**LAFIA JOURNAL OF LIBRARY AND INFORMATION SCIENCE**
***Volume 8, Number 1, 2025.***
Available online ***https://journals.fulafia.edu.ng/index.php/ljlis***
ISSN:Print - 2814-0702, Online - 2814-0710
**LJLIS**

# ASSESSMENT OF LIBRARIANS' INFORMATION AND COMMUNICATION TECHNOLOGIES AWARENESS, ATTITUDE AND COMPETENCY AS CORRELATES OF INFORMATION SERVICE DELIVERY IN UNIVERSITY LIBRARIES IN PLATEAU STATE

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**Abstract**
*This study assessed librarians' Information and Communication Technology awareness, attitude, and competency as correlates of information service delivery in university libraries in Plateau State. Correlational survey research design was adopted. The population of the study was 14,845 participants made up of Librarians and Registered Library Users; out of which 384 were sampled. Simple random sampling technique was adopted in selecting the subjects. Instruments for data collection were two structured questionnaires designed by the researchers to elicit information from respondents. The data collected were analyzed using correlational statistics, specifically, bivariate to establish the direction and degree of relationships between the variables with the decision point of 0.05 level of significance. Findings revealed among other things that the relationship between ICT use and Information Service Delivery in university libraries in Plateau State is positive; and the implication is that librarians using ICTs are positioned to provide more effective Information Service Delivery to registered library user than those who do not use ICT. It was recommended that to improve information service delivery, university libraries in Plateau State should invest in modern ICT infrastructure. This includes high-speed internet, digital repositories, updated library management systems, and access to e-resources. Additionally, continuous power supply and backup systems should be provided to prevent service interruptions; increase ICT Awareness among Librarians; and librarians should be equipped with advanced ICT skills through structured training and certification programs. Additionally, peer mentoring programs should be encouraged, where experienced librarians train their colleagues on effective ICT usage.*

**Keywords:** Information and Communication Technology (ICT), University Libraries, Information Service Delivery (ISD), Awareness, Competency, Attitude

## Introduction

Information and Communication Technologies (ICTs) encompasses all communication technologies, such as the internet, wireless networks, smartphones, computers, software, middleware, video conferencing, social networking, and other media applications and services that let users' access, retrieve, store, transmit, and manipulate digital information. Information and Communication Technologies is a more inclusive term for Informtion Technology. In the opinion of Bawack (2018) and Agber (2025) it is important to note that in today's digital era, Artificial Intelligence and the ICTs have revolutionized the landscape of libraries and information services

delivery. Libraries have transformed into dynamic information hubs that rely heavily on ICT to acquire, organize, and disseminate knowledge resources. The effective utilization of these technologies within the library context necessitates the active engagement of librarians who are expected to possess a high level of ICT awareness, as well as the skills and knowledge to integrate these technologies seamlessly into their daily operations (Ogunniyi, 2017). Similarly, the evolving landscape of modern libraries, ICT have become indispensable tools for providing efficient and effective information services (Jackson, 2019). Librarians play a pivotal role in this digital transformation, as their attitudes toward ICT and their competencies in utilizing these technologies significantly influence the quality of service delivery (Lai & Li, 2017).

Globally, the integration of ICT in library operations has revolutionized the role of librarians. ICT competency has become essential for effective service delivery, including online cataloging, access to electronic resources, and digital repository management. Studies, such as that of Jackson (2019) reveal that librarians' awareness and positive attitudes toward ICT significantly influence the successful adoption of digital tools, thus enhancing the quality of services offered in academic libraries (Adeleke et al., 2023). Furthermore, international frameworks like the IFLA Guidelines for Professional Library Services emphasize ICT as a cornerstone of modern librarianship.

In Nigeria, ICT development in university libraries has been shaped by initiatives such as the Nigerian Virtual Library Project and partnerships with organizations like Tertiary Education Trust Fund (TETFund). Research indicates that despite the availability of ICT infrastructure, gaps remain in librarians' competencies and attitudes towards technology, largely due to inadequate training and infrastructural challenges (Omoniyi&Adegbite, 2022). Studies have also noted regional disparities in ICT adoption, reflecting economic and institutional resource limitations across states (Afolabi et al., 2021).

