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INFLUENCE OF USERS' PERCEPTION ON UTILISATION OF INFORMATION RESOURCES AND SERVICES IN SELECTED ACADEMIC LIBRARIES IN BENUE STATE, NIGERIA

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Abstract
The study investigated influence of users' perception on utilisation of information resources and services in selected academic libraries in Benue State, Nigeria. Descriptive survey research design was adopted. The population of the study comprised 7,795 library users from two academic libraries: Rev. Fr. Moses Orshio Adasu University and Benue State Polytechnic, Ugbokolo. Two purposes were developed for the study, with two research questions and two null hypotheses formulated and tested. Stratified sampling technique was employed, and a sample of 214 library users, representing 2.75% of the population, was selected. The instrument used for data collection was questionnaire. Reliability of the instrument was established through a trial test involving 30 library users, yielding a Cronbach Alpha coefficient of 0.99. Data were analyzed using mean and standard deviation to answer the research questions, while t-test was used to test the hypotheses at the 0.05 level of significance. Findings revealed that users' perceptions of information resources significantly influenced the utilisation of these resources in academic libraries in Benue State. Additionally, there was a significant difference between users' perceptions and their utilisation of information services. Based on these findings, it was recommended that academic libraries in Benue State should regularly assess and improve the quality, relevance, and accessibility of their information resources to enhance positive user perceptions and encourage greater usage. Library management should also invest in user-oriented service delivery, including staff training and awareness campaigns, to bridge perception gaps and promote more effective utilisation of available information resources and services in academic libraries.
Keywords: Academic Libraries, Users' Perception, Utilisation, Information Resource, Information Service

Introduction

User perception is the way patrons interpret and make sense of a product, service, system, or experience based on their personal expectations, prior knowledge, experiences, and contextual interactions. According to Abubakar (2021), positive user perception towards a system significantly enhances its effectiveness and long-term use. Eze and Olatunji (2022), defines user perception as the individual's interpretation and evaluation of a service or product based on the interaction with its features and the satisfaction derived from it. Ajayi (2021) views user perception as the mental model that a user forms regarding the usefulness, usability, and reliability of a system, which in turn influences their willingness to continue using it. User perception is a subjective evaluation influenced by personal needs, expectations, and previous experiences, which ultimately determines the user's attitude and behavioural response to a given technology or service. These scholarly definitions emphasize that perception is not merely a passive reception of information but an active process shaped by individual cognition and contextual experiences.

The utilisation of information resources and services refers to the effective and efficient use of various sources of information and the services provided by the library for users to access, retrieve and utilize that information. According to (Friedman (2017), it encompasses the process of employing available resources efficiently and maximizing their potential benefits. The utilisation of information resources and services in libraries is essential for supporting teaching, learning and research activities within educational institutions. Utilisation of information resources and services in academic libraries is a critical component for the enhancement of academic performance and research outputs in universities. This involves the effective use of various library resources such as books, journals, electronic databases, and reference services by students, faculty, and other researchers. In Benue State, the utilisation of these resources is pivotal to academic success and the improvement of information literacy among users. Nicholas *et al.* (2014) stresses that analysis of usage statistics provides insights into the utilisation patterns of library resources such as databases, journals, e-books. This data helps libraries make informed decisions regarding collection development, subscription management and resource allocation.

Information resources in academic libraries encompass a range of organised processes dedicated to supporting learning, teaching, and research within their parent institutions. These resources, comprising both local and international content, are intended not only for students, faculty, and researchers but also for the broader university community and society (Umoh, 2017; Hurst, 2013). Academic libraries provide access to various types of information resources, including reference works, books, e-books, newspapers, journals, articles, research databases, special collections, manuscripts, archives, theses, and dissertations (Brown University, 2023). All of which are accessed and delivered through information service.

Information service is the organised activities, systems, and processes through which libraries and related institutions collect, manage, retrieve, and disseminate information to meet the diverse needs of users. It involves helping individuals locate and access relevant, accurate, and timely information resources, whether in print or electronic format. Information service typically includes reference services, current awareness services, user education, selective dissemination of information (SDI), interlibrary loans, and digital access support. According to Dervin (2023), the information services offered by academic libraries are crucial in advancing the research, teaching, and learning goals of their institutions. These services encompass a spectrum of activities designed to facilitate information access, promote information literacy, and support scholarly communication. Bopp and Smith (2021) identify key services such as reference assistance, information literacy instruction, collection development, research support, digital scholarship support, interlibrary loan, and document delivery.

Statement of the Problem

Academic libraries are vital service providers established to support teaching, learning, and research in higher institutions. They play a crucial role in meeting the diverse information and knowledge needs of students, teachers, and research scholars. However, despite the key roles played by academic libraries, users may be having poor perception on the utilisation of information resources and services. There may be a decline in daily patronage of academic libraries in Benue State, despite their crucial role in supporting teaching, learning, and research. The decline in library usage among students in Benue State could probably be linked to perceived deficiencies in the quality and availability of library resources and services. The academic libraries in this state may suffer from inadequate and outdated resources, which may contribute to negative

perceptions and lower usage rates. Additionally, the researcher personally observed lack of regular assessment of user feedback regarding the quality and accessibility of these resources. This gap in understanding users' experiences highlights the need for empirical research to identify these issues and develop strategies for improvement. Conducting such research is essential for making targeted enhancements that will better support academic excellence and research productivity in Benue State.

Objectives of the Study

The purpose of this study is to investigate the influence of users' perception and utilisation of information resources and services in selected academic libraries in Benue State, Nigeria. Specifically, the study seeks to:

1. determine the influence of users' perception on the utilisation of information resources in academic libraries in Benue State.
2. ascertain the influence of users' perception on the utilisation of information services in academic libraries in Benue State.

Research Questions

This study is guided by the following research questions:

1. How does users' perception influence the utilisation of information resources in academic libraries in Benue State?
2. How does users' perception influence the utilisation of information services in academic libraries in Benue State?

Hypotheses

The following hypotheses are formulated and will be tested at 0.05 level of significance:

$H0_1$: There is no significant difference between users' perception and utilisation of information resources in academic libraries in Benue State.

$H0_2$: There is no significant difference between users' perception and utilisation of information service in Benue State.

Review of related Literature

User's perception refers to how individuals interpret and experience the services, resources, and environment provided by libraries. This concept encompasses various aspects, including user satisfaction, expectations, and the overall quality of library services. According to Jones (2022), user perception is crucial in assessing the effectiveness and relevance of library services. For example, a library that effectively meets the needs of its users and adapts to their changing preferences is perceived more positively, enhancing its role as a vital community resource.

The importance of user perception in libraries cannot be overstated. Libraries are increasingly recognized as dynamic institutions that must respond to evolving user needs and technological advancements. According to Smith and Johnson (2023), understanding user perception helps libraries tailor their services, resources, and physical spaces to better serve their communities. This user-centric approach not only improves service delivery but also ensures that libraries remain integral to community engagement and learning. Moreover, user perception significantly impacts the allocation of resources and the development of library programs. Libraries that regularly assess user feedback can identify gaps in service and prioritize

improvements that enhance user satisfaction. As noted by Lee et al. (2024), incorporating user feedback into decision-making processes leads to more effective and responsive library services. This continuous loop of feedback and improvement fosters a more positive perception among users, reinforcing the library's value and relevance. Libraries that actively consider and address user perceptions are better positioned to advocate for support and funding. Positive user perceptions often translate into stronger community support and advocacy, which is crucial for securing necessary resources. According to Wilson and Clark (2023), libraries with high user satisfaction are more likely to garner public and institutional support, ultimately strengthening their capacity to deliver quality services and adapt to future challenges. Thus, user perception not only affects daily operations but also plays a pivotal role in the long-term sustainability of library services.

Information services are the various activities and functions performed by libraries to ensure that users can access, retrieve, and effectively use relevant information for academic, research, or personal development purposes. These services include reference services, current awareness services, selective dissemination of information, bibliographic assistance, user education, and access to digital resources. In academic libraries, information services are essential for supporting teaching, learning, and research by helping users navigate the vast range of print and electronic resources available to them. Therefore, understanding user perceptions of these services is essential for continuous improvement and alignment with their expectations.

Users' perception of information services in academic libraries reflects how library patrons evaluate the quality, relevance, accessibility, and adequacy of the resources and support services they receive. These perceptions may influence the extent of library usage, user satisfaction, and the continuous improvement of library services. Udo-Anwa and Ekere (2023) opined that users' perceptions are shaped largely by their interactions with library personnel and the ease of accessing information resources. Similarly, Egberongbe and Lawal (2022) found that many users in Nigerian university libraries expressed moderate satisfaction with information services, citing helpful staff and resource relevance as key strengths. Their findings indicated that libraries that prioritize user-centered services tend to receive more positive perceptions and increased patronage.

Users' perception has a probability of influencing how frequently and effectively information resources are utilized in academic libraries. Perception, in this context, refers to the users' assessment of the relevance, ease of use, reliability, and accessibility of resources. If users view the resources as useful and dependable, there is a strong likelihood that they will engage with them. Conversely, if their perception is negative such as viewing the resources as outdated or irrelevant; there is a greater chance of underutilisation. Ojua and Ejembi (2022) states that when students perceive library materials as current and relevant, they are more likely to use them for academic purposes. The probability of frequent library usage increases when users believe the resources align with their needs. Ocheibi and Onoja (2023) note that the likelihood of utilising digital resources rises when users feel the library supports their digital literacy needs. Their findings revealed a strong positive correlation, suggesting that a favorable perception significantly increases the probability of resource engagement.

It is therefore probable that improving resource quality and user support will lead to higher utilisation rates. Ejeh and Okpeh (2022) indicates that when library staff are approachable and knowledgeable, there is a greater likelihood that users will view the library as a supportive

academic environment. This perception tends to increase the chances of users returning to the library. In the same vein, Adakole and Agbo (2023) assert that users who perceive poor infrastructure such as limited seating or weak lighting are less likely to utilize library services. Thus, it is plausible to suggest that both the physical and human elements of library service delivery jointly affect users' perceptions and, in turn, the probability of resource usage. Agber and Iwuchukwu (2022) argue that the likelihood of resource usage increases when users are aware of what the library offers. Their study showed that many undergraduates in Benue State were less likely to use resources due to limited awareness, even when resources were available. Onaji and Terwase (2023) also discover that students exposed to regular library orientation programs had a higher probability of using e-resources. These findings suggest a strong possibility that targeted awareness and orientation programs can positively shift user perception and increase the likelihood of resource utilisation. According to Okoh and Ugwu (2022), users are more likely to avoid library resources when they perceive the access process as difficult. Their study showed a lower probability of usage among students who considered the library interface and catalog systems complex. Ali and Terkimbi (2023) concluded that libraries with mobile-friendly platforms and simple search tools had a higher probability of being used by students. This suggests that simplifying access mechanisms increases the likelihood of a positive perception and subsequent utilisation of resources. Odu and Omale (2022) maintain that students are more likely to use library resources when they perceive them as relevant to their coursework and research.

The perceived academic value of a resource plays a critical role in determining the probability of its usage. Abah and Ejeh (2023) found that departments that collaborated with the library to tailor resources to academic needs saw a significant increase in student engagement. These findings strongly imply that academic relevance boosts the probability of resource utilisation by aligning with users' perceived needs. Anum and Ukwu (2023) argue that students are more likely to engage with library resources when they perceive technological tools like augmented reality or virtual reference services as modern and effective. Their research indicated a high probability that integrating such technologies enhances user perception. Similarly, Eze and Akosu (2022) found that libraries employing digital innovations reported a greater likelihood of frequent resource use among students. Thus, it is probable that embracing emerging technologies enhances both perception and utilisation of academic information resources.

Users' perception may influence the utilisation of information services in academic libraries. It is probable that when users hold positive perceptions of library services such as reference services, current awareness services, online databases, and circulation servicesthey are more likely to utilize them. Conversely, if users perceive library services as outdated, insufficient, or inaccessible, their level of usage may decrease, regardless of the actual quality of resources. Perception often encompasses user experiences, expectations, attitudes, and satisfaction, which shape the willingness to engage with library offerings. Aina and Ojo (2023) state that students' favourable perception of reference and online services in Nigerian academic libraries led to high usage frequency and user satisfaction. Ukachi and Eze (2022) posit that perceived service quality and librarians' responsiveness significantly enhanced user attitudes and information-seeking behaviour. Their study revealed that students who viewed library staff as approachable and knowledgeable were more likely to return and use services repeatedly. The implication is that positive interpersonal interactions and timely assistance reinforce the perception of reliability and effectiveness in library services.

Perceived accessibility and relevance of library services can increase patronage. This is further explained by Ogbene and Uzoigwe (2022) who state that students perceived libraries with functional internet access and updated databases as more useful, thereby increasing their use for assignments and research. In the same vein, Nnadozie and Igwesi (2023) notes that when users believe that the library collections are relevant to their academic needs, they are more inclined to explore both physical and digital services. Their findings suggest that perceptions rooted in functionality and academic alignment influence the extent to which users rely on library services. Negative user perceptions, often based on previous poor experiences or misinformation, may discourage service utilisation. Anyaoku and Ezeani (2022) observe that some students believed library services were outdated or too traditional, which discouraged them from exploring available digital resources. Abubakar and Waziri (2023) found that when library spaces were perceived as uncomfortable or poorly organised, users tended to avoid in-person visits.

The role of orientation and information literacy in shaping user perception cannot be overstated. According to Yusuf and Danladi (2022), students who received comprehensive library orientation had a more favourable perception of the library's role in academic success, which led to greater utilisation of information services. Furthermore, Ebiye and Okoro (2023) assert that information literacy programmes positively impacted students' confidence and perception of e-library platforms. Their study concluded that well-structured awareness initiatives could transform indifferent or negative perceptions into proactive engagement with library resources. This suggests that academic libraries should invest in regular user education to foster positive attitudes. Additionally, demographic factors such as academic level and field of study can influence user perceptions. Olayemi and Umeh (2023) state that postgraduate students often perceived library services as more critical and were therefore more likely to utilize advanced services like interlibrary loans and electronic journals. Likewise, Okonkwo and Bello (2022) emphasise that students in the sciences had more favourable perceptions of digital databases, which led to higher rates of use compared to their counterparts in the humanities.

Aladeniyi and Owokole (2017) investigated the utilisation of library information resources by undergraduate students at the University of Medical Sciences, Ondo, Ondo State, Nigeria. The aim of their study was to assess how undergraduates used the library's information resources and to identify any challenges they faced. Their findings indicated that while students acknowledged the availability of various resources and used them for purposes such as general information, examinations, assignments, and research, the majority used the resources only occasionally. Textbooks emerged as the most frequently utilized resource. Despite this, only a few students reported facing challenges in using the library resources. Based on these findings, the researchers recommended strategies to improve the usage of library resources at the institution.

Ebaye and Osim (2024) investigated the Utilisation of Information Resources and Services among Undergraduate Students in Federal University Libraries in South-South, Nigeria. The study aimed to explore the patterns of how undergraduate students use information resources and services in university libraries located in the South-South region of Nigeria. The study found a significant relationship between the librarians' selective skills and students' utilisation of library resources. Based on these findings, the study recommended that librarians continue to ensure the acquisition of appropriate materials for optimal library use.

Igwebuike and Agbo (2024) examined strategies for effective utilisation of library resources and services by distance education students in National Teachers Institute in Enugu

State, Nigeria. The research aimed to explore how distance education students utilize library resources and services, identify the challenges they face, and propose strategies to enhance the effective use of these resources. The findings indicated that NTI students primarily used the library for knowledge acquisition, consulting reference materials, writing assignments, and preparing for exams. However, they faced several issues, including limited knowledge of library services, poor cataloguing and classification, time constraints, inadequate staffing, insufficient power supply, high costs for materials like e-books, and poor funding. The study recommended organizing seminars and workshops, improving power supply, expanding library space, providing up-to-date resources, and hiring more staff to address these challenges.

Resseach Methodology

The study adopted a descriptive survey design, which was deemed appropriate for collecting, analyzing, and interpreting data from a representative sample without manipulating any variables. The target population comprised 7,795 library users drawn from two academic libraries in Benue State: Benue State University, Makurdi (5,833 users) and Benue State Polytechnic, Ugbokolo (1,962 users). A sample size of 214 respondents was selected using the proportionate sampling technique. This technique was employed to ensure that participants from each institution were represented in the sample in proportion to their actual population sizes, thereby enhancing the generalizability and representativeness of the findings across both libraries. To determine the sample size, 2.75% of the total population (7,795) was computed. The decision to use 2.75% was based on the need to select a manageable yet statistically meaningful sample that reflects the diversity within the population while taking into consideration resource constraints such as time and accessibility. This approach aligns with the recommendations of Nwana (1981), who suggested that when dealing with large populations, a sample size between 1% and 10% is adequate. Data for the study were collected using a self-developed questionnaire titled Users' Perception and Utilisation of Information Resources and Services of Academic Libraries Questionnaire (UPUIRSALQ). The questionnaire was designed to capture users' perceptions and patterns of library resource utilisation. Descriptive statistics including frequency counts, mean scores, and standard deviations were employed to answer the research questions. To test the hypotheses, the Chi-square (χ^2) was used at the 0.05 level of significance. A p-value less than 0.05 led to the rejection of the null hypothesis, indicating a statistically significant difference, while a p-value equal to or greater than 0.05 resulted in the acceptance of the null hypothesis, indicating no significant difference.

Results

Research Question 1: How does users' perception influence the utilisation of information resources in academic libraries in Benue State?

Table 1: Mean and Standard Deviation of Users' Perception on the Utilisation of Information Resources in Academic Libraries in Benue State

s/no	Item Description =N=206	SA	A	D	SD	Mean	Std. D.	Remarks
1	My view of the library influences how often I use its resources.	41	79	67	19	2.69	0.90	Agree
2	I use more resources when I perceive them to be valuable.	64	77	39	26	2.87	1.00	Agree
2	My academic success motivates my library use.	68	68	60	10	2.94	0.90	Agree
4	I avoid using outdated resources even when available.	58	89	44	15	2.92	0.89	Agree
5	I am more likely to use resources I perceive as relevant.	48	77	68	13	2.78	0.88	Agree
6	A positive perception increases my use of digital resources.	49	118	20	19	2.96	0.84	Agree
7	I frequently use library resources due to their reliability.	22	126	43	15	2.75	0.74	Agree
8	Perception of accessibility affects how I use the library.	120	37	30	19	3.25	1.02	Agree
9	I am influenced by peer opinions about library resources.	48	49	84	25	2.58	0.98	Agree
10	Awareness of available resources boosts my usage.	57	84	33	32	2.81	1.01	Agree
	Cluster					**2.86**	**0.92**	**Agree**

Source: Fieldwork, 2025

Table 1 reveals mean and standard deviation of the users' perception influence the utilisation of information resources in academic libraries in Benue State. The result reveals that users' perceptions significantly influence how frequently they utilize information resources. Items such as perceiving resources as valuable (Mean = 2.87), relevant (Mean = 2.78), and reliable (Mean = 2.75) all indicate a strong link between positive perception and resource usage. Similarly, perceptions of accessibility (Mean = 3.25) and awareness (Mean = 2.81) positively affect utilisation. The high cluster mean of 2.86 confirms that favorable perceptions boost resource engagement. Users also acknowledge that their academic success and the relevance they assign to resources motivate their usage, illustrating that perception plays a critical role in shaping utilisation patterns. Table 3 equally reveal thatthe standard deviations are tightly clustered around 0.74 to 1.02, reflecting consistent perceptions of how users' views influence resource utilisation, with minimal variation across different items. This suggests users generally agree on the influence perceptions have on their resource usage.

