



An Assessment of Librarians ICT Skills in Federal University of Technology Library, Minna, Nigeria

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Abstract

This study examined ICT skills of librarians in Federal University of Technology Library, Minna, Niger State, Nigeria. The study adopted descriptive survey research design. Two research questions guided the study. The study population comprised twenty-six (26) librarians working in Federal University of Technology Library, Minna, Nigeria. A structured questionnaire was the instrument for data collection. Data were analysed using frequency counts, percentage and mean as a measure of central tendency with criterion mean of 3.0 benchmark. Findings revealed that the level of possession of ICT skills of the librarians is high in the areas of basic operation of ICT hardware skills, Internet usage skills, online research skills, online communication, and collaboration. and social/academic networking sites management and email skills and low in the area of document creation and retrieval skills. Conferences, workshops, self-learning, peer coaching, mentoring and among others were the avenues of ICT skills acquisition of the librarians. Based on the findings, the study concluded that librarians need to improve on the aspects of low possession of ICT skills. The study recommended that librarians should sustain and improve upon their possession of ICT skills through periodic training and re-training.

Keywords: Academic Library, Librarians, ICT Skills, Digital Skills Acquisition,

Introduction

The success of a university library lies in the librarians' efficiency and timely performance and delivery of a library's expected roles and services to users in relation to the objectives of the university. University libraries refer to those libraries established in universities to support and strengthen the academic programmes of such institutions of learning as they contribute to the total development of their users' community by broadening their intellectual horizons and inculcating in them a lasting desire to study and carry out research. The main functions of university libraries include acquisition, organisation, preservation and dissemination of information thereby supporting the objectives of the universities.

Information Communication Technology (ICT) skills are those skills that librarians should possess to effectively use ICT facilities to perform library operations and services efficiently in the 21st century university library environment. The skills include basic operation of ICT hardware skills, email management and setup skills, safe Internet usage skills, online research skills, online communication and collaboration skills, social/academic networking sites management skills and document creation and retrieval skills. Consequently, Emezie and Anunobi (2019) defined ICT skills as the proficiency to use computers, software and related technologies to perform specific tasks in order to provide information, generate knowledge and solve attendant problems.

Librarians are believed to be the backbone of the services offered by the university libraries on their different job descriptions (Saidu *et al.*, 2020). Librarians working in Federal University of Technology Library, Minna are expected to possess adequate ICT skills in order to carry out library operations and services efficiently.

Information and Communication Technology (ICT) skills, encompassing fundamental hardware functions, for the proficient administration of library services in the contemporary era dominated by digitalization. Librarians' ICT capabilities, empowered them to effectively manoeuvre and exploit ICT devices such as computers, printers, photocopying machines, projectors, scanners and among others for streamlined library functions and provisions including hardware functionalities, to effectively bolster information management. It is imperative that librarians' adequate possession of the basic operation of ICT hardware skills would help to enhance library operations and services in alignment with the changing requisites of users in the 21st century.

Librarians necessitate adept skills in document creation and retrieval to efficiently oversee digital libraries and information systems. Retrieval systems for documents store and index unstructured text parts, allowing for full-text retrieval based on indexed terms. Ultimately, librarians' possession of both conventional cataloguing and classification skills and contemporary technological proficiencies would help to navigate the intricate landscape of document creation and retrieval in modern library environments. These proficiencies play a crucial role in efficient information management, empowering users to produce high-quality content and retrieve pertinent documents with ease (Adamu, 2023).

Internet usage skills consist of a blend of internet knowledge, internet skills, and internet attitudes, collectively referred to as internet competence. These competencies are essential for proficient internet usage and play a crucial role in determining librarian's capacity to navigate the online realm. Given the ongoing evolution of the internet, it is imperative to

address both technical and content-related internet skills, in addition to internet knowledge and attitudes, to enable librarians to flourish in digital libraries.

Online research skills effectively and efficiently assist librarians in navigating the vast expanse of available information. They hold a crucial role in imparting to students the essential skills required to locate credible scholarly resources. Furthermore, the establishment of online focus groups has the potential to swiftly cultivate a community of practice among educators, fostering knowledge enhancement and empowerment of new initiatives within educational institutions. Hence, it is imperative for librarians to continually enhance their online research proficiencies to better cater to students in this digital era (Eromosele, Ahmed, & Madu, 2022).

