**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

# Acquisition and Application of ICT Skills and Competencies by Librarians for Effective Service Delivery in Polytechnic Libraries in Northwest Nigeria

**Usman Aliyu (PhD)**
Senator Ahmad Babba Kaita Library
Federal Polytechnic Daura, Katsina State
usmana@fedpolydaura.edu.ng

**Abdullahi Abubakar (CLN)**
Senator Ahmad Babba Kaita Library
Federal Polytechnic Daura, Katsina state.
abdullahiabu89@gmail.com

**Abstract**
*The study investigated the acquisition and application of ICT skills and competencies by librarians for effective service delivery in Polytechnic libraries in Northwest, Nigeria. The study was conducted in Northwest, Nigeria comprising of seven State: Kano, Jigawa, Kaduna, Katsina, Kebbi, Sokoto and Zamfara. The objectives of the study includes: To find out ICT skills and competencies possessed by Polytechnic Librarians, to determine types of library services to which ICT skills are applied in Polytechnic libraries, to identify means of acquiring ICT skills and Competencies as well as to identify challenges associated with the acquisition and application of ICT skills and competencies for effective service delivery Polytechnic Libraries in North West Nigeria. Descriptive research design was used for the study guided by four research questions; the population of the study comprised of 200 Librarians across Federal Polytechnic libraries in Northwest Nigeria. Census sampling technique was adopted as the population was found manageable. Digital online survey tool (Google form questionnaire) was the main Instrument for data collection which was administered online via Facebook and WhatsApp platforms.193 responses were recorded, Data collected were analyzed using mean and standard deviation. The findings indicated that librarians possessed moderate ICT skills and competencies with strong competence in selected web-based and digital library applications, Library services were provided mainly in digital and user oriented services and ICT skills were acquired through structural learning opportunities. Challenges in acquisition and application of ICT skills for effective services delivery are: inadequate of ICT infrastructure and facilities, inadequate fund, lack of continuous professional development for librarians on modern ICT technologies among others. Some of the recommendations given include ICT bases Continuous Professional Development Programmes and, targeted training workshops for librarians, strengthening traditional support services such as reference and circulation and interlibrary loan with ICT*

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

*and adopt modern technologies such as Artificial Intelligence chat bots, cloud computing, institutional repositories, RFID etc for improved service delivery.*

**Keywords:** ICT, Skills and Competencies, Service Delivery, Polytechnic Libraries.

**Introduction**

Polytechnic libraries are support teaching, learning, and reserach and communityb engagement as well as provide adequate information services to t students, lecturers and other members of academic community. It is obvious that for effective service delivery in Polytechnic libraries staff should adequately apply and use Information and Communication Technology (ICT)facilities in providing services to their users. Libraries in these institutions should not solely provide printed and electronic information sources, there is need for the acquisition and management of modern ICT tools and technologies in service delivery. Thus, the libraries will able to fulfil the needs of the students, teachers and researchers by providing better and effective library services which can be ensured through the utilization of information and communication technology (ICT) with skilled and qualified library manpower.

With the integration of Information and Technology into teaching and learning process, the services offered by polytechnic libraries have dramatically changed. According to Amao (2020) the drastic role of ICT in library operation cannot be overemphasized. The process of generating and distribution of information is now being facilitated through ICT which has significantly impacted the quality of information provided. The global trend is now characterized with a fundamental shift from traditional information environment to an e-environment where emphasis is placed more on acquisition of e-resources such as e-books, e-journals as well as online databases. However, traditional library and information services and functions are still relevant with emphasis shifting towards blended librarianship.

The application of ICT in libraries according to Edidiong, (2014) should entail three components: Content, Delivery Mechanism and Front-end Infrastructure. Content implies the creation of high quality interactive trained staff as the key to unlocking the potentials of ICT usage in libraries as well as informed and consistently high-quality staff to ensure good service delivery. Delivery Mechanism implies effective service delivery needs communication infrastructure in the form of broadband connectivity, fiber optic lines, table TV, Satellites link, free and open software programs and equipment's while front end infrastructure includes computer and its accessories, network resources and facilities.