In Plateau State, university libraries face unique challenges, including limited ICT infrastructure and inconsistent power supply, which hinder optimal service delivery. Local studies like that of Dung et al. (2023) have highlighted the critical role of librarians' ICT awareness and attitudes in overcoming these obstacles. It also found that targeted ICT training programs and institutional support significantly improve librarians' competencies, enabling better service delivery. However, financial constraints and limited exposure to cutting-edge technologies remain major concerns.

Awareness is a critical factor influencing the ability of librarians to adapt to new developments in their field. It refers to a state of being informed and knowledgeable about advancements, trends, or tools relevant to one's professional responsibilities such as Information and Communication Technologies. Ezeani and Igwesi (2019) in their opinion noted that in various contexts, awareness involves the acquisition of knowledge and the development of sensitivity toward specific issues or technologies. This involves attitude, which Sannan and Nayar (2018) assert that attitude refers to an individual's psychological tendency to evaluate an entity with either favor or disfavor. It includes positive or negative feelings, beliefs, and behaviors toward people, objects, or ideas, shaped by personal experiences, cultural influences, and social interactions. Attitudes towards new technologies can have a positive relationship with service delivery.

Information and Communication Technologies competency among librarians pertains to their practical skills and knowledge required for the effective use of ICTs in the context of library

services. Competency encompasses the ability to utilize various digital tools, software, and online resources to support library users and enhance the efficiency and quality of information service delivery. According to Adewole (2020) the competency extends to the librarian's capability to navigate library management systems, databases, online catalogs, and other digital resources effectively. It also includes skills related to troubleshooting technical issues, offering guidance to library users on technology use, and digital content creation. The impact of ICT competency on librarians' ability to provide information services cannot be overstated. Competent librarians are better equipped to manage and curate digital collections, ensuring that users have seamless access to a wide array of information resources. They are adept at troubleshooting technical issues, which reduces downtime and enhances user satisfaction. (Hamad, Al-Fadel & Shehata, 2024), Additionally, librarians with high ICT competency are more likely to provide expert guidance to library users, assisting them in searching for, evaluating, and effectively utilizing digital resources. This guidance is particularly crucial in academic libraries, where students and faculty often rely on librarians for research support. ICT competency is integral to delivering information services efficiently.

Library services included lending books, offering reference assistance, and providing access to print materials. However, in today's digital age, these traditional services have expanded to encompass a wide range of digital resources, electronic databases, e-journals, e-books, and more. Nigerian university libraries have transitioned into gateways for both print and electronic materials, playing a central role in supporting academic and research endeavors within their respective institutions (Smith, 2018). The role of librarians in facilitating access to information resources has evolved significantly. They have transitioned from passive guardians of physical collections to proactive guides and facilitators of digital information. Librarians are responsible for the curation and management of digital collections, providing instruction in information literacy, and ensuring seamless access to online resources. Their role extends to assisting users in navigating the complex digital information landscape, which has become integral to the mission of Nigerian university libraries (James, 2019).

Librarians are now key players in promoting digital literacy, offering training in database searching, research skills, and information evaluation. They assist users in locating and evaluating reliable digital resources, helping them make the most of the vast array of materials available in electronic formats. In addition, librarians often serve as intermediaries between users and digital content providers, negotiating licensing agreements and ensuring that users have remote access to e-resources. The evolving role of librarians is not limited to providing access to information but also includes creating user-centered, technology-driven library spaces and services. As technology continues to shape the information landscape, librarians adapt to meet the diverse and dynamic needs of library patrons, contributing to the academic and research mission of Nigerian university libraries.

The incorporation of Information and Communication Technologies (ICT) in Nigerian university libraries has greatly influenced the delivery of information services. However, this technological advancement also brings with it several obstacles that need to be addressed to optimize its impact. One of the primary challenges is the limited ICT skills and training among librarians, which hinders their ability to effectively leverage digital tools and resources. Research by Nwokedi (2007) reveals that inadequate training in ICT applications significantly impairs the ability of academic staff to use technology in both teaching and research, thus limiting the potential

benefits of ICT integration. Another major challenge is the lack of sufficient ICT infrastructure and resources. Nigerian university libraries often face issues related to unreliable internet connectivity and outdated hardware, which adversely affects the quality of library services. According to Omekwu and Echezona (2009), these infrastructure gaps make it difficult for libraries to provide optimal service and keep pace with the demands of modern academic environments. Without the necessary technological resources, the full potential of ICT cannot be realized, and libraries may struggle to meet the needs of their users.

