) reported that the choice of TINLIB was made by the Committee of University Librarians of Nigerian Universities (CULNU) because there were modules for acquisitions, cataloging, serials control, circulation and report generation, all of which operate as an integrated unit. Atanda (2018) noted that the task of choosing a software package for a library is often difficult because the package must be sufficiently powerful and versatile to cope with all library processes and, at the same time, be user friendly.

Alam and Mezbah-ul-Islam (2020) reported that Koha is the first and most extensively used open source ILMS which is free library management software with source code under the "General Public License" (GPL). Katipo Communications of New Zealand developed the Koha software in 1999 which went live for the first time in January 2000. Koha includes such modules as acquisition, cataloging, OPAC, circulation, Inter-Library Loan, serials control, patron management, and report generation modules. It has two Graphical User Interfaces (GUIs) - one for users, and another for staff. However, as the technology advances, other ILMSs begin to emerge. This include: Concourse, Atriuum, Virtua, NewGenLib and SLAM.

Received: March 15, 2025. Accepted: June 16, 2025

Also, Hamisu (2021) in his literature review cited Kari and Baro, (2014) who studied the use and challenges of integrated library management software in Nigerian universities. Purposively, the study selected 124 universities. And the findings revealed that majority of Nigerian libraries, about 67% use KOHA library software. Another reasonable percentage of the libraries used SLAM (Simultaneous localization and mapping) and VIRTUA software. The VIRTUA in particular was found highly versatile and internet-based, flexible, user-friendly, customizable, time-saving, and it MARC21 (Machine-Readable Cataloguing) compliant interface aids in sharing resources.

ICT Skills Required for the Utilization of Integrated Library Management Software in University Libraries

To use integrated library management software in university libraries or anywhere efficiently, there is no doubt that acquisition of necessary information and communication technology (ICT) skills are inevitable. ICT skills (competences) in librarianship therefore, refer to the technical knowledge of librarians (library staff) on how to apply knowledge, skills, and experiences to utilize available library technologies in their professional practice in Libraries. According to Mngutyô and Inyang (2018) it is the process of transiting from traditional manual operations to digital or electronic. To effectively achieve this, library staff needs ICT skills to deliver optimal services to their users. Atanda (2018) considered ICT competence as a skill acquired by trained library personnel essential for implementation of ICT in the daily routine of library work such as information resources acquisition, processing, cataloging and dissemination for the need of the users.

On the other hand, Omahia, Okwu and Nsirim (2021) consider competencies of librarians as those technological or computer skills and knowledge required by librarians to be able to fully exploit information resource services in the wake of new technology. Oyedokun, Oyewumi, Akanbi and Laaro (2018) viewed librarian competencies as those relevant skills and knowledge to be acquired by the librarians that would enable them to fully exploit information search, retrieval, and delivery using electronic format. Therefore, librarian competence or ICT skills of library personnel refers to the acquisition of knowledge, skills and abilities at any level of expertise sufficient to enable the library personnel perform their work appropriately and professionally in any given work place.

Ganapathi (2014) in his article 'Information Technology skills for Library Professionals' stated that today's library professionals working in the electronic information

Received: March 15, 2025. Accepted: June 16, 2025

environment requires a balanced combination of knowledge, skills, aptitudes and personal qualities. These he said might include: the ability to understand the computer and its peripherals (awareness of hardware, familiarity with software, critical thinking when evaluating software, data communication and networking, internet basics and tools), others are: ability to identify and systematize appropriate hardware/software, ability to use standard software applications, use of in-house systems and electronic information services, information search, retrieval, and dissemination techniques, critical thinking ability, skill in problem solving, curiosity, persistence, confidence, flexibility, and ability to adapt to change, general managerial ability, good organizational skills, time management, staff supervision, planning and budgeting. He also mentioned excellent communication skills and good interpersonal skills to successfully fulfill liaison and teaching roles, awareness of the role of technology in teaching and learning, basic knowledge/overview of the institutional network and the information service infrastructure.

In order to achieve ILMS competency, there is the need for library staff to acquire necessary skills and competences in order to address the ever-changing taste of existing library users and to attract new categories of users that have preference for information in electronic formats. That is the way to go now, and should be taken very seriously by professional librarians. These are skills in computer, ICT, knowledge of the types of software in existence –generally and particularly in the library, knowledge of how to select appropriate software for the library, knowledge of how to use them, and how to avoid inadequate ones in terms of quality and so on.

According to Mngutyô and Inyang (2018) the skills and competences can be acquired through teaching and training from suppliers of software, computer science program, workshops and conferences, short courses and practical learning. They will get initial training from the software vendor and have to continuously update it according to the changing user needs and technology. Atanda (2018) alluded to the fact that a well-trained personnel or workforce is critical to the implementation and sustenance of any ICT programme in academic libraries. To him, installation and initial take-off only is not enough, but a strategic framework to maintain and sustain the system is very important if the mandate of efficient service delivery would be achieved.

From the foregoing, it implies that for a library to adopt and use an ILMS, its staff must possess skills in computer operations, networking (LAN, WAN etc), software management,

Received: March 15, 2025. Accepted: June 16, 2025

internet and extranet connectivity, and abilities to manipulate electronic gadgets and information resources in different formats. The abilities of library personnel to handle basic and complex tasks in an electronic and digital environment would determine whether an ILMS will work effectively or not. Related to handling basic and complex library tasks is maintaining and sustaining the software. Regular backups would be needed to avoid loss of very important data in the event of crashes or system failures. Technical hitches can be easily rectified when using proprietary software because the users have unrestricted online access to the producers of the software who can help identify the problem and solve it. This is unlike the open access software where the library is left at the mercy of its own technical ICT skills to resolve any problem. It would not be surprising then if most libraries using open access library software are not maximizing its usage to the fullest available potential.