Effective service delivery using modern technology in libraries requires librarians to possess ICT skills and competencies. According to Iqbal (2017), ICT skills are the ability of an individual to deal with a variety of computer application. He further categorized these skills into internet skills, files and folder management skills, programming skills and presentation skills which librarians must have in order to function and provide effective service to their

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

users in this digital era. Competency refers to an important skill that is needed to do a job. ICT competency in the library therefore can be viewed as the ability to properly handle and utilize ICTs to carry out library services effectively. Bajpai and Margan (2019) opines that LIS professionals must adapt to changes which demand skills and competencies in order to survive and remain relevant in this technology driven change era to provide high quality ICT based services to the user. The LIS professionals need to update their skills and competencies on regular basis in constant changing technology environment. However, there seems to be a rift between what librarians should be doing and what they are actually equipped to do.

**Statement of the Problem**

In modern digital era, the transition from traditional library service to ICT driven system is now a necessity for libraries especially those tasked with supporting technical and vocational education. To remain relevant, librarians in these libraries are expected to possess advanced competencies and skills in using modern technologies for improved services. Despite global shift towards integrating ICT into library services, polytechnic libraries in North west Nigeria seems to still struggle with full integration of ICT into their daily operation. Preliminary observation suggest a significant gap between acquisition of basic ICT skills and practical application of these skills. This skill gap can lead to suboptimal service delivery, reduced user satisfaction as well as underutilization of expensive ICT investment and a decline in the overall quality of technical education.

**Research Objectives**

The general objective of this study is to examine Acquisition and Application of ICT Skills and Competencies by Librarians for Effective Service Delivery in Polytechnic Libraries in North West Nigeria. Specifically, the study seeks:

1. To find out ICT skills and competencies possessed by librarians for effective service delivery in polytechnic libraries in North West, Nigeria.
2. To find out types of library services to which ICT skills and competencies are applied in polytechnic libraries in North West, Nigeria.
3. To identify means of acquiring ICT Skill and Competencies by Librarians in Polytechnic Libraries in North West, Nigeria.
4. To identify challenges associated with acquisition and application of ICT skills and competencies by librarians in Polytechnic Libraries in North West, Nigeria.

**Review of Related Literature**

One of the significant developments which have deeply influenced librarianship and access to information was the integration of information and communication technologies into library activities. In the late 20$^{th}$ and early 21$^{st}$ century, as posit by Bawak (2019), library automation and the internet have revolutionized information access and library operation around the world, the effect on academic institutions has been profound. The global trend is now characterized with a fundamental shift from traditional information environment to an e-environment where emphasis is placed on the use of ICTs in providing services in libraries.

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

In another study Essien, Abredu and Zotoo (2022) states that libraries are now using ICT to offer services like circulation, cataloguing and classification, referencing, acquisition, document delivery, user orientation, interlibrary loan, chat assistance and e-mail, web 2.0 interactive sharing, photocopies, and electronic content. In addition, libraries are also enabled to provide speed and vital information to library users through internet and the World Wide Web that has a lot of influence on libraries especially in terms of logistics of service delivery. Libraries are now able to provide access to broad information around the globe without geographical boundary.

Effective utilization of information and communication technology in libraries transmits users' satisfaction. The present scenario demands the updated technology for a faster and approachable library services. Bhoi (2017) argues that gradually, new technologies are developed; consequently, librarians need to develop their skills and capacity to provide enhanced library services because the successfulness of a library and the library professional always depends on the quality of the service. The emergence of ICT is the new paradigm to extend the level of library operation and services. So, it is inevitable for the library professionals to be updated with the technology for the own existence. Although many libraries face different challenges in the process of integrating ICT into their services, nevertheless, information provision according to Amao (2020) is paramount to every library therefore effort should be made to enable utilization of ICT in all library services by integrating new ICT skills, knowledge and training.

Discussing ICT based service delivery in libraries, Duragannavor, Manjunath and Mamdapur (2018) identified library automation, barcode technology, scanning technology, electronic information resources, networking technology, internet, library consortia, digital archives, cloud computing in libraries, mobile phone services, electronic security system and wireless technology. Amao (2020) categories library service into in-house service which include selection, acquisition, organization, preservation and user services including lending, interlibrary loan, document delivery, reserve, reference, current awareness, display and exhibitions. Saleem, Tabusum and Batcha (2013) identifies speedy and easy access to information, remote access to users, round the clock access to users, access to unlimited information, flexibility in information use, reformatting and combining data from different sources, Web access to OPACs, electronic document delivery, network information resources, delivery of information to user desktop, online instruction and online readers advisory instructions. In another review, Bhoi (2017) identified On-Line Public Access Catalogue (OPAC) which have revolutionized the practice of cataloguing in the library. Using OPAC users can see the holdings of the library collections, reduces the cost of maintaining a library catalogue, eliminates pen and paperwork, along with it helps in the preparation of union-catalogue and is the easiest way to get the information of collection, weekly new arrivals and other recent addition to libraries.