Librarians who engage in digital communication and cooperation have the potential to enhance their efficacy through the utilization of diverse tools and strategies. The utilization of online collaboration tools empowers librarians to partake in educational activities, cooperative editing, knowledge generation, and project oversight. Particularly in virtual settings, embedded librarians heavily rely on communication tools to aid learners in their research tasks, address issues related to information literacy, and uphold academic honesty standards. Furthermore, within the domain of assistive robotics, ongoing online learning approaches are utilized to create a repository of skills for joint assignments, facilitating adaptive reactions to human gestures and intentions. Through active engagement in digital communication and collaboration, librarians can make a significant impact on student education and the progress of assistive technologies enhancing performance of library operations.

Librarians are increasingly employing social networking platforms such as Facebook, WhatsApp, LinkedIn, Twitter, Skype, and YouTube for a variety of purposes, including promoting library services, exchanging information, and engaging with users. These channels not only facilitate communication but also assist in effectively disseminating resources and interacting with the community. In Nigeria, librarians have demonstrated a heightened proficiency in utilizing SNSs, conducting information searches, and ethically evaluating content. These approaches can enable librarians to utilize SNSs more effectively in their academic and professional pursuits thus enhancing performance of library operations (Onyenachi *et al.*, 2021).

Furthermore, the possession of ICT skills can assist librarians in delivering high-quality service to library users. It simplifies information access and services, leading to enhanced efficiency in basic data handling tasks. Consequently, this reduces the unit cost of various library operations, improves operational efficiency, and fosters collaboration among libraries to form networks. Additionally, it enables round-the-clock and remote information access for users, as well as facilitates data integration from multiple sources.

Statement of the Problem

For university libraries to achieve maximum productivity in terms of supporting learning, teaching, research and services to host community, where the universities are located, librarians are expected to possess sufficient ICT skills, knowledge and abilities so as to achieve the set objectives of the 21st century university libraries. The Researchers observations shown that some librarians in Federal University of Technology Library, Minna found it difficult to cope with the tools of ICTs in library operations and services

which may invariably affect their productivity. Could these challenges be due to insufficient possession of ICT skills, abilities and knowledge of librarians? To address this research concern, the researchers examined the assessment of librarians' possession of ICT skills in Federal University of Technology Library, Minna, Niger State, Nigeria.

Objectives of the Study

The objectives were to:

1. determine the level of librarians' possession of ICT skills in Federal University of Technology Library, Minna, Niger State, Nigeria;
2. ascertain the avenues of ICT skills acquisition by librarians in Federal University of Technology Library, Minna, Niger State, Nigeria.

Research Questions

The following research questions guided the study:

1. What is the level of Librarians' possession of ICT skills in Federal University of Technology Library, Minna, Niger State, Nigeria?
2. What are the avenues of ICT skills acquisition by librarians in Federal University of Technology Library, Minna, Niger State, Nigeria?

Literature Review

Information Communication Technology (ICT) skills are those skills that librarians should possess to effectively use ICT facilities to perform library operations and services efficiently in the 21st century university library environment. These skills include basic operation of ICT hardware skills, email management and setup skills, safe Internet usage skills, online research skills, online communication and collaboration skills, social/academic networking sites management skills and document creation and retrieval skills.

Ilesanmi (2023) conducted a study to investigate librarians' ICT skills and service delivery in private universities in Nigeria. The study adopted survey research method. The population of the study comprised 181 librarians in the 45 private universities in Southern, Nigeria. Data collection instrument was questionnaire. Data were statistically analysed using frequency counts, percentage, mean and chart. Findings revealed that librarians delivered various library services to their users, acquired basic ICT skills and were versatile in its application for Internet searches, information retrieval, social communication and Microsoft-office related activities with the exception of programming skills. Majority of librarians acquired their ICT skills through self-learning.