**Statement of the Problem**

In the contemporary digital age, the role of librarians has evolved significantly, necessitating a robust understanding and effective utilization of Information and Communication Technologies (ICT). As the custodians of information, librarians are expected to not only manage traditional resources but also to facilitate access to digital information, thereby enhancing the overall information service delivery within academic institutions. In Plateau State, Nigeria, university libraries serve as critical hubs for academic research and learning, yet the extent to which librarians are equipped with ICT awareness, attitude, and competency remains underexplored. Essentially, despite the increasing integration of ICT in library services, there is a concerning gap in understanding how these factors correlate with the quality of information service delivery. Awareness of ICT tools and resources is fundamental for librarians to effectively assist users in navigating the vast digital landscape (Smith, 2018). However, mere awareness is insufficient; the attitude of librarians towards ICT adoption plays a crucial role in their willingness to embrace new technologies and innovate service delivery. Furthermore, competency in using these technologies is essential for librarians to provide effective training and support to library users, ensuring that they can leverage ICT for their academic pursuits. Moreover, lack of adequate training and exposure to modern ICT tools, which could hinder their ability to deliver high-quality information services. This situation raises critical questions about the current state of ICT awareness, the attitudes of librarians towards technology adoption, and their competency levels in utilizing these tools. Moreover, it is imperative to investigate how these dimensions interact and influence the overall effectiveness of information service delivery in university libraries.

Consequently, if librarians are not adequately equipped with the necessary ICT skills and a positive attitude towards technology, the quality of information services may decline, adversely affecting students and faculty who rely on these resources for their academic success. Additionally, understanding the relationship between ICT awareness, attitude, and competency can inform targeted training programs and policy initiatives aimed at enhancing the capabilities of librarians in Plateau State. Therefore, this research aims to systematically explore the correlation between librarians' ICT awareness, attitude, and competency and the quality of information service delivery in university libraries in Plateau State. By identifying the strengths and weaknesses in these areas, the study seeks to provide actionable insights that can enhance the effectiveness of library services, ultimately contributing to improved academic outcomes for users. The findings will not only fill a significant gap in the existing literature but also serve as a foundation for future research and practice in the field of library and information science.

**Objectives of the Study**

The main objective of this study is to assess the Librarians' ICT Awareness, Attitude, and Competencies as Correlates of Information Service Delivery in Nigerian University Libraries in

Plateau State. The specific objectives of the study is to investigate:

1. The relationship between ICT use and information service delivery among librarians in university libraries in Plateau State.
2. The relationship between level of ICT awareness and information service delivery among librarians in university libraries in Plateau State.
3. The relationship of Librarians' attitudes toward ICTs tools and information service delivery in university libraries in Plateau State.
4. The relationship between competency of librarians in using ICTs tools information service delivery in university libraries in Plateau State.

**Research Questions**

The following research questions guided the study.

1. What is the relationship between ICT use and information service delivery in university libraries in Plateau State?
2. What is the relationship between level of ICT awareness and information service delivery among librarians in university libraries in Plateau State?
3. What is the relationship between librarians' attitudes towards ICT tools and information service delivery in university libraries in Plateau State?
4. What is the relationship between competency of librarians in using ICT tools and information service delivery in university libraries in Plateau State?

**Review of Related Literature**

Aju, and Tofi, (2020) investigated undergraduate's awareness, utilization and satisfaction with online public access catalogue (OPAC) in selected University libraries in Nasarawa State, Nigeria and found that undergraduates were highly aware of Online Public Access Catalogue in selected University Libraries in Nasarawa State and that the awareness can influence service delivery. Both studies focus on ICT awareness and utilization in university libraries, examining how different groups—undergraduates in Aju & Tofi's (2020) study and librarians in the current study—engage with ICT tools for library services.