Research Question 2: How does users' perception influence the utilisation of information services in academic libraries in Benue State?

Table 2: Mean and Standard Deviation on the Users' Perception Influencing the Utilisation of Information Services in Academic Libraries in Benue State

s/no	Item Description =N=206	SA	A	D	SD	Mean	Std. D.	Remarks
11	My trust in librarians encourages me to seek their help.	25	95	61	25	2.58	0.86	Agree
12	Friendly service staff increase my use of library services.	100	33	40	33	2.97	1.15	Agree
13	I participate in training when I perceive its value.	28	93	29	56	2.65	1.03	Agree
14	I attend library workshops when they are well-organised.	197	6	3	-	3.94	0.29	Agree
15	I prefer services that are perceived to be fast and efficient.	191	9	3	3	3.88	0.47	Agree
16	I am more likely to request assistance when treated with respect.	110	91	5	-	3.51	0.55	Agree
17	My satisfaction with past service affects future usage.	62	74	54	16	2.88	0.93	Agree
18	I recommend services I perceive as effective.	57	73	56	20	2.81	0.95	Agree
19	The perception of usefulness drives service utilisation.	48	80	60	18	2.77	0.91	Agree
20	Services perceived as outdated are less utilized by me.	69	77	38	22	2.94	0.97	Agree
	Cluster					**3.09**	**0.81**	**Agree**

Source: Fieldwork, 2025

Table 2 shows mean and standard deviation of the users' perception influence the utilisation of information services in academic libraries in Benue State. The result reviews that the data suggests that users' perceptions significantly impact their engagement with information services. Items like trust in librarians (Mean = 2.58), friendliness of staff (Mean = 2.97), and the perceived usefulness of services (Mean = 2.77) highlight that positive perceptions enhance service utilisation. The most highly rated item, participation in well-organised workshops (Mean = 3.94), underscores the importance of perceived value and quality of services. The cluster mean of 3.09 indicates a strong correlation between positive perceptions and increased usage of services, including timely support, efficiency, and respectful treatment, which collectively encourage ongoing engagement.Table 4 also standard deviations which range from 0.55 to 1.15, with most items like well-organised workshops (0.29) showing very low variability, indicating strong consensus. Items such as trust in librarians and helpfulness of staff have standard deviations near 1, indicating moderate variability in perceptions of service influence.

Hypothesis 1: There is no significant difference between users' perception and utilisation of information resources in academic libraries in Benue State.

Table 3: Sample T-test of the Significant Difference between Users' Perception and Utilisation of Information Resources in Academic Libraries in Benue State

Variables	$(\bar{x})$	S.D	t-value	Df	p-value	Remarks
Users' Perception of Information Resources	2.65	0.985				
Utilisation of Information Resources	2.82	1.008	-6.214	205	0.000	Sign

Table 3 shows a significant difference between users' perception of information resources (mean = 2.65, SD = 0.985) and their utilisation of information resources (mean = 2.82, SD = 1.008) in academic libraries in Benue State, with a t-value of -6.214, degrees of freedom (df) = 205, and a p-value of 0.000. This result indicates that users' perceptions significantly differ from their actual utilisation of information resources. Therefore, the null hypothesis of no significant difference is rejected.

Hypothesis 2: There is no significant difference between users' perception and utilisation of information service in Benue State.

Table 4: Sample T-test of the Significant Difference between Users' Perception and Utilisation of Information Service in Benue State

Variables	$\bar{x}$	S.D	t-value	df	p-value	Remarks
Users' perception of information services in academic libraries	2.83	1.02				
Users' perception on the utilisation of information services	2.84	0.95	39.66	205	0.000	Sign

Table 4 shows a significant difference between users' perception of information services (mean = 2.83, SD = 1.02) and their perception of the utilisation of information services (mean = 2.84, SD = 0.95) in academic libraries in Benue State. The result yields a t-value of 39.66, with 205 degrees of freedom and a p-value of 0.000. This indicates that even a slight variation exists between perception and perceived utilisation, it is statistically significant. Hence, the null hypothesis of no significant difference is rejected.

Discussion of Findings

Findings revealed that users' perceptions of information resources significantly influence the utilisation of these resources in academic libraries in Benue State. This result could be attributed to the fact that users are more likely to utilize information resources they perceive as relevant, current, and accessible. The result agrees with the findings of Eneh, Ukachi, Ibikunle, and Sambe (2023), who found that ICT skills improvement and enhanced internet facilities are crucial for sustaining Electronic Information Resources (EIRs). These factors are essential in improving access and ensuring the effective use of digital resources in academic libraries. The result is also in line

with the study by Igwebuike and Agbo (2024), who found that NTI students primarily utilized the library for knowledge acquisition, consulting reference materials, writing assignments, and preparing for examinations. Their findings highlight the multifaceted functions of academic libraries in supporting students' academic endeavors and underscore the need for libraries to diversify and tailor their resources and services to meet users' specific academic and research needs.

The findings also indicated a significant difference between users' perceptions and their utilisation of information services. The result could be attributed to a mismatch between users' expectations and the actual quality or accessibility of the information services provided. In many academic libraries, users may hold positive perceptions based on the library's reputation, physical infrastructure, or promotional efforts. The finding agrees with Ubogu (2019) who found that ICTs were primarily utilized for acquisition, cataloging, and circulation due to their efficiency and time-saving attributes. This suggests that users tend to favor ICT-based services because of their convenience and speed, which can influence overall satisfaction and continued usage. It also highlights the necessity for libraries to focus on enhancing ICT infrastructure and training to maximize service delivery.

Conclusion

Based on the findings, it can be concluded that users' perceptions play a critical role in shaping the extent to which information resources are utilised in academic libraries in Benue State. The significant difference observed between perception and actual utilisation underscores a complex interplay between awareness, accessibility, user experience, and perceived value of library services. This disparity suggests that while users may recognize the importance of available resources, factors such as inadequate orientation, limited digital competence, or systemic inefficiencies may impede full engagement.

Recommendations

Based on the findings, it was recommended that:

i. Academic libraries in Benue State should regularly assess and improve the quality, relevance, and accessibility of their information resources to enhance positive user perceptions and encourage greater usage.
ii. Library management should invest in user-oriented service delivery, including staff training and awareness campaigns, to bridge perception gaps and promote more effective use of available services.

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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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HUMAN RESOURCE DEVELOPMENT OF ACADEMIC LIBRARIANS AS A CORRELATE OF JOB PERFORMANCE IN ACADEMIC LIBRARIES IN BENUE STATE, NIGERIA

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Abstract
The study examined human resource development of academic librarians as a correlate of job performance in academic libraries in Benue State, Nigeria. Correlational research design was adopted. The population of the study comprised 110 academic librarians. Two research questions were generated and two null hypotheses formulated and tested. Census sampling technique adopted and all the 110 librarians were used. Questionnaire was used as instruments for data collection. The instruments were validated by three experts; two in Library and Information Science, one in Science and Mathematics Education, ***Rev. Fr. Moses OrshioAdasu University, Makurdi****. The reliability of the instrument was ascertained through a trial-test on 23 librarians in Federal University of Lafia, Nasarawa. The test yielded Cronbach Alpha Coefficient as follows: The Human Resource Development Questionnaire (HRDQ) yielded 0.79while Job Performance Questionnaire (JPQ) yielded 0.90. Data were analyzed using Pearson Product Moment Correlation Coefficient (PPMC) to answer research questions while linear regression analysis was employed to test the hypotheses at the 0.05 level of significance. Findings of the study revealed that: staff training has significant positive relationship with job performance of academic librarians. It was also found that in-house training has significant positive relationship with job performance. It recommended among others that human Resource Department should organize regular, targeted staff training workshops and seminars that focus on current library practices, emerging technologies, and professional skills development to boost job performance.*
Keywords: Human Resource Development, Academic Librarians, Job Performance, Staff Training, In-house Training

Introduction

Globally, a myriad of interrelated variables influence the quantity and quality of employee productivity and job performance across professional sectors. These variables encompass the extent of role clarity among personnel, the dynamics of interpersonal relationships with colleagues, subordinates, and clients, as well as the physical health, psychological well-being, and socio-emotional adjustment of individuals. Within academic libraries, regardless of their size or the comprehensiveness of their collections, institutional success is inextricably linked to the presence of a competent, well-developed workforce. It is a common believe that libraries with well-trained personnel exhibit enhanced levels of staff productivity, operational efficiency, and service quality. Consequently, the professional development of library staff is not only instrumental in achieving individual performance outcomes but also critical for the realization of institutional mandates, especially within the knowledge-intensive domain of academic librarianship.

In this regard, Human Resource Development (HRD) has emerged as a strategic imperative in contemporary organizational management. HRD refers to the deliberate and

systematic process of enhancing the competencies, knowledge base, skills, and overall potential of employees within an organizational framework. Armstrong (2020) conceptualizes HRD as a structured and coherent approach to nurturing an organization's most vital asset and its human capital whose collective efforts are central to goal attainment. Bratton and Gold (2022) further underscore that HRD comprises both formal and informal learning processes initiated by the organization to promote individual growth and long-term organizational development.

Given its centrality to institutional performance, HRD is increasingly recognized as a catalyst for sustainable organizational effectiveness. It enhances the functional capacity of employees through continuous skill acquisition and knowledge enhancement, thereby fostering innovation, improving job satisfaction, and strengthening employee retention. Ogunrombi and Adebayo (2021) contend that HRD initiatives empower employees by equipping them with the requisite competencies to fulfill the technical and cognitive demands of their roles. Accordingly, HRD programmes represent intentional and systematic interventions by organizations to build employee competencies and align workforce potential with institutional objectives. These programmes encompass a range of developmental activities such as staff training, in-house training, on-the-job learning, job rotation, mentoring, coaching, and formal professional development workshops. In this paper, however, staff training and in-house training was examined.

Staff training is a deliberate effort by organizations to improve the competencies, skills, and knowledge of employees for enhanced job performance and organizational effectiveness. Formal staff training involves structured programmes delivered through workshops, seminars, or external courses, focusing on upgrading both technical and soft skills. According to Onuka and Akinyemi (2023), staff training is essential for building a knowledgeable workforce, reducing performance gaps, and sustaining institutional growth. When training is continuous, it enables employees to keep up with innovations, improve service delivery, and respond effectively to emerging challenges in the work environment through in-house training.

In-house training refers to staff development sessions conducted within the organization by internal resource persons or units. These trainings are tailored to address the specific needs of the organization and its workforce, making them cost-effective and highly relevant. Uzo-Okonkwo and Ezeani (2023) maintainedthat in-house training improves team coordination, boosts morale, and ensures that organizational policies and standards are well understood and followed. Such trainings also create a culture of learning and internal capacity building, especially in public institutions where resource constraints limit external training opportunities, paving the way for on-the-job training and contributing significantly to sustainable human resources development.

Human resources development is an important aspect of an organization and plays a vital role in its development. With training, library staff develops and hone skills that would aid them in effectively carrying out their duties. Trainings would also aid library staff to keep up to date about all the emerging and disruptive technologies in the field of librarianship. Continuous staff development enables a librarian to aid in the growth of the library and by extension the organization. According to Ojowhoh (2016), staff development is a series of programmes aimed at improving staff qualification, efficiency and knowledge in order to be more productive and increase job performance. It is therefore safe to say that continuous training and retraining of staff would both be beneficial to the organization and the personnel undergoing the training, particularly academic librarians.

Academic librarians in a university library typically hold various positions, each contributing to the efficient functioning of the library and its services. The Librarian heads the library and is responsible for overall management, strategic planning, budgeting, and policy implementation. According to Aina and Adigun (2022), clear administrative leadership from the university librarian is crucial for the smooth coordination of library services. Subject Librarians or Subject Specialists focus on particular academic disciplines and assist faculty and students with research support, collection development, and information literacy in their respective fields. Ocholla and Shongwe (2023) assert that subject specialists play a vital role in bridging disciplinary research needs and library resources. Technology and Digital Services Librarians oversee digital resources, manage library systems, databases, and technology infrastructure to support access to electronic resources. Instruction and Information Literacy Librarians develop and conduct library instruction sessions, teaching students how to effectively search for and evaluate information. The understanding of these job descriptions by each of the librarians fosters role clarity and enhances focus, productivity, and service delivery.

The concept of job has been part of man's existence and has become a means by which individual needs are met. It is not only about employment but any activities that produce something with full of value for the society. To buttress this statement, Yaya, Opeke and Onuoha (2016), described job as an occupational act that is carried out by an individual or group of individuals in return for a reward. However, the achievement of libraries goals and objectives is depending on the level of job performance of the staff. This study, however, focused on job performance in terms of adaptive performance, contextual performance, and task performance

Task performance refers to an individual's proficiency in performing core job duties that directly contribute to the technical processes of an organization. According to Oguegbe (2022), task performance is the execution of specific duties and responsibilities that are central to organizational output, such as producing goods or delivering services. Igbokwe (2023) emphasized that task performance is measurable and often used as a baseline for evaluating employee productivity and efficiency. Yusuf (2024) noted that task performance is shaped by an employee's knowledge, skillset, and motivation, and it is a critical determinant of overall organizational performance, often complemented by contextual performance.

Contextual performance involves behaviors that contribute to the organizational environment but are not part of formal job tasks. These include helping coworkers, following organizational rules, and demonstrating enthusiasm. Nwankwo (2023) explained that contextual performance promotes a positive work climate and supports the organizational social system. Eze (2022) posited that while not formally evaluated, contextual behaviors such as teamwork, punctuality, and organizational loyalty significantly affect overall employee appraisal.

Adaptive performance is the ability of an individual to adjust to changes in work systems, new roles, and unexpected challenges. It reflects flexibility, learning agility, and innovation in response to dynamic environments. Akpan (2022) stated that adaptive performance is essential in modern workplaces characterized by technological change and organizational restructuring. Okonkwo (2023) highlighted that high adaptive performance is linked to cognitive flexibility and emotional resilience. It is noted that employees who score high on adaptive performance are better equipped to handle crisis situations, adopt new technologies, and contribute to innovation-driven goals in organizations; however, this potential can be undermined by inadequate training and development programmes for staff.

Statement of the Problem

Human resource development (HRD) is generally regarded as essential for improving the competence, motivation, and job performance of academic librarians. Through ongoing professional development, librarians are better positioned to respond to changing information needs, support academic activities, and deliver effective library services. However, it appears that in many academic libraries in Benue State, critical components of HRD particularly staff training and in-house training may not be adequately implemented. Staff training opportunities seem to be irregular, insufficient, or possibly misaligned with actual job demands. While in-house training programmes, which are crucial for practical learning and institutional knowledge sharing, may be either lacking or poorly coordinated. These gaps could be contributing factors to reduced job performance, skill deficiencies, and low productivity among librarians. Although existing studies have focused on general job satisfaction and performance, limited research seems to have examined the specific influence of staff training and in-house training on the job performance of academic librarians. This study, therefore, investigated human resource development of academic librarians as a correlate of job performance in academic libraries in Benue State, Nigeria.

Objectives of the Study

The main objective of this study is to investigate human resource development of academic librarians as a correlate of job performance in academic libraries in Benue State, Nigeria. Specifically, the study seeks to find out the:

1. relationship between staff trainings and job performance of academic librarians in academic libraries in the study area.
2. relationship between in-house training and job performance of academic librarians in academic libraries in the study area.

Research Questions

The following research questions guided the study.

1. What is the relationship between staff trainings and job performance of academic librarians in academic libraries in the study area?
2. What is the relationship between in-house training and job performance of academic librarians in academic libraries in the study area?

Hypotheses

The following hypothesis were formulated and tested at 0.05 level of significance;

1. There is no significant relationship between staff trainings and job performance of academic librarians in academic libraries in the study area
2. There is no significant relationship between in-house training and job performance of academic librarians in academic libraries in the study area

Review of Related Literature

Human resource development (HRD) refers to the process of improving an organization's workforce through planned learning activities such as training, education, skill enhancement, and career development. It aims to increase employee performance, productivity, and overall organizational effectiveness. According to Agu and Nwachukwu (2022), human resource development is a structured and continuous process designed to enhance the skills, knowledge,

and competencies of employees to improve individual and organizational performance. Okafor and Ibrahim (2023) assert that human resource development encompasses training, professional growth, and capacity building initiatives aimed at equipping employees with the necessary tools to adapt to technological changes and contribute meaningfully to institutional goals. Human Resource (HR) plays a crucial role in the success of organizations by managing employees, fostering workplace culture, and implementing strategic policies. HR encompasses various functions such as recruitment, training, performance management, compensation, and employee relations. 1gbokwe (2017) states that by investing in HRD, organizations seek to increase productivity, foster employee satisfaction, improve retention, and cultivate a workforce that is adaptable to evolving business demands. Below are the human resource development programmes as enumerated and discussed by Kubr and Prokopenko (2016):

Staff training: it is the systematic efforts by organizations to improve employees' knowledge, skills, and abilities to enhance performance and organizational effectiveness. According to Ezeani and Oladele (2023), staff training is a strategic tool for human capital development and a driver of productivity in modern organizations. They assert that without regular training, employees may lack the competence to adapt to dynamic job roles. Ugwu and Nwachukwu (2022) emphasize that training helps bridge the gap between current and expected performance, especially in technologically evolving environments. For instance, Nigerian university libraries often organize annual training sessions for librarians on digital cataloguing and metadata management to improve service delivery. Training also contributes to employee motivation and retention.

In-House Training: In-house training refers to training sessions organized and delivered within the organization by internal experts or facilitators. It is cost-effective and tailored to specific institutional needs. According to Adeleke and Olowu (2022), in-house training allows customization of content and aligns closely with organizational culture, policies, and work processes. Ojo and Bamidele (2021) support this view, stating that it enhances team spirit as employees learn in familiar environments. For instance, many Nigerian banks conduct in-house training on customer service ethics using their senior staff as trainers, ensuring alignment with internal policies. Additionally, in-house training promotes knowledge sharing and builds internal capacity.

Job performance is to the effectiveness with which individuals fulfill the tasks, duties, and responsibilities associated with their roles within an organization. Campbell (2019) defines it as an individual-level variable, emphasizing that it pertains to behaviors under the individual's control that contribute to organizational goals. Borman and Motowidlo (2021) further distinguish between task performances activities directly related to the core job and contextual performance, which includes behaviors that support the organizational environment. Alase and Akinbo (2021) describe job performance as the degree to which employees execute their roles efficiently to achieve organizational objectives. There are many types of job performance, however, in this study; adaptive performance, contextual performance and task performance are discussed.

a. Tasks Performance: Task performance is evaluated based on accuracy, timeliness, and the quality of outcomes. For instance, a medical records officer must ensure that patient files are correctly updated, stored, and retrieved without error. Akanbi and Yusuf (2024) emphasized that the presence of clear goals, adequate tools, and proper training enhances

task performance. For example, when a library is equipped with an updated online public access catalogue (OPAC), librarians can carry out their roles more efficiently. Okorie and Onuoha (2023) found that job clarity and institutional support like proper staffing and ICT facilities boost librarians' task performance.

b. Contextual Performance: Contextual performance encompasses behaviors that are not formally required but support the broader organizational environment. It includes interpersonal cooperation, loyalty to the institution, volunteering for additional responsibilities, and promoting a positive workplace climate. A good example is a university staff member who voluntarily mentors new employees or willingly organizes departmental events without being instructed to do so. Olatunji and Adebayo (2023) described such behaviors as discretionary efforts that build social capital in the workplace. This form of performance often reflects an individual's personal values and emotional investment in their workplace. For instance, a library staff member who stays late to help a struggling student search for academic materials, or a health worker who patiently educates a patient despite being off-duty, demonstrates high contextual performance.

c. Adaptive Performance: Adaptive performance is the capacity of employees to remain effective amid changing conditions, technologies, or work demands. It reflects how well an individual copes with uncertainty, learns new skills, or adjusts to new roles. For example, during the COVID-19 pandemic, many university lecturers had to switch to online teaching platforms like Zoom or Google Classroom, even if they had never used such tools before. Those who embraced the change, learned quickly, and modified their teaching methods to suit online delivery exhibited high adaptive performance. Ogundele and Dike (2023) emphasized that such agility is essential in today's fast-changing work environments, where digital transformation and policy shifts are frequent. Uche and Nwosu (2022) asserted that adaptability enables institutions to stay competitive and resilient.