Adamu and Babalola (2022) conducted a study to investigate ICT skills as determinant of research productivity of librarians in public university libraries in North-East, Nigeria. The study was guided by two (2) research questions in line with the research objectives and one hypothesis. The study adopted survey design. The population of the study comprised 361 academic librarians with sample size of 190 academic librarians in fourteen (14) public university libraries in North-East, Nigeria. Data collection instrument was structured questionnaire. Data were analysed using frequency, percentage distribution, mean, standard

deviation and hypothesis was analysed using linear regression analysis. Findings revealed that public university librarians in North-East, Nigeria have not given serious attention to other type of publications or are not familiar with them and high level of ICT skills among librarians in public university libraries in North-East, Nigeria.

Abu *et al.* (2022) conducted a study to investigate relationship between librarians' ICT skills and library services in university libraries in Abuja, Nigeria. The study adopted survey research method. The population of the study comprised 60 librarians without sampling due to small number of populations. Data collection instrument was structured questionnaire. Descriptive statistics were used for analysis. Findings revealed that there is significant relationship between librarians' ICT skills and service delivery, level of librarians' ICT skills is high, level of service delivery is equally high and one of the constraints to provision of effective information service is power outage.

Oguguo *et al.* (2020) conducted a study to examine the assessment of ICT skills relevant for effective learning possessed by undergraduate student at university of Nigeria. The study adopted descriptive survey design. The population of the study comprised 28,843 undergraduate students at university of Nigeria with sample size of 320 students. Data collection instrument was questionnaire. Data were analysed using mean, standard deviation, t-test and ANOVA ($p < 0.05$). Findings revealed that undergraduate students at the university possess knowledge of basic ICT skills, the ICT skills of undergraduate students differ based on their educational level and there is no significant difference in the mean response of male and female UNN undergraduate students in terms of the ICT skills they possess.

Methods

This study adopted descriptive survey research design. The descriptive survey research design was used because it is a survey type of research that is characterized by population and sample as well as the use of data collection instrument. The study population comprised twenty-six (26) librarians in Federal University of Technology Library, Minna, Niger State, Nigeria. The study adopted complete enumeration or census method due to the small number of the population. A close-ended structured questionnaire was the instrument for data collection. Data were analysed using frequency counts, percentage and mean as a measure of central tendency with criterion mean of 3.0 benchmark. The draft copies of questionnaire were validated by four lecturers in the Department of Library Information Science and a Statistician from Department of Statistics all from Federal University of Technology, Minna for correctness and appropriateness of the language used, whether it is suitable and appropriate to answer the research questions of the study. The researchers administered 15 copies of the questionnaire to librarians in Ibrahim Badamasi Babangida University Library, Lapai for pilot testing using test re-test method. The overall reliability coefficient was 0.93 indicating that the instrument is reliable and excellent. A total of 26 copies of questionnaire were administered to librarians and the response rate showed the returned of 26 copies of the questionnaire representing 100%.

Results

The level of Librarians possession of ICT skills in Federal University of Technology Library, Minna, Niger State, Nigeria are shown in Table 1.

Table 1: Level of Librarians Possession of Hardware Operation and Application Skills