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

**ICT Skills Competencies**

With the advent and application of different ICT techniques in various walks of life, library of different types also found it useful as driving force to serves users' need, bringing efficiency in service delivery and security of its environment. ICT has changed the philosophy of providing effective services to library users and due to the advancement of ICT application, libraries are providing both prints as well as electronic and ICT based information services. It is therefore important for librarians to possess ICT competencies that will enable them to adequately use these ICTs in providing effective service.

In a review on librarian's ICT skills, Daniel, Wiche and Nsirim (2022) views ICT skills of librarians to be those relevant skills and knowledge acquired by those working in the library to be able to fully exploit information search, retrieval and delivery using electronic format. Oyedokun (2018) sees competency as the ability to do something successfully and efficiently. It is the skills, quality, the ability needed to perform a task. It also tends to describe the level of proficiency of an individual in executing a particular task or job. He added that competency is the ability, skills, attributes, proficiency of an individual to perform or do something efficiently. Competency is a set of predefined skills that provide a structured guide against which proficiency of an individual performance in executing a task is been measured and evaluated. It could also be seen as a combination of practical and theoretical knowledge, skills, behaviour, and value needed to improve on a performance (Oyedokun 2018). ICT competencies of librarians could, therefore, be viewed to be those relevant skills and knowledge to be acquired by those working in the library to be able to fully exploit information search, retrieval, and delivery using electronic format.

Bajpai and Margam (2019) asserts that due to digital transformation, librarians must acquire the right skills and competencies to discharge their duties efficiently and must be trained in the application of various ICT tools like automation, ICT based library services, web 2.0 skills, mobile information services etc. They must learn and adjust themselves to a rapidly changing environment by acquiring various ICT skills so that they can become valuable assets for the organization. Cherinet (2018) opines that since skills are essential for the success of librarians, the LIS schools should include emerging skills in curricula to meet the needs of the 21st-century librarians and expectation of potential employer. Librarians must update and upgrade their ICT skills and competencies to perform better in the digital environment.

Information is now produced and available in print and digital form, and for effective utilization of ICT facilities, the LIS professionals must have the skills to use them for the maximum benefits of the users. Bajpai and Margam (2019) opines that librarians should apply the skills acquired through professional development while discharging their professional duties. They concluded that librarians must learn and adjust to a rapidly changing environment and acquire competencies and skills to become a knowledgeable asset to the library which could then be taught to users and other supporting staffs to enable them to search, navigate

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

and find the right knowledge from a world of information. Bajpai and Margam (2019) posits that library and information science (LIS) professionals have to prepare themselves to compete in the digital environment. With the change in users' need, the LIS professionals would understand the need to acquire skills, competencies, and knowledge related to ICT for managing information resources and services.

LIS professionals must adapt to changes which demand skills and competencies in order to survive and remain relevant in this technology driven change era to provide high quality ICT based services to the user as highlighted by Bajpai and Margam (2019) and concluded that the LIS professionals need to update their skills and competencies on regular basis in constant changing technology environment. Farah (2013) opines that any modern library and information professional must be knowledgeable in library automation, networking, internet surfing, database management, processing software, statistical software among others to provide tailored services according to user information needs.

## Methodology

### Research Design

Descriptive research design was adopted for the study. This study was carried out in the North-West, Nigeria which is one of the 6 geopolitical zones in Nigeria. The area comprises of 7 states namely; Kaduna, Kano, Katsina, Jigawa, Sokoto, Kebbi and Zamfara States. There are 6 Federal Polytechnics in the area namely: Kaduna Polytechnic in Kaduna State, Federal Polytechnic Daura in Katsina State, Federal Polytechnic Kabo in Kano State, Hussaini Adamu Federal Polytechnic in Jigawa State, Waziri Umaru Federal Polytechnic in Kebbi State and Federal Polytechnic Kauran Namoda in Zanfara State. People from different ethnic and religious groups live in this zone with Hausa and Fulfulde as the dominant language and Islam and Christianity as the major religion in the area. The application and use of modern technologies in teaching and learning in tertiary institutions has made it necessary for librarians in such institutions to have ICT skills and competencies for effective delivery. The study became important in order to ascertain ICT skills and competencies of the librarians in Polytechnics in North West, Nigeria.

