



# International Journal of Research Publication and Reviews

Journal homepage: [www.ijrpr.com](http://www.ijrpr.com) ISSN 2582-7421

## EVALUATING INFORMATION COMMUNICATION TECHNOLOGY COMPETENCY REQUIREMENTS FOR LIBRARIANS AT KADUNA STATE UNIVERSITY

**AHMED RUFASI SANI**

[ahmedrufaisani21@gmail.com](mailto:ahmedrufaisani21@gmail.com)

Department of General Education Studies Federal University of Education, Zaria

### ABSTRACT :

The paper has studied ICT Competencies that Librarians need in the Kaduna State University with the aim of determining the specific ICT competence which librarians need to effectively deliver all the services of the library, the obstacles that the librarians majorly encounter in the acquisition and utilisation of these competencies, and the institutional approaches which have been adopted in enhancing the ICT abilities. The study had a descriptive survey research method. The librarians chosen as the target population at the different departments of Kaduna State University was 170 but a purposive sampling method was adopted to determine the sample of 150 librarians. By deploying a structured questionnaire prepared by the researcher, data were gathered. Experts in the library and information science field both face and content validated the instrument and provided it with face and content validity. A pilot survey has been carried out and a Cronbachs Alpha reliability coefficient of 0.82 was determined which is a high reliability coefficient which established a high degree of internal consistency. The report indicated that the central ICT skills, including Digital Literacy, Information Retrieval, Electronic Resources Management, and Library Automation were considered as highly necessary. Notwithstanding, unstructured training, poor internet connectivity, low funding, and low institutional support were the major challenges that were revealed as a deterrence to attaining and practicing ICT competency. The reading has also established that Kaduna State University has been proactive in its approach towards the enhancement of the ICT of the librarians through organizing of workshops, mentorship programs, ICT experience centres, and partnership with external organisations. According to the results, the researchers suggest constant training, better infrastructure, planning, and policy support to encourage ICT development in librarians.

**Keywords:** ICT Challenges, ICT Competencies, Library Service Delivery, Librarians, Professional Development

### Introduction

The paper has studied ICT Competencies that Librarians need in the Kaduna State University with the aim of determining the specific ICT competence which librarians need to effectively deliver all the services of the library, the obstacles that the librarians majorly encounter in the acquisition and utilisation of these competencies, and the institutional approaches which have been adopted in enhancing the ICT abilities. The study had a descriptive survey research method. The librarians chosen as the target population at the different departments of Kaduna State University was 170 but a purposive sampling method was adopted to determine the sample of 150 librarians. By deploying a structured questionnaire prepared by the researcher, data were gathered. Experts in the library and information science field both face and content validated the instrument and provided it with face and content validity. A pilot survey has been carried out and a Cronbachs Alpha reliability coefficient of 0.82 was determined which is a high reliability coefficient which established a high degree of internal consistency. The report indicated that the central ICT skills, including Digital Literacy, Information Retrieval, Electronic Resources Management, and Library Automation were considered as highly necessary. Notwithstanding, unstructured training, poor internet connectivity, low funding, and low institutional support were the major challenges that were revealed as a deterrence to attaining and practicing ICT competency. The reading has also established that Kaduna State University has been proactive in its approach towards the enhancement of the ICT of the librarians through organizing of workshops, mentorship programs, ICT experience centres, and partnership with external organisations. According to the results, the researchers suggest constant training, better infrastructure, planning, and policy support to encourage ICT development in librarians.

Additionally, with the growing popularity of e-learning, virtual work in research and access to educational materials, librarians will need to be a team of experts on digital technologies (Ogbonna & Ifeanyi, 2023). They can no longer only provide information but also can provide education on digital literacy, support of ICT and creation of access on open educational resources and learning platforms on the internet (Bako & Yusuf, 2024). The role of a librarian as a digital intermediary is to provide users with a reference to complicated electronic databases and online reference systems (Fagbola & Iwu, 2025). The above-mentioned enlargement of role places even more emphasis on the importance of evaluating and managing ICT gaps in the field of library professionals.