Ayodele, (2015), enumerated that trainees of ILMS must learn about open-source software and the concept of creative commons which include expertise in downloading, installation, management and updating software. Also, knowledge of web server's management, web publishing, web access and information retrieval, data base management, networking, storage technologies and network processor are equally important. In the light of the above, Theja (2007) listed the following: "strategies establishing a shared motivating vision, appropriate training and coaching for people involved, appropriate staffing, encouraging the participation of staff at all levels, creating open communication and collaboration culture." The following major factors may be taken into consideration while formulating strategy for library management software use in any automation programme. This was the position of Ayodele, (2015). She enumerated such factors as; Conducting feasibility study, data preparation activities, standardization of forms and records, writing library systems and procedures, site preparation, environment creation, manpower requirement, proposed services, training programme, compatibility maintenance of hardware and software, specialized presentations, backup system and procedures, bar coding implementation, financial resources availability and generation, interaction with staff, level of understanding of problems, awareness and commitment about current trends, professional interaction with fellow colleagues.

For the library professionals, the ICT skills are in terms of understanding the hardware, software, or knowing about application of computers to library services. Ganapathi (2014) said, ICT skills are the skills that a library professional has to learn and enrich his or her ICT

Received: March 15, 2025. Accepted: June 16, 2025

awareness. Information handling is based on corps of knowledge. Professionals should learn more about the information society, information retrieval, networking and so on.

From the literatures reviewed, the evolution of ILMS has gone through different faces in Nigeria. Librarians and other library professionals need to understand fully the types of ILMS available for use and which one will best serve their libraries. The ICT skills needed to utilize ILMS is of paramount importance. This is true because without the requisite skills, it will be difficult if not impossible to install and continue to run the software in particular and the automation system in general for continuity and effective service delivery.

METHODOLOGY OF CONDUCTING THE STUDY

Quantitative research methodology was adopted for this study using a cross-sectional survey design. A total of one hundred and sixty-five (165) copies of the questionnaire were administered to the respondents, out of which one hundred and thirty-three (133), representing 81% were duly completed, returned and used for this study. The data collected were analyzed using descriptive statistics.

DISCUSSION OF FINDINGS

This section presents discussion of the finding on the types of ILMS being utilized for service delivery and the ICT skills required for the utilization of ILMS by public university libraries in Kaduna State, Nigeria.

Integrated Library Management Software Being Utilized for Service Delivery in University Libraries in Kaduna State

The first objective of this study is to find out the type(s) of Integrated Library Management Software being utilize for Service Delivery in University Libraries in Kaduna State. The report of the investigation shows the ILMS being used by university libraries in Kaduna State in Table 1.1 below:

Received: March 15, 2025. Accepted: June 16, 2025

Table 1.1 Integrated Library Management Software Being Utilization for Service Delivery in Public University Libraries in Kaduna State

ILMS Being Used in your library	AFIT				KIL				NDA				KASU					TOTAL	
	NU	%	U	%	NU	%	U	%	NU	%	U	%	NU	%	U	%	T	NU	U
Alice for windows	24	18	0	0	49	36.8	9	6.8	12	9.0	2	1.5	37	27.8	0	0.0	133	91.7	8.3
Atriuum	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.0	133	100	0.0
CDS/ISIS	23	17.3	1	0.8	56	42.1	2	1.5	13	9.8	1	0.8	37	27.8	0	0.0	133	97	3.0
Concourse Book System	24	18	0	0	57	42.9	1	0.8	14	10.5	0	0.0	37	27.8	0	0.0	133	99.3	0.7
E-Lib	18	13.5	6	4.5	45	33.8	13	9.8	10	7.5	4	3.0	30	22.6	7	5.3	133	77.4	22.6
Evergreen	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.0	133	100	0.0
G-lass	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.0	133	100	0.0
KOHA	23	17.3	1	0.8	5	3.7	53	39.9	2	1.5	12	9.0	2	1.5	35	26.3	133	24.1	76
Liberty	24	18	0	0	57	42.8	1	0.8	11	8.3	3	2.3	37	27.8	0	0.0	133	97	3.0
Libinfo	24	18	0	0	57	42.8	1	0.7	14	10.5	0	0.0	37	27.8	0	0.0	133	99.3	0.8
Libsy	24	18	0	0	56	42.1	2	1.5	14	10.5	0	0.0	37	27.8	0	0.0	133	98.5	1.5
Millennium	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.0	133	100	0.0
NewGenLib	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.00	133	100.00	0.0
SOUL	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.00	133	100.00	0.0
Strategic Lib Automation	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.00	133	100.00	0.0
Tin-Lib	24	18	0	0	57	42.8	1	0.8	14	10.5	0	0.0	31	23.3	6	4.51	133	94.74	5.3
Virtua	24	18	0	0	43	32.3	15	11.3	14	10.5	0	0.0	33	24.8	4	3.01	133	85.71	14.3
X-Lib	24	18	0	0	55	41.4	3	2.3	14	10.5	0	0.0	31	23.3	6	4.51	133	93.23	6.8

Source: Field Survey, 2024. **Key**: AFIT= Air Force Institute of Technology; KASU= Kaduna State University; KIL= Kashim Ibrahim Library; NDA= Nigerian Defense Academy; %= Percentage; NU=Not Utilized; U= Utilized

Table 1.1 revealed the ILMS adopted by selected libraries as follows: **AFIT** – E-Lib 6(4.5%), **KIL** – KOHA 53(39.9%), **NDA** – KOHA 12(9%), and **KASU** – KOHA 35(26.3%) respectively. This adoption for use in these studied libraries does not in any way represent the extent to which the ILMS are utilized for library routine services in different sections or units.

Table 1.1 indicated the types of Integrated Library Management Software being used in selected university libraries in Kaduna State for service delivery. The results showed that KOHA is the dominant Integrated Library Management Software being used in university libraries in Kaduna State for service delivery with 76% of the total response. This is followed by E-Lib with 22.6%, and then Virtua with 14.3% of the most three (3) software being used by

Received: March 15, 2025. Accepted: June 16, 2025

university libraries for service delivery in Kaduna State. Conversely, the finding shows that Atriuum, Evergreen, G-Glas, Millennium, SOUL, NewGenLib, and Strategic Lib Automation Mgt. are not known to be used by university libraries for service delivery in Kaduna State at all.

The finding is in line with a study conducted by Igbudu, Asen and Tyopev (2020) to examine the influence of Koha open-source software on technical operations of the public university libraries in North Central Nigeria. It was discovered in the investigation that Koha library management software has significant effect on acquisition, cataloguing and classification operations in public university libraries in North Central Nigeria. Again, Anyira (2020) assessed the need for the adoption of Koha ILMS in Nigerian university libraries. Theoretical literature above revealed that Koha ILMS was effective in Nigerian university libraries. According to these authors, the effectiveness of Koha integrated library management software was in the areas of information outburst, speed of library operation in the area of charging and discharging, cataloguing and classification of library materials, acquisition, patron management, and OPAC, amongst others.