In a study on Librarians' ICT Attitude and Library policy as Correlates for the Utilization of ICT based Library Consortium in University libraries in North Central Nigeria Aliyu (2021) found that there is significant relationship between librarians' ICT attitude, library policy and the utilization of ICT based Library consortium in the university libraries in North Central, Nigeria. Apparently, both studies explore the role of ICT in university libraries, specifically examining the relationship between librarians' attitudes toward ICT and its application in library services. Aliyu (2021) investigates the relationship between librarians' ICT attitude, library policy, and the utilization of ICT-based library consortiums, while the current study assesses ICT awareness, attitude, and competency as they relate to information service delivery. Methodologically, both studies adopt a correlational research design to analyze relationships between variables. They also employ structured questionnaires as the primary instrument for data collection and use Pearson Product Moment Correlation for data analysis. While Aliyu's study focuses on the impact of librarians' ICT attitudes and library policies on the utilization of ICT-based library consortiums, the current study takes a broader approach by incorporating ICT awareness, attitude, and competency as correlates of information service delivery.

Asibi, Ojokuku, and Udoh, **(2023)** conducted a study on **"**Information and communication

technology (ICT) competencies and job performance of librarians in some selected university libraries in North Central of Nigeria and found that ICT competencies possessed by Librarians are digital literacy skills, professional skills, computer skills and information retrieval skills. The study also affirmed that the ICT competencies as regards job performance of librarians can enhanced service delivery, facilitates library administration, increases efficiency, reduced stress and also increases librarian's confidence on the job. Both Asibi et al. (2023) and the current study explore the significance of ICT competencies in improving library services. While Asibi et al. (2023) focus on the link between ICT competencies and librarians' job performance, the current study extends this by examining how ICT awareness, attitude, and competency collectively influence information service delivery in university libraries. Both studies emphasize the importance of ICT in the library environment and highlight how librarians' skills and attitudes can affect library operations and service quality.

**Research Methodology**

The study adopted correlational survey research design. The correlational survey research design is appropriate for this study as it aims to determine the relationship between variables, specifically examining the connection between librarians' ICT awareness, attitudes, competencies, and the effectiveness of information service delivery in Nigerian university libraries.The study was carried out in Plateau State, located in the North central region of Nigeria. It was created on February 3, 1976, during the military regime of General Murtala Ramat Muhammed. The population of this study comprises librarians and registered library users from two university libraries in Plateau State with a total population of 14,845 participants. The sample of 384 librarians and registered users made up of students, researchers, and academic staff was drawn using a sample size table, (Emaikwu, 2019). A simple random sampling technique was adopted in selecting the subjects. The instruments for data collection were two structured questionnaires designed by the researchers to elicit information from respondents. The data collected for the study were analyzed using inferential statistics. The inferential statistics used correlations. Data generated, collected and collated via the instrument were tabulated for easy statistical manipulations. Correlational statistics was used, specifically, bivariate to establish the direction and degree of relationships between the variables with the decision point of 0.05 level of significance. Decisions for the hypotheses were taken using computer calculated probability for decision taking Sig. (2-tailed) denoted by P. If P is less than 0.05 the difference is statistically significant and the hypothesis was rejected but if P is equal or greater than 0.05 the difference is not significant and the hypothesis was not rejected.

**Analysis, Interpretation and Discussion**

**Research Question 1:** *What is the relationship between ICT use and information service delivery in university libraries in Plateau State?*

In order to answer the research question, data were collected on opinions of respondents relating to relationship between ICT use and Information Service Delivery ISD in university libraries in Plateau State. The collected data were analysed and presented in Table 1.

**Table 1:** *Correlation* ***of Responses on*** *Relationship between ICT Use and Information Service Delivery ISD in University Libraries in Plateau State*

**Correlations**

| | Mean | Std. Deviation | N | Pearson Correlation | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Information and Communication Technologies Use by Librarians in Plateau State | 2.8786 | .53256 | 384 | .177** | .001 |
| Information Service Delivery | 3.0373 | .37280 | 384 | | |

From Table 1, it can be seen that the mean of Information and Communication Technologies use by librarians in Plateau State is 2.8786 with the Standard Deviation of 0.53256 and that of Information Service Delivery is 3.0373 with the Standard Deviation of 0.37280. The Pearson correlation is =.177** with sig. (2-tailed) =.000 denoted as P. Since P is less than 0.05 significance level, the relationship is statistically significant. This means that the relationship between ICT use and Information Service Delivery ISD in university libraries in Plateau State is positive; and the implication is that librarians using ICTs are positioned to provide more effective Information Service Delivery to registered library user than those who do not use ICT.