Summarily, the study aims to evaluate the ICT skills that are required by the librarians in Kaduna State University. Its goal will be assessing their existing skills, defining gaps in competence, and suggesting ways to increase digital proficiency (Ajegbomogun et al., 2023). By conducting the proposed study, it will provide the management of the library and policymakers with further insights on aspects of the library that need to be targeted and will aid the continuous professional progress of the academic librarians (Usman & Aliyu, 2023). Finally, by enhancing ICT capabilities of librarians, it is expected to see improved and more effective library service and better support systems in the academic structures within the university.

### ***Statement of the problem***

The role of the librarian in academic institutions has greatly increased in the recent years owing to the introduction of the Information and Communication Technology (ICT) into the operation of the library. ICT has changed the ways information is stored and retrieved and shared and librarians have been required to be equipped with a broad range of IT skills necessary to carry out the expanding needs of users. Nonetheless, even with the current tendency to move towards digital library service around the globe, the majority of academic libraries in Nigeria, in Kaduna State University in particular, still have problems with embracing the new environment.

It has been observed and some prelim reports indicate that a number of librarians fail to develop the ICT capability which is needed to deliver the services efficiently. Constant training and practice of using integrated library systems, manipulating digital repositories, offering online reference, and facilitating e-learning facilities are some of the practices that require continual training and experience and as such, those institutes with less of these facilities find it a challenge. Those knowledge and skills gaps in ICT have also translated to low efficiency, inefficient service deliveries, poor use of library resources, and finally, low satisfaction amongst users.

Moreover, absence of adequate access to training, limited technology infrastructure, lack of institutional support and motivation have also been cited as some of the greatest challenge inhibiting acquisition of the relevant ICT skills amongst librarians. This creates fears of how ready librarians are to operate in technology-dominated information world. The competence difference between librarians is jeopardizing the relevance and effectiveness of academic libraries as digital tools and platforms remain to gain centrality to academic processes.

Although continuous attempts to digitalize library management systems continue, adequate quantitative evidence concerning which ICT skills librarians require and to which degree there are still gaps in their proficiency has not been found within such specific institutional context as Kaduna State University. In the absence of such assessment, the targeted training programs design, the likelihood of resource allocation, or preparation of strategic plans of digital transformation are not likely to succeed.

Thus the research will aim at evaluating the ICT skills required by the librarians in Kaduna State University, determining their current lack, and offer practical solutions that would be resorted to in closing the gaps. The outcomes should influence the library administrators and policy makers to strategically develop capacity-building programs that will promote the quality of libraries services offered and make librarians important presence in digital era.

### ***Research Questions***

1. What specific ICT competencies are required for effective library service delivery in Kaduna State University?
2. What are the major challenges faced by librarians in acquiring and applying ICT competencies in their work?
3. What strategies have been implemented by Kaduna State University to improve ICT competencies among librarians?

### ***Research objectives***

1. To identify the specific ICT competencies required for effective library service delivery.
2. To explore the challenges faced by librarians in acquiring and applying ICT competencies.
3. To assess the existing institutional strategies aimed at improving ICT competencies among librarians.

---

## **Literature Review**

### ***Conceptual Clarification of ICT Competencies***

ICT competencies are those essential skills, knowledge, and capacities needed by librarians to manage, provide, and invent library services through the digital tools and platforms. In the academic libraries, e.g., the Kaduna State University, ICT skills have now become essential to facilitate the process of teaching, learning and research activities. Since libraries are becoming hybrid and digital, ICT competencies allow librarians to operate electronic information systems, databases, digital repositories and web-based communication tools (Ogunniyi & Salisu, 2023). This change is necessitated by the requirements of the knowledge-based economy and the fourth industrial revolution (4IR), where academic librarians can no longer keep the status quo and must be prepared to manage the existing technologies (Yusuf & Salami, 2023).

ICT competencies cover a vast variety of skills. The technical skills refer to the capability to work with such programs as library automation systems like KOHA, utilize integrated library systems (ILS), and solve digital access problems (Ahmed & Bakare, 2024). Digital literacy competencies encompass efficient utilization of online databases, search-engines, metadata-controls and cataloging-systems like MARC21 and RDA. They are necessary because these competencies would promote resource discovery, bibliographic control, and afford access to electronic materials (Chigbundu & Ogundipe, 2025). With an understanding in these areas, librarians will be in a position to bring about the digital divide between information systems and users.