ICT Skills (Knowledge Skill) Required for the Utilization of Integrated Library Management Software for Service Delivery in Public University Libraries in Kaduna State

The second research objective sought to determine the types of ICT Skills (Knowledge Skill) required for the Utilization of Integrated Library Management Software for Service Delivery in University Libraries in Kaduna State. The responses of respondents are contained in Table 1.2 shown below:

Table 1.2 ICT Skills (Knowledge Skill) Required for the Utilization of Integrated Library Management Software for Service Delivery in Public University Libraries in Kaduna State

	AFIT	KIL	NDA	KASU	TOTAL

Received: March 15, 2025. Accepted: June 16, 2025

ICT Skills (Knowledge Skill) Required for ILMS	N T	%	T	%	N T	%	T	%	N T	%	T	%	N T	%	T	%	TL	NT	T
The ability to understand the computer and its peripherals	14	10.5	10	7.5	25	18.8	33	24.8	5	3.	9	6.8	10	7.5	27	20.3	133	40.6	59.4
Understanding Hardware	20	15.0	4	3.0	37	27.8	21	15.8	9	6.8	5	3.8	15	11.3	22	16.5	133	60.9	39.
Understanding Software	18	13.5	6	4.5	33	24.8	25	18.8	8	6.0	6	4.5	13	9.8	24	18.1	133	54.1	45.9
Evaluating Software Skills	23	17.3	1	0.7	43	32.3	15	11.3	12	9.0	2	1.5	20	15.0	17	12.8	133	73.7	26.3
Data Communication &Networking Skills	17	12.8	7	5.3	37	27.8	21	15.8	8	6.0	6	4.5	20	15.0	17	12.8	133	61.7	38.4
Internet Basic Skills	15	11.3	9	6.8	37	27.8	21	15.8	6	4.5	8	6.0	11	8.3	26	19.6	133	51.9	48.
Ability to identify and systematize appropriate hardware/software	13	9.8	11	8.3	35	26.3	23	17.3	7	5.3	7	5.3	26	19.6	11	8.3	133	60.9	39.
Ability to use standard software applications	18	13.5	6	4.5	38	28.6	20	15.0	9	6.8	5	3.8	20	15.0	17	12.8	133	63.9	36.
Skills to use in-house Systems	16	12.0	8	6.0	36	27.1	22	16.5	9	6.8	5	3.8	7	5.3	30	22.6	133	51.1	48.9
Search & Retrieval Skills	15	11.3	9	6.8	25	18.8	33	24.8	9	6.8	5	3.8	14	10.5	23	17.3	133	47.4	52.6
Ability to Apply Technology to Teaching & Learning	14	10.5	10	7.5	37	27.8	21	15.8	9	6.8	5	3.8	13	9.8	24	18.1	133	54.9	45.
Ability to Understand the Institution's Network	19	14.3	5	3.8	41	30.8	17	12.8	9	6.8	5	3.8	21	15.8	16	12.0	133	67.7	32.3
Ability to use Infor service infrastructure	15	11.3	9	6.8	40	30.1	18	13.5	12	9.0	2	1.5	19	14.3	18	13.5	133	64.7	35.3

Source: Field Survey, 2024. **Key**: AFIT= Air Force Institute of Technology; KASU= Kaduna State University; KIL= Kashim Ibrahim Library; NDA= Nigerian Defense Academy; %= Percentage; T= Ticked; NT=Not Ticked; TL=Total.

Results from Table 1.2 reveals the most ICT skills acquired by studied libraries for the utilization of ILMS as follows: **AFIT** - Ability to identify and systematize appropriate hardware/software 11(8.3%), the ability to understand the computer and its peripherals 10(7.5%) and the skills on awareness of the role of technology in teaching and learning 10(7.5%). **KIL** - the ability to understand the computer and its peripherals 33(24.8%), skills on Information search, retrieval, and dissemination techniques 33(24.8%), and skills on understanding software 25(18.8%). **NDA** - the ability to understand the computer and its peripherals 9(6.8%), Internet basics skills 8(6%), Ability to identify and systematize appropriate hardware/software 7(5.3%). **KASU** – Ability to use in-house systems and electronic information services 30(22.6%), the ability to understand the computer and its peripherals 27(20.3%), and skills on Internet basics 26(19.6%) respectively.

Received: March 15, 2025. Accepted: June 16, 2025

Table 1.2 reveals the ICT skills (Knowledge Skills) that is required for the utilization of Integrated Library Management Software for service delivery in university libraries in Kaduna State. Based on the 50% benchmark, Investigation revealed that only the ICT skills on the ability to understand the computer and its peripherals which has a score of 59.4% and the ICT skills on Information search, retrieval, and dissemination techniques with 52.6% were acquired for the utilization of Integrated Library Management Software for service delivery in university libraries in Kaduna State.

Findings revealed that most of the other ICT skills needed for the utilization of Integrated Library Management Software for service delivery in university libraries in Kaduna State were not adequately acquired. Such skills include: Understanding of hardware 39%, Understanding software 45.9%, evaluating software 26.3%, Data communication and networking 38.4%, Internet basics and tools 48.1%, Ability to identify and systematize appropriate hardware/software 39.1%, Ability to use standard software applications 36.1%, and the use of in-house systems and electronic information services 48.9%. Other skills not sufficiently acquired for the utilization of Integrated Library Management Software for service delivery in university libraries in Kaduna State based on the 50% scores are skills on: Ability to apply technology in teaching and learning 45.1%, Basic knowledge/overview of the institutional network 32.3% and knowledge skills on ability to use information service infrastructure 35.3% respectively.