**Research Question 2:** *What is the relationship between level of ICT awareness and information service delivery among librarians in university libraries in Plateau State?*

In order to answer the research question, data were collected on opinions of respondents relating to relationship between level of ICT awareness and Information Service Delivery ISD among librarians in university libraries in Plateau State. The collected data were analysed and presented in Table 2.

**Table 2:** ***Correlation of Responses on Relationship between Level of ICT Awareness and Information Service Delivery ISD among Librarians in University Libraries in Plateau State***

**Correlations**

| | Mean | Std. Deviation | N | Pearson Correlation | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Level of Information and Communication Technologies Awareness of Librarians in Plateau State | 2.7779 | .60925 | 384 | .220** | .000 |
| Information Service Delivery | 3.1176 | .32726 | 384 | | |

From Table 2, it can be seen that the mean of Level of Information and Communication Technologies awareness of librarians in Plateau State is 2.229 with the Standard Deviation of 0.60925 and that of Information Service Delivery is 3.1176 with the Standard Deviation of 0.32726. The Pearson correlation is =.220** with sig. (2-tailed) =.000 denoted as P. Since P is less than 0.05

significance level, the relationship is statistically significant. This means that the relationship between level of ICT awareness of librarians and Information Service Delivery ISD among university libraries in Plateau State is positive. The implication is that librarians' level of ICTs awareness can positively enhance their provision of Information Service Delivery to registered library user than those without ICT awareness.

**Research Question 3:** *What is the relationship between librarians' attitudes towards ICT tools and information service delivery among librarians in university libraries in Plateau State?*

In order to answer the research question, data were collected on opinions of respondents relating to relationship between librarians' attitude towards ICT tools and Information Service Delivery ISD among librarians in university libraries in Plateau State. The collected data were analysed and presented in Table 3.

**Table 3:** ***Correlation of Responses on Relationship between Librarians' Attitude Towards ICT Tools and Information Service Delivery ISD among Librarians in University Libraries in Plateau State***

**Correlations**

| | Mean | Std. Deviation | N | Pearson Correlation | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Librarians Attitude towards ICT | 2.8911 | .48934 | 384 | .484** | .000 |
| Information Service Delivery | 2.9766 | .43741 | 384 | | |

From Table 3, it can be seen that the mean of librarians' attitude towards ICT is 2.8911 with the Standard Deviation of 0.48934 and that of Information Service Delivery is 2.9766 with the Standard Deviation of 0.43741. The Pearson correlation is =.484** with sig. (2-tailed) =.000 denoted as P. Since P is less than 0.05 significance level, the relationship is statistically significant. This means that the relationship between librarians' attitude toward ICT tools and Information Service Delivery ISD among university libraries in Plateau State is positive. This is to say that librarians' positive attitude toward ICTs tools can positively enhance their provision of Information Service Delivery to registered library users and those with negative attitude towards ICT tools cannot provide effective ISD to the clienteles.

**Research Question 4:** ***What is the relationship between competency of librarians in using ICT tools and information service delivery in university libraries in Plateau State?***

In order to answer the research question, data were collected on opinions of respondents relating to relationship between competency of librarians in using ICT tools and Information Service Delivery ISD among librarians in university libraries in Plateau State. The collected data were analysed and presented in Table 4.

**Table 4:** ***Correlation of Responses on Relationship between Competency of Librarians in Using ICT Tools and Information Service Delivery ISD among Librarians in University Libraries in Plateau State***

**Correlations**

| | Mean | Std. Deviation | N | Pearson Correlation | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Competency of Librarians in using ICT tools | 3.0143 | .32434 | 384 | .082** | .008 |
| Information Service Delivery | 2.8750 | .78820 | 384 | | |

From Table 4, it can be seen that the mean of competency of librarians in using ICT tools is 3.0143 with the Standard Deviation of 0.32434 and that of Information Service Delivery is 2.8750 with the Standard Deviation of 0.78820. The Pearson correlation is =.082** with sig. (2-tailed) =.008 denoted as P. Since P is less than 0.05 significance level, the relationship is statistically significant. This means that the relationship between competency of librarians in using ICT tools and Information Service Delivery ISD among university libraries in Plateau State is positive. The implication is that the competency of librarians in using ICTs tools can positively enhance their provision of Information Service Delivery to registered library users than those without competency in using the ICT tools.