In addition, modern librarians are anticipated to professional competencies in communication and instruction. These are: the possibility to provide virtual reference services, support information literacy training, and use the Internet platforms (Zoom, Microsoft Teams, Institutional Learning Management Systems) to offer the user education (Ibrahim & Audu, 2024).

As artificial intelligence, data analytics, and machine learning enter the majority of educational establishments, librarians have to build higher ICT skills than the conventional ones. These are application of AI-powered applications like chatbots, plagiarism detection applications, and use of predictive analytics in collection development and user behavior (Onyema & Oladipo, 2025). Being able to maintain institutional repositories, to develop digital exhibitions and to maintain access to scholarly communication over the long-term is becoming increasingly important (Ocheje, 2025). Moreover, it is also necessary to be aware of the rules of data protection and the principles of cybersecurity to secure the information of users and guarantee fair work of the library.

### ***ICT in Academic Library Operations***

ICT is at the forefront of revolutionizing the academic libraries on campus in the 21<sup>st</sup> century. It covers a broad range of computer technologies, communication systems and digital tools that are utilized in perfecting library operations like cataloguing, circulation, acquisition, reference and dissemination of information. The use of ICT in academic libraries provides an opportunity to increase the efficiency of librarians to serve their patrons better and in a positive way that is able to address the growing needs of students, researchers, and faculty members in their need to access information at the appropriate time and when it is reliable (Olanrewaju & Agboola, 2022).

The Library Management Systems (LMS) like KOHA, ALMA or Evergreen should be considered one of the most visible ways in which ICT can be used in academic libraries. Such systems automate key tasks such as cataloguing, registration of users, loan of books, tracking of overdue books and reports. Through automation, the operations at the library are made smoother and more efficient and hence librarians get time to offer services that are of value like research assistance and training the users (Ahmed & Bakare, 2024). Besides, the digitalization of the library content has given the academic libraries an opportunity to acquire and administer digital objects, institutional repositories, and archives that hold a history of the intellectual work of the universities.

ICT is also used to access the electronic resources like e-books, e-journals, databases and online reference materials. Academic libraries have the capability to deliver scholarly resources remotely due to development of respective platforms, such as JSTOR, ScienceDirect or EBSCOhost, thus overcoming the geographical distance and easing the continuity of research. Discovery services and federated search are also other sources in libraries where the user can access useful information in different sources with the aid of only one interface (Onyema & Oladipo, 2025). Such change raises the user satisfaction level and links academic libraries with the best practices in the world.

Interactive media like the e-mail, chat services, video conferencing and the social media have widened the platforms of communication between the librarians and the users. The virtual reference services and the live chats as well as the information literacy webinars offered by the academic libraries today encourage the usage of the digital medium and offers immediate assistance and support. Outreach, events, and information-sharing are performed using social media websites such as Facebook, Twitter, and Instagram, which allow libraries to have presence and visibility in the world of online learning (Tijjani & Ismail, 2024).

### ***Challenges in Acquiring ICT Competencies***

With the modern information environment being driven by the use of Information and Communication Technology (ICT), competencies in the field form a requirement in the successful delivery of the services by librarians. Nevertheless, the librarians especially in the developing world, such as Nigeria, are exposed to several systemic, infrastructural, institutional, as well as individual level issues that affect the capacity of librarians to attain and practice the requisite skills in ICT. The challenges hinder the quality of library service and restrict the use of modern technologies in the service.

Among the most urgent issues, there is poor ICT infrastructure. Most libraries, particularly ones within government facilities, use old computers, inconsistent access to the internet, and low numbers of licensed software and electronic tools. The inadequacies in terms of modern hardware and network facilities obstruct the possibility of librarians to have interaction with training programs or to rehearse crucial ICT functions. Moreover, the lack of sufficiency in the supply of electricity in most areas of Nigeria has led to poor usage of existing technologies that health services online services and digital sources.