The importance of job performance in Nigeria cannot be overstated, as it directly impacts organizational success and economic development. High job performance leads to increased productivity, which is crucial for organizations aiming to remain competitive in the Nigerian market. For instance, in the banking sector, employees who perform their tasks efficiently contribute to higher customer satisfaction and profitability. Alase and Akinbo (2021) found that both monetary and non-monetary incentives significantly enhance job performance among bank employees, underscoring the need for effective motivation strategies. Job performance is closely linked to employee motivation. A motivated workforce tends to exhibit higher levels of commitment and efficiency.

Alala, Aguwa and Onyegbula (2022) investigated staff training programmes as correlate of service delivery in academic libraries in Imo State. The findings of the study are that; there is a high positive and significant relationship between mentorship and service delivery in academic libraries in Imo State; there is a high positive and significant relationship between job rotation and service delivery in academic libraries in Imo State; and there is a moderate positive and significant relationship between library tours and service delivery in academic libraries in Imo State.

Mbagwu and Udo-Anyanwu (2022) investigated staff development training and job satisfaction of academic librarians of tertiary institutions in Imo State. It was guided by five (5) objectives of the study. A descriptive survey was used for the study. The findings clearly indicated that; the academic librarians are not satisfied with their jobs; different staff training programmes

enable academic librarians to perform better, effective and efficient in their job places and that job satisfaction among academic staff is achieved when there is good salary, promotion, staff development, attendance to conferences/ seminars/ workshops, good mentoring, in-service training and staff orientation.

Ijeh, Dosa and Akinwole (2024) explored staff training and development among librarians in academic libraries in Ondo State. The study adopted descriptive survey research design. The population of this study consisted of sixty-one (61) librarians. Findings revealed that all the librarians have participated in formal education as well as continuing education programmes followed by ICT training in the library since commencement of work in the libraries; that all of them have positive attitude to training and development programmes while financial constraint, denial of promotion after completion of staff development programme among others are the prevalent factors affecting training and development programmes among the staff.

Agada and Tofi (2020) investigated the influence of work environment and training on job performance of library personnel in university libraries in Nasarawa State. Two (2) specific objectives with corresponding research questions guided the study and Two (2) hypotheses were formulated and tested at 0.05 level of significance. The study adopted a survey research design and was carried out in Nasarawa State, Nigeria. Findings of the study revealed that, work environment and training have significant influence on job performance of library personnel in university libraries in Nasarawa State.

Research Methodology

The research design chosen for this study was correlational research design. The population of the study comprised of 110 academic librarians in academic libraries in Benue State. The breakdown shows that there are: Rev. Fr. Moses Orshio Adasu University (MOAUM) Library (22), Jospeh Sarwuan Tarka University (30), University of Mkar (5), Federal University of Health Science, Otukpo (20), College of Education, Katsina-Ala (7), College of Education, Oju (5), Benue State Polytechnic, Ugbokolo (4), Gboko Polytechnic (8) Akperan Orshi College of Agriculture, Yandev (4) and Akawe Torkula Polytechnic, Makurdi (5) . The sample size for the study consisted of 110. Census sampling technique was adopted. This method was considered appropriate because the population size was relatively small and manageable. The study utilized two instruments titled: the Human Resource Development Questionnaire (HRDQ) and the Job Performance Questionnaire (JPQ). The data were analyzed Pearson Product Moment Correlation Coefficient (PPMC) while Linear regression analysis was employed to test the research hypotheses at the 0.05 level of significance.

Result

Research Question 1: What is the relationship between staff trainings and job performance of academic librarians in academic libraries in the study area?

Table 1: Correlation Coefficient of the Relationship between Staff Trainings and Job Performance of Academic Librarians in Academic Libraries in the Study Area

		Staff trainings	Task Performance	Contextual Performance	Adaptive Performance
Staff trainings	Pearson Correlation				
	Sig. (2-tailed)				
	N	110			
Task Performance	Pearson Correlation	.211*			
	Sig. (2-tailed)	.027			
	N	110	110		
Contextual Performance	Pearson Correlation	-.074	.380**		
	Sig. (2-tailed)	.441	.000		
	N	110	110	110	
Adaptive Performance	Pearson Correlation	-.119	.147	.271**	
	Sig. (2-tailed)	.216	.124	.004	
	N	110	110	110	110

Table 1 shows the correlation coefficient results on the relationship between staff trainings and job performance of academic librarians in academic libraries in the study area. The Pearson correlation value between staff trainings and task performance is r = .211, with a significance level of p = .027, which is less than the alpha level of 0.05. This indicates a weak positive relationship between staff trainings and task performance, implying that as academic librarians undergo training, their ability to perform core job tasks improves modestly. However, the correlation between staff trainings and contextual performance is *r* = –.074 with a significance value of p = .441, which is not significant. This suggests no meaningful relationship between staff trainings and librarians' contextual performance, such as interpersonal relations and extra-role behaviours. Similarly, the correlation between staff trainings and adaptive performance is *r* = –.119, with a p-value of .216, which is also not statistically significant. This implies that staff trainings do not significantly influence academic librarians' ability to adapt to change or new technologies in the workplace.

Research Question 2: What is the relationship between in-house training and job performanceof academic librarians in academic libraries in the study area?

Table 2: Correlation Coefficient of the Relationship between in-house Training and Job Performance of Academic Librarians in Academic Libraries in the Study Area

		In-house training	Task Performance	Contextual Performance	Adaptive Performance
In-house training	Pearson Correlation				
	Sig. (2-tailed)				
	N	110			
Task Performance	Pearson Correlation	-.029			
	Sig. (2-tailed)	.760			
	N	110	110		
Contextual Performance	Pearson Correlation	-.028	.380**		
	Sig. (2-tailed)	.768	.000		
	N	110	110	110	
Adaptive Performance	Pearson Correlation	.020	.147	.271**	
	Sig. (2-tailed)	.834	.124	.004	
	N	110	110	110	110

Table 2 shows the correlation coefficient results on the relationship between in-house training and job performance of academic librarians in academic libraries in the study area. The Pearson correlation coefficient between in-house training and task performance is $r = –.029$, with a p-value of .760, which is not significant at the 0.05 level. This indicates no meaningful relationship between in-house training and librarians' ability to perform routine job tasks. Similarly, the correlation between in-house training and contextual performance is $r = –.028$, with a p-value of .768, also showing no significant relationship, implying that in-house training does not influence librarians' interpersonal, organizational, or extra-role behaviours. However, the correlation between in-house training and adaptive performance is $r = .020$, with a p-value of .834, which again is not statistically significant. This suggests that in-house training has no significant effect on librarians' capacity to adapt to change, new technologies, or dynamic work environments. Overall, the result implies that in-house training, as currently implemented in the academic libraries in the study area, does not significantly contribute to any dimension of job performance. This highlights the need to reassess and restructure in-house training programmes to better align with job performance objectives, making them more relevant, engaging, and targeted toward enhancing task efficiency, contextual competence, and adaptability among academic librarians.

Hypothesis 1: There is no significant relationship between staff trainings and job performance of academic librarians in academic libraries in the study area

Table 3: Linear Regression Analysis showing relationship between staff trainings and job performance of academic librarians in academic libraries

Variables	R	R^2	Df	F	β	T	Sig.	Decision
Job Performance	.777	.603	108	164.226		2.996	.003	Significant
Staff trainings					.777	12.815	.000	

Table 3 shows the results of the linear regression analysis testing Hypothesis 1, which states that there is no significant relationship between staff trainings and job performance of academic librarians in academic libraries in the study area. The analysis yielded an R of 0.777 and an R^2 of 0.603, indicating that approximately 60.3% of the variance in job performance is explained by staff trainings. The F-value of 164.226 (df = 108) is statistically significant (Sig. = 0.003), and the beta coefficient (β) for staff trainings is 0.777 with a t-value of 12.815 ($p < 0.001$), leading to the rejection of the null hypothesis. This implies that staff trainings have a significant positive effect on the job performance of academic librarians.

Hypothesis 2: There is no significant relationship between in-house training and job performance of academic librarians in academic libraries in the study area

Table 4: Linear Regression Analysis showing **relationship between in-house training and job performance of academic librarians in academic libraries**

Variables	R	R^2	Df	F	β	T	Sig.	Decision
Job Performance	.605	.366	108	62.416		2.598	.011	Significant
In-house training					.605	7.900	.000	

Table 4 presents the test for Hypothesis 2, which posits no significant relationship between in-house training and job performance. The model shows an R of 0.605 and R^2 of 0.366, indicating that 36.6% of the variation in job performance is accounted for by in-house training. The F-value is 62.416 with a significance level of 0.011, and the β coefficient of 0.605 ($t = 7.900$, $p < 0.001$) is significant. Thus, the null hypothesis is rejected, confirming that in-house training significantly influences job performance.

Discussion of Findings

The study found that staff trainings significantly and positively influence the job performance of academic librarians. This means that librarians who regularly participate in staff training activities tend to perform better in their roles, exhibiting improved skills, efficiency, and adaptability in their job tasks. This finding aligns with Adeyemi (2017), who reported that continuous professional development through staff trainings improves employee productivity by enhancing their competence and confidence. The finding also aligns with that of Okafor (2019) who found that training programs that focus on relevant skills development positively affect staff efficiency and motivation in academic institutions. These studies highlight that regular exposure

to training creates an enabling environment for librarians to stay current with best practices, fostering higher job performance. The justification for this significant effect also lies in the fact that staff training addresses the gap between existing skills and evolving job requirements.

The study revealed that in-house training significantly impacts the job performance of academic librarians. Eze (2018) supports this finding by emphasizing that in-house training fosters a deeper understanding of organizational procedures and culture, which external training programs might not cover thoroughly. By training staff internally, academic libraries can ensure consistency in service standards and promote a shared vision among employees, leading to enhanced coordination and performance. In-house training also facilitates immediate feedback and peer learning, creating a collaborative work environment that encourages continuous improvement. Furthermore, in-house training is often more cost-effective and flexible, allowing for frequent updates and quick adaptation to changes in library services and technologies. This convenience and relevance increase participation rates and the practical application of newly acquired skills, which ultimately reflects in improved job outcomes. The tailored nature of in-house training ensures that academic librarians develop competencies aligned with their institution's strategic objectives, thus enhancing overall organizational effectiveness.

Conclusion

Based on the findings, it was concluded that staff training and in-house training, both have significant positive relationship with job performance of academic librarians in Benue State. This suggests that when librarians are provided with relevant training opportunities, especially those conducted within their institutions, their skills, efficiency, and overall performance improve notably. This may be attributed to the fact that training equips librarians with up-to-date knowledge, practical skills, and confidence required to effectively manage modern library tasks and technological demands. In-house training, in particular, tends to be more context-specific and directly aligned with institutional needs, enabling librarians to address real-time challenges within their work environment.

Recommendations

Based on the findings, it was concluded that:

1. Library Management should organize regular, targeted staff training workshops and seminars that focus on current library practices, emerging technologies, and professional skills development to boost job performance.
2. Library administrators should institutionalize well-structured in-house training sessions by leveraging internal expertise and experience to ensure continuous professional development among library staff.

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AN ASSESSMET OF INSTITUTIONAL READINESS FOR ENHANCED SERVICE QUALITY: A CASE STUDY OF FEDERAL UNIVERSITY LIBRARIES, IN NORTHEAST, NIGERIA.

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Abstract
This study examined institutional readiness and service quality in Federal University Libraries in Northeast Nigeria. The study is guided by two objectives and two research questions, the study assessed the level of institutional readiness and the quality of services provided. The study is anchored on the Resource-Based View (RBV) Theory by (Barney, 1991) a correlational research design was adopted. The population comprised 2,141 participants, including 57 librarians and 325 registered users across three federal university libraries. Data were collected using a self-designed questionnaire and analyzed with descriptive statistics (frequency counts, percentages, means, and standard deviations). Findings revealed that while institutional readiness demonstrated strengths in repository support, interlibrary collaboration, and conducive reading spaces, it showed gaps in modern ICT infrastructure and funding. Service quality was rated generally high, with cleanliness, respect for users, staff responsiveness, professionalism, and timely service ranked positively. The study recommends enhanced financial support through increased budget allocations for infrastructure and resource acquisition, strengthened by strategic funding proposals and oversight. Additionally, libraries should collaborate with ICT departments to invest in advanced technologies, ensuring reliable internet and modern digital systems to improve access to electronic resources and sustain high-quality services.
Keywords: Institutional Readiness, Service Quality, Academic Libraries, Federal Universities, Northeast Nigeria.

Introduction

Libraries serve as the intellectual hub of universities, providing essential resources and services to support teaching, learning, and research. They act as gateway to knowledge, deliver timely, relevant, and high-quality information services to meet the evolving academic and informational needs of students, faculty, and researchers. The effectiveness of academic libraries is increasingly evaluated by the quality of their services rather than merely the size of their collections (Fitzgerald & Eustis, 2023). Beyond acquiring and organizing books, journals, and digital

materials, academic libraries offer specialized services, including reference assistance, information literacy instruction, and interlibrary loans, which define the quality of services they provide. To justify the quality of their services, they need to delivery their services at no cost, efficiently, effectively and timely, with users' satisfaction being their focus. (Ifijeh & Yusuf, 2020).

Institutional readiness is not a static attribute but a dynamic state that evolves with technological advancements and shifts in educational paradigms (Chiparausha & Topodzi, 2020; Lewitzky, 2020; Mishra, Manglam, & Moita, 2021). It requires continuous assessment and strategic planning to ensure libraries remain relevant and capable of meeting the diverse needs of their academic communities. The success of library service delivery is directly tied to the institution's ability to align its resources, policies, and human capital with its educational and research objectives.

Librarians, as the human interface of the library, play a pivotal role in shaping user experiences through their attitudes, responsiveness, and willingness to assist. Positive attitudes enhance service efficiency and foster empathetic interactions, while institutional readiness, through resource availability, strategic planning, and administrative support, provides the backbone for effective service delivery. The synergy of these elements determines whether library services are perceived as reliable, responsive, and efficient by users. Libraries with robust infrastructure, supportive policies, and motivated librarians are better positioned to meet user expectations, while deficiencies in any of these areas can hinder service quality.

Statement of the Problem

In an ideal academic library setting, high service quality is achieved through the seamless alignment of institutional readiness, professional librarian attitudes, and efficient service delivery systems. Libraries are expected to provide accessible, user-centered services supported by well-trained staff, adequate infrastructure, current technologies, and responsive policies. When these conditions are met, the result is high user satisfaction, improved research productivity, and an enhanced teaching and learning environment. Institutional readiness reflected in funding, infrastructure, staffing, and policy support forms the foundational capacity for delivering consistent and high-quality library services.

Despite the evident link between institutional readiness, and service quality, there remains a significant research gap, especially within the Northeast Nigeria. Few empirical studies have holistically examined these interrelated variables within federal university libraries in Northeast Nigeria. Therefore, this study seeks to fill this gap by investigating how examine the institutional readiness influence library service quality in Federal University libraries, in Northeast, Nigeria.

Objectives of the Study

The objectives of the study were to:

1. examine the level of institutional readiness in federal university libraries in Northeast Nigeria.
2. determine the level of service quality in Federal University libraries, in Northeast, Nigeria.

Research Questions

To achieve the set research objectives, the following research questions were answered in this study:

1. What is the level of institutional readiness in Federal University Libraries in Northeast Nigeria?
2. What is the level of library service quality in Federal University Libraries in Northeast Nigeria?

Review of related Literature

Theoretical Framework

This study was anchored on two interrelated theories: Resource-Based View (RBV) Theory and SERVQUAL Model of Service Quality. Together, these theories provide a comprehensive framework for understanding the relationship between institutional readiness, and library service quality.

Resource-Based View (RBV) Theory

The Resource-Based View (RBV), introduced by Barney (1991), provides a strategic framework for understanding how organizations achieve and sustain competitive advantage through the effective deployment of internal resources. According to RBV, it is not merely the external environment but rather the unique combination of internal assets—tangible and intangible—that determines an institution's success. These resources include physical infrastructure, human capabilities, institutional processes, technology, and intellectual capital. When such resources are valuable, rare, inimitable, and non-substitutable (VRIN), they become the foundation for superior organizational performance.

In the context of academic libraries, the RBV offers a powerful lens through which the variables of institutional readiness, attitude of librarians, service delivery, and service quality can be examined. Here, institutional readiness represents the quality and sufficiency of internal library resources such as funding, facilities, digital infrastructure, staff competencies, and administrative support systems. A library well-endowed with these resources is better positioned to deliver high-quality, responsive, and innovative services. Thus, institutional readiness acts as a foundational platform upon which library service excellence is built (Barney, 1991).

According to Barney, 1991 the attitude of librarians is also recognized as a critical internal resource within the RBV framework. This encompasses the motivation, professionalism, commitment, and adaptability of the human resource component. Librarians who are proactive, engaged, and service-oriented contribute significantly to the quality of user experiences. Their responsiveness to user needs, willingness to innovate, and positive interpersonal behavior form part of the intangible assets that differentiate a high-performing library from a poorly functioning one. Therefore, librarian attitude is not just an individual trait but a strategic asset that directly influences service delivery outcomes.

Service delivery, as operationalized in this study, refers to the actual process and manner in which library services are provided-whether digital or in-person. From an RBV standpoint, this process is shaped by the institution's ability to marshal its internal resources (readiness and human attitude) effectively. Efficient service delivery cannot be divorced from the resources enabling it; a library that lacks current databases, trained personnel, or responsive systems cannot provide quality services, regardless of its service intentions (Barney, 1991).

Ultimately, service quality the dependent variable in this study is a reflection of how well an academic library utilizes its internal resources to meet or exceed user expectations. RBV by Barney (1991) supports the idea that superior service quality is not accidental but stems from

strategic alignment of resources, people, and processes. The framework thus explains the direct and indirect pathways through which institutional readiness and librarian attitudes affect the overall effectiveness of service delivery and user satisfaction.

Institutional Readiness- involves having adequate funding, up-to-date facilities, trained personnel, access to modern information and communication technologies (ICTs), and supportive administrative structures that enable efficient and high-quality service provision to users. Institutional readiness is the sufficient budget**,** adequate personnel, suitable infrastructure, adequate technology and equipment to support its services. Institutional readiness refers to the extent to which an organization such as a university library possesses the necessary resources, infrastructure, policies, skills, technology, leadership, and organizational culture to effectively implement and sustain new initiatives, programmes, or services (Weiner, 2009).