Findings from respondents agrees with the submission of Ganapathi (2014) who in his article 'Information Technology Skills for Library Professionals' stated that today's library professionals working in the electronic information environment requires a balanced combination of knowledge, skills, aptitudes and personal qualities. These he said might include: A thorough understanding of the vision and mission of the organization, the ability to understand the computer and its peripherals (awareness of hardware, familiarity with software, critical thinking when evaluating software, data communication and networking, internet basics and tools), others are: ability to identify and systematize appropriate hardware/software, ability to use standard software applications, use of in-house systems and electronic information services, information search, retrieval, and dissemination techniques, critical thinking ability, skill in problem solving, curiosity, persistence, confidence, flexibility, and ability to adapt to change, general managerial ability, good organizational skills, time management, staff supervision, planning and budgeting He also alluded to the awareness of the

Received: March 15, 2025. Accepted: June 16, 2025

role of technology in teaching and learning, basic knowledge/overview of the institutional network and the information service infrastructure.

The implication of these findings to university libraries in using ILMS for service delivery is that essential ICT skills must be adequately acquired for an effective and sustainable library automation programme. Mngutyô and Inyang (2018) supported this position when they submitted that; "the skills and competences can be acquired through teaching and training from suppliers of software, computer science program, workshops and conferences, short courses and practical learning. They will get initial training from the software vendor and have to continuously update it according to the changing user needs and technology." Atanda (2018) also alluded to the fact that a well-trained personnel or workforce is critical to the implementation and sustenance of any ICT programme in academic libraries.

Conclusion

Based on the findings of this study, it is clear that ICT competent is very paramount for Librarians utilization of ILMS in public university libraries in Kaduna State. The successful implementation and utilization of ILMS in public university libraries ultimately depends on recognizing ICT competency as an ongoing professional requirement rather than a one-time achievement. By fostering a culture of continuous learning and technological adaptation, libraries can fully leverage their ILMS investments to meet the evolving needs of academic communities in the digital age,

Recommendations

1. Management of public Universities in conjunction with relevant authorities should embrace the training and retraining of library manpower on a frequent and continuous basis to enlighten staff on the ILMS to adopt and utilize for library services.
2. Library schools in Nigeria should incorporate practical training on the use of library software and other related technologies into their curriculums to boast potential library workers ICT skills in handling ILMS and other library automation devices.

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Abstract

Received: March 15, 2025. Accepted: June 16, 2025

The paper examined the ICT skills required for the utilization of integrated library management software by librarians in public university libraries in Kaduna State, Nigeria. The objective of the study is to determine the types of ICT skills required for the utilization of Integrated Library Management Software (ILMS) for Service Delivery in University Libraries in Kaduna State, Nigeria. Quantitative research methodology was adopted for this study using a cross-sectional survey design. A total of one hundred and sixty-five (165) copies of the questionnaire were administered to the respondents, out of which one hundred and thirty-three (133), representing 81% were duly completed, returned and used for this study. The data collected were analyzed using descriptive statistics. The study found out that KOHA is the dominant library management software in use and that only the ICT skills on the ability to understand the computer and its peripherals, and the skills on Information search, retrieval, and dissemination techniques were acquired. Other necessary skills were absent. The study therefore recommends that Management of public Universities in conjunction with relevant authorities should embrace the training and retraining of library manpower on a frequent and continuous basis to enlighten staff on the ILMS to adopt and utilize for library services. The study also recommends that library schools in Nigeria should incorporate practical training on the use of library management software and other related technologies into their curriculums to boost potential library workers ICT skills in handling ILMS and other library automation devices.

KEYWORDS: ICT Skills, Integrated Library Management Software (ILMS), Librarians, University Libraries, Utilization.

Introduction

In the digital age, libraries are increasingly adopting Integrated Library Management Software (ILMS) to streamline operations, enhance user services, and improve resource management. These software solutions such as Koha, X-Lib, Atriuum, and Virtua, facilitate key library functions, including cataloging, circulation, acquisitions, serials management, and reporting. However, the effective utilization of ILMS demands a specific set of Information and Communication Technology (ICT) skills from library professionals.

As libraries transition from traditional to automated systems, librarians and support staff must develop competencies in software navigation, database management, troubleshooting, and digital literacy. Additionally, emerging technologies such as cloud computing, linked data, and application programming interfaces (APIs) are reshaping ILMS functionalities, requiring continuous skill upgrades.

This paper examines the essential ICT skills necessary for maximizing the potential of ILMS, addressing both foundational and advanced competencies. It also examines the challenges faced by library professionals in acquiring these skills and suggests strategies for training and

Received: March 15, 2025. Accepted: June 16, 2025

professional development. By identifying the critical ICT proficiencies needed, this study aims to support libraries in optimizing their software investments and improving service delivery in an increasingly digital information environment.

The adoption of **Integrated Library Management Software (ILMS)** has revolutionized library operations by automating key functions such as cataloguing, circulation, acquisitions, and reporting. However, despite the availability of advanced ILMS solutions (e.g., Koha, Virtua, Atriuum), many libraries struggle to maximize their potential due to a **lack of adequate ICT skills among library professionals**, (Atanda, 2018)

If these challenges remain unaddressed, libraries risk:

- **Inefficient operations** (e.g., delays in cataloging, circulation errors).
- **Poor user experience** (e.g., difficulties in accessing digital resources).
- **Wasted investments** in ILMS due to low adoption rates.

This study seeks to **identify the ICT skills necessary for effective ILMS utilization** for service delivery by librarians in public university libraries.

Objectives of the Study

The following research objectives will guide the study:

3. To find out the types of Integrated Library Management Software utilized for Service Delivery in Public University Libraries in Kaduna State.
4. To determine the types of ICT Skills (Knowledge Skill) required for the Utilization of Integrated Library Management Software for Service Delivery in Public University Libraries in Kaduna State

LITERATURE REVIEW

This section reviews literature related to types of Integrated Library Management Software (ILMS) available to university libraries and ICT skills required for the utilization of ILMS by university libraries in Kaduna State, Nigeria.

Integrated Library Management Software Available to Academic Libraries

Received: March 15, 2025. Accepted: June 16, 2025

The growth of Integrated Library Management Software (ILMS) is no doubt more visible in the 21st Century. Many academic libraries now make use of the available ILMS to render services to library users. Several integrated library management software have penetrated the Nigerian libraries. The early generations of integrated library management software were not user friendly and interactive. This made it difficult to use by library staff, though they were more efficient than the paper systems libraries had been using for generations. (Olatunji & Tiamiyu, 2022).