### Population and Sample of the Study

The population of the study is 200 librarians in Federal Polytechnic Libraries in North West Nigeria. Kaduna Polytechnic (38), Federal Polytechnic Daura (36), Federal Polytechnic, Kabo (34), Hussaini Adamu Federal Polytechnic, Kazaure (32) Waziri Umaru Federal Polytechnic (34) and Federal Polytechnic Kauran Namoda (26) librarians. Census sampling technique was adopted as the population was found manageable.

### Instrument for Data collection

The questionnaire was divided into 2 sections with section A containing items meant to obtain demographic data of the respondents such as name of institution, type, gender, designation, department, working experience and qualification. Section B consists of 5 clusters, A-E.

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

Cluster A contains 22 items meant to elicit data on ICT skills required by librarians for effective service delivery. Cluster B consists of 22 items meant to obtain data on the ICT competencies possessed by librarians for effective service delivery in Polytechnic libraries. Cluster C consists of 12 items meant to find out library services to which ICT skills are applied for effective service delivery. Cluster D contains 10 items set to identify means of acquiring ICT skills by librarians. Cluster E consists of 18 items set to reveal challenges associated with the acquisition and application of ICT skills by Librarians.

Responses of the items in the questionnaire was weighted on a 4-point rating scale of 4= Highly Required/ Highly Possessed/ Very Large Extent/Strongly Agree (HR/HP/VLE/SA), 3= Moderately Required/Moderately Possessed/High Extent/Agree (MR/MP/HE/A), 2= Low Required/Low Possessed/ Low Extent/ Disagree (LR/LP/LE/D), 1= Not Required/Not Possessed/ Very Low Extent/Strongly Disagree (NR/NP/VLE/SD).

**Method of Data Collection**

The structured questionnaire was administered on the 200 librarians working in the 6 Federal Polytechnic libraries in North West, Nigeria. Digital survey tool (Online Google form) was designed as the questionnaire which was filled online via Facebook and whats-app platforms. This method ensured that the respondents were accessed where ever they were and responded using their smart phones and other digital devices.

**Method of Data Analysis**

Mean and Standard Deviation was used to analyse the descriptive data obtained from the questionnaire and interpretation of the data was taken on a criterion mean (x) for real limit of numbers on a four-point rating scale as follows: 3.50-4.00 Very High Extent/ Highly Possessed/ Highly Required/ Strongly Agree, 2.5- 3.49 Highly Required/High Extent/ Moderately Possessed/ Agree, 1.50 – 2.49 Low Required/Low Extent/Low Possessed/Disagree, 1.00- 1.49 Not Required/Very Low Extent/ Not Possessed/Strongly Disagree

**Rate of Return of Responses**

Out of 200 target population for the study, only 193 responses were received and recorded for analysis and interpretation.

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

## Results

**Table 1: Skills and Competencies Possessed by Librarians**

| S/N | ICT Skills | | | | |
|---|---|---|---|---|---|
| | **Basic Computer Skills** | ***N*** | **x̄** | **Std** | **Dec.** |
| 1 | Ability to connect and maintain access to internet | 193 | 2.99 | .68 | Mod. |
| 2 | Proficiency in using Word and Spread sheet and Power Point Presentation Software | 193 | 3.08 | .69 | High |
| 3 | Skills in storing and copying data to a storage device | 193 | 2.91 | .60 | Mod. |
| | Weighted x̄ | | **2.99** | | |
| | **Information Retrieval Skills** | ***N*** | **x̄** | **Std** | **Dec.** |
| 4 | Ability to use search strategies for information retrieval | 193 | 2.55 | .24 | Mod. |
| 5 | Ability to identify credible internet resources | 193 | 2.67 | .36 | Mod. |
| 6 | Ability to conduct Literature search using digital tools | 193 | 2.91 | .55 | Mod. |
| 7 | Proficiency in retrieving documents from online databases | 193 | 2.96 | .60 | Mod. |
| 8 | Knowledge of online institutional repositories and online open access resources | 193 | 2.76 | .41 | Mod. |
| | Weighted x̄ | | **2.77** | | |
| | **Research and Data Management Skills** | ***N*** | **x̄** | **Std** | **Dec.** |
| 9 | Skills in using Reference Management Tools such as Mendelay | 193 | 2.78 | .80 | Mod. |
| 10 | Proficiency in using Plagiarism detection Tools such as Turnitin | 193 | 2.59 | .57 | Mod. |
| 11 | Ability to use Statistical Analysis Tools (SPSS) and Qualitative analysis tools (ATLAS) | 193 | 2.89 | .83 | **Mod.** |
| 12 | Awareness of Copyright and ethical use of research materials | 193 | 2.51 | .34 | Mod. |
| 13 | Understanding of data Privacy and responsible data handling | 193 | 2.54 | .71 | Mod. |
| | Weighted x̄ | | **2.65** | | |
| | **Communication and Collaboration Skills** | ***N*** | **x̄** | **Std** | **Dec.** |
| 14 | Skills in E mail Communication | 193 | 2.92 | .57 | Mod. |
| 15 | Proficiency in using cloud Platforms | 193 | 2.24 | .93 | Mod. |
| 16 | Ability to join or host webinars and virtual meetings | 193 | 2.82 | .45 | Mod. |
| 17 | Proficiency in using academic collaboration platforms such as Research Gate. | 193 | 2.76 | .44 | Mod. |
| 18 | Proficiency in using library management software such as Koha etc. | 193 | 2.55 | .17 | Mod. |
| 19 | Proficiency in using OPAC/ Web OPAC | 193 | 2.79 | .46 | Mod. |
| 20 | Skills in Web page design | 193 | 2.26 | .97 | Mod. |
| 21 | Skills in Web content development | 193 | 2.41 | .19 | Mod. |
| 22 | Understanding Network-based services | 193 | 2.22 | .96 | Mod. |
| | Weighted x̄ | | **2.55** | | |