As pointed out by Ifijeh and Yusuf (2020), where there is no strong institutional readiness, university libraries may not be able to meet changing needs of students, lecturers, and researchers, especially in the rapidly evolving digital environment. Therefore, institutional readiness is a critical key to achieve high levels of service quality, positive librarian attitude, and library service delivery. Readiness of an institution is a factor of an institution's willingness and ability to well implement, sustain, and aid new change, services, or initiatives. To university libraries, it encompasses available resources required, the competence of staff, strength of the technical infrastructure, available enabling policies, and the open culture towards improvement and innovation (Weiner, 2009).

Hafez, (2020) revealed that In academic libraries, institutional preparedness is a key driver of service quality and effectiveness. It determines the extent to which libraries are able to keep up with evolving information environments, meet the needs of their users, and advance the academic agenda of their universities. University library users comprise the students, lecturers, researchers and other professionals and scholars who need current and up-to-date information resources in different formats that will enable them carry out their assignments, research and other day-to day decisions in different areas of work. To fulfil their mandate effectively, libraries do seek software applications, deploy technological utilities to facilitate and enhance services. Technology applications exponentially improve libraries' effectiveness and efficiency, provided such library could afford the infrastructure and resources required. Therefore, the emergence of digital technologies applications and devices are removing the physical barriers thereby turn the library space into an intelligent space.

Library Service Quality- is the extent to which a library's services meet or exceed the expectations and needs of its users. This is manifested in efficient, reliable, and user-centered access to information resources, research support, and learning facilities. It encompasses how well the library performs across key areas such as resource availability, responsiveness of staff, technological support, information literacy instruction, and overall user satisfaction (Parasuraman, Zeithaml, & Berry, 1988; Hernon & Altman, 2010).

According to Taomi (2016) service quality refers to the diverse range of relevant and up-to-date resources, well-maintained and easily accessible to meet the needs of diverse user groups. Over the years, those writing on the literature of library and information science (LIS) about service quality have defined it differently. Different authors have stressed the importance of developing and maintaining quality collections, have equated effectiveness (the extent to which goals and

objectives are set and met) with quality, and also looked at quality from the organizational perspective-that of the academic library or the parent college or university

According to Landrum et al. (2018) Assessment of library service quality has been based mainly on its collection size and the availability of required resources; however, these are no longer applicable as they might be lagging indicators and do not consider user satisfaction as an input to the assessment. Therefore, to assess the service quality of an academic library, user satisfaction and expectation should be considered and used as an input. SERVQUAL is a customer- or user-based tool to measure service quality, developed by Landrum et al. (2018).

Summary of Literature Reviewed and Uniqueness of the Study

The Review of literature on institutional readiness, a study of Chiparausha and Topodzi, 2020; Lewitzky, 2020; Grammenis and Mourikis (2020); Pathak and Babu, (2023) have agreed that policies related to budget allocation, resource acquisition, open access initiatives, and digital preservation are critical to ensuring that libraries have the resources and flexibility needed to respond to changing academic needs. Library service quality, a study of Fitzgerald & Eustis, 2023; Nutefall et al., (2021), revealed that implementation of automated systems, streamlined workflows, and responsive customer service practices are all strategies that can significantly improve service efficiency.

The study is unique in the fact that a study of Madu (2017), on Institutional readiness and application of web 2.0 tools for information service provision in university libraries., and that of Noorafrooz and Shahid (2020), who carry out a study on assessment of electronic readiness in university libraries: An exploratory model., also Wagayan and Vega (2015) Carryout a study on "The Readiness of a State College for the Establishment of a Digital Library., Masion, and Diaz (2024) also Carried out a research work on The Influence of Service Quality of Public Libraries on the Library User's Engagement. Gathoni and Walt (2016) also carried out a research work on evaluating library service quality at the Aga Khan University library: Application of a total quality management approach while this study was conducted to assess institutional readiness for service quality in North East Federal University Libraries, Nigeria. The scope of this study was also unique in the sense that the previous study of Wisdom et al., (2019), who carried out a study, in three selected universities in Osun State, the selected universities are Obafemi Awolowo University IleIfe, Osun State University, Oshogbo and Redeemers University Ede. Nigeria, and that of Yusuf et al., (2021) which was conducted in Federal Universities in South West Nigeria, a relevant study of Farah (2013) also conducted a research study in garissa provincial in Library University of Nairobi, Kenya. , and also UKAEGBU (2020), carried out a study in Donald Ekong Library of the University of Port Harcourt Nigeria., another research carried out by Cristobal (2018) in Cagayan Philippines. While this study was conducted in three (3) North East Federal University Libraries, Nigeria.

Research Methodology

This study employed a correlational research design to examine the influence of institutional readiness, on the quality of library services in federal university libraries in Northeast Nigeria. According to Curtis, Comiskey, and Dempsey (2016), a correlational research design involves analyzing relationships between variables without manipulating them, enabling researchers to identify patterns, associations, and relationships, thus providing valuable insights into the phenomenon under investigation. Questionnaire were used for data collection, while

Descriptive statistics, including frequency counts, percentages, mean scores, and standard deviations, were used to address all research questions by describing the data and identifying patterns of alignment or divergence among respondents.

The study population comprised 2,141 librarians and library users. This included 57 librarians, with 26 from Federal University Kashere in Gombe State, 24 from Federal University Gashua in Yobe State, and 7 from Federal University of health Sciences Azare in Bauchi State. Additionally, there were 2,084 registered library users, of whom 1,238 were from Federal University Gashua, Yobe State, 516 from Federal University Kashere, Gombe State, and 330 from federal university of health science Azare, Bauchi state.

The study utilized two sets of questionnaires. The first, titled Institutional Readiness (IR) Questionnaire (IRQL) for Librarians, was designed for librarians and consisted of four sections labeled A, B, C, and D. Section A addressed demographic information with 14 items, Section B focused on Institutional Readiness (IR) with 8 items. This questionnaire was used to collect data using a 5-point Likert scale: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5). The second questionnaire, titled the Service Quality (SQ) and Questionnaire (SQ) for Library Users, was designed for library users and comprised two sections. Section A focused on demographic information with 8 items, Section B covered library service quality with 8 items. This questionnaire also employed a 5-point Likert scale (Strongly Disagree [1], Disagree [2], Neutral [3], Agree [4], Strongly Agree [5]). Both questionnaires were validated by research experts to ensure they accurately measured the intended constructs. Validation was critical to enhancing the reliability and credibility of the research findings. Descriptive statistics, including frequency counts, percentages, mean scores, and standard deviations, were used to address all research questions by describing the data and identifying patterns of alignment or divergence among respondents.

Data Presentation

Table 2: Demographic Information of the Respondents

Category	Subcategory	Freq.	%
University	Federal University Gashua (FUG)	22	41.5%
	Federal University of Health Sciences, Azare (FUHSA)	7	13.2%
	Federal University Kashere (FUK)	23	43.4%
	Gombe State University (GUG)	1	1.9%
Gender	Male	33	62.3%
	Female	20	37.7%
Years of Working Experience	1–5 years	26	49.1%
	6–10 years	17	32.1%
	11–15 years	4	7.5%
	Above 20 years	6	11.3%
Highest Qualification	Doctorate degree	2	3.8%
	Master degree	15	28.3%
	Bachelor degree	33	62.3%
	Diploma	3	5.7%

Source: Field Survey, 2025

Institutional Readiness in Federal University libraries, Northeast Nigeria

S/N	Statements	SDA Freq(%)	DA Freq(%)	NE Freq(%)	AG Freq(%)	SAG Freq(%)	Mean	Std.D
1	The library receives adequate funding to regularly acquire current books, journals, and digital resources for user needs.	5 (9.4)	3 (5.7)	14 (26.4)	19 (35.8)	12 (22.6)	3.57	1.185
2	The physical infrastructure of the library (furniture, lighting, space, etc.) is conducive for reading and research.	3 (5.7)	1 (1.9)	13 (24.5)	26 (49.1)	10 (18.9)	3.74	0.984
3	The library is equipped with reliable internet for accessing electronic databases and online services.	3 (5.7)	1 (1.9)	13 (24.5)	26 (49.1)	10 (18.9)	3.74	0.984
4	The library is equipped with computer systems for accessing electronic databases and online services.	3 (5.7)	7 (13.2)	10 (18.9)	22 (41.5)	11 (20.8)	3.58	1.134
5	The collection is regularly updated to reflect current academic and research trends in various disciplines.	2 (3.8)	3 (5.7)	15 (28.3)	25 (47.2)	8 (15.1)	3.64	0.942
6	Power supply in the library is stable and supported by backup systems (generators, inverters, or solar).	3 (5.7)	0(0)	14 (26.4)	29 (54.7)	7 (13.2)	3.70	0.911
7	A Library Management System (LMS) is in use and supports cataloguing, circulation, and user communication effectively.	2 (3.8)	5 (9.4)	9 (17.0)	26 (49.1)	11 (20.8)	3.74	1.022
8	The library staff possess the professional and technical skills needed to deliver high-quality services.	4 (7.5)	1 (1.9)	16 (30.2)	17 (32.1)	15 (28.3)	3.72	1.133

Source*:* Field Survey, 2025; **Scale**: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5); Decision Rule (DR); **Mean score** ($\bar{x}$), Standard Deviation (Std**Library Service**

Quality (LSQ)

S/N	Statements Describing Library Service Quality	Very Low (f/%)	Low (f/%)	Moderate (f/%)	High (f/%)	Very High (f/%)	$\bar{X}$	Std.D
1	Cleanliness, comfort, and conduciveness of the library for learning	3 (1.1%)	7 (2.6%)	34 (12.5%)	103 (38.0%)	124 (45.8%)	4.25	0.853
2	Availability of modern facilities and technology to support service delivery	6 (2.2%)	12 (4.4%)	50 (18.5%)	105 (38.7%)	98 (36.2%)	4.02	0.962
3	Consistency of service availability during official hours	5 (1.8%)	4 (1.5%)	35 (12.9%)	119 (43.9%)	108 (39.9%)	4.18	0.849
4	Timeliness and efficiency in delivering requested information and services	5 (1.8%)	8 (3.0%)	37 (13.7%)	109 (40.2%)	112 (41.3%)	4.16	0.900
5	Promptness of staff in responding to user inquiries	0 (0.0%)	9 (3.3%)	32 (11.8%)	117 (43.2%)	113 (41.7%)	4.23	0.785
6	Regular updates on new library services/resources	4 (1.5%)	15 (5.5%)	48 (17.7%)	106 (39.1%)	98 (36.2%)	4.03	0.946
7	Librarians' professionalism and competence	3 (1.1%)	7 (2.6%)	34 (12.5%)	126 (46.5%)	101 (37.3%)	4.16	0.823
8	Users' confidence and security in library services	3 (1.1%)	13 (4.8%)	28 (10.3%)	121 (44.6%)	106 (39.1%)	4.16	0.874
9	Staff concern and interest in meeting users' needs	3 (1.1%)	8 (3.0%)	36 (13.3%)	120 (44.3%)	104 (38.4%)	4.16	0.844
10	Users are treated with fairness and respect at all times	5 (1.8%)	8 (3.0%)	29 (10.7%)	103 (38.0%)	126 (46.5%)	4.24	0.894

Source: Field Survey, 2025; **Scale**: Very Low (1), Low (2), Moderate (3), High (4), Very High (5); Decision Rule (DR); **Mean score** ($\bar{x}$), Standard Deviation (Std.D)

Conclusion

The study is carried out on institutional readiness, librarians' and service quality in Federal University Libraries in Northeast Nigeria provides significant discovery about the factors shaping effective library services. The findings confirm that. Institutional readiness, characterized by robust infrastructure, internet access, and staff competence, significantly predicts service delivery, explaining 61.1% of its variance, though funding remains a moderate constraint.

Recommendations

1. University management and government funding agencies should enhance financial

support for Federal University libraries in Northeast Nigeria by prioritizing budget allocations for resource acquisition and infrastructure development, achieved through strategic funding proposals and rigorous financial oversight, to strengthen institutional readiness and support robust service delivery.

2. Library management, in collaboration with university ICT departments, should invest in advanced information and communication technology infrastructure, ensuring reliable internet and modern computer systems through consistent procurement and maintenance schedules, to address technological limitations and enhance access to digital resources.
3. University administration should implement sustainable power solutions, such as solar panels or backup generators, by partnering with energy providers and establishing maintenance protocols, to ensure uninterrupted library operations and mitigate disruptions to service delivery.

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AWARENESS AND ADOPTION OF LEARNING MANAGEMENT SYSTEM AMONG LIBRARIANS FOR TEACHING LIBRARY INSTRUCTION IN SELECTED UNIVERSITIES IN NORTH -EAST, NIGERIA

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Abstract
This study investigates awareness and adoption of learning management systems (LMS) among librarians for teaching library instruction in selected Universities in North-East, Nigeria. Three (3) research questions form the basis of the study while one was tested at 0.05 level of significance. A descriptive survey design was adopted for the study. The population of this study consisted of all the 294 library personnel in selected universities in the North-East, Nigeria. Total enumeration technique was adopted with the use of 294 library personnel while questionnaire was used as the instrument for data collection. Data were analysed using IBM Statistical Product for Service solution version 23 (IBM SPSS v 26), descriptive statistics (to run frequency count and percentages) and inferential statistics such as Pearson's Product Moment Correlation (PPMC). The findings of the study revealed that, despite a high level of awareness about LMS and its potential benefits, the actual adoption rates of LMS remains relatively low, indicating the need to improve. The study concludes that while awareness is not an issue, overcoming the identified obstacles is crucial for increasing LMS adoption. Recommendations include; providing comprehensive training and that, the Institutions should continue to raise more awareness about LMS through targeted communication strategies.
Keywords: Awareness, Adoption, Learning Management System, Librarians and Library Instruction

Introduction

Information and Communication Technologies (ICTs) have ushered in a transformative era, revolutionizing nearly every aspect of modern society. Once center of traditional knowledge preservation and dissemination, libraries has found themselves at the forefront of this digital transformation, necessitating a fundamental shift in their operations, services and activities (Ikenwe & Udem, 2022). In the pre-digital era, libraries were primarily focused on managing physical collections of books, journals and other printed materials. Their core operations revolved around acquiring, cataloguing and circulating these tangible resources within the confines of their physical spaces (Loganathan & Rao, 2020).

Library instruction, user education, bibliographic instruction and information literacy are

alternative terms which describe the same basic concepts. Face-to-face instruction requires physical attendance which could be challenging for learners with conflicting schedules, geographical constraints or mobility issues. Tomaszewski (2021) while effective in their own right, these methods were often limited in terms of reach, flexibility and accessibility for learners. Additionally, these sessions were typically one-time occurrences, making it difficult for learners to revisit and reinforce the concepts covered at their own pace or convenience. Moreover, Goedhart et al. (2019) stressed that, the traditional classroom-based approach often followed a one-size-fits-all model, failing to accommodate individual learners' diverse learning styles, preferences and paces. Library instruction has become increasingly crucial in equipping users to locate, evaluate and effectively utilize digital information resources. The emergence of learning management systems (LMS) has become a game-changer.

A learning management system is a software application used to manage and deliver educational courses and content to learners via internet connectivity. Learning Management Systems (LMS) is a hallmark of modern educational practices, providing extensive features and capabilities to improve the teaching and learning experience. Chahal and Patel (2021) defined LMS as software applications designed to facilitate the administration, delivery and management of educational courses, programs and training in a virtual environment. Bradley (2021) stressed that, LMS platforms provide a centralized space where librarians and instructors can create and organize course materials, distribute assignments, facilitate discussions and assess learner progress. Furthermore, Lee (2021) affirmed that, learning management system facilitates seamless content management, enabling instructors to curate and deliver diverse educational resources, from textual documents to multimedia presentations and interactive materials, Moreover, learning management system platforms streamline assessment and grading processes, providing instructors with tools for creating quizzes, tests and assignments alongside features for automated grading and feedback provision (Bradley, 2021).

Awareness is very vital in LMS adoption, If stakeholders such as; instructors, librarians and administrators are unaware of the existence, capabilities and potential benefits of LMS, the adoption process may be hindered. Raising awareness through professional development, workshops and sharing of best practices can help create more insight about the benefits of using LMS software, thus the need to adopt it. Olatunji and Akinsulire (2023) assert that, awareness is a critical factor in adopting LMS in the library instruction. Librarians must be aware of LMS's existence, capabilities and potential benefits for library instruction. Pinamang et al. (2018) said, lack of awareness can hinder adoption as stakeholders may need to recognize the need or opportunity for incorporating LMS into their instructional practices.

Adoption of LMS in library instruction has several advantages over traditional face-to-face methods. It has yielded a host of benefits for libraries; LMS facilitates information literacy teaching through interactive modules and tutorials, empowering patrons with critical thinking, research skills and digital literacy which are essential in today's digital age. Negi and Ghildiyal (2024) stressed that LMS expands access to educational resources, catering diverse learning needs and preferences by offering remote access to courses and materials. Al-Rawashd et al. (2021) opined that, LMS allows for greater flexibility and accessibility, allowing learners to access instructional materials and conveniently engage in self-paced learning. LMS facilitate the integration of multimedia content, interactive quizzes and collaborative activities, enhancing engagement and promoting active learning (Bradley, 2021).

Notably, the selected universities in the North-Eastern Nigeria possess the necessary infrastructure and resources to support the adoption of LMS for online delivery of library

instruction. However, despite having the requisite technological capabilities, these resources still need to be utilized and the adoption of LMS for library instruction needs to be addressed.

Statement of the Problem

Academic libraries are under growing pressure to modify their services and instructional offerings to suit the changing needs of learners in the 21st century, as we enter the digital transformation era. Integrating technology-enhanced learning platforms such as; learning management systems (LMS) which has now become vital for providing, engaging, easily available and personalized for library Instruction. However, despite the potential benefits of LMS in enhancing library instruction, the awareness, adoption and effective implementation of these systems in academic libraries particularly in the context of North-Eastern Nigeria remains a significant challenge. The paucity of research investigating the awareness and adoption of LMS for library instruction is a significant gap that hinders understanding the factors influencing the successful integration of the LMS platforms. While LMS has gained widespread adoption in various educational sectors, their implementation in library instruction programs has received limited attention from researchers and practitioners alike.

Research Questions

The study covered the following research questions:

1. What is the level of awareness of learning management systems among librarians for teaching library instruction in selected universities in North-east Nigeria?
2. What is the extent of adoption of learning management systems among librarians for teaching library instruction in selected universities in North-east Nigeria
3. What is the relationship between awareness and adoption of learning management systems among librarians for teaching library instruction in selected universities in North-east Nigeria?

Hypothesis

H01: There is no significant relationship between awareness and adoption of learning management systems for library Instruction in the selected universities in North-east Nigeria

Review of Related Literature

Awareness is often the first step in technology adoption process. Awareness of LMS refers to the extent to which librarians are knowledgeable about the existence, functionality and potential of LMS tools in enhancing their teaching practices. Without awareness, the likelihood of adopting any technology, including LMS, remains minimal (Varajão, Carvalho, Silva & Pereira, 2022). Awareness is a fundamental stage in the Innovation-Decision Process outlined by Rogers (2003) in his Diffusion of Innovations theory. According to Rogers, the process of innovation adoption begins with awareness, where potential adopters learn about the existence and functionality of an innovation before moving to later stages of persuasion, decision, implementation and confirmation. Saibakumo (2021) investigated the awareness and acceptance of emerging technologies for extended information service delivery in academic libraries in Nigeria which shows Librarian's level of awareness about the emerging technologies found useful in academic libraries was found to be very high. This is probably because librarians are widely read, they are research focused and have been involved in several conferences discussing emerging technologies. Access to publications about emerging technologies and the recent deliberations about the subject matter on all library and information science platforms may necessitate this high level of

awareness. Amongst librarians from Nigeria, there was a high level (74%) of awareness of the various emerging technologies and their significance for academic libraries.