The problem is also facilitated by the lack of funds in libraries. The amount of money given to academic libraries as budgetary allocations are usually not enough to pay for the ICT equipment, online databases subscriptions, and the staff development packages. This financial limitation does not allow libraries access the digital tools they need and diminishes the quantity of the possible professional training programs of the librarians. Some institutions hold a low priority of ICT training, which has made the skills gap among library staff to continue widening, as it lacks the value placed on it as a strategic investment.

The other significant obstacle is the absence of consistent and formal training opportunities. The lack of formal capacity-building programs means that many librarians acquire ICT skills in an informal manner, whether through mentoring and informal advice by peers, or by trial-and-error. The management does not always offer or finance in-service training workshops, seminars and online courses. Excluding the continuous professional development, the librarians can hardly keep with the accelerated pace of technological progress within the library and information science area.

The amalgamation of human contributors to the development of ICT skills also lacks due to the factors of low motivation, fear of technology and lack of self-efficacy. Technology might be an intimidating force as seen by some librarians who have not been formally trained in ICT or even those who feel that technology does not relate to their job. Generational and gender inequality may also determine whether members of the association adopt ICT because male librarians under the age of 25 years tend to be much more certain of the ways to navigate digital devices than those older or female.

## Methodology

In the study, descriptive research design survey was embraced in an attempt to understand the ICT skills that a librarian should possess, the challenges to be anticipated by librarians and the measures that Kaduna State University has taken in order to improve the competences in ICT. Its population included 170 librarians within various units of the Kaduna State University and a sample of 150 librarians was purposively chosen. Purposive sampling technique was applied in an attempt to include only librarians, who actively participated in the service delivery and activities related to ICT. A four-point Likert scale (Strongly Agree, Agree, Disagree, Strongly Disagree) was used in the collection of the data using a structured questionnaire. The questionnaire was grouped into categories that incorporated the research questions: ICT competences required, problems faced in the context and institutional approaches to problems. The questionnaire was also examined by experts in Library and Information Science Department to ensure its validity, and a pilot test that involved 20 librarians working in a similar institution gave this questionnaire a Cronbachs Alpha reliability coefficient of 0.82 which means that it is very reliable. The space and time of data collection in the form of cash distribution of questionnaires to respondents was followed by means of maintaining the confidentiality assurances and two weeks retrieval period. Data collected was analyzed with the help of descriptive statistics, frequencies, percentages, means, and standard deviations. The mean scores of 2.50 and above were deemed to signify agreement whereas scores lower than 2.50 were deemed to signify disagreement in accordance with a decision rule.

## Results

**Research Question 1:** What specific ICT competencies are required for effective library service delivery in Kaduna State University?

**The specific ICT competencies required for effective library service delivery**

S/N	ICT Competencies required	VI	MI	SI	NI	Mean	StD
1	Library Automation and Systems Management	88	47	12	3	3.4667	3.0133
2	Electronic Resources Management (ERM)	93	45	10	2	3.5267	3.0616
3.	Digital Literacy and Information Retrieval	97	38	13	2	3.5333	3.0746
4.	Institutional Repository Management	72	52	19	7	3.2600	2.8449
5.	Web and Social Media Competency	63	54	22	9	3.1133	2.7374
6.	Plagiarism Detection and Citation Management Tools	77	55	15	3	3.3733	2.9257

Key: Very important (VI), Moderately important (MI), Slightly important (SI), Not important (NI), Standard deviation (StD)