**Discussion of Findings**

The results of this study are discussed in relation to the seven research questions and seven hypotheses that guided the study. The first finding of the study revealed that the relationship between ICT use and Information Service Delivery ISD in university libraries in Plateau State is positive; and the implication is that librarians using ICTs are positioned to provide more effective Information Service Delivery to registered library user than those who do not use ICT. This is in line with Adebayo, O. (2019) – Research on ICT tools improving library services, user satisfaction, and reducing librarian workload. Again, it agrees with Singh and Chander (2014) who studied on ICT in university libraries in India, highlighting efficiency in cataloging, remote access, and digital preservation.

The second finding of the study revealed that the relationship between level of ICT awareness of librarians and Information Service Delivery ISD among university libraries in Plateau State is positive. The implication is that librarians' level of ICTs awareness can positively enhance their provision of Information Service Delivery to registered library user than those without ICT awareness. The findings agrees with the findings of Ocholla and Ocholla (2020) whose research highlights how level of ICT tools awareness can improve efficiency and access to digital information resources in university libraries. Also, Adeleke and Olorunsola (2019) study found that librarians' awareness and proficiency in ICT tools enhance service delivery and user experience.

The third finding of the study revealed that the relationship between librarians' attitude toward ICT tools and Information Service Delivery ISD among university libraries in Plateau State is positive. This is to say that librarians' positive attitude toward ICTs tools can positively enhance their provision of Information Service Delivery to registered library users and those with negative

attitude towards ICT tools cannot provide effective ISD to the clienteles. This study collaborates with that of Omekwu, Madukoma, and Agbo (2014) whose study highlighted that librarians' attitude towards ICT tools significantly enhance library service delivery, improving efficiency and user satisfaction. It also agrees with that of Ani, Esin and Edem (2005) who found that librarians who adopt ICT tools experience improved job performance and information service delivery.

The fourth finding of the study revealed that the relationship between competency of librarians in using ICT tools and Information Service Delivery ISD among university libraries in Plateau State is positive. The implication is that the competency of librarians in using ICTs tools can positively enhance their provision of Information Service Delivery to registered library users than those without competency in using the ICT tools. This study tallies with that of **Khan and Sohail (2024)** whose study analyzed the competency of librarians in the adoption of ICT in university libraries can improve information service delivery.

**Conclusion**

The study assessesLibrarians' ICT Awareness, Attitude and Competency as Correlates of Information Service Delivery in University Libraries in Plateau State. It was concluded that ICT adoption significantly improves cataloging, classification, information retrieval, remote access, and user satisfaction. The study highlights that librarians' ICT competency and attitudes influence the effectiveness of these tools, with UNIJOS showing a higher level of ICT proficiency and integration than PLASU. Additionally, ICT has facilitated interlibrary collaboration, digital resource management, and improved communication between library staff and users.

**Recommendations**

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

1. Enhance ICT Infrastructure: To improve information service delivery, university libraries in Plateau State should invest in modern ICT infrastructure. This includes high-speed internet, digital repositories, updated library management systems, and access to e-resources. Additionally, continuous power supply and backup systems should be provided to prevent service interruptions.
2. Increase ICT Awareness among Librarians: Regular workshops, seminars, and training programs should be conducted to enhance ICT literacy among librarians. These programs should focus on emerging trends in digital information management, cyber-security, and effective online research methodologies. Universities should also encourage professional development by sponsoring librarians to attend ICT-related conferences and certifications.
3. Promote Positive Attitudes toward ICT: Resistance to change is a common challenge in ICT adoption. To address this, institutions should create awareness campaigns showcasing the benefits of ICT in enhancing efficiency and service delivery. Additionally, incentives such as awards, promotions, and recognition should be provided to librarians who actively engage in ICT-based services.
4. Improve ICT Competency Levels: Librarians should be equipped with advanced ICT skills through structured training and certification programs. Institutions can partner with ICT experts and educational technology companies to provide hands-on training. Additionally, peer mentoring programs should be encouraged, where experienced librarians train their colleagues on effective ICT usage.

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