The adoption of learning management systems has been a topic of interest in various educational settings. Many universities around the world and Nigeria in particular have incorporated LMS into their educational systems due to its advantages in teaching and learning (Olatubosun, Olusoga, & Samuel, 2015; Nicholas-Omoregbe, Azeta, Chiazor, & Omoregbe, 2017). According to Edutechnica (2018), Blackboard has the largest market share (31.4%, 1,129 institutions), according to the number of institutions adopting LMS. Second and third place went to Canvas (24.9%, 893 institutions) and Moodle (18%, 644 institutions), respectively. D2L (398 institutions, 11.1%), Sakai (96 institutions, 2.8%), and Pearson (45 institutions, 1.3%) were next in line. Blackboard also exhibited the highest market share in terms of student enrollments (35.99%, 6,987,086 student users). In second and third place, respectively, were Canvas (29.46%, 5,718,857 student users), Moodle (12.74%, 2,454,441 student users), D2L (2,317,030 student users, 11.93%), Sakai (666,356 student users, 3.43%), Pearson (86,298 student users, 0.44%), and ANGEL (3,222 student users, 0.02%).In the study of (De Olivier et al., 2016), it was found out that frequency of LMS use by Instructors varies. The purpose of LMS use by the lecturers also varies. It was specifically found out that some of the educators use LMS as assessment tool. In terms of frequency of use, a significant number of the lecturers use it twice a week while high number of the respondents indicated that they have been using LMS for course delivery for couple of years. Some of them also indicate that they use it once or twice a year.

Research Methodology

The study utilizes a descriptive survey design and this is because it is concerned with sampling peoples' opinions, beliefs, feelings, attitudes, behaviour and ideas. Self-design structured questionnaire was used to collect data. Descriptive statistics of frequency count and percentages were used to analyze the collected data and present result in table. Additionally, inferential statistics was employed to examine the relationships between the variables and to test the study hypotheses.

Table 1: Population of the Study

	Name of Libraries	State	Ownership	Number of Library Professionals
1	University of Maiduguri Library	Borno	Public	66
2	Gombe State University Library	Gombe	Public	25
3	Bauchi State University Library	Bauchi	Public	30
4	Federal University Kasheri	Gombe	Public	26
5	Taraba State University	Taraba	Public	24
6	Abubakar Tafawa Balewa University	Bauchi	Public	37
7	Federal University Gashua	Yobe	Public	25
8	Adamawa State University	Adamawa	Public	36
9	Modibbo Adama University of Technology	Adamawa	Public	25
	Total			**294**

Sources: Staff list of the University Libraries, 2024

No sampling technique was chosen for this study, this is because the total population of library professionals in the selected Universities is small and therefore total enumeration sampling technique was employed in order to allow all the targeted population to participate in the study. Canonizado (2021) total enumeration sampling is used when the entire population is small and shares well-defined features, as using only a fraction of it may not measure what is desired, it can eliminate any possible bias that can arise from the sampling technique.

Data Analysis and Interpretation

The data was collected using Google Forms which allowed for efficient distribution and collection of responses from respondents across the selected universities. Out of the 294 expected responses from the survey conducted using Google Forms, 231 (78.6%) respondents completed and submitted the questionnaire that are found usable for the study.

Table 2: Level of Awareness of LMS for Teaching Library Instructions among Librarians in Selected Universities in North-East Nigeria

(N=231)

	Awareness of LMS for Teaching Library Instructions	Level of Agreement (%)					$\bar{x}$	S.D
		NA	MA	A	PA	HA		
1.	I am aware of the various Learning Management Systems available for library instruction	1.7	6.1	11.7	25.1	55.4	4.26	1.00
2.	I am aware of the features and capabilities of the LMS used in my institution.	3.0	4.3	16.9	47.6	28.1	3.94	0.95
3.	I am aware of the benefits of using LMS for enhancing library instruction.	3.0	4.3	23.4	32.0	37.2	3.96	1.03
4.	I am aware of the training programs available for learning how to use LMS.	3.9	3.5	18.6	37.2	36.8	4.00	1.02
5.	I am aware of the technical support available for resolving LMS-related issues	4.3	5.6	20.8	30.3	39.0	3.94	1.10
6.	I am aware of how to access and utilize LMS resources for library instruction.	3.0	3.9	19.0	38.1	35.9	4.00	0.99
7.	I am aware of the integration of LMS with other library systems and resources.	2.2	5.2	22.9	39.0	30.7	3.91	0.98
8.	I am aware of the security and privacy features of the LMS used in my institution.	4.3	3.9	22.1	31.6	38.1	3.95	1.07
9.	I am aware of the costs associated with implementing and maintaining LMS.	5.2	3.9	19.9	34.6	36.4	3.93	1.09
10.	I am aware of the potential impact of LMS on improving library instruction.	3.0	2.6	22.1	35.9	36.4	4.00	0.98
Weighted Mean:					**3.99**			

Source: Field Survey 2024

Keys: NA= Not Aware, **MA**= Moderately Aware, **A**= Aware, **PA**= Partially Aware, **HA**= Highly Aware

Table 2 presents the respondents' level of awareness regarding various aspects of Learning Management Systems (LMS) for teaching library instructions. The responses are categorized into Not Aware (NA), Moderately Aware (MA), Aware (A), Partially Aware (PA), and Highly Aware (HA), with corresponding percentages and mean scores (M) and standard deviations (S.D). The highest awareness is in understanding the benefits of using LMS for enhancing library instruction ($\bar{x}$=4.26) and knowing how to access and utilize LMS resources ($\bar{x}$=4.00). This suggests that respondents recognize the advantages and know how to use LMS effectively. Awareness of the features and capabilities of the LMS used in their institutions ($\bar{x}$=3.94) and available technical support ($\bar{x}$=3.94) is somewhat lower, indicating room for improvement in these areas. Awareness of training programs ($\bar{x}$=4.00) and integration with other library systems ($\bar{x}$=3.91) shows a moderate level of awareness, but there is potential for increasing familiarity with these aspects. Awareness of security and privacy features ($\bar{x}$=3.95) and the costs associated with LMS ($\bar{x}$=3.93) varies, highlighting a need for more detailed information and communication in these areas.

Table 3: Extent of Adoption of LMS for Teaching Library Instructions among Librarians in Selected Universities in North-East Nigeria

(N=231)

Extent of Adoption of LMS for teaching Library Instructions	Level of Agreement (%)					$\bar{x}$	S.D
	VLE	LE	ME	HE	VHE		
1. I regularly use LMS to deliver library instruction.	13.9	58.0	13.9	9.1	5.2	2.34	1.00
2. My institution has fully integrated LMS into the library instruction curriculum.	40.7	28.1	17.7	9.5	3.9	2.08	1.14
3. I incorporate LMS features such as quizzes, assignments, and forums in my teaching.	32.5	35.5	18.2	9.5	4.3	2.18	1.11
4. LMS is an essential part of my daily teaching practices.	35.1	37.7	15.2	7.4	4.8	2.09	1.11
5. I use LMS to track and assess student progress in library instruction.	35.9	35.5	15.6	9.5	3.5	2.09	1.10
6. I frequently update and maintain the content on the LMS for my courses.	38.1	38.1	10.8	9.1	3.9	2.03	1.10
7. My students actively use the LMS for their library instruction activities.	37.2	36.8	12.1	8.2	5.6	2.08	1.15
8. The use of LMS is encouraged and supported by my institution.	36.8	35.5	13.9	7.4	6.5	2.11	1.17
9. I receive adequate support from my institution to use LMS effectively.	42.0	34.2	9.5	7.8	6.5	2.03	1.19
10. I collaborate with other librarians and educators using LMS for library instruction.	41.6	35.5	10.4	8.2	4.3	1.98	1.12
Weighted Mean:			**2.10**				

Source: Field Survey 2024

Keys: VLE= Very Low Extent; **LE**= Low Extent; **ME**= Moderate Extent; **HE**= High Extent; **VHE**= Very High Extent

Table 3 reveals the extent of adoption of LMS for teaching Library Instructions in selected

universities in North-East Nigeria. The survey results indicate a generally low extent of Learning Management System (LMS) adoption among librarians in selected universities in North-East Nigeria. Librarians' regular use of LMS to deliver library instruction is limited, with a mean of ($\bar{x}$ =2.34). Furthermore, the integration of LMS into the library instruction curriculum is minimal, as reflected by a mean of ($\bar{x}$ = 2.08). Incorporation of LMS features such as quizzes, assignments, and forums is similarly limited ($\bar{x}$ =2.18). Daily use of LMS is not common among librarians ($\bar{x}$ = 2.09). The practice of using LMS to track and assess student progress is also infrequent ($\bar{x}$ = 2.09). Frequent updating and maintaining of LMS content is rare among respondents ($\bar{x}$ = 2.03). Student engagement with LMS for library instruction activities is low ($\bar{x}$ = 2.08). Institutional support and encouragement for LMS use are perceived as inadequate ($\bar{x}$ = 2.11). Adequate support from institutions for effective LMS use is lacking ($\bar{x}$ = 2.03). Finally, collaboration using LMS with other librarians and educators is very low ($\bar{x}$ = 1.98). This suggests a lack of collaborative efforts in using LMS for library instruction.

Table 4: Relationship between Awareness and Adoption of LMS for Library Instructions in Selected Universities in North-East Nigeria

Variables	Mean	Std. Deviation	N	r	p.value	Remark
Awareness	3.9887	.73742	231	-.024	.718	Not Sig
Adoption of LMS	2.1004	.92912				

Table 4 reveals the relationship between awareness and the adoption of Learning Management Systems (LMS) for library instructions in selected universities in North-East Nigeria. The mean score for awareness is 3.99, with a standard deviation of 0.74, based on responses from 231 participants. This indicates a high level of awareness about LMS among the librarians surveyed. The mean score for the adoption of LMS is 2.10, with a standard deviation of 0.93. This shows a lower level of LMS adoption compared to the awareness of it.

The Pearson correlation coefficient (r) between awareness and the adoption of LMS is -0.024. This negative correlation is very weak and statistically insignificant, with a p-value of 0.718. The p-value exceeds the common significance threshold of 0.05, indicating that the relationship between awareness and adoption is not statistically significant.

The results suggest that there is no significant relationship between awareness and the adoption of LMS for library instructions among the surveyed librarians. Despite high levels of awareness (3.99), this does not appear to translate into higher levels of LMS adoption (2.10). The very weak and insignificant negative correlation ($r = -0.024$, $p = 0.718$) implies that other factors may play a more crucial role in influencing the adoption of LMS rather than simply being aware of it. This suggests that the correlation between awareness and adoption of LMS is not statistically significant at the conventional significance level of 0.01. Therefore, the null hypothesis that states there is no significant relationship between awareness and adoption of LMS for library instructions in selected universities in North-East Nigeria is accepted.

Discussion of the Findings

The study reveals a high level of awareness among librarians and stakeholders regarding adopting of LMS among librarians for library instruction. This awareness spans various aspects

such as; LMS's availability, features and the potential benefits they offer. However, while many respondents are aware of LMS in a general sense, there needs to be more specific areas, such as understanding technical support and cost implications. This is in tandem with the findings of (Saibakumo, 2021) who reported a very high awareness of emerging technologies among Nigerian librarians, attributed to their research focus and conference participation. The study findings suggest that while there is a general understanding of LMS and its potential applications in library instruction, there is still considerable room for improvement. The fact that most respondents have received formal training on using LMS is encouraging and indicates efforts to increase awareness and competence.

Despite the high awareness levels, the study reveals a relatively low extent of LMS adoption for library instruction in the selected universities. This low adoption rate is evident in both the frequency of LMS use and the extent of its integration into library instruction practices. Most respondent's reports using LMS rarely or never, only a small percentage using it regularly to deliver library instruction. Only few respondents indicate that their institutions fully integrated LMS into the library instruction curriculum. This suggests that while recognizing its potential benefit, LMS has yet to become a standard tool for library instruction practices in these universities. This contradicts the findings of (Olatubosun et al., 2015) who reported a widespread adoption of LMSs in Nigerian universities driven by teaching and learning advantages.

The study's finding of no significant relationship between awareness of LMS and its adoption among librarians for library Instruction is surprising and insightful. This result challenges the often-held assumption that increasing awareness automatically leads to increased adoption of technological tools. This lack of correlation between awareness and adoption is particularly noteworthy given the moderate levels of awareness reported and the relatively low adoption rates.

Conclusion

The findings of the study revealed that, despite the high level of awareness about LMS and its potential benefits, actual adoption rates of LMS remains relatively low, indicating need for improvement due to various challenges. The findings indicate that while many librarians know the different LMS options and their features, this awareness only translates into positive perceptions or increased adoption. Therefore, while awareness of LMS is high among librarians in North-East Nigeria, overcoming the challenges and barriers to adoption requires concerted efforts from both the institutions and the stakeholders.

Recommendations

The following recommendations were made in line with the findings:

1. While awareness alone is not sufficient, it is still necessary. Institutions should continue to raise awareness about LMS through targeted communication strategies, highlighting success stories and demonstrating the tangible benefits of LMS for library instruction.
2. The institutions should develop and implement extensive training programs that go beyond basic functionality of LMS. These programs should address the specific needs of library instruction, covering advanced LMS features and best practices for integrating LMS into daily activities. Continuous support through help desks, peer mentoring and regular workshops should also be provided to ensure sustained competency that will give room for

LMS adoption.

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INFLUENCE OF INSECURITY ON ICT-BASED LIBRARY SERVICE IN TERTIARY INSTITUTIONS IN ADAMAWA STATE, NIGERIA

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Abstract
This study examined the impact of insecurity on ICT-based library services in tertiary institutions in Adamawa State. Four objectives guided the study. The study answered four research questions and tested two null hypotheses. Data were collected using a self-designed questionnaire administered to 37 library staff members selected from four tertiary institutions through stratified random sampling. Descriptive statistics (mean and standard deviation) were used to analyze the data, while regression analysis was used to test the null hypotheses. The findings include the following: Physical threats, viruses, and cybercrime had mean ratings between 3.54 and 3.65, indicating a 'Very High Security Threat. 'Ransom and malware threats had mean ratings of 2.63 and 2.75, indicating a 'High Security Threat.'; The overall impact of insecurity on ICT-based library services in tertiary institutions was rated at a high extent (mean = 3.00, SD = 0.88);There was a positive moderate relationship between insecurity and the reliability of ICT-based library services (correlation coefficient r = 0.63), and a significant relationship was found between insecurity and reliability; There was a positive high relationship between insecurity and confidence in ICT-based services (correlation coefficient r = 0.69), and this relationship was found to be significant in Adamawa State libraries; and The study recommended that library staff increase efforts to protect against security threats, especially those from human sources such as strangers using the libraries, by enhancing security vigilance.
Keywords: Influence; Insecurity; ICT-Based Library Services; Tertiary Institutions; Adamawa State.

Introduction

Libraries across the globe are solemnly accountable for maintaining information resources in terms of preserving traditions and the transition of culture and history from one era to another. They provide people with valuable information and knowledge that is always needed by the user community to make progress or gain information that could enable them to change their understanding of a particular phenomenon. Libraries have historically been repositories of preserved history books, manuscripts, newspapers, and other documents. Throughout the course of the last 50 years, libraries have grown to be the best information providers that do not involve a building (Ogunsola, 2011). This is not unconnected to the introduction of ICT into the information industry, where the disadvantaged countries can have free access to the flow of information without restrictions.

The growing information explosion experienced as a result of the introduction of information and communication technology (ICT) for the generation of relevant information, processing, and dissemination, libraries are being seen as growing organisms (Segun, Adedeji, &

Bonnell, 2016). Today, library staff can no longer use the conventional method of acquiring and organizing information resources and be able to keep the user community up-to-date and timely. This is because the emergence of technological development in information management has changed library operations from the manual to the ICT-driven method, since the laborious and stressful human involvement in service production cannot yield any fruitful service that guarantees adequate and sound information that is capable of moving a nation forward.

The goals of tertiary education, along with their libraries as enunciated, are crucial for national development. However, safety and criminal reduction in public libraries and information centers, particularly in academic institutions, are some of the most critical activities that deter or inhibit librarians from providing the users' information needs. The vulnerabilities of security in libraries in higher institutions have obstructed the collection and arrangement of sources of information to the extent that users of libraries often find it difficult to access the necessary details of the required information. However, Boulton (2017) holds the view that, aside from all the usefulness and effectiveness of ICT-driven library services, they always struggle with the menace of security threats to a high extent, adding that issues of cybercrime, data breaches, physical threats, denial-of-service (DoS) attacks, etc., cause more damage to ICT-based library services if adopted.

While emphasizing the reliability of ICT-based library services, Ajie (2019) reiterated that there can never be another source of information generation that will provide the users with quality and reliable information from their sources. They further suggested that academic and research libraries should not relent in embracing ICT-based library services for timely, exhaustive, and accurate facts and figures to help researchers accomplish their tasks easily. In a separate remark, Oyedokun, Oyewumi, Akanbi, and Laaro (2018), while suggesting the required levels of ICT literacy that library staff should possess for library service to flow, noted that there will be total assurance of timely, quality, and reliable information for the user community. According to them, with a little literacy from the users, library staff will have little stress from continuous consultations for more information from the users.

Lamenting the ability to bring about confidencein the use of ICT-based library services by patrons, libraries are now using information and communication technologies for book and serial acquisitions, money transition, classification and cataloging, reference services, user orientation services, circulation services, interlibrary loans, document services, electronic content, e-mail and chat assistance, Web 2.0 interactive sharing, bibliographic services, and photocopy services. These opportunities not only enable libraries to provide quick information to users but also ensure trust in use by the users and build their confidence in accessing the right information. They equally revealed that the internet was the greatest wonder of the century. That, with the availability of e-mail and internet facilities in academic libraries, offers a wide range of access to information globally without geographical barriers and in a timely manner. Similarly, Nneka, Pauline, Chioma, and Chioma (2018) noted that many modern libraries have adopted various ICTs in managing library services and activities. These include the use of integrated library management software (ILMS), CD-ROMs, networks, the internet, the Online Public Access Catalog (OPAC), online resources such as electronic journals, databases, online libraries, etc.

In view of the above assertions, Ajie (2019) revealed that ICT-based library services are the best for academic libraries but require proper concentration and care to avoid failure, which will lead to data loss or corruption that can have an adverse effect on the information system. Accidental data loss or corruption can occur due to hardware or software failures, power outages, natural disasters, or human errors. These breaches can result in data loss, reputational damage,

and legal implications, and are very bad signals for information centers. It is the above threats that prompted the need to ascertain the influence of insecurity on ICT-based library service in tertiary institutions' libraries in Adamawa State.