Table 1 shows the evaluation of the targeted respondents in relevance to which ICT competencies were needed in order to deliver successful library services within the Kaduna State University. Digital Literacy and Information Retrieval have shown the highest mean score of 3.5333 among the listed competencies, which speaks of its focus in the contemporary librarianship. This implies that librarians should play an important role in the enhancement that is associated with searching, accessing, assessment as well as organization of digital content. On its heels is Electronic Resources Management (ERM) with the mean of 3.5267 which underlines the significance of the management of online databases, e-journals and digital subscriptions. Library Automation and Systems Management was another high ranking module with a mean of 3.4667 as there is a need to be at proficiency level when dealing with automated library modules like Integrated Library Systems (ILS) and Online Public Access Catalogs (OPACs) and barcode methods of service. These are the best rated competencies considering the international trends that emphasize on technology as the foundation of successful library service delivery. Some of their other competencies such as Plagiarism Detection and Citation Management Tools (mean = 3.3733) and Institutional Repository Management (mean = 3.2600) were also identified as significant only to a slight degree. Web and Social Media Competency showed the minimum mean score of 3.1133 and was, however, above the acceptable rate of 2.50, meaning its significance in enhancing library services with the help of online available media operations. On the whole, the data indicates that librarians of Kaduna State University rate all the six competencies above average, which demonstrates that they believe that a wide scope of ICT skills is necessary. The results of this research underscore the necessity of a permanent professional improvement and institutional assistance in order to give a librarian the competencies to work in the changing digital landscapes and to satisfy the changing demands of the clients of the library.

**Research Question 2:** What are the major challenges faced by librarians in acquiring and applying ICT competencies in their work?

**Challenges faced by librarians in acquiring and applying ICT competencies**

S/N	Statements	SA	A	D	SD	Mean	StD
1	Many libraries lack modern computers, stable internet, and updated software, limiting practical ICT application	82	41	13	14	3.2733	2.8937
2	Insufficient financial support restricts access to ICT tools, training programs, and maintenance of digital systems	93	42	6	9	3.4600	3.0332
3.	Lack of structured training for librarians to develop ICT skills	102	36	7	5	3.5667	3.1134
4.	Unreliable or slow internet hinders access to online resources, platforms, and e-learning	95	34	12	9	3.4333	3.0199
5.	Many institutions lack strategic plans, policies, or leadership commitment to ICT development.	92	38	9	11	3.4067	3.0000

6.	Frequent electricity outages disrupt ICT usage and limit consistent technology access.	89	39	8	14	3.3533	2.9642
----	--	----	----	---	----	--------	--------

Key: Strongly agree (SA), Agree (A), Disagree (D), Strongly disagree (SD), Standard deviation (StD)

Table 2 brings out the main issues that librarians of Kaduna State University face in the effort to acquire and use the ICT competencies. A lack of structured training of the librarians to gain ICT skills was the challenge that had the highest mean score of 3.5667. This implies that majority of librarians highly agree that the opportunities to develop as professionals are poor or unevenly provided to them and therefore, most of them cannot conveniently obtain practical ICT knowledge. On the same note, lack of adequate funding (mean = 3.4600) was also identified as a great barrier meaning that the lack of financial resources constrains access to ICT tools, employee learning needs and correct performance of the digital infrastructure. Close behind are impediments of poor internet connection (mean = 3.4333) as well as a lack of institutional planning strategies and support in the form of librarianship leadership (mean = 3.4067), demonstrating that infrastructure and policymaker problems are also major sources of problem on the part of librarians in becoming ICT literate. Other issues listed are non-availability of modern computers and updated software (mean = 3.2733) and regular electricity outages (mean = 3.3533). Two of them have a lower mean average compared to the other four, but still above the mark of 2.50, which shows they can be viewed as true impediments. The uniformity in high mean aboard all items (all above 3.2) indicates that the issues are not only systemic but also interconnected and were a result of institutional, infrastructural and economic causes. This indicates that there is an urgent demand of policy changes, strategic investment and infrastructure development that will enable librarians to have the ICT capacity required to deliver services efficiently in an academic environment that is technologically driven.

**Research Question 3:** What strategies have been implemented by Kaduna State University to improve ICT competencies among librarians?

#### **Institutional strategies aimed at improving ICT competencies among librarians**

S/N	Statements	SA	A	D	SD	Mean	StD
1	Institutional organized formal ICT training and supported librarians in obtaining professional qualifications	92	31	13	14	3.3400	2.9619
2	The university conducted regular workshops on e-resources, plagiarism detection tools like Turnitin, and digital literacy skills	101	32	9	8	3.5067	3.0789
3.	The institution implemented library automation systems like LIB+ and provided hands-on experience with OPACs, barcodes, and digital cataloguing tools	97	38	5	10	3.4800	3.0572
4.	The university collaborated with organizations like TETFund, LRCN, and international publishers to sponsor ICT training and resource access	92	37	14	8	3.4333	3.0044
5.	The university initiated the construction of an ICT Experience Centre to serve as a hub for advanced digital training.	85	47	11	7	3.4000	2.9709
6.	Through its Center for Mentorship and Career Development, the institution promotes ICT skill acquisition among librarians via mentorship and digital support roles.	94	34	13	9	3.4200	3.0088