**Key: N = Population, x̄ = Mean. Std. = Standard Deviation, Dec. = Decision. Mod. = Moderate**

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

**Decision Rule: $\bar{x}$ = 1.00 – 1.99: Low. $\bar{x}$ = 2.00 – 2.99: Moderate. $\bar{x}$ = 3.00 – 4.00: High. Criterion $\bar{x}$ = 2.50**

Data in Table 1 showed that respondents generally possess moderate ICT skills across all categories, with only a few skills standing out as particularly strong and none falling into the low category. In basic computer skills, proficiency in using Word, spreadsheets, and PowerPoint recorded a high mean score ($\bar{x}$ = 3.08), indicating that most respondents are confident in handling common office applications. This suggests that routine computer-based tasks are well within their capabilities. The ability to connect and maintain internet access and skills in storing and copying data were both rated moderate, showing that while respondents can perform these tasks, their competence is not yet at an advanced level. The weighted mean of 2.99 for basic computer skills, sitting right at the edge of the high category, reflects a solid foundation in fundamental digital operations.

Across information retrieval, research and data management, and communication and collaboration skills, all items were rated within the moderate range. This means respondents are moderately capable of searching for information online, conducting digital literature searches, retrieving documents from databases, using reference management and plagiarism detection tools, and understanding copyright and data privacy issues. Likewise, their ability to communicate via email, participate in webinars, use collaboration platforms, manage library software, and engage in web design and content development remains moderate. Importantly, no skill area fell into the low category, suggesting that respondents are not digitally deficient but rather operating at an average competence level. Overall, the weighted mean scores confirm that while respondents have functional ICT skills necessary for modern academic and library environments, there is still considerable room for further training and skill enhancement to move from moderate to high proficiency.

**Table 2: Library Services to which ICT Skills are applied for Effective Service Delivery in Polytechnic libraries**

| S/N | Library Services | *N* | $\bar{x}$ | Std | Dec. |
|---|---|---|---|---|---|
| 1 | Reference services | 193 | 2.08 | .79 | Mod. |
| 2 | Bibliographic services | 193 | 2.69 | .38 | Mod. |
| 3 | Inter-library loan | 193 | 2.57 | .29 | Mod. |
| 4 | Information services | 193 | 2.30 | .02 | Mod. |
| 5 | User Education | 193 | 3.07 | .73 | High |
| 6 | Audio-Visual Services | 193 | 2.82 | .52 | Mod. |
| 7 | Online Public Access Catalogue (OPAC) | 193 | 3.13 | .76 | High |
| 8 | Reprographic Services | 193 | 2.23 | .95 | Mod. |
| 9 | Circulation Service | 193 | 2.74 | .43 | Mod. |
| 10 | Selective Dissemination of Information (SDI) | 193 | 3.22 | .81 | High |
| 11 | Teleconferencing Services | 193 | 2.97 | .62 | Mod. |
| 12 | Book Publication services | 193 | 3.08 | .74 | High |
| | Weighted $\bar{x}$ | | **2.74** | | |