S/ N	STATEMENTS	VHL 5	HL 4	ML 3	LL 2	VLL 1	\bar{x}	Decision
Basic Operation of ICT Hardware Skills								
1.	I have the ability to save, edit and copy data into secondary storage devices such as: CD-ROM drive, Hard disk drive, USB flash drive efficiently.	11 (42%)	8 (31%)	7 (27%)			4.15	High
2.	I have the ability to use scanner to scan and upload documents efficiently.	11 (42%)	7 (27%)	8 (31%)			4.11	High
3.	I have the ability to efficiently retrieve documents from storage devices.	8 (31%)	8 (31%)	6 (23%)	4 (15%)		3.76	High
4.	My knowledge of ICT enables me to save, edit and copy data into primary storage devices such as: RAM, ROM, Cache memory, register memory efficiently.	9 (35%)	5 (19%)	3 (12%)	5 (19%)	4 (15%)	3.38	High
5.	My knowledge of ICT enables me to use keyboard to type and printer to print documents efficiently.	6 (23%)	8 (31%)	3 (12%)	4 (15%)	5 (19%)	3.23	High
Aggregate Mean Score							3.73	High
Document Creation and Retrieval Skills								
6.	My knowledge of ICT enables me to efficiently perform Presentation skills such as: PowerPoint presentation.	8 (31%)	8 (31%)	6 (23%)	4 (15%)		3.76	High
7.	My knowledge of ICT enables me install Software on a System efficiently.	4 (15%)	3 (12%)	8 (31%)	11 (42%)		3.00	High
8.	My knowledge of ICT enables me to use Graphics such as: CorelDraw to draw graphs and charts efficiently.		6 (23%)	4 (15%)	9 (35%)	7 (27%)	2.34	Low
9.	My knowledge of ICT enables me to efficiently perform Statistical skills such as SPSS to analyse data.		6 (23%)	3 (12%)	6 (23%)	11 (42%)	2.15	Low
10.	I have the ability to use spreadsheets to enter numerical value and text into cells as well as performing daily library users' statistics efficiently.		4 (15%)	4 (15%)	9 (35%)	9 (35%)	2.11	Low
Aggregate Mean Score							2.67	Low
Grand Aggregate Mean Score							3.20	High

Key: VHL= Very High Level; HL= High Level; ML = Moderate Level; LL= Low Level, VLL= Very Low Level

The data presented in Table 1 was analysed for the level of librarians' possession of ICT skills in Federal University of Technology Library, Minna, Niger State, Nigeria. The results in Table 1 showed that the level of librarians' possession of basic operation of ICT hardware skills is high as the aggregate mean score was above the benchmark of 3.0 criteria standard.

On the other hand, the level of librarians’ possession of document creation and retrieval skills is low as the aggregate mean score was below the benchmark of 3.0 criteria standard.

Specifically, Table 1 revealed that librarians’ ability to save, edit and copy data into secondary storage devices such as: CD-ROM drive, Hard disk drive, USB flash drive efficiently with a mean score of 4.15 was the highest rated ranked item. While librarians’ ability to use spreadsheets to enter numerical value and text into cells as well as performing daily library users’ statistics efficiently with mean scores of 2.11 was the lowest rated ranked item.

Table 2: Level of Librarians Possession of Internet Usage and online Research skills

S/N	STATEMENTS	VHL 5	HL 4	ML 3	LL 2	VLL 1	\bar{x}	Decision
Internet Usage Skills								
1.	My knowledge of ICT enables me to efficiently use OPAC/Web OPAC to retrieve bibliographic information.	12 (46%)	5 (19%)	9 (35%)			4.11	High
2.	My knowledge of ICT enables me to efficiently perform online technical services such as: acquisition, cataloguing, classification and serials activities.	9 (35%)	5 (19%)	8 (31%)	4 (15%)		3.73	High
3.	I have the ability to efficiently open web pages, navigates web links and save favourite web pages.	5 (19%)	3 (12%)	4 (15%)	8 (31%)	6 (23%)	2.73	Low
Aggregate Mean Score							3.52	High
Online Research Skills								
4.	My knowledge of ICT enables me to efficiently check for reference sources online.	11 (42%)	6 (23%)	9 (35%)			4.07	High
5.	I have the ability to efficiently use search Engines such as: Mamma, AOL, Yahoo, Google in searching for information online.	8 (31%)	7 (27%)	5 (19%)	6 (23%)		3.65	High
6.	My knowledge of ICT enables me collect research data using Google forms or Survey monkey efficiently.	4 (15%)	3 (12%)	8 (31%)	11 (42%)		3.00	High
Aggregate Mean Score							3.57	High
Grand Aggregate Mean Score							3.55	High

The data presented in Table 2 was analysed for the level of librarians’ possession of ICT skills in Federal University of Technology Library, Minna, Niger State, Nigeria. The results in Table 2 showed that the level of librarians’ possession of Internet usage skills and online research skills are high as the aggregate mean scores were above the benchmark of 3.0 criteria standard.

Specifically, Table 2 revealed that my knowledge of ICT enables me to efficiently use OPAC/Web OPAC to retrieve bibliographic information with a mean score of 4.11 was the highest rated ranked item. While I have the ability to efficiently open web pages, navigates web links and save favourite web pages with mean scores of 2.73 was the lowest rated ranked item.