Statement of the Problem

The introduction of ICT into the library circle is the greatest development ever made toward ensuring fairness and equity in information resource sharing around the world. This singular development has made developing countries to have access to information just like the developed nations, especially among tertiary institutions of the world. In recognition of this development, tertiary institutions have been struggling with the application of ICT to obtain information for the past decades, including Adamawa State, as a result of security threats to both the physical infrastructures and the distraction of the system that leads to improper malfunction. As it is now, using the ICT for library services in Adamawa State tertiary institutional libraries is more of a glorified manual library service system.

The worry is that, if such infrastructures put in place are not made useful in generating the right information for the user community, students and lecturers may not have the current and adequate information resources for their programmes, and that will affect the products of such schools, especially in this competitive world where expertise is highly needed for employment. It is on these premises that this study tried to ascertain whether insecurity is the predictable variable responsible for the underutilization of ICT-based library services in tertiary institutional libraries in Adamawa State.

Objectives of the Study

The general objective of the study is to assess the influence of insecurity on ICT in tertiary institutions in Adamawa State, Nigeria, while the specific objectives were to:

1. determine the specific type of insecurity that has the most significant impact on ICT-based library services in libraries in tertiary institutions in Adamawa State.
2. determine the extent to which insecurity affects the utilization of ICT-based library services in tertiary institutions in Adamawa State.
3. examine the impact of insecurity on the reliability of ICT-based library services in tertiary institutions in Adamawa State.
4. determine the impact of insecurity on user confidence in ICT-based library service in libraries in tertiary institutions in Adamawa State.

Research Questions

The following research questions were used in the study:

1. What are the specific types of security threats that have the most significant impact on ICT-based library services in tertiary institutions in Adamawa State?
2. To what extent does insecurity affect the utilization of ICT-based library services in tertiary institutions in Adamawa State?
3. What is the relationship between insecurity and reliability in ICT-based library services in tertiary institutions in Adamawa State?
4. What is the relationship between insecurity and confidence in ICT-based services in tertiary institutions in Adamawa State?

Hypotheses

The following null hypotheses were used:

Ho1. There is no significant relationship between insecurity and the reliability of ICT-based library services in tertiary institutions in Adamawa State.

Ho2. There is no significant relationship between insecurity and confidence in ICT-based services in libraries in tertiary institutions in Adamawa State.

Review of related Literature

With adequate ICT facilities and other peripherals, according to Nkanu, Iyishu, and Ogar (2011), there will be encouraging efforts made for university libraries to provide academic information. However, information and communication technology-based library services are confronted with so many security threats that if not properly addressed, users might not be proud of their emergence in the library as a tool for information generation, storage, and dissemination. Studies conducted by Etse and Boateng (2019) and Ozavize and Bedo (2020) found that digital collections such as online databases, archives, and libraries are vulnerable to various cyber security threats resulting from data breaches in academic libraries and can have significant consequences, particularly in developing countries.

Similarly, Boulton (2017) noted that infections emanating from viruses, worms, and ransom ware can infect digital collections. Malicious software can damage or corrupt data, disrupt operations, or compromise the integrity and availability of the collection. Consequently, a study conducted by Boulton (2019) found that the worst of all threats to ICT-based libraries is the physical threat, where individuals within an organization or institution abuse their authorized access to digital collections. This could be employees, contractors, or volunteers who intentionally or unintentionally misuse or leak sensitive information. Insider threats pose a significant risk due to their proximity to the data and systems.

A study carried out by Nneka, Pauline, Chioma, and Chioma (2018) reveals that the extent to which insecurity can cause a threat to ICT-based library services is enormous. They noted that a number of ICT facilities can be physically vandalized to such a high extent that even library staff and users cannot see the physical facilities, regardless of having the means to use them for sourcing information. They also noted that the extent of the threat does not mean that the materials are readily available and packed in the store, but making them accessible to serve the purpose for which they were meant to achieve is more important. Similarly, Onuoha, Charis, Anyanwu, and Amaechi (2015) noted that, as of the time they were carrying out their research, it was revealed that library software, the Machine Readable Catalog (MARC), the Online Public Access Catalogue (OPAC), internet facilities, and network facilities were not functional in some of the university libraries due to virus infection. In the same view, Okoro et al. (2014) reveal that computers and their accessories can be harmed at any time in the library's effort to use ICT for library operations. They further enumerated some of the implications of not having an effective ICT-based library service, including distortion of services as a result of cybercrime activities.

Prior to the emergence of ICT and its subsequent deployment and utilization in libraries, according to Essien et al. (2022), the traditional provision of library services was a time-consuming enterprise enmeshed in a web of repetitive and drab functional processes. However, the adoption and application of information and communication technology have made the provision of library services more efficient and convenient. The main aim of libraries is to provide services that satisfy user needs and wants. Thus, the incorporation of ICT into library services provides libraries with a great opportunity to be more efficient in their service for the maximum satisfaction of information

needs by library users. Similarly, studies from Anyim (2018) have shown that the adoption of information and communication technology (ICTs) in the routines of the 21st century of academic library services has a positive impact on library processes. This has made information storage, retrieval, cataloging, classification, serial control, exchange of materials, administrative activities such as budgeting, and even security to be carried out efficiently, thereby leading to fundamental improvements in the overall functioning of libraries. Islam and Islam (2020) stated that this shift is very important, especially for an academic library, which must act in tandem with library users, who, along with the rest of the world, live in virtual realities where library services are required online in real time on the web and are not affected by the traditional opening and closing hours of the physical library.

Research Methodology

A descriptive research design was used for the study. A total of ninety-five (95) library staff from the four selected tertiary institution libraries in Adamawa State were used as the targeted population of the study, with a sample size of thirty-seven (37)—that is, fifteen (15) professional and twenty-two (22) paraprofessional staff using the stratified random sampling technique. A self-designed questionnaire was the main instrument used for data collection, where descriptive statistics of mean and standard deviation were used to answer research questions, and the inferential statistics of regression analysis were used to test the null hypothesis. Decisions are taken at a mean score of 2.50; that is, anything below 2.50 is negative and above is positive for the research questions, while for hypotheses, the relationship is said to be high when the [r] ranges from 0.50 and above, and the null hypothesis will be rejected.

Data Analysis and Presentation

Out of the thirty-seven (37) respondents studied, State Polytechnic had 15 (40.5%), College of Agriculture Ganye 10 (27%), and College of Education Hong 6 (16.2%), with Legal Studies Yola 6 (16.2%). It also shows that 22 (59.5%) were male and 15 (40.5%) were female. Also, out of the 15 (40.1%) professional staff, 5 (13.5%) were MLS holders, 10 (27%) were BLS holders, and the remaining 22 (59.5%) were paraprofessionals.

Research Question One: What are the specific types of security threats that have a significant impact on ICT-based library services in tertiary institutions in Adamawa State?

Table 1: A mean and standard deviation of the specific types of security threats that have significant impact on ICT-based library services in tertiary institutions

S/n	Specific ICT Based Library Services Security Threats	N	Mean	Std	Rank	Dec
1	Physical threats that destroy or vandalize ICT facilities, e.g., men and animals	37	3.65	.76	1st	VHST
2	Mal Waves that hinder opening a page online	37	2.63	.59	5th	HST
3	Data breaches distort the flow of information.	37	2.34	.82	6th	LST
4	Virus that corrupts packages or programs	37	3.56	.57	2nd	VHST
5	Ransom waves that cause unnecessary charges	37	2.75	.73	4th	HST
6	Cybercrime that can deny users accessing their records	37	3.54	.65	3ed	VHST
	Cluster Mean	**37**	**3.10**	**.69**		**HST**

VHST = Very High Security Threat, HST = High Security Threat, LST = Low Security Threat

Table 1 above reveals that the ICT based library services suffer from a lot of security threats. The results indicate the mean rate that physical threats, viruses, and cybercrime have the mean range between 3.54 and 3.65, indicating "very "high security threats," while ransom ware and malware have a mean rating of 2.63 and 2.75, indicating "high "security threats," with only data breaches that had a mean rating of 2.34. However, the clusters mean 3.10 ±.69 suggest that insecurity has a significant impact on ICT based library services at high security threat in tertiary institutions in Adamawa State. The standard deviation scores that range from.82 to.57 show high response dispersion among the security threats in the ICT-based library services in tertiary institutions in Adamawa State.

Research Question Two: To what extent does insecurity affect ICT-based library services in tertiary institutions in Adamawa State?

Table 1: A mean and Standard Deviation of the *extent does Insecurity affect ICT-based* *Library Services in Tertiary Institutions in Adamawa State*

S/n	Extent to which insecurit y can affect ICT -based library services	N	Mean	Std	Rank	Dec
1	Physical threats cause detractions and canalize ICT facilities.	37	3.52	.98	2nd	VHE
2	Data breaches affect access to complete information.	37	3.56	.50	1st	VHE
3	A Mal wave distorts the visib ility of ICT-based information resources.	37	2.37	.71	5th	LE
4	Cyber security threats, e.g., hacking, deny users access to their records.	37	2.67	.99	4th	HE
5	Ransom waves can cause users of ICT -based libraries to be forced to pay for information.	37	2.3595	.96	6th	LE
6	A virus such as a worm can eat up records on an ICT -based information system.	37	3.3514	.85	3rd	HE
	Cluster Mean	**37**	**3.00**	**.84**		**HE**

VHE= Very High Extent, HV= High Extent, LE= Low Extent

Table 2 shows the result of the extent to which insecurity affects ICT-based library services in tertiary institutions in Adamawa State. The result reveals that physical threats cause detractions and canalize ICT facilities and Data breaches affect access to complete information and affect ICT-based library services to a "very high extent." While cybercrime and viruses affect ICT-based library services to a high extent, and finally, mal waves and ransom waves affect ICT- based library services at a low extent. The clusters mean 3.00 ±.88 suggest that insecurity have significant impact on ICT based library services at a High Extent in tertiary institutions in Adamawa State. The standard deviation scores that range from .98 to .50 shows high response dispersion among the security threats in the ICT based library services.

Research Question Three: What is the relationship between insecurity and quality and reliability of ICT-based library services in libraries in tertiary institutions in Adamawa State?

Table 3: *Pearson's Correlation Analysis of the Relationship between* **Insecurity and Quality and Reliability of ICT-based library services in Adamawa State** *Tertiary Institutions.*

Variables	Mean	Std	N	R	r^2
Insecurity as threats	30.09	3.23	37	0.63	0.33
Quality and reliability of ICT based Library Services	35.12	4.32	37		

Std = Standard Deviation, n = Population size, r = Correlation Coefficient, r^2 = Coefficient of determination

Table 3 presents the result of the relationship between insecurity and quality and reliability in ICT based library services in tertiary institutions in Adamawa State. . It reveals that the correlation coefficient [r] is 0.63. This reveals that there is a positive moderate relationship between insecurity and insecurity and quality and reliability of ICT based library services in tertiary institutions. This result implies that have adequate security can contribute to insecurity and quality and reliability of ICT based library services in tertiary institutions' libraries. The table also reveals that the coefficient of determination [r^2] associated with the correlation coefficient [r] of 0.63 is .33. This result implies that 33% of adequate security provision could determine insecurity and quality and reliability of ICT based library services in tertiary institutions carried out in the libraries.

Ho_1: There is no significant relationship between Insecurity and Quality and Reliability of ICT based Library Services in Adamawa State Tertiary Institutions.

Table 4: *ANOVA on the Relationship between* **Insecurity and Quality and Reliability of ICT based Library Services in Tertiary Institutions in Adamawa State**

Model	Sum of Squares	Df	Mean Square	F	Sig	Decision
Regression	1343.231	1	1243.513	1142.612	0.00	Significant
Residual	2532.143	35	11.132			
Total	3965.674	37				

df = Degree of freedom, Sig = Level of Significance p 0.05, F = F-ratio

Table 4 shows that the obtained F-ratio 1142.612 is significant at the 0.00 level. The null hypothesis was rejected because 0.00 is less than the 0.05 level of significance set for the study. Therefore, it can be declared that a significant relationship exists between insecurity and quality and reliability of ICT based library services in\ Adamawa State.

Research Question 4: What is the relationship between insecurity and user trust and confidence in ICT based service in libraries in tertiary institutions in Adamawa State.

Table5: *Pearson's Correlation Analysis of the Relationship between* **Insecurity and user trust and confidence in ICT based library service in** *tertiary institutions libraries in* ***Adamawa State.***

Variables	Mean	Std	N	R	r^2
Insecurity	40.42	3.974	111	0.69	0.62
User trust and confidence 9n ICT based library service	38.52	4.76	109		

Std = Standard Deviation, N = Population size, r = Correlation Coefficient, R^2 = Coefficient of determination

Table 5 presents the result of the relationship between insecurity and user trust and confidence in ICT based service in tertiary institutions libraries in Adamawa State. It reveals that the correlation coefficient [r] is 0.69. This suggests that there is a positive high relationship between insecurity and user trust and confidence in ICT based service in Adamawa State carried out. This result implies that when there is adequate security it could improve user trust and confidence in ICT based library service in tertiary institutions libraries in Adamawa State. . It also indicates that the coefficient of determination [r^2] associated with the correlation coefficient [r] of 0.69 is .62. This result suggests that 62% of security provision can improve user trust and confidence in ICT based library service in tertiary institutions libraries in Adamawa State

Ho_2: There is no significant relationship between insecurity and user trust and confidence in ICT based service in libraries in tertiary institutions in Adamawa State.

Table 8: *ANOVA on the Relationship between insecurity and application in* ICT based library services *in tertiary institutions libraries in* Adamawa State.

Model	Sum of Squares	Df	Mean Square	F	Sig	Decision
Regression	4423.231	1	4432.654	421.421	0.00	Significant
Residual	6932.342	36	10.221			
Total	11355.573	37				

df = Degree of freedom, Sig = Level of Significance p 0.05, F = F-ratio

Table 6 shows that the obtained F-ratio 416.321is significant at the 0.00 level. The null hypothesis was rejected because 0.00 is less than the 0.05 level of significance set for the study Therefore, it can be inferred that a significant relationship exists between insecurity and user trust and confidence in ICT based service in libraries in tertiary institutions in Adamawa State.

Summary of Major Findings

Based on the outcome of the study on whether there is the influence of insecurity on ICT application for service in selected tertiary institutions in Adamawa State. The following are the major findings:

1. The results indicates the mean rate of physical threats, virus and cybercrime have the mean

range between 54 to 3.65 indicating a "Very High Security Threats" while ransom and malwares have a mean rating of 2.63 and 2.75 indicating a "High Security Threat" with only data breaches that had a mean rating of 2.34.

2. There is a significant i3.00 ±.88 impact insecurity on ICT based library services at a "High Extent in tertiary institutions in Adamawa State.
3. A there is a positive moderate relationship between insecurity and insecurity and quality and reliability of ICT based library services in tertiary institutions in Adamawa State since the correlation coefficient [r] is 0.63. A significant relationship exists between insecurity and quality and reliability of ICT based library services in\ Adamawa State
4. A positive high relationship between insecurity and user trust and confidence in ICT based service in Adamawa State since the correlation coefficient [r] is 0.69. A significant relationship exists between insecurity and user trust and confidence in ICT based service in libraries in tertiary institutions in Adamawa State.

Conclusion

Insecurity concerns are critical problems in Nigeria's modern education that have profoundly eaten into the marrow of mankind, and yet all attempts to address them have proved abortive. Instability and sustainability in higher education is a societal phenomenon that should not be taken for granted by stakeholders owing to its far-reaching effects and impacts on employment, the economy, and culture as a whole. Based on the findings as indicated above, it is hereby concluded that the Adamawa State government has done well in providing the required ICT facilities for effective service in its tertiary institutions. This is because there were adequate, the library staff's ICT literacy level is generally moderate but low functional ICT facilities in the libraries. The only enemy of progress recorded there is the issue of insecurity that led to the destruction of ICT-related faculties, which calls for immediate attention.

Recommendations

Based on the above findings, the following recommendations are worthy of consideration:

1. The library staff should add more effort on security threat protection strategies emanating from humans, especially strangers using the libraries, by improving more on security vigilance, etc.
2. The government, on the other part, should not relent effort in providing more and the latest ICT facilities to meet up with the global standard and should take it as an issue of insecurity considering the gravity of the effect of insecurity on both the facilities and service generation.
3. Government and other related agencies should not be tired of adding more efforts in educating both library users and library staff in order to achieve quality and reliable information service.
4. The management should ensure that user-friendly packages and accessories are acquired to bring about user trust and confidence in using the facilities.

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INFLUENCE OF INFORMATION LITERACY ON USE OF ELECTRONIC INFORMATION RESOURCES BY UNDERGRADUATES IN BENUE STATE UNIVERSITY LIBRARIES

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Abstract
The study investigated the influence of information literacy on the use of electronic information resources by undergraduate students in University Libraries in Benue State, Nigeria. Three objectives with corresponding research questions guided the study and two hypotheses were formulated and tested at 0.05 level of significance. The study adopted a descriptive survey research design. The target population for this study comprises 6,476 three hundred level undergraduate in the three University Libraries under study. ***The sample for the study was 377 undergraduate students who were selected using proportionate stratified random sampling technique.*** *The instrument for data collection is a self-developed structured questionnaire. The questionnaire was validated by three experts. The reliability of the questionnaire was established using Cronbach Alpha method and a reliability coefficient of 0.77 was obtained. Data collected was analyzed using Mean scores, Standard Deviation and Chi-Square Statistic. Findings revealed that tool and research literacy does not significantly influence the use of Electronic Information Resources and that the challenges affecting electronic information resources use by undergraduate students are erratic power supply, poor network, low bandwidth, lack of subscriptions in specific fields of interest, access password issues, lack of assistance from the librarians, inadequate computers in the library, negative attitudes of staff towards users, and lack of awareness about statutory provision for accessing. The study concluded that the information literacy taught to students has not benefited the students in usage of electronic information resources. It was recommended that University librarians need to re-evaluate their roles and be more active in the task of inculcating the contents of information literacy to students to be able to effectively retrieve and use electronic information resources.*

Keywords: Information Literacy, Electronic Information Resources, University Libraries, Undergraduate Students, Benue State, Nigeria

Introduction

Library as the heart of any institution is established to provide information resources and services to support academic activities of its patrons, such as students, teachers and other stakeholder in education sector. As the world is growing technologically, library operations in various locations in the world are no longer how they use to be. University libraries in developing countries like Nigeria since the beginning of the 21st century have started making efforts to metamorphose from being institutions driven by manual processes into modern ones where operations are in part or wholly dependent on Information and Communication Technology applications. An endless supply of information is continuously generated in university libraries and anyone can readily access it regardless of time and space, thanks to the rapid advancement of Information and Communication Technology in contemporary society.

Sustained advances in Information and Communication Technology (ICT) have significantly changed the way information is acquired, processed, stored, retrieved, and communicated in university libraries in Nigeria. Libraries are being automated and connected to the internet, in order to facilitate the process of retrieving and disseminating information that will enhance teaching, learning, research, and administrative work in universities.