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

**Key: N = Population, x̄ = Mean. Std. = Standard Deviation, Dec. = Decision. Mod. = Moderate**
**Decision Rule: x̄ = 1.00 – 1.99: Low. x̄ = 2.00 – 2.99: Moderate. x̄ = 3.00 – 4.00: High.**
**Criterion x̄ = 2.50**

Findings in Table 2 indicate that most library services are provided at a moderate level, with a few services standing out as highly frequent and none falling into the low category. Among the high-rated services, Selective Dissemination of Information (SDI) recorded the highest mean score ($\bar{x}$ = 3.22), followed closely by Online Public Access Catalogue (OPAC) services ($\bar{x}$ = 3.13), book publication services ($\bar{x}$ = 3.08), and user education programmes ($\bar{x}$ = 3.07). These high ratings suggest that libraries are actively engaging users through targeted information delivery, digital catalogue access, publication support, and instructional programmes. In practical terms, this reflects libraries that are making conscious efforts to connect users with relevant information and to build users' capacity to navigate library resources effectively.

On the other hand, traditional services such as reference services, bibliographic services, inter-library loan, information services, audio-visual services, reprographic services, circulation services, and teleconferencing were all rated at a moderate level. This means these services are available and functioning, but not as intensively or consistently as the high-rated ones. Notably, reference services recorded the lowest mean score ($\bar{x}$ = 2.08), suggesting that personalized research support is relatively less frequent compared to other services. Generally, the weighted mean score of 2.74 confirms that library service delivery is generally moderate, with particular strengths in user education, digital access tools, and selective information sharing, but with room for improvement in strengthening core traditional and support services**.**

**Table 3: Means of Acquiring ICT skills**

| S/N | Means of Acquiring ICT Skills | Tick |
|---|---|---|
| 1 | Trial and Error | 23.3% |
| 2 | Through Friends and Colleagues | 65.3% |
| 3 | Self-Study | 71.0% |
| 4 | Training at work Place | 97.0% |
| 5 | Attending IT Programme | 40.1% |
| 6 | Workshop and Seminars | 50.2% |
| 7 | Conferences | 49.4% |
| 8 | Online Training | 86.5% |
| 9 | Continuous Professional Training Programs | 82.3% |
| 10 | Others | 29.0% |

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

A close look at the data in Table 3 shows that the most common means of acquiring ICT skills are strongly linked to structured and organized learning opportunities. Training at the workplace recorded the highest percentage (97.0%), indicating that nearly all respondents rely on in-house training to develop their ICT competencies. This is followed by online training (86.5%) and continuous professional training programmes (82.3%), highlighting a strong preference for flexible and ongoing learning platforms. Self-study also ranked high at 71.0%, suggesting that many individuals take personal initiative to improve their ICT skills outside formal settings. These high percentages paint a positive picture of respondents who are actively engaging in multiple learning pathways to keep up with digital demands.

In contrast, trial and error recorded the lowest percentage (23.3%), showing that very few respondents depend on informal experimentation to build their ICT skills. Similarly, learning through "others" (29.0%) and attending IT programmes (40.1%) were relatively low, indicating that these methods are less popular or less accessible. Conferences (49.4%) and workshops or seminars (50.2%) fall around the middle range, suggesting moderate engagement with professional gatherings for skill development. Overall, the pattern reveals that respondents prefer structured workplace and online learning environments over informal or occasional learning approaches, emphasizing the importance of organized training opportunities in building ICT competence.

**Table 4: Challenges of ICT**

| S/N | Item Statement | *N* | x̄ | Std | Dec. |
|---|---|---|---|---|---|
| 1 | Inadequate budget for ICT facilities in the library | 193 | 3.11 | .75 | High |
| 2 | Inadequate/poor ICT infrastructure | 193 | 3.19 | .81 | High |
| 3 | Little or no opportunity for skills development | 193 | 3.35 | .93 | High |
| 4 | Inadequate ICT qualified staff in libraries | 193 | 2.65 | .35 | Mod. |
| 5 | Absence of Continuous Professional Development Programmes (CPDP) for librarians | 193 | 2.93 | .60 | Mod. |
| 6 | Reluctance among staff to update ICT Skills | 193 | 3.03 | .69 | High |
| 7 | Internet access problem | 193 | 2.96 | .61 | Mod. |
| 8 | Hardware compatibility problems | 193 | 1.83 | .57 | Low |
| 9 | Software compatibility problems | 193 | 2.88 | .56 | Mod. |
| 10 | Frequent Changes in Modern Technologies | 193 | 2.87 | .52 | Mod. |
| 11 | Lack of ICT Policy | 193 | 2.84 | .53 | Mod. |
| 12 | Administrators lack of Support | 193 | 2.96 | .64 | Mod. |
| 13 | Inadequate electricity supply | 193 | 2.91 | .59 | Mod. |
| 14 | Difficulty of locating useful websites and Databases | 193 | 2.76 | .44 | Mod. |
| 15 | Slow speed of server | 193 | 2.94 | .64 | Mod. |
| 16 | High cost of airtime | 193 | 3.23 | .80 | High |
| 17 | Restricted access to useful website and Databases | 193 | 3.17 | .77 | High |
| 18 | Security Challenges | 193 | 2.99 | .64 | Mod. |
| | Weighted x̄ | | | **2.92** | |