Oyovwe-Tinuoye and Omosekejimi (2022) said the list of available ILMS includes: Micro CDS/ISIS (free), Library Plus (which replaced x-lib software), Green Stone Software, Graphical Library Automation System (this replaced The Information Navigator Library Software, TINLIB), Alice for Windows Software and Alexandra, others are: Docuware, Strategic Library Automation Management (SLAM), Liberty 3 Software and Microsoft Access Software. Concourse Book System and Atriuum are proprietary library management software. Most integrated library management software separate functions into discrete programs called modules, each of the modules integrate within a unified interface.

Adamu, Ibrahim and Gbaje (2020) alluded to the fact that many Integrated Library Management Software (ILMS) packages are available to Nigerian libraries. These according to them includes Liberty, LIBS+(X-Lib), CDS/ISIS, TINLIB, GLASS, Alice for Windows, Innovative Millennium, Virtua, KOHA, Voyager and most recently NewGenLib. Muller (2011) stated that integrated library management software is multifunction, adaptable software applications that allow libraries to manage their daily tasks in a more efficient way.

Olakoge and Kolawole (2019) submitted that the integrated library management software that have been introduced into the Nigerian academic libraries includes: Alice for Windows, Web-Based Integrated Library System (WEBLIS), The Information Navigator Library Software (TINLIB), Automated Library (AUTOLIB), Graphic Library Automation System (GLAS), Koha, Automation of Libraries and Centres of Documentation (ABCD), Integrated Library Management System, Evergreen Software, NewGenLib, Computer Documentation System/ Integrated Set of Information Systems (CDS/ISIS). Due to the limitation of some software, many libraries had migrated from one software to another in order to improve performance and service efficiencies (Ajani & Buraimo, 2022).

Received: March 15, 2025. Accepted: June 16, 2025

The use of ILMS started in Nigeria in the mid-1970s and early 1980s, when three notable universities – the University of Ibadan, the University of Lagos and Ahmadu Bello University, Zaria - started computerization. The National University Commission (NUC) presented a microcomputer and local area network together with the Information Navigator (TINLIB) software to 20 academic libraries in Nigeria (Uzomba, Oyebola, & Izuchukwu; 2015). Due to the efficiency in library operations and services as a result of using this software, many other academic libraries now began to introduce automation. In 1980 Ahmadu Bello University (ABU) library in Zaria also started, while in the year 1990, the University of Jos library joined in the automation movement.

As reported earlier, the University of Ibadan Library started library automation with TINLIB in 1994, as did the Federal University of Agriculture Abeokuta, but later migrated to the GLAS software. Olabisi Onabanjo University library in Ogun State started automation in 2000 using Alice for Windows software but they later migrated to Koha (Adegbore; 2010). A notable private university, Bowen University, started library automation in 2007 using Koha Integrated Library Systems Software (Otunla & Akanmu–Adeyemo; 2010).

A review of literature on ILMS by Kari & Baro (2014) in Nigerian academic libraries reveals that most libraries depend on free and donated software. For example, the University of Ibadan Library started with CDS/ISIS that was developed and distributed freely by UNESCO in 1993. In 1994, the library migrated to TINLIB which was introduced by the World Bank Project in 1994-1995. Citing a study carried out by Idowu and Mabavonku (1999) Bozimo's findings reveals that 92.3 per cent of the 13 federal universities studied were using TINLIB for their automation projects, while 15.4 per cent of the universities were using CDS/ISIS. The reason for the prevalent use of TINLIB was because the NUC made the software available for universities under the World Bank intervention loan package to Nigerian Universities (Bozimo, 2006). This software, according to Bozimo, did not carry the universities very far.

Similarly, Emasealu (2019) attributed the discontinuation of TINLIB by Ibadan University to the need for change in the operating system from DOS to Windows. DOS-based software lack flexibility and were incapable of performing the advanced functions required for delivering smooth library services. By 2004, Ibadan acquired ALICE for Windows. Although the software was Windows-based, it did not meet their needs because it was not MARC 21-compliant and, as a result, it had no interface for sharing resources. Oyedokun *et al.* (2018)

Received: March 15, 2025. Accepted: June 16, 2025

reported that the choice of TINLIB was made by the Committee of University Librarians of Nigerian Universities (CULNU) because there were modules for acquisitions, cataloging, serials control, circulation and report generation, all of which operate as an integrated unit. Atanda (2018) noted that the task of choosing a software package for a library is often difficult because the package must be sufficiently powerful and versatile to cope with all library processes and, at the same time, be user friendly.

Alam and Mezbah-ul-Islam (2020) reported that Koha is the first and most extensively used open source ILMS which is free library management software with source code under the "General Public License" (GPL). Katipo Communications of New Zealand developed the Koha software in 1999 which went live for the first time in January 2000. Koha includes such modules as acquisition, cataloging, OPAC, circulation, Inter-Library Loan, serials control, patron management, and report generation modules. It has two Graphical User Interfaces (GUIs) - one for users, and another for staff. However, as the technology advances, other ILMSs begin to emerge. This include: Concourse, Atriuum, Virtua, NewGenLib and SLAM.

Also, Hamisu (2021) in his literature review cited Kari and Baro, (2014) who studied the use and challenges of integrated library management software in Nigerian universities. Purposively, the study selected 124 universities. And the findings revealed that majority of Nigerian libraries, about 67% use KOHA library software. Another reasonable percentage of the libraries used SLAM (Simultaneous localization and mapping) and VIRTUA software. The VIRTUA in particular was found highly versatile and internet-based, flexible, user-friendly, customizable, time-saving, and it MARC21 (Machine-Readable Cataloguing) compliant interface aids in sharing resources.

ICT Skills Required for the Utilization of Integrated Library Management Software in University Libraries

To use integrated library management software in university libraries or anywhere efficiently, there is no doubt that acquisition of necessary information and communication technology (ICT) skills are inevitable. ICT skills (competences) in librarianship therefore, refer to the technical knowledge of librarians (library staff) on how to apply knowledge, skills, and experiences to utilize available library technologies in their professional practice in Libraries. According to Mngutyô and Inyang (2018) it is the process of transiting from traditional manual operations to digital or electronic. To effectively achieve this, library staff needs ICT skills to deliver optimal services to their users. Atanda (2018) considered ICT competence as a skill

Received: March 15, 2025. Accepted: June 16, 2025

acquired by trained library personnel essential for implementation of ICT in the daily routine of library work such as information resources acquisition, processing, cataloging and dissemination for the need of the users.