Strongly agree (SA), Agree (A), Disagree (D), Strongly disagree (SD), standard deviation (StD)

The table 3 shows the institutional officialsure that Kaduna State University has taken to update ICT competencies in librarians. The data indicate that the university has done quite a great task in this regard and all the 6 items have exceeded 3.3000 of the mean scores. It was found that the university should organize regular workshops about e-resources, plagiarism detectors such as Turnitin, and digital literacy skills, which entailed the highest mean scores (3.5067). This suggests that such workshops have gained a lot of popularity as effective means towards ICT capacity building amongst librarians. The next thing is quite close, which is the adoption of library automation (mean = 3.4800) such as LIB+, which offers the librarians practical experiences with the use of OPACs, barcodes and other digital cataloguing options. The results have indicated that engaging with ICT systems practically is one of the survival strategies in ensuring skills gap bridging. Some of the outstanding strategies are partnerships with other external organizations like TETFund, LRCN and foreign publishers to sponsor training in ICT (mean = 3.4333), and training on ICT skill livelihood through center of Mentorship and Career development (mean = 3.4200). Positively viewed were the construction of an ICT Experience Centre (mean = 3.4000) and the organisation formal ICT training and support of professional qualification (mean = 3.3400). Whereas the latter two contain somewhat lower average scores, even this remains the case of positive institutional climate in the development of professional ICT. On the whole, all items rated highly, which goes to prove that Kaduna State University has adopted a multi-pronged strategy, which encompassed first-rate infrastructure, collaboration, formal education, and guidance to boost the ICT skills of its librarians.

## **Discussion of findings**

The results of the study are very clear that the librarians in Kaduna State University see broad range of ICT competencies as essential in delivery of library services. Digital Literacy and Information Retrieval (3.5333), Electronic Resources Management (3.5267) and Library Automation and Systems Management (3.4667) being the competencies that registered the highest means are a clear reflection of the current trend toward increasing the transformative change of libraries into digital and hybrid libraries, and the necessity to service them with an approach that relies heavily on technology knowledge and the best practice of using the tools of technology (Aina & Yusuf, 2023). These findings fit with the current literature that stresses that librarians would be required to be skilled in using online resources, operating digital platforms, and implementing information retrieval systems to

satisfy all user expectations in an academically rapid-change mode (Oyetunde & Ibrahim, 2022). Even such competencies, as Web and Social Media Competency, which had relatively lower mean scores, were still rated as higher than average, which signifies its increasing role in digital outreach and user engagement (Agbo & Okeke, 2025). The results indicate a general awareness among librarians that the versatile ICT proficiency is needed in the scope of the contemporary library functions and user satisfaction (Nwachukwu, 2024).

Conversely, the problems as noted in the learning and practice of these competencies are massive as well as systematic. The first priority issue is the absence of structured ICT training (mean = 3.5667) meaning that without any concrete capacity-building programme, librarians are on their own to explore the digital systems with little or no advice (Okonkwo & Bello, 2022). There were also limitations on strengths (mean = 3.4600) referred to as financial constraints, lack of infrastructure in internet and poor institutional support which shows that development of ICT competencies is not merely an individual issue but a strong organizational understanding and investment in it (Garba & Sulaiman, 2023). With all these restrictions, the research discovered that the Kaduna State University has performed exemplary in terms of narrowing down the ICT disparity and that there are sound measures, such as frequent workshops, library automation systems, collaboration, and mentorship programs that get a rating of more than 3.3 in their effectiveness. These institutional strategies are essential, yet they must be sustained and scaled up through improved funding, infrastructure development, and policy implementation to fully empower librarians in the digital age (Yakubu & Dauda, 2025). Together, the findings advocate for a holistic, policy-driven approach to ICT skill development in academic libraries across Nigeria.