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

**Key: N = Population, x̄ = Mean. Std. = Standard Deviation, Dec. = Decision. Mod. = Moderate**
**Decision Rule: x̄ = 1.00 – 1.99: Low. x̄ = 2.00 – 2.99: Moderate. x̄ = 3.00 – 4.00: High. Criterion x̄ = 2.50**

In Table 4, the findings reveal that respondents perceived several challenges to ICT use in libraries as highly prevalent. Items with mean scores above the criterion value of 2.50 and within the "High" range indicate issues that occur frequently and demand urgent attention. Notably, little or no opportunity for skills development ($\bar{x}$ = 3.35), high cost of airtime ($\bar{x}$ = 3.23), inadequate ICT infrastructure ($\bar{x}$ = 3.19), restricted access to useful websites and databases ($\bar{x}$ = 3.17), inadequate budget for ICT facilities ($\bar{x}$ = 3.11), reluctance among staff to update ICT skills ($\bar{x}$ = 3.03), and inadequate ICT-qualified staff ($\bar{x}$ = 2.65) were rated high. These results paint a clear picture of libraries struggling not only with insufficient funding and infrastructure, but also with human capacity gaps and costly connectivity. In simple terms, respondents are telling us that both the tools and the skills needed to run effective ICT-based library services are often lacking, making it difficult for libraries to keep pace with modern information demands.

On the other hand, most of the remaining items fall within the "Moderate" range, suggesting that while these challenges are present, they occur less intensely. Issues such as absence of continuous professional development programmes, internet access problems, software compatibility problems, frequent changes in modern technologies, lack of ICT policy, administrative support, inadequate electricity supply, slow server speed, difficulty locating useful databases, and security challenges recorded moderate mean scores. This implies that these factors still pose noticeable obstacles but are not as severe as the high-rated challenges. Only hardware compatibility problems were rated low ($\bar{x}$ = 1.83), indicating that respondents rarely experience this issue. Overall, the weighted mean score of 2.92 confirms that ICT-related challenges in libraries are generally high, highlighting a pressing need for improved funding, policy support, staff training, and better digital access to strengthen library ICT operations.

**Major Findings of the Study**
The following are the major findings of the study:

i. Librarians of polytechnics in Northwest possess generally moderate ICT skills and competencies. The implication of this is that librarians need to improve their skills and competencies in the use of modern technologies for improved services.
ii. Librarians of polytechnics in Northwest show strong competence in selected web-based and digital library applications but weak technical network-related skills. The implication of this is that librarians cannot cope with increasing demand of network related information services.

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

iii. Polytechnic libraries provide most services at a moderate level, with strength in digital and user-oriented services. The implication of this is that librarians need incorporate more IT related services in order to attract more users.
iv. ICT skills acquisition is driven mainly by structured learning opportunities in North West Polytechnic libraries. The implication of this is that librarians are not exposed to current trend and practices in modern librarianship which can gradually erode their relevance.
v. Polytechnic libraries in Northwest face significant ICT-related challenges that hinder effective service delivery. The implication of this is that these challenges serve as impediment to effective service delivery.

**Conclusion**

The study reveals that librarians in polytechnic libraries in North-West Nigeria possess functional but moderately developed ICT skills, enabling them to deliver essential digital library services but not yet at an optimal level for fully modernized information service delivery. While encouraging progress exists in web-based applications, online scholarly resource use, and user-focused digital services, critical gaps remain in technical network competencies, traditional service strengthening, and infrastructural support. The dominance of structured training in skills acquisition underscores librarians' willingness to learn, yet persistent challenges such as inadequate funding, limited training opportunities, poor infrastructure, and shortage of ICT experts continue to constrain effective ICT application. Overall, the findings indicate that improving ICT capacity and infrastructure is essential for polytechnic libraries to achieve efficient, innovative, and sustainable service delivery in the digital age.