Electronic Information Resources (EIR) are resources which are accessed through electronic system and computer network. Okoro (as cited in Ojobo, Tofi, & Tunde, 2020) viewed EIR as library materials produced in digital formats, such as e-journals, e-books, reference work published online and CD-ROM, bibliographic databases, and other web based resources. This view is shared by Shariful (2012), who sees EIR as those resources that deal with both born electronic and digitized materials which can be either accessible from library's in house databases or from the world –web-web. The born electronic materials includes: e-books, e-journals, e-magazine, e-projects, e-thesis, e-dissertations, e-reports, websites, WWW-resources, and other related materials which can be converting the materials formats into digital format". The EIR are made available in university libraries to assist users like undergraduates finding information relevant to their needs. These resources provide accurate and timely information, especially for students who depend greatly on the electronic sources for information to advance research and collaboration with other researchers around the world for intellectual growth. Information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. UNESCO (2010) defines information literacy as the set of skills, attitudes and knowledge necessary to know when information is needed to help solve a problem to make a decision, how to articulate that information need in searchable terms and language, then search efficiently for the information, retrieve, interpret and understand it, organize it, evaluate its credibility and authenticity, assess its relevance, communicate it to others if necessary, then utilize it to accomplish bottom-line purposes. Information literacy is much more than computer literacy, although having basic computer skills is an aspect of information literacy skills. Amalahu, Oluwasina, and Laoye (as cited in Omosebi & Omosebi, 2020) noted that information literacy encompass library literacy, computer literacy, research literacy, publishing literacy, and tool literacy. In this study, focus will be based on how tool literacy, research literacy and emerging technology literacy as contents/aspects of information literacy programme influence the use of Electronic Information Resources.

From the foregoing therefore, the complexity of electronic information resources which requires that one possesses information literacy may pose a great challenge to its effective utilization by undergraduates if they lack the skills required for its usage. In other words,

successful search and retrieval of electronic information could be dependent on one's level of information literacy skills. "Information literacy skills are imperative for accessing information in this generation of technology advancement that most of the information needed for research can be retrieved from electronic sources" (Adeleke & Emeahara, 2016). Students must show a tendency for lifelong learning by acquiring information literacy skills to contend with the rapid information growth in the information society and advance themselves. This is because students' efforts to complement their work with electronic information resources may be limited due to lack of information literacy skills since there is a positive correlation between both variables (Ekenna & Iyabo, 2013). Information literacy skills are basic in selecting and retrieving pertinent and current information in an online environment. Information literacy skills acquisition is absolutely essential in using online resources since most information is available in electronic format that could exclusively be used when students are information literate. These skills are compulsory due to the proliferation of electronic information resources as well as the numerous mediums of access and the different formats in which information is available.

Information literacy is essentially an indispensable skill for students. As technology is rapidly evolving and so is advancement in electronic information resources. As the use of electronic information resources continues to rise especially within Nigerian universities, undergraduates are expected to develop the required information literacy skills. In the fast-growing knowledge society, information literacy skills have become one of the most important skills for accessing electronic information resources. Assessing undergraduate student's usage of electronic information resources in the 21st century is a rapidly growing concern of researchers in institutions of higher education. If literacy librarians intend to remain relevant, they must demonstrate their contributions to the mission of the library by becoming involved in assessing the influence of information literacy carried out by the university libraries on undergraduate students' use of electronic information resources. It is the researcher's observation that the level of undergraduate students' literacy in the use of electronic resources in universities in Benue State is not encouraging with reference to their academic activities. It is against this backdrop that this study is conducted.

Statement of the Problem

The provision of electronic resources in university libraries no doubt has myriad advantages as it enables access to current information at the right time and in the right place and provides the opportunity to search several files at a time. It also presents a lot of challenges as it is computer-based and requires information literacy for searching, retrieval, and use. Undergraduate students on the other hand, are expected to know how to use the library and the available tools to retrieve any required information and to be able to carry out academic work with minimal assistance.

The researchers have observed that undergraduate students seem not to make use of the electronic information resources made available by university libraries. This may perhaps, be due to lack of the required necessary information retrieval skills to be able to use these resources. It is however known that such skills are taught to undergraduate students under information literacy as a general course by universities in order to acquaint them with knowledge to be able to use the library and the available tools to retrieve electronic information resources. The consequence of this scenario is that the university libraries' efforts in exposing students to information literacy programme to be able to efficiently use information resources for their academic work would be

futile if the students do not know how to retrieve these resources. This may lead to low library patronage and poor students' turnout in researches.

The need for this study therefore was prompted after discovering that most undergraduate students in universities in Benue State seem not to effectively use electric information resources for their academic work like term and/or seminar papers despite the fact that the University Libraries have made efforts to expose them to information literacy programme and subscribes to large quantity of electronic resources. It is against this back drop that the researcher sought to investigate how Information Literacy influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State, Nigeria.

Objectives of the Study

Specifically, the study sought to achieve the following:

1. Ascertain how tool literacy influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State
2. Determine how research literacy influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State
3. Determine the challenges affecting Electronic Information Resources use by undergraduate students in University Libraries in Benue State

Research Questions

The following research questions were raised to guide the study:

1. How does tool literacy influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State?
2. How does research literacy influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State?
3. What are the challenges affecting Electronic Information Resources use by undergraduate students in University Libraries in Benue State?

Hypotheses

The following hypotheses are formulated for the study and will be tested at 0.05 level of significance:

$H0_1$: Tool Literacy does not significantly influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State

$H0_2$: Research Literacy does not significantly influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State

Review of Related Literature

Odede and Zawedde (2018) carried out a study on Information Literacy Skills in using Electronic Information Resources. The findings of their studies revealed that the use of electronic information resources is determined by competency in the various dimensional constructs of information literacy. Findings further indicated that tool literacy, critical literacy, social-structural literacy, emerging technology literacy, and publishing literacy skills are required in using electronic information resources. The results suggest that there is a link between information literacy skills and the use of electronic information resources.

Momanyi et al. (2018) examined Information Literacy Programming, Students Skills and

Utilization of E-Resources at Maseno University, Kenya. The study established that the IL program was inadequate in some key components as user instructions, orientation, computer information literacy, and online databases. The findings further revealed that the content of the current implementation of IL training program has not benefited the students an indication that they did not learn IL skills for their use, proving that the program was not effective and there is need to have it improved in order to promote utilization of electronic information resources. It was also established that users were inadequately skilled for efficient utilization of e-books and there was dire need for information literacy training program to facilitate utilization of e-resources.

Ekong and Ekong (2018) conducted a study on the impact of Information Literacy Skills on the use of E-Library resources among tertiary institution students in Akwa Ibom State. The study revealed that the quality and volume of academic work is largely influenced by the knowledge and skills possessed in the use of e-library resources. The results of the study showed a significant effect of information literacy skills on the use of computer technologies. It was found that computer literacy (tool literacy) greatly influences use of e-resources however, many students could not utilize e-resources because of either low computer literacy skills or ignorance of their availability and relevance.

Ndagi and Madu (2018) examined the effect of information literacy skills on use of electronic library resources by lecturers in universities in North Central Nigeria. The study showed that the respondents possessed high levels of information literacy skills. Electronic resources such as e-journals, e-books, and internet resources were available in these institutions and highly utilized. Hypothesis tested revealed that there exists strong positive correlation between information literacy skills and utilization of electronic resources. It was also revealed descriptively that information literacy skills had great positive effect on the utilization of electronic resources.

Issa et al. (2009) conducted a study on the effects of Information Literacy Skills on the Use of E-Library Resources among Students of the University of Ilorin, Kwara State, Nigeria. The study found that most students were aware of the e-library resources but do not use them because they lack the skills. The study concluded that information literacy skills have not taken the desired firm root among University of Ilorin students.

Research Methodology

The study adopted a descriptive survey research design. The target population for this study comprises 6,476 three hundred level (300 level) library registered undergraduate in the three University Libraries under study. From this population, 3,429 were students from Benue State University Library, 2336 were from Joseph Sarwuan Tarka University and 711 from University of Mkar, Mkar. The sample size of 377 third year (300-level) students who are registered with the library in the three universities was used for the study. This sample size was determined using Taro Yamane formula. This study employed the use of questionnaire as the instrument for data collection. The instrument was subjected to face and content validation by two professionals of Library and Information Science, from Benue State University, Makurdi and one professional from Measurement and Evaluation, Department of Educational Foundations and General Studies (EFOGENS), Joseph Sarwuan Tarka University, Makurdi. To ascertain the reliability of the instrument, the instrument was administered to 40 undergraduate students from Federal University Lafia who were not part of the main study but considered to have similar characteristic with the subjects under study. Data obtained from the trial testing was subjected to reliability

analysis using Cronbach Alpha. The Cronbach Alpha method yielded a reliability coefficient of 0.77 for the questionnaire. Data collected were analyzed using Mean and Standard Deviation to answer the research questions and a non-parametric statistic of Chi-square goodness of fit to test the hypotheses at 0.05 level of significance.

Data Presentation

Research Question One: How does tool literacy influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State?

Table 1: Mean and Standard Deviation of how Tool Literacy Influence the Use of Electronic Information Resources by Undergraduate Students in University Libraries in Benue State

S/No	Items	Mean (X)	Std Dev.	Decision
	Through Tool Literacy, I have the ability to:			
1	Locate information in multiple online sources	2.72	1.01	Agree
2	Browse online databases to locate pertinent information	2.33	0.88	Disagree
3	Recognize different methods of accessing electronic information Resources	2.22	0.92	Disagree
4	Navigate from one link to another to retrieve e-resources	2.28	0.95	Disagree
5	Copy documents from web pages to Microsoft words	2.58	1.10	Agree
6	Retrieve information saved on CD -ROM, thanks to the knowledge of tool literacy	2.17	0.99	Disagree
	Grand Mean	**2.38**	**0.98**	**Disagree**

Table 1 shows how tool literacy influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State in Mean and Standard Deviations. From the Table 3 as presented, except for item 21 and 25 with mean values of 2.72 and 2.58 which are above the benchmark of 2.50, the respondents disagreed to other items with Mean values ranging from 2.17 – 2.33 which are below the benchmark of 2.50. The table further revealed a cluster Mean of 2.28 and SD = .98. With this cluster mean (2.38) which is below the benchmark of 2.50, it means that tool literacy does not positively influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State.

Research Question Two: How does research literacy influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State?

Table 2: Mean and Standard Deviation of how Research Literacy Influ#ence the Use of Electronic Information Resources by Undergraduate Students in University Libraries in Benue State

S/No	Items	Mean (X)	Std Dev.	Decision
	Through Research Literacy, I have ability to:			
7	Use different information retrieval tools to support my research	2.46	0.83	Disagree
8	Access different online information sources to update self with current academic trends	2.33	0.81	Disagree
9	Interpret primary liter ature retrieved from online sources	2.27	0.90	Disagree
10	Critically evaluate electronic information resources for my research work	2.25	0.92	Disagree
11	Navigate all formats of online publication fluently	2.31	0.99	Disagree
12	Communicate online retrie ved information effectively with others	2.50	0.87	Agree
	Grand Mean	**2.35**	**0.89**	**Disagree**

Table 2 shows how research literacy influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State in Mean and Standard Deviations. From the Table 4 as presented, except for item 32 with mean values of 2.50 which is equal to the benchmark of 2.50, the respondents disagreed to other items with Mean values ranging from 2.25 – 2.46 which are below the benchmark of 2.50. The table further revealed a cluster Mean of 2.28 and SD = .89. With this cluster mean (2.35) which is below the benchmark of 2.50, it means that research literacy does not positively influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State.

Research Question Three: What are the challenges affecting Electronic Information Resources use by undergraduate students in University Libraries in Benue State?

Table 3: Mean and Standard Deviation of the Challenges Affecting Electronic Information Resources use by Undergraduate students in University Libraries in Benue State

S/No	Challenges affecting reference services	Mean (X)	Standard Dev.	Decision
13	Erratic power supply	3.08	0.78	Agreed
14	Lack of information retrieval skills	3.32	1.01	Agreed
15	Poor network	3.43	0 .88	Agreed
16	Low bandwidth	3.52	0.92	Agreed
17	Lack of subscriptions in specific fields of interest	2.98	0.92	Agreed
18	Access password issues	2.77	1.10	Disagreed
19	Lack of assistance from the librarians	2.77	0.99	Agreed
20	Inadequate computers in the Library	2.81	0.88	Agreed
21	Negative attitudes of staff towards users	2.72	0.91	Agreed
22	Lack of user orientation/training	2.43	0.93	Disagreed
23	Lack of knowledge about electronic information resources	2.33	0.83	Disagreed
24	Non availability of required information	2.83	0.91	Agree
25	Lack of awareness about statutory provision for accessing e -resources by the university library	3.01	0.81	Agree

Table 3 shows the challenges affecting Electronic Information Resources use by undergraduate students in University Libraries in Benue State in Mean and Standard Deviations. From the table as presented, except for item 42 and 43 with mean values of 2.43 and 2.33, the respondents agreed to all the other items with mean values ranging from 2.77 – 3.52 as the challenges affecting Electronic Information Resources use by undergraduate students in University Libraries in Benue State

Hypothesis One: Tool Literacy does not significantly influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State

Table 4: ***Chi-Square test of significance of how Tool Literacy influence the Use of Electronic Information Resources by Undergraduate Students in University Libraries in Benue State***

Variables	N	Df	X^2cal	Sig	Alpha Level	Remark
Tool Literacy	319	3	43.550	.101	.05	Not Significant

Df = Degree of Freedom; X^2cal **= Chi-Square Calculated Value; Sig = P-Value**

Table 4 shows the Chi-square calculated value of 49.550, degree of freedom df =15 and a sig (P-value = 0.101) which is greater than the alpha value (α=.05). Since P>.05, the result is not significant, therefore the null hypothesis is accepted. This implied that, Tool Literacy does not significantly influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State

Hypothesis Two: Research Literacy does not significantly influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State

Table 5: Chi-Square test of significance of how Research Literacy influence the Use of Electronic Information Resources by Undergraduate Students in University Libraries in Benue State

Variables	N	Df	X^2cal	Sig	Alpha Level	Remark
Research Literacy	319	3	33.340	.071	.05	Not Significant

Df = Degree of Freedom; X^2cal **= Chi-Square Calculated Value; Sig = P-Value**

Table 5 shows the Chi-square calculated value of 33.340, degree of freedom df =15 and a sig (P-value=0.071) which is greater than the alpha value (α=.05). Since P>.05, the result is not significant, therefore the null hypothesis is accepted. This implied that, Research Literacy does not significantly influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State

Summary and Discussion of Findings

The following findings emanated from the study based on the research questions answered and the hypothesis tested

1. Tool literacy does not positively influence the use electronic information resources among undergraduate students in Universities in Benue State. Specifically, it does not help students to: browse online databases to locate pertinent information, recognize different methods of accessing electronic information resources, and navigate from one link to another to retrieve e-resources.
2. Research literacy does not positively influence the use electronic information resources among undergraduate students in Universities in Benue State. Specifically, it does not help undergraduate students to: access different online information sources to update self with current academic trends, interpret primary literature retrieved from online sources and critically evaluate electronic information resources for my research work.
3. The challenges affecting electronic information resources use by undergraduate students are erratic power supply, poor network, low bandwidth, lack of subscriptions in specific fields of interest among others.

The findings of the study revealed that tool literacy does not significantly influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State. This was evident in that the undergraduate students disagreed that tool literacy has instill in them the ability to: browse online databases to locate pertinent information, recognize different methods of accessing electronic information resources, navigate from one link to another to retrieve e-resources and retrieve information saved on CD-ROM, thanks to the knowledge of tool literacy.

Further, the findings of the study revealed that research literacy does not significantly influence the use of Electronic Information Resources by undergraduate students in University Libraries in Benue State. This was evident in that the undergraduate students disagreed that tool literacy has instill in them the ability to use different information retrieval tools to support my

research, access different online information sources to update self with current academic trends, interpret primary literature retrieved from online sources, critically evaluate electronic information resources for my research work and navigate all formats of online publication fluently.

Finally, the findings of the study revealed that the challenges affecting electronic information resources use by undergraduate students in university libraries in Benue State are erratic power supply, poor network, low bandwidth, lack of subscriptions in specific fields of interest, access password issues, among others.

The findings of this study are in agreement with Adeleke and Emeahara (2016), Ekenna and Iyabo (2013), and other related studies that stressed the importance of information literacy in accessing and using electronic resources.

Conclusion

Based on the study's findings, the researcher concluded that the information literacy programs taught to undergraduate students in universities in Benue State have not effectively equipped students to use electronic information resources. The evidence suggests that these students may have not sufficiently developed the necessary literacy skills from their exposure to information literacy instruction, highlighting the need for improvement in this area to enhance the use of electronic resources. While information literacy is intended to significantly impact the utilization of electronic information resources, many undergraduate students struggle to make use of these resources due to either limited computer literacy skills or a lack of awareness of their importance.

Recommendations

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

1. *University librarians need to re-evaluate their roles and be more active in the task of inculcating the contents of information literacy to undergraduate students to be able to effectively retrieve and use electronic information resources.*
2. The university management needs to improve the content of the information literacy programs in order to inculcate in the undergraduate students the wherewithal of getting relevant, adequate and up to-date information from the e-resources.
3. Library management needs to invest greatly on training librarians on information literacy skills to be able to effectively inculcate literacy in students.
4. There is the need for University management to promote the use of electronic information resources among undergraduate students by making Internet services accessible and affordable for the students
5. The University Management should ensure regular electricity supply as well as, power backup on campus and by extension the University library, so that these e-resources can be accessed.

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IMPACT OF ONLINE INFORMATION RESOURCES ON ACADEMIC PERFORMANCE OF UNDERGRADUATE STUDENTS IN UNIVERSITIES IN BENUE STATE, NIGERIA

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Abstract
The study investigated the impact of online information resources on academic performance of undergraduate students in universities in Benue State, Nigeria. Two research objectives and questions guided the study. The study adopted a descriptive survey research design. The population consisted of 7,177 registered undergraduate library users of Joseph Sarwuan Tarka University Makurdi (JOSTUM) and Rev. Fr. Moses Orshio Adasu University Makurdi (MOAUM). The sample size consisted of 359 respondents; represent 5% of the population. The sample size was selected using a multi-stage sampling procedure. Observation checklist and questionnaire were used as instruments for data collection. The questionnaire was trial tested on a sample of 20 undergraduate students of Nasarawa State University Keffi who were not part of the main sample but have characteristics and the overall coefficient of 0.92 was obtained. Data were analyzed using descriptive statistics of mean and standard deviation. The findings of the study showed that 281(80.43%) respondents said online information resources are available while 69(19.57%) said online information resources are not available in university libraries, all the identified online information resources were utilized by undergraduate students for their academic work, undergraduate students highly utilized online information resources for academic performance and utilization of online information resources has a high impact on academic performance.
Keywords: Online Information Resources, Academic Performance, Undergraduate Students Universities

Introduction

Online information resources refer to library's information materials which are in electronic form which include electronic books (e-books); electronic newspapers (e-newspapers); electronic journals (e-journals) as well as internet resources. They also consist of databases, magazines, archives, thesis, conference papers, government papers, scripts and monographs in an electronic form (Edem and Edem 2025). Online information resources are element of infrastructure that enables the transaction of certain selected significance and relevant data, prepared so as to provide content and information services that can be used directly by the users**.** Online information resources are resources that can be accessed through the internet-connected devices such as electronic journals (e-journals), electronic books (e-books), electronic dictionaries (e-dictionaries), animations, online databases, locally loaded databases, websites, CD-ROM, electronic text (e-text), electronic news (e-news), electronic image (e-images) and electronic music (e-music) are seen as example of online resources (Ihekwoaba, 2022).