Table 3: Level of Librarians Possession of Online Communication, Collaboration and Social Networking Skills

S/N	STATEMENTS	VHL 5	HL 4	ML 3	LL 2	VLL 1	\bar{x}	Decision
Online Communication/Collaboration Skills								
1.	My knowledge of ICT enables me to efficiently perform Electronic Documentary Delivery Services such as: Selective Dissemination of Information (SDI).	9 (35%)	8 (31%)	4 (15%)	5 (19%)		3.80	High
2.	I have the ability to share work related files on Dropbox or Google drive efficiently.	8 (31%)	5 (19%)	4 (15%)	9 (35%)		3.46	High
3.	My knowledge of ICT enables me to efficiently use Electronic Bulletin Boards to provide current awareness services (CAS).	6 (23%)	5 (19%)	6 (23%)	9 (35%)		3.30	High
4.	I have the ability to communicate and hold meetings, conferences, seminars, workshops on ZOOM efficiently.	7 (27%)		6 (23%)	5 (19%)	8 (31%)	2.73	Low
Aggregate Mean Score							3.32	High
Social/Academic Networking Sites Management and Email Skills								
5.	My knowledge of ICT enables me to attach files, upload and download documents on e-mail environment efficiently.	9 (35%)	8 (31%)	4 (15%)	5 (19%)		3.80	High
6.	I have the ability to efficiently use e-mail in sending and receiving messages.	9 (35%)	5 (19%)	8 (31%)	4 (15%)		3.73	High
7.	My knowledge of ICT enables me to efficiently share my work findings on social media such as: Twitter, WhatsApp, Instagram, Facebook.	8 (31%)	7 (27%)	5 (19%)	6 (23%)		3.65	High
8.	My knowledge of ICT enables me to efficiently perform Networking activities such as: interlibrary cooperation, interlibrary loan and formation of library network.	6 (23%)	7 (27%)	6 (23%)	7 (27%)		3.46	High
9.	I have the ability to search and retrieve research papers on ResearchGate and Academia.edu efficiently.	6 (23%)	5 (19%)	6 (23%)	9 (35%)		3.30	High
10.	I have the ability to reach out and collaborate with other colleagues on LinkedIn and ResearchGate efficiently.	4 (15%)	3 (12%)	8 (31%)	11 (42%)		3.00	High
11.	My knowledge of ICT enables me to efficiently create an online email account for my colleagues in the library.	6 (23%)	3 (12%)	4 (15%)	4 (15%)	9 (35%)	2.73	Low
Aggregate Mean Score							3.38	High
Grand Aggregate Mean Score							3.35	High

The data presented in Table 3 was analysed for the level of librarians' possession of ICT skills in Federal University of Technology Library, Minna, Niger State, Nigeria. The results in Table 3 showed that the level of librarians' possession of online communication/collaboration skills and social/academic networking sites management and email skills are high as the aggregate mean scores were above the benchmark of 3.0 criteria standard.

Specifically, Table 3 revealed that My knowledge of ICT enables me to efficiently perform Electronic Documentary Delivery Services such as: Selective Dissemination of Information (SDI) and My knowledge of ICT enables me to attach files, upload and download documents on e-mail environment efficiently with mean scores of 3.80 were the highest rated ranked items. While I have the ability to communicate and hold meetings, conferences, seminars, workshops on ZOOM efficiently and my knowledge of ICT enables me to efficiently create an online email account for my colleagues in the library with mean scores of 2.73 were the lowest rated ranked items.

Avenues of ICT skills acquisition by librarians in Federal University of Technology Library, Minna, Niger State, Nigeria.