On the other hand, Omahia, Okwu and Nsirim (2021) consider competencies of librarians as those technological or computer skills and knowledge required by librarians to be able to fully exploit information resource services in the wake of new technology. Oyedokun, Oyewumi, Akanbi and Laaro (2018) viewed librarian competencies as those relevant skills and knowledge to be acquired by the librarians that would enable them to fully exploit information search, retrieval, and delivery using electronic format. Therefore, librarian competence or ICT skills of library personnel refers to the acquisition of knowledge, skills and abilities at any level of expertise sufficient to enable the library personnel perform their work appropriately and professionally in any given work place.

Ganapathi (2014) in his article 'Information Technology skills for Library Professionals' stated that today's library professionals working in the electronic information environment requires a balanced combination of knowledge, skills, aptitudes and personal qualities. These he said might include: the ability to understand the computer and its peripherals (awareness of hardware, familiarity with software, critical thinking when evaluating software, data communication and networking, internet basics and tools), others are: ability to identify and systematize appropriate hardware/software, ability to use standard software applications, use of in-house systems and electronic information services, information search, retrieval, and dissemination techniques, critical thinking ability, skill in problem solving, curiosity, persistence, confidence, flexibility, and ability to adapt to change, general managerial ability, good organizational skills, time management, staff supervision, planning and budgeting. He also mentioned excellent communication skills and good interpersonal skills to successfully fulfill liaison and teaching roles, awareness of the role of technology in teaching and learning, basic knowledge/overview of the institutional network and the information service infrastructure.

In order to achieve ILMS competency, there is the need for library staff to acquire necessary skills and competences in order to address the ever-changing taste of existing library users and to attract new categories of users that have preference for information in electronic formats. That is the way to go now, and should be taken very seriously by professional librarians. These are skills in computer, ICT, knowledge of the types of software in existence

Received: March 15, 2025. Accepted: June 16, 2025

–generally and particularly in the library, knowledge of how to select appropriate software for the library, knowledge of how to use them, and how to avoid inadequate ones in terms of quality and so on.

According to Mngutyô and Inyang (2018) the skills and competences can be acquired through teaching and training from suppliers of software, computer science program, workshops and conferences, short courses and practical learning. They will get initial training from the software vendor and have to continuously update it according to the changing user needs and technology. Atanda (2018) alluded to the fact that a well-trained personnel or workforce is critical to the implementation and sustenance of any ICT programme in academic libraries. To him, installation and initial take-off only is not enough, but a strategic framework to maintain and sustain the system is very important if the mandate of efficient service delivery would be achieved.

From the foregoing, it implies that for a library to adopt and use an ILMS, its staff must possess skills in computer operations, networking (LAN, WAN etc), software management, internet and extranet connectivity, and abilities to manipulate electronic gadgets and information resources in different formats. The abilities of library personnel to handle basic and complex tasks in an electronic and digital environment would determine whether an ILMS will work effectively or not. Related to handling basic and complex library tasks is maintaining and sustaining the software. Regular backups would be needed to avoid loss of very important data in the event of crashes or system failures. Technical hitches can be easily rectified when using proprietary software because the users have unrestricted online access to the producers of the software who can help identify the problem and solve it. This is unlike the open access software where the library is left at the mercy of its own technical ICT skills to resolve any problem. It would not be surprising then if most libraries using open access library software are not maximizing its usage to the fullest available potential.

Ayodele, (2015), enumerated that trainees of ILMS must learn about open-source software and the concept of creative commons which include expertise in downloading, installation, management and updating software. Also, knowledge of web server's management, web publishing, web access and information retrieval, data base management, networking, storage technologies and network processor are equally important. In the light of the above, Theja (2007) listed the following: "strategies establishing a shared motivating vision, appropriate training and coaching for people involved, appropriate staffing,

Received: March 15, 2025. Accepted: June 16, 2025

encouraging the participation of staff at all levels, creating open communication and collaboration culture." The following major factors may be taken into consideration while formulating strategy for library management software use in any automation programme. This was the position of Ayodele, (2015). She enumerated such factors as; Conducting feasibility study, data preparation activities, standardization of forms and records, writing library systems and procedures, site preparation, environment creation, manpower requirement, proposed services, training programme, compatibility maintenance of hardware and software, specialized presentations, backup system and procedures, bar coding implementation, financial resources availability and generation, interaction with staff, level of understanding of problems, awareness and commitment about current trends, professional interaction with fellow colleagues.

For the library professionals, the ICT skills are in terms of understanding the hardware, software, or knowing about application of computers to library services. Ganapathi (2014) said, ICT skills are the skills that a library professional has to learn and enrich his or her ICT awareness. Information handling is based on corps of knowledge. Professionals should learn more about the information society, information retrieval, networking and so on.

From the literatures reviewed, the evolution of ILMS has gone through different faces in Nigeria. Librarians and other library professionals need to understand fully the types of ILMS available for use and which one will best serve their libraries. The ICT skills needed to utilize ILMS is of paramount importance. This is true because without the requisite skills, it will be difficult if not impossible to install and continue to run the software in particular and the automation system in general for continuity and effective service delivery.

METHODOLOGY OF CONDUCTING THE STUDY

Quantitative research methodology was adopted for this study using a cross-sectional survey design. A total of one hundred and sixty-five (165) copies of the questionnaire were administered to the respondents, out of which one hundred and thirty-three (133), representing 81% were duly completed, returned and used for this study. The data collected were analyzed using descriptive statistics.

DISCUSSION OF FINDINGS

This section presents discussion of the finding on the types of ILMS being utilized for service delivery and the ICT skills required for the utilization of ILMS by public university libraries in Kaduna State, Nigeria.