---

## Conclusion

In this study, the researcher evaluated the Information Communication Technology (ICT) skills that the Kaduna State University librarians need by focusing on three research questions. It was uncovered that particular ICT skills like Digital Literacy and Information Retrieval, Electronic Resources Management, and Library Automation and Systems Management features are regarded as the most relevant to highly efficient library services. These competencies are an indication of the increased need of librarians to move into digital platforms, handling electronic resources materials, and the use of automated library systems in order to keep with the rising needs of the users in a technology-driven academic setting.

Other key issues that interfere with the need of librarians in this process of acquiring and using these competencies were also noted in the study. The first was the absence of proper ICT training curricula, unresponsive funding, lack of a good internet connection and insufficient institutional provisions that interfere with professional development and practical use of the ICT skills. In spite of such hindrances, at Kaduna State University, the university has revealed exemplary measures that are moonwalking with the idea of raising ICT competencies amid librarians. These involve set up of regular workshops, the establishment of library automation systems, work together with external training organizations, setting up mentorship and ICT experience centers. On the whole, though it has moved forward, it is clear that to ensure transformation of librarians with the capacity of managing ICT to provide efficient, modern library services, it is necessary to continue to invest, provide policy reform and strategic backing.

---

## Recommendations

It is on this basis that the following recommendations are made based on the results of the study on the Assessment of the Information Communication Technology (ICT) Competencies Required by Librarians in Kaduna State University:

Regular in-service training that is practical and situational according to the actual ICT requirements of librarians should be institutionalized in Kaduna State University. These need to deal with the main aspects of library automation, digital literacy, electronic resources management and new technologies and trends to provide the possibility of constant professional growth.

The university management ought to invest more on the upgrade of ICT library infrastructure such as high speed internet connection, advanced computers, software, and reliable power source. This will increase the availability of digital tools in order to deliver efficient services.

Detailed ICT competency development policy ought to be prepared and be integrated into the strategy plan of the university. This policy must identify the specific objectives, implementation structures and achievable outputs when it comes to ICT development within the library system.

To sponsor training, workshops and exchange programs, the library ought to engage proactively with the national and international agencies like TETFund, LRCN and professional associations. These partnerships have the potential of subjecting librarians to a wider exposure to practices of international ICT implementation best practices.

The university ought to enhance the mentorship portals through reinforcing institutions like the Center of Mentorship and Career Development in order to promote the learning amongst the librarians in a peer-to-peer fashion. It is desirable to transfer skills and have a cumulative ICT competency through junior employees being guided by the experienced employees.

---

## REFERENCES

1. Adebayo, O. L., & Umeh, C. A. (2023). Information communication technology competencies for librarians in Nigerian universities. *Journal of Library Innovation*, 14(2), 45-60.
2. Adekunle, P. A., Ojo, B. A., & Lawal, T. O. (2023). Digital literacy and ICT skills among academic librarians in Nigeria. *African Journal of Library and Information Science*, 33(1), 78-92.
3. Agbo, F. O., & Okeke, C. I. (2024). Assessing ICT competency needs for librarians in Nigerian academic libraries. *Library Hi Tech News*, 41(3), 12-25.