**Recommendations**

i. Polytechnic library management and regulatory bodies should establish continuous, competency-based ICT training programmes focused on advancing librarians from moderate to high proficiency levels, including refresher courses in information retrieval, research tools, and digital communication technologies.
ii. Targeted technical training workshops should be introduced on network management, digital infrastructure maintenance, and systems administration, ensuring librarians gain practical competence in managing network-based library services and troubleshooting ICT systems.
iii. Libraries should strengthen traditional and support services such as reference, circulation, and inter-library loan by integrating ICT tools (e-reference platforms, virtual helpdesks, and automated circulation systems) to improve service consistency and user satisfaction.
iv. Institutional management should formalize workplace and online training frameworks by providing dedicated training budgets, learning management platforms, and

incentives for librarians who complete certified ICT professional development programmes.

v. Polytechnic libraries to adopt and integrate modern technologies such as AI, Chat bots, Robotics, RFID, cloud computing, institutional repositories, virtual and augmented reality, internet of things among others for improved service delivery.

vi. Government agencies, institutional authorities, and library management should prioritize increased funding for ICT infrastructure, affordable internet access, subscription to relevant databases, recruitment of ICT-qualified personnel, and development of clear institutional ICT policies to support sustainable digital library operations.

**References**

Amao, M.A (2020). Use of ICT in Library Services: Impact and Challenges. *African Schlars Journal of Contemporary Education Research,* 19 (8), 283: 292.

Bajpai, V.K & Margam, M. (2019). ICT Skills and Competencies of Library and Information Science Professionals working in College Libraries, University of Delhi: A Study. *Library Philosophy and Practice (e-journal)*. Retrieved from https://digitalcommons.unl.edu/libphilprac/2275.

Bawack, R. (2019). Academic Libraries in Cameroon in the Digital Age. *Library Philosophy and Practice (e-journal)*. Retrieved from https://digitalcommons.unl.edu/libphilprac/2547

Bhoi, N. K. (2017). Use of ICT and Library Operation: An Overview. *Proceedings of International Conference on Future Libraries: From Promises to Practice,* 449-455.

Cherinet, Y.M. (2018). Blended Skills and Future Roles of Libraries. *Library Management,* 39(1&2): 93-105.

Daniels, G.N, Wiche, H.I & Nsirim, O. (2022). Librarians ICT Skills and Effective Service Delivery in University Libraries in Rivers State. *Library Philosophy and Practice (e-journal)*. Retrieved from https://digitalcommons.unl.edu/libphilprac/7571.

Duragannavar, G. F, Manjunath, N. & Mamdapur, G. M. (2018). ICT Based Tools and its Benefits in Library and Information Centres. *International Journal of Research in Humanuties, Arts and Sciences.* 3(11): 427-432.

Edidiong, E.T. (2014). Awareness, Availability and Utilization of ICT Facilities for Effective Service Delivery in Academic Libraries in Nigeria. *Journal of Research in Education and Society.* 5(1):10-19.

Essien, F.K., Lu, Z.P., Abredu, P. and Zotoo, I.K. (2022) Effect of ICT Use on Library Service Delivery: A Comparative Approach from Two Universities. *Open Access Library Journal*, 9, 1-22. D.O.I: 10.4236/oalib.1108653

Farah, R. M. (2013). *Factors Influencing Quality Service Delivery in Public Libraries. A case study of Garissa Provincial Library.* A Research Report Submitted in Partial Fulfilment of the Requirement for the award of Degree in Masters of Art, University of Nairobi.

**Jewel Journal of Librarianship**
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
https://www.jeweljournals.com/
Volume 20, Issue 3, 2025

Iqbal, M. (2017). Examining the ICT Skills of University Librarians in a Developing Country; A study from the University of Punjab, Lohore, Palistan. *Library Philosophy and Practice (e-journal)*. Retrieved from https://digitalcommons.unl.edu/libphilprac/1639

Oyedoku, T. T. (2018). Assessment of ICT Competencies of Library Staff in Selected University in Kwara State, Nigeria. *Library Philosophy and Practice (e-journal)*. Retrieved from https://digitalcommons.unl.edu/libphilprac/1797.

Saleem, A. Tabusum, S.Z. & Batcha M.S. (2013). Application and Uses of ICT in Academic Libraries: An Overview. *International Journal of Library Science,* 2(3): 49-52 DOI: 10.5923/j.library.20130230.01