Received: March 15, 2025. Accepted: June 16, 2025

Integrated Library Management Software Being Utilized for Service Delivery in University Libraries in Kaduna State

The first objective of this study is to find out the type(s) of Integrated Library Management Software being utilize for Service Delivery in University Libraries in Kaduna State. The report of the investigation shows the ILMS being used by university libraries in Kaduna State in Table 1.1 below:

Received: March 15, 2025. Accepted: June 16, 2025

Table 1.1 Integrated Library Management Software Being Utilization for Service Delivery in Public University Libraries in Kaduna State

ILMS Being Used in your library	AFIT				KIL				NDA				KASU					TOTAL	
	NU	%	U	%	NU	%	U	%	NU	%	U	%	NU	%	U	%	T	NU	U
Alice for windows	24	18	0	0	49	36.8	9	6.8	12	9.0	2	1.5	37	27.8	0	0.0	133	91.7	8.3
Atriuum	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.0	133	100	0.0
CDS/ISIS	23	17.3	1	0.8	56	42.1	2	1.5	13	9.8	1	0.8	37	27.8	0	0.0	133	97	3.0
Concourse Book System	24	18	0	0	57	42.9	1	0.8	14	10.5	0	0.0	37	27.8	0	0.0	133	99.3	0.7
E-Lib	18	13.5	6	4.5	45	33.8	13	9.8	10	7.5	4	3.0	30	22.6	7	5.3	133	77.4	22.6
Evergreen	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.0	133	100	0.0
G-lass	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.0	133	100	0.0
KOHA	23	17.3	1	0.8	5	3.7	53	39.9	2	1.5	12	9.0	2	1.5	35	26.3	133	24.1	76
Liberty	24	18	0	0	57	42.8	1	0.8	11	8.3	3	2.3	37	27.8	0	0.0	133	97	3.0
Libinfo	24	18	0	0	57	42.8	1	0.7	14	10.5	0	0.0	37	27.8	0	0.0	133	99.3	0.8
Libsy	24	18	0	0	56	42.1	2	1.5	14	10.5	0	0.0	37	27.8	0	0.0	133	98.5	1.5
Millennium	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.0	133	100	0.0
NewGen Lib	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.00	133	100.00	0.0
SOUL	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.00	133	100.00	0.0
Strategic Lib Automation	24	18	0	0	58	43.6	0	0.0	14	10.5	0	0.0	37	27.8	0	0.00	133	100.00	0.0

Received: March 15, 2025. Accepted: June 16, 2025

Tin-Lib	24	18	0	0	57	42.8	1	0.8	14	10.5	0	0.0	31	23.3	6	4.51	133	94.74	5.3
Virtua	24	18	0	0	43	32.3	15	11.3	14	10.5	0	0.0	33	24.8	4	3.01	133	85.71	14.3
X-Lib	24	18	0	0	55	41.4	3	2.3	14	10.5	0	0.0	31	23.3	6	4.51	133	93.23	6.8

Source: Field Survey, 2024. **Key**: AFIT= Air Force Institute of Technology; KASU= Kaduna State University; KIL= Kashim Ibrahim Library; NDA= Nigerian Defense Academy; %= Percentage; NU=Not Utilized; U= Utilized

Table 1.1 revealed the ILMS adopted by selected libraries as follows: **AFIT** – E-Lib 6(4.5%), **KIL** – KOHA 53(39.9%), **NDA** – KOHA 12(9%), and **KASU** – KOHA 35(26.3%) respectively. This adoption for use in these studied libraries does not in any way represent the extent to which the ILMS are utilized for library routine services in different sections or units.

Table 1.1 indicated the types of Integrated Library Management Software being used in selected university libraries in Kaduna State for service delivery. The results showed that KOHA is the dominant Integrated Library Management Software being used in university libraries in Kaduna State for service delivery with 76% of the total response. This is followed by E-Lib with 22.6%, and then Virtua with 14.3% of the most three (3) software being used by university libraries for service delivery in Kaduna State. Conversely, the finding shows that Atriuum, Evergreen, G-Glas, Millennium, SOUL, NewGenLib, and Strategic Lib Automation Mgt. are not known to be used by university libraries for service delivery in Kaduna State at all.

The finding is in line with a study conducted by Igbudu, Asen and Tyopev (2020) to examine the influence of Koha open-source software on technical operations of the public university libraries in North Central Nigeria. It was discovered in the investigation that Koha library management software has significant effect on acquisition, cataloguing and classification operations in public university libraries in North Central Nigeria. Again, Anyira (2020) assessed the need for the adoption of Koha ILMS in Nigerian university libraries. Theoretical literature above revealed that Koha ILMS was effective in Nigerian university libraries. According to these authors, the effectiveness of Koha integrated library management software was in the areas of information outburst, speed of library operation in the area of charging and discharging, cataloguing and classification of library materials, acquisition, patron management, and OPAC, amongst others.

Received: March 15, 2025. Accepted: June 16, 2025

ICT Skills (Knowledge Skill) Required for the Utilization of Integrated Library Management Software for Service Delivery in Public University Libraries in Kaduna State

The second research objective sought to determine the types of ICT Skills (Knowledge Skill) required for the Utilization of Integrated Library Management Software for Service Delivery in University Libraries in Kaduna State. The responses of respondents are contained in Table 1.2 shown below:

Table 1.2 ICT Skills (Knowledge Skill) Required for the Utilization of Integrated Library Management Software for Service Delivery in Public University Libraries in Kaduna State

	AFIT				KIL				NDA				KASU				TOTAL	
ICT Skills (Knowledge Skill) Required for ILMS	NT	%	T	%	NT	%	T	%	NT	%	T	%	NT	%	T	%	TL	NT	T
The ability to understand the computer and its peripherals	14	10.5	0	.5	5	8.8	3	4.8	5	.	9	.8	10	5	7	0.3	33	40.6	59.4
Understanding Hardware	20	15.0	4	.0	7	7.8	1	5.8	9	.8	5	.8	15	1.3	2	6.5	33	60.9	39.1
Understanding Software	18	13.5	6	.5	3	4.8	5	8.8	8	.0	6	.5	13	9.8	4	8.1	33	54.1	45.9
Evaluating Software Skills	23	17.3	1	0.7	4	3	2.3	1	5.8	1	9	2	.0	1	5.0	1	2.8	33	73.7	26.3
Data Communication &Networking Skills	17	12.8	7	.3	5	7.8	1	5.8	8	.0	6	.5	4	0	5.0	1	2.8	33	61.7	38.4
Internet Basic Skills	15	11.3	9	.8	6	7.8	1	5.8	6	.5	4	.0	8	1	3	6	9.6	33	51.9	48.1
Ability to identify and systematize appropriate hardware/software	13	9.8	1	.3	8	6.3	3	7.3	7	.3	5	.3	6	1	9.6	3	3.3	33	60.9	39.1