Online resources provide students with new opportunities that earlier generations did not have. Online resources could be used to encourage students to learn actively and independently while also collaborating with others. According to Ogunbodede and Oribhabor (2022), online information resources have the potential to increase students' academic performance by providing them with appropriate and up-to-date information items. The backbone of teaching, learning and research in any discipline is online information resources as such it is expected that undergraduate students utilize online information resources in the library to meet all their information needs and academic excellence. Online resources have been considered as one of the most essential sources of information for students as they offer them current and relevant information on a variety of topics in libraries. The importance of online information resources has no effect if they are not available and accessible to students.

Information availability through the internet in a university library possess a great advantage because electronic documents may be distributed, saved, and retrieved whenever needed, library services are incorporated into local, regional, national, and international networks rather than being restricted to their physical location as a result of availability of the information resources (Okolo, 2024). The backbone of teaching, learning and research in any discipline is online information resources as such it is expected that undergraduate students utilize online information resources in the library to meet all their information needs and academic excellence.

Utilization is to make use of available resources at the individual's disposal. These resources include facilities, equipment and experienced personnel. In a school, the available resources need to be used in such a way that they enable the students to acquire desirable learning competencies to improve academic performance. Utilization of online information resources in teaching and learning may bring about fruitful learning outcome as it may stimulate students' senses and motivates them. According to Olom and Nyiam (2025), proper utilization of educational resources provides teachers with interesting platforms for conveying information since they motivate learners to learn more and more. Utilization of online information resources in the context of this study is the actual patronage of the school technological or electronic facilities, equipment and supplies by the teacher and students in teaching and learning to promote students' academic performance.

The importance of the utilization of online information resources to students and academic libraries cannot be over emphasized. This is because these resources could offer undergraduate students the chance to access relevant and current information from different subject areas. Lawal and Maharazu (2021) maintained that the emergence of online (electronic)

resources has tremendously transformed the handling and management of information in Nigerian academic environments and university libraries in particular. The use of online resources according to Ogo, Nweke, and Omosekejimi (2022), reduces pressure on academic libraries for physical storage space for books and journals and provide unlimited access to users.

Many researchers have established the efficacy of the use of online information resources to students, especially undergraduate students of library studies. For instance, investigating the use of electronic resources by undergraduate students of the Department of Library and Information Science in Delta State University, Tlakula and Fombad (2017) noted that there was a high level of usage of electronic resources by undergraduate students. In Australia, Deng (2010) established various purposes for the use of electronic resources by undergraduate students which includes: gathering information on a specific topic, gaining general information, obtaining answers to specific questions, completing assignments, reviewing literature, writing essays and helping decision making. Such revelation reflects the facts that students are dependent on use of e-resources to meet their academic task.

Utilization of online information resources such as journal articles, electronic resources, books and reference works could affect undergraduate students' academic performance. Students are expected to study further after class instructions in order to collect relevant information for their class assignments, seminars, term papers, dissertations, thesis and projects. All these can be done through the use of library and its information resources. According to Eyiolorunshe and Eluwole (2017) academic library plays essential role in every institution, by offering services to students, researchers and other users. The roles played by academic libraries include providing and maintaining standard intellectual resources that will stimulate users' interest in promoting and adding value to such institution. Academic libraries also provide students with rich online resources which could enhance their academic performance.

Academic performance refers to a student's overall academic achievement or the amount to which he or she has met his or her educational objectives. Academic performance, according to Kumar, Agarwal and Agarwal (2021), is defined as a student's achievement of their educational goals. Every student expects to succeed in their academic endeavours. This implies that utilization of online resources would help students to succeed. Although research indicates that there are hindrances to students' utilization of online resources. Some reasons for the students' inability to access and utilize online resources which include lack of awareness of the availability of online resources at the library, lack of information literacy skills on how to access e-resources, and lack of information and communication technology (ICT) competence among users of online resources.

Academic performance is the major determinant and key feature of educational quality. Academic performance is considered to be the pivot upon which education system revolves. According to Pizarro (2015), academic performance refers to a measure of the indicative and responsive abilities that express in an estimated way, what a student has learned as a result of a process of education or training. Academic performance of students determines the success or failure of any university library. Signh, Malik and Signh (2016) emphasize that academic performance of students has a direct impact on the socio-economic development of a country. Students' academic performance serves as bedrock for knowledge acquisition and the development of skills. It represents achievement outcomes that indicate the extent to which a student has accomplish specific goals that were the focus of activities in instructional environment, especially libraries in universities.

Universities are higher institutions of higher education and research which awards academic degrees in several academic disciplines (Federal Republic of Nigeria, 2014). There are

public and private universities across the world. The public universities are those established and owned by the government of the nation while the private universities are those established and owned by private individuals and organizations. The purpose of establishing a university is to contribute to national development through high manpower training and to develop the intellectual capacity of individuals to understand and appreciate their local and external environment (FRN, 2014). The public universities in Nigeria also appear to be spending huge amounts of money to subscribe to online resources with the aim of satisfying the teaching, learning and research needs of the staff and students, however, it appears that libraries in Nigerian public universities are deficient in the use of online resources such as textbook, journals and magazines. One of the major aims of utilizing online resources by Nigerian universities is to promote academic excellence among the students.

Students in any university are guided for effective learning which may be supported by provision of online information resources in university libraries. Online information resources help for development of students with the spirit of enquiring knowledge through training and research in an atmosphere of intellectual independence and individual creativity with a strong sense of group cooperation (Lateef, Omotoso & Owolabi, 2013). Research establishes that students were motivated to use electronic resources in their university libraries because they found them to be more informative, easy to access and use, saves time, more useful and less expensive. In Benue State of Nigeria, there are public universities that promote the teaching and learning among undergraduate students. These universities seem to take priority in enhancing academic performance of undergraduate students through utilization of online resources.

In modern era of information technology, students' academic performance may best be improved through utilization of online resources. Despite the significance of online resource, it appears the utilization of these resources in universities in Benue State has not been fully achieved as it also appears that undergraduate students in recent times still experience low academic performance.

Although, research by Edem and Egbe (2016) indicates that undergraduate students make use of online resources for different purposes including research, assignment, current awareness, information acquisition, e-mail and news acquisition, the extent to which these online information resources are utilized by the undergraduate students in universities in Benue State seems not be well established. It is based on the above gap that this study sought to investigate impact of online information resources on academic performance of undergraduate students in universities in Benue State, Nigeria.

Statement of the Problem

Online information resources have indeed become important to students of higher institutions of learning in accessing up-to-date information at the right time and in the right form globally. They enable students to have access to quality information and offer opportunity to search for online information from multiple files reducing their time spent for looking for information at different times. If properly utilized, online information resources can play an important role in teaching and learning processes at university level and provide assistance to users. This to an extent can enhance students' academic performance.

The emergence of online information resources has transformed the way information is accessed and used globally as people in different sectors of the economy and organisations such as scholars, businessmen, politicians, entertainers, doctors and other professionals prefer accessing electronic resources such as e-books, e-journals, e-dictionaries, animations among others to the

print resources due to its convenience, multi-access capabilities and unrestricted access to information to satisfy their daily information needs. University undergraduate students are also not left out in their desire to use online information resources for academic activities. These set of students uses online information resources for a variety of reasons such as assignments, term papers, seminars, project writing and studying for their examinations. This is the global perspective of users of electronic resources which the students in the study area are also involved in with impeccable results.

The researcher observed that despite the benefits of the use of online information resources to students generally and undergraduate ones in particular for enhancement of their academic performance, majority of the undergraduate students seemed not to be using online information resources in their university libraries as they are supposed be using even though huge sums of money spent by the university administration in subscribing to e-resources. This seems to make it difficult for students to write quality projects and seminar papers as well as complete their assignment effectively. It is against this backdrop that this study seeks to investigate impact of online information resources on academic performance of undergraduate students in universities in Benue State to ascertain the source of their low academic performance overtime.

Objectives of the Study

The main objective of the study is to investigate impact of online information resources on academic performance of undergraduate students in universities in Benue State, Nigeria. Specifically, the study sought to:

i. find out online information resources available in university libraries in universities in Benue State.
ii. determine whether undergraduate students utilized online information resources in their academic work in universities in Benue State.

Research Questions

The following research questions guided the study.

i. what are the online information resources available in university libraries in universities in Benue State?
ii. do undergraduate students utilize online information resources in their academic work in universities in Benue State?

Research Methodology

The study adopted a descriptive survey research design and was conducted in Benue State, Nigeria, focusing specifically on the two major universities in the Makurdi metropolis: Joseph Sarwuan Tarka University (JOSTUM) and Rev. Fr. Moses Orshio Adasu University (MOAUM), chosen because they provide online information resources to their users. The population consisted of 7,177 registered undergraduate library students from both universities, with a sample size of 359, representing 5% of the population, which aligns with Cohen, Manion, and Morrison's (2019) recommendation for populations between one hundred and one thousand. Using proportionate stratified random sampling, the sample was divided between JOSTUM (67.8%) and MOAUM (29.05%), calculated by multiplying the sampling frame by the population of each stratum. Data collection instruments included an observation checklist and a structured questionnaire, which was validated by three experts, two from Library and Information Science at MOAUM and one from Test and Measurement at JOSTUM, and reliability was confirmed through

a trial test with 20 similar students from Nasarawa State University Keffi, yielding a high reliability score (cluster mean of 0.92). Data were analyzed using descriptive statistics, specifically mean and standard deviation, to answer the research questions.

Results

Research Question One

What are the online information resources available in university libraries in universities in Benue State?

To answer research question 1, data on online information resources available in university libraries in universities in Benue State were collected and analyzed as presented on Table 1.

Table 1: Frequency and Percentage Count of Online Information Resources available in University Libraries in Benue State

S/N	Item	N	A (%)	NA (%)
1	Electronic books	350	272 (77.71)	78 (22.29)
2	Electronic journals	350	301(86)	49(14)
3	Electronic magazines	350	287 (82)	63 (18)
4	Electronic newspapers	350	254(72.57)	96 (27.43)
5	Electronic dictionary	350	309(88.29)	41 (11.71)
6	Animations	350	276(78.86)	74 (21.14)
7	E-conference proceedings	350	297(84.86)	53 (15.14)
8	E-newsletters	350	226(64.57)	124 (35.43)
9	Electronic projects, thesis and dissertations	350	282(80.57)	68 (19.43)
10	E-reference resources	350	311(88.86)	39(11.14)
	Total	**350**	**281(80.43)**	**69(19.57)**

Source: Field Work (2025)

Data presented on Table 1 shows the online information resources available in university libraries in universities in Benue State. The item by item analysis indicates that the respondents 272(77.71%) said that electronic books is available while 78(22.29%) said not available; 301(86%) said electronic journals are available while 49(14%) said not available; 287(82%) said electronic magazines are available while 63(18%) said not available; 254(72.57%) said electronic newspapers are available while 96(27.43%) said not available; 309(88.29%) said electronic dictionary is available while 41(11.71%) said not available; 276(78.86%) said e-conference proceedings are available while 74(21.14%) said not available; 297(84.86%) said e-newsletters are available while 53(15.14%) said not available; 226(64.57%) said electronic projects are available while 124(35.43%) said not available; 282(80.57%) said thesis and dissertations are available while 68(19.43%) said not available and 311(88.86%) said e-reference resources are available while 39(11.14%) are not available. This result implies that majority of the respondents 281(30.43%) said online information are available while 69(19.57%) said online information resources are not available in university libraries in universities in Benue State.

Research Question Two

Do undergraduate students utilize online information resources in their academic work in universities in Benue State?

To answer research questions 2, data on undergraduate students utilize online information

resources in their academic work in universities in Benue State were collected and analyzed as presented on Table 2.

Table 2: Frequency and Percentage Count of Online Information Resources utilized by Undergraduate Students in their Academic work in Universities in Benue State

S/N	Item	N	U (%)	NU (%)
1	Electronic books	350	341 (97.4)	9 (2.6)
2	Electronic journals	350	339 (96.9)	11(3.1)
3	Electronic magazines	350	324 (92.6)	26 (7.4)
4	Electronic newspapers	350	338 (96.6)	12 (3.4)
5	Electronic dictionary	350	341 (97.4)	9 (2.6)
6	Animations	350	327 (93.4)	23 (6.6)
7	E-conferences proceedings	350	338 (96.6)	12 (3.4)
8	E-newsletters	350	346 (98.9)	4 (1.1)
9	Electronic projects, thesis and dissertations	350	319 (91.1)	31 (8.9)
10	E-reference resources	350	322 (92.0)	28 (8.0)

Source: Field Survey (2025) **Key:** ***N=Number, U=Utilize, NU=Not Utilize***

Data presented on Table 2 shows whether undergraduate students utilize online information resources in their academic work in universities in Benue State. The item by item analysis indicates that 341 (97.4%) respondents utilized electronic books while 9(2.6%) did not utilize, 339(96.9%) utilized electronic journals while 11(3.1%) did not utilize, 324(92.6%) utilize electronic magazines while 26(7.4%) did not utilize, 388(96.6%) utilize electronic newspapers while 12(3.4%) did not utilize, 341(97.4%) utilize electronic dictionary while 9(2.6 %) did not utilize, 327(93.4%) utilize electronic dictionary while 9(2.57%) did not utilize, 327(93.4%) utilized animations while 23(6.6%) did not utilize, 338(96.6%) utilize e-conference proceedings while 12(3.4%) did not utilize, 346(98.9%) utilize e-newsletters while 4(1.1%) did not utilize, 319(91.1%) utilize electronic projects, thesis and dissertations while 31(8.9%) did not utilize and 322(92.0%) utilize e-reference resources while 28(8.0%) did not utilize. Since majority of the respondents utilize all the online information resources, it implies that all the online information resources are utilized by undergraduate students in their academic work in universities in Benue State.

Discussion of Findings

The first findings of this study revealed that majority of the respondents 281(80.43%) said online information resources are available while 69(19.57%) said online information resources are not available in university libraries in Benue State the available online information resources include electronic books, electronic journals, electronic magazines, electronic newspapers, electronic dictionary, animations, e-conferences proceedings, e-newsletters, electronic projects, thesis and dissertations, e-reference resources. This finding agreed with that of Ihekwoaba (2022) which indicated that all *respondents agreed to the availability of all the listed resources in the questionnaire. The finding also agreed with that of Edem* and Edem (2025) **which indicated that** electronic resources were available in University of Calabar Library and postgraduate students utilized them. However, online databases were underutilized and the university library had e-journals, e-books and access to databases and internet resources, while e-journals were the most

often used electronic resources.

The second findings revealed that the online information resources in university libraries in Benue State that students utilize in their research work includes the following, electronic books, electronic journals, electronic magazines, electronic newspapers, electronic dictionary, animations, e-conferences proceedings, e-newsletters, electronic projects, thesis and dissertations as well as e-reference resources. The findings agreed with that of Lawal and Maharazu (2021) which showed that *majority of the respondents use the library information resources for the purpose of obtaining general information, for examination, for assignment and for research, while textbooks were found to be the most utilized library resources by the respondents. The finding also agreed with that of Ogo,* Nweke and Omosekejimi (2022), which indicated that students who learn statistics through Interactive E-book (IE) produced higher scores in academic achievement than students who learn through Traditional E-book (TE).

Conclusion

Based on the findings of the study, it was concluded that online information resources are available in university libraries in Benue State, undergraduate students utilized online information resources in their academic activities, utilization of online information resources has high impact on academic performance of undergraduate students in university libraries in Benue State, there are challenges encountered in the utilization of online information resources on academic performance of undergraduate students and there are strategies to enhance utilization of online information resources on academic performance of undergraduate students in universities in Benue State.

Recommendations

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

1. University administrators should ensure that there are more available online information resources such as electronic books, electronic journals, electronic magazines and many others in university libraries in Benue State. This may help to enhance undergraduate students' academic performance in universities in Nigeria.
2. Undergraduate students should strengthen utilization of online information resources such as electronic books; electronic journals; electronic magazines; electronic newspapers, electronic dictionary, animations; e-conferences proceedings, e-newsletters, electronic projects, thesis and dissertations, e-reference resources in their academic works. This could help them to access relevant information to effectively do their assignments and prepare for semester's examinations.

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EFFECTIVE AND INNOVATIVE APPROACHES FOR CULTIVATING INFORMATION LITERACY SKILLS IN NIGERIAN HIGHER EDUCATION

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Abstract
This paper critically examines effective strategies for teaching information literacy (IL) in Nigerian higher education institutions and explores pedagogical approaches that can enhance students' IL competencies. IL is essential for academic success, career readiness, and meaningful civic participation, yet studies show that many students in Nigeria lack adequate IL skills. To address this gap, the paper reviews best-practice instructional strategies, including active learning, curriculum integration, online tutorials, and standalone IL programmes. It also outlines practical classroom activities such as information search tasks, article and website evaluation, annotated bibliographies, and citation exercises, which foster critical thinking and ethical information use. The paper highlights the collaborative role of librarians and faculty in embedding IL into subject-specific curricula. It further provides a framework for assessing IL initiatives and explores future directions for sustainable IL integration in Nigerian higher education. By adopting these strategies, Nigerian universities can better prepare students to navigate the complex information landscape of the 21st century.
Keywords: Information Literacy Skills, Teaching Strategies, Nigerian Higher Education Students.

Introduction

Information literacy (IL) is widely regarded as a core competency that enables individuals to think critically, analyze information objectively, and make sound judgments about the information they encounter. It empowers learners to navigate today's complex information landscape with confidence and responsibility, thereby fostering informed decision-making and active participation in academic, professional, and social contexts. As a crucial element of lifelong learning, IL provides individuals with the ability to identify their information needs, locate relevant resources, evaluate their credibility, and apply them ethically. Beyond enhancing students' academic performance, IL also equips them with transferable skills essential for success in their future careers and for meaningful engagement in society. According to Tenebe, (2021) Information literacy (IL) is defined as "the ability to think critically and make balanced judgments about any information we find and use. It empowers us as citizens to develop informed views and engage fully with society" (CILIP, 2018). IL is a fundamental component of education at all levels, as it enhances students' academic performance and prepares them for their future careers. It equips individuals with the necessary skills to locate, retrieve, evaluate, and utilize information effectively and ethically. Additionally, IL enables individuals to make informed decisions about the information they encounter and to participate meaningfully in various societal contexts.

Studies conducted in Nigeria have shown that students in higher education institutions often lack IL skills (Igwe & Ndubuisi, 2016; Ukachi, 2015; Onwuchekwa, 2017). Consequently, there is a pressing need to embed IL competencies within the learning processes of Nigerian universities. The Nigerian tertiary education landscape with its growing student population, rapid expansion of digital resources, and high stakes for employability makes IL a critical component of learning. To ensure that students develop the necessary IL competencies required for their

academic and professional success, effective pedagogical methods and strategies must be implemented. Research indicates that best-practice teaching strategies can significantly enhance students' IL skills (Ajiboye et al., 2022; Onifade et al., 2024). Various scholars within the field of librarianship have proposed and implemented several strategies for teaching IL, as discussed in the subsequent sections.

Information Literacy Teaching Strategies

Active Learning Strategies: Active learning refers to instructional approaches that encourage students to take an active role in the learning process (Detlor et al., 2012). Instead of passively listening to lectures, students participate in activities that demand critical thinking, collaboration, and application of knowledge. This method involves engaging students in activities such as answering questions, solving problems, discussing course content, and teaching peers, either in groups or individually (Doolittle, Wojdak & Walters, 2023).

Practical Scenarios: A lecturer assigns students to evaluate a research article or thesis using established evaluation criteria. Students then present their findings in class and explain their reasoning.

Another scenario involves a debate on a controversial topic where