4. Ahmed, M., & Bakare, T. (2024). ICT proficiency and professional development for university librarians. *International Journal of Information Science and Management*, 22(1), 105-120.
5. Aina, R. F., & Yusuf, M. O. (2023). Technology skills required by librarians in the digital era: A case study of Nigerian universities. *Journal of Academic Librarianship*, 49(4), 102678.
6. Ajegbomogun, F. O., Okunlaya, R. O., & Adesina, A. O. (2023). ICT training and librarians' job performance in Nigerian university libraries. *Library Philosophy and Practice (e-journal)*, 5678
7. Aliyu, A., & Usman, S. (2023). Digital competencies for librarians in Nigerian higher education institutions. *Nigerian Library and Information Science Trends*, 10(2), 34-50.
8. Bako, M., & Yusuf, N. (2024). Emerging technologies and ICT skills gap among librarians in Nigerian universities. *Information Development*, 40(1), 56-72.
9. Bello, A., Adamu, H., & Danjuma, S. (2024). The impact of ICT on library services in Nigerian universities. *Journal of Information Technology and Libraries*, 43(1), 1-18.
10. Chigbundu, M., & Ogundipe, S. (2024). Assessing ICT competencies among librarians in Nigerian academic libraries. *Library Management*, 45(3/4), 210-225.
11. Fagbola, O., & Iwu, J. (2024). Digital transformation and librarians' ICT skills in Nigerian university libraries. *Journal of Librarianship and Information Science*, 56(2), 189-204.
12. Garba, S., & Sulaiman, M. (2023). ICT infrastructure and librarians' efficiency in Nigerian academic libraries. *Information Technologist*, 20(1), 67-82.
13. Ibrahim, K., & Audu, M. (2024). Technology adoption and ICT competency needs of librarians in Nigerian universities. *Electronic Library*, 42(1), 112-128.
14. Ibrahim, L., & Okoye, U. (2024). Assessment of ICT training needs for librarians in Nigerian academic libraries. *Library Hi Tech*, 42(2), 345-360.
15. Nwachukwu, C. (2024). Digital literacy and information management skills for librarians in Nigerian universities. *Journal of Education and Library Studies*, 8(1), 23-39.
16. Ocheje, S. (2024). ICT competency frameworks for academic librarians in Nigeria. *African Journal of Library and Information Science*, 34(2), 89-104.
17. Ogbonna, A., & Ifeanyi, E. (2023). Librarians' preparedness for digital services in Nigerian universities. *Library Trends*, 71(3), 450-468.
18. Ogunniyi, S., & Salisu, M. (2023). ICT skills assessment among librarians in Nigerian academic libraries. *Journal of Applied Information Science*, 11(1), 56-72.
19. Okonkwo, M., & Bello, T. (2022). Digital competencies for librarians in Nigerian university libraries. *Nigerian Journal of Library and Information Science*, 17(1), 45-60.
20. Olaniyan, A., & Yahaya, M. (2024). ICT infrastructure and librarians' effectiveness in Nigerian universities. *Information Development*, 40(2), 234-250.
21. Olanrewaju, F., & Agboola, P. (2022). ICT proficiency and service delivery among librarians in Nigerian universities. *\*Library Philosophy and Practice (e-journal)*, 6789\*. <https://digitalcommons.unl.edu/libphilprac/6789>
22. Omoniyi, T., & Fadimu, O. (2024). Digital skills and library service innovation in Nigerian universities. *Journal of Information Science Theory and Practice*, 12(1), 78-94.
23. Onyema, E., & Oladipo, Y. (2024). ICT training needs for librarians in Nigerian academic libraries. *Library Management*, 45(5/6), 310-325.
24. Owolabi, K., & Abdulkadir, B. (2024). Technology-driven library services and librarians' ICT competencies in Nigeria. *Journal of Academic Librarianship*, 50(3), 102712.

- 
25. Oyetunde, T., & Ibrahim, A. (2022). ICT competencies and challenges among librarians in Nigerian universities. *Information Technologist*, 19(2), 45-60.
  26. Salami, I., & Adeyemo, O. (2023). Assessing librarians' digital skills in Nigerian academic libraries. *Library Hi Tech News*, 40(4), 15-30.
  27. Tanko, M., & Ibrahim, S. (2024). Emerging ICT trends and librarians' professional development in Nigeria. *Journal of Librarianship and Information Science*, 56(3), 456-472.
  28. Tijjani, B., & Ismail, A. (2024). ICT tools and librarians' efficiency in Nigerian university libraries. *Library and Information Science Research*, 46(2), 101280.
  29. Usman, H., & Aliyu, J. (2023). Digital competencies and job performance of librarians in Nigerian universities. *Nigerian Libraries*, 56(1), 34-50.
  30. Yakubu, A., & Dauda, S. (2024). ICT skills and modern library services in Nigerian universities. *Information Development*, 40(3), 345-360.
  31. Yusuf, F., & Salami, K. (2023). Technology integration and librarians' roles in Nigerian academic libraries. *Journal of Library Administration*, 63(5), 567-582.