Received: March 15, 2025. Accepted: June 16, 2025

Ability to use standard software applications	18	13.5	6	4.5	3	28.6	2	15.0	19	6.8	5	3.8	2	10	1	5.8	1	2.3	63.9	36.1
Skills to use in-house Systems	16	12.0	8	6.0	3	27.1	2	26.5	19	6.8	5	3.8	7	30	3	22.6	1	2.3	51.1	48.9
Search & Retrieval Skills	15	11.3	9	6.8	2	5.3	3	4.8	19	6.8	5	3.8	1	4	1	0.5	2	7.3	47.4	52.6
Ability to Apply Technology to Teaching & Learning	14	10.5	1	0.5	3	7.8	2	7.1	19	6.8	5	3.8	1	3	2	9.8	1	4.3	54.9	45.1
Ability to Understand the Institution's Network	19	14.3	5	3.8	4	10.8	1	2.8	19	6.8	5	3.8	1	1	6	5.8	2	0.3	67.7	32.3
Ability to use Infor service infrastructure	15	11.3	9	6.8	4	10.1	1	3.5	1	0.2	9	0.5	1	9	1	4.3	1	3.5	64.7	35.3

Source: Field Survey, 2024. **Key**: AFIT= Air Force Institute of Technology; KASU= Kaduna State University; KIL= Kashim Ibrahim Library; NDA= Nigerian Defense Academy; %= Percentage; T= Ticked; NT=Not Ticked; TL=Total.

Results from Table 1.2 reveals the most ICT skills acquired by studied libraries for the utilization of ILMS as follows: **AFIT** - Ability to identify and systematize appropriate hardware/software 11(8.3%), the ability to understand the computer and its peripherals 10(7.5%) and the skills on awareness of the role of technology in teaching and learning 10(7.5%). **KIL** - the ability to understand the computer and its peripherals 33(24.8%), skills on Information search, retrieval, and dissemination techniques 33(24.8%), and skills on understanding software 25(18.8%). **NDA** - the ability to understand the computer and its peripherals 9(6.8%), Internet basics skills 8(6%), Ability to identify and systematize appropriate hardware/software 7(5.3%). **KASU** – Ability to use in-house systems and electronic information services 30(22.6%), the ability to understand the computer and its peripherals 27(20.3%), and skills on Internet basics 26(19.6%) respectively.

Table 1.2 reveals the ICT skills (Knowledge Skills) that is required for the utilization of Integrated Library Management Software for service delivery in university libraries in Kaduna State. Based on the 50% benchmark, Investigation revealed that only the ICT skills on the ability to understand the computer and its peripherals which has a score of 59.4% and the ICT skills on Information search, retrieval, and dissemination techniques with 52.6% were acquired for the utilization of Integrated Library Management Software for service delivery in university libraries in Kaduna State.

Received: March 15, 2025. Accepted: June 16, 2025

Findings revealed that most of the other ICT skills needed for the utilization of Integrated Library Management Software for service delivery in university libraries in Kaduna State were not adequately acquired. Such skills include: Understanding of hardware 39%, Understanding software 45.9%, evaluating software 26.3%, Data communication and networking 38.4%, Internet basics and tools 48.1%, Ability to identify and systematize appropriate hardware/software 39.1%, Ability to use standard software applications 36.1%, and the use of in-house systems and electronic information services 48.9%. Other skills not sufficiently acquired for the utilization of Integrated Library Management Software for service delivery in university libraries in Kaduna State based on the 50% scores are skills on: Ability to apply technology in teaching and learning 45.1%, Basic knowledge/overview of the institutional network 32.3% and knowledge skills on ability to use information service infrastructure 35.3% respectively.

Findings from respondents agrees with the submission of Ganapathi (2014) who in his article 'Information Technology Skills for Library Professionals' stated that today's library professionals working in the electronic information environment requires a balanced combination of knowledge, skills, aptitudes and personal qualities. These he said might include: A thorough understanding of the vision and mission of the organization, the ability to understand the computer and its peripherals (awareness of hardware, familiarity with software, critical thinking when evaluating software, data communication and networking, internet basics and tools), others are: ability to identify and systematize appropriate hardware/software, ability to use standard software applications, use of in-house systems and electronic information services, information search, retrieval, and dissemination techniques, critical thinking ability, skill in problem solving, curiosity, persistence, confidence, flexibility, and ability to adapt to change, general managerial ability, good organizational skills, time management, staff supervision, planning and budgeting He also alluded to the awareness of the role of technology in teaching and learning, basic knowledge/overview of the institutional network and the information service infrastructure.

The implication of these findings to university libraries in using ILMS for service delivery is that essential ICT skills must be adequately acquired for an effective and sustainable library automation programme. Mngutyô and Inyang (2018) supported this position when they submitted that; "the skills and competences can be acquired through teaching and training from suppliers of software, computer science program, workshops and conferences, short courses and practical learning. They will get initial training from the software vendor and have to

Received: March 15, 2025. Accepted: June 16, 2025

continuously update it according to the changing user needs and technology." Atanda (2018) also alluded to the fact that a well-trained personnel or workforce is critical to the implementation and sustenance of any ICT programme in academic libraries.

Conclusion

Based on the findings of this study, it is clear that ICT competent is very paramount for Librarians utilization of ILMS in public university libraries in Kaduna State. The successful implementation and utilization of ILMS in public university libraries ultimately depends on recognizing ICT competency as an ongoing professional requirement rather than a one-time achievement. By fostering a culture of continuous learning and technological adaptation, libraries can fully leverage their ILMS investments to meet the evolving needs of academic communities in the digital age,

Recommendations

3. Management of public Universities in conjunction with relevant authorities should embrace the training and retraining of library manpower on a frequent and continuous basis to enlighten staff on the ILMS to adopt and utilize for library services.
4. Library schools in Nigeria should incorporate practical training on the use of library software and other related technologies into their curriculums to boast potential library workers ICT skills in handling ILMS and other library automation devices.

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Received: March 15, 2025. Accepted: June 16, 2025