Table 4: Avenues of ICT skills acquisition by librarians'

S/N	Avenues of Acquisition	SA	A	N	D	SD	\bar{x}	Decision
		5	4	3	2	1		
Formal Avenues								
1.	Workshops	8 (31%)	8 (31%)	6 (23%)	4 (15%)		3.76	Agreed
2.	Conferences	7 (27%)	9 (35%)		4 (15%)	6 (23%)	3.26	Agreed
3.	Seminars	4 (15%)	4 (15%)	9 (35%)	9 (35%)		3.26	Agreed
4.	Short courses	2 (8%)	4 (15%)	9 (35%)	11 (42%)		2.88	Disagreed
5.	Career advancement	6 (23%)	3 (12%)		6 (23%)	11 (42%)	2.50	Disagreed
Informal Avenues								
6.	Self-learning	11 (42%)	6 (23%)	9 (35%)			4.07	Agreed
7.	Mentoring	11 (42%)	8 (31%)	5 (19%)	2 (8%)		4.07	Agreed
8.	In-house training	11 (42%)	9 (35%)	2 (8%)	4 (15%)		4.03	Agreed
9.	Peer coaching	9 (35%)	9 (35%)	4 (15%)	4 (15%)		3.88	Agreed
10.	Job rotation	9 (35%)	8 (31%)	4 (15%)	5 (19%)		3.80	Agreed

Key: SA=Strongly Agree; A=Agree; N=Neutral; D=Disagree; SD=Strongly Disagree and \bar{x} = Mean

The data presented in Table 4 was analysed for the avenues of ICT skills acquisition by librarians in Federal University of Technology Library, Minna, Niger State, Nigeria under two categories: Formal avenues and informal avenues. The results in Table 4 showed that respondents agreed to eight (8) items as the mean scores were above the benchmark of 3.0 criteria standard. On the other hand, respondents disagreed to the other two (2) items as the mean scores were below the benchmark of 3.0 criteria standard.

Specifically, Table 4 revealed that self-learning and mentoring with mean scores of 4.07 were the highest rated ranked items. This implies that most of the librarians acquired ICT skills through informal avenue (self-learning and mentoring). While career advancement with mean score of 2.50 was the lowest rated item. This implies that very few librarians acquired ICT skills through formal avenue.

Discussion of Findings

Research question one sought to find out the level of librarians' possession of ICT skills in Federal University of Technology Library, Minna, Niger State, Nigeria. Findings from Tables 1, 2 and 3 revealed that the level of librarians' possession of ICT skills is high as the grand aggregate mean scores were above the benchmark of 3.0 criteria standard. The finding is supported by a similar study - Seena and Pillai (2014) that ICT skills are the overall competencies (skills, knowledge, attitude and technical know-how) needed to create, save, analyse, organise, retrieve and disseminate digital information such as images, text, sounds and graphics in digital libraries or any type of information centres. This finding corroborates the findings of Adamu and Babalola (2022) and Abu *et al.* (2022) that the level of ICT skills among librarians in public university libraries in North-East, Nigeria and university libraries in Abuja, Nigeria is high. Consequently, this finding does not corroborate the findings of Yisadoko Udensi, and Akor (2017) that possession of ICT skills by postgraduate students in Nigerian universities is at low extent. This shows that librarians have sustained their possession of ICT skills and improve upon.

Research question two sought to find out the avenues of ICT skills acquisition by librarians in Federal University of Technology Library, Minna, Niger State, Nigeria. Findings revealed that self-learning and mentoring were the highest means of librarians' ICT skills acquisition with mean scores of 4.07 each. This implies that librarians acquired most of the ICT skills through self-learning and mentoring. This finding corroborates the findings of Ilesanmi (2023) and Manzo (2020) that majority of librarians acquired their ICT skills through self-learning, job rotation, peer coaching, mentoring, conferences and workshops respectively.

Recommendations

Based on the findings, the following recommendations were made:

1. Management of Federal University of Technology Library, Minna should provide adequate training to librarians especially on the aspect of document creation and retrieval skills as most of the items had mean scores below the criterion mean of 3.0 benchmark.
2. Management of Federal University of Technology Library, Minna should encourage librarians to attend short courses and further their education to enable them acquire more ICT skills.
3. Librarians should sustain and improve upon their possession of ICT skills through periodic training and re-training.

Conclusion

Based on the findings, librarians' possession of ICT skills was high and self-learning and mentoring were indicated as the highest means of librarians' ICT skills acquisition. Thus, the study concluded that document creation and retrieval skills of librarians under the current study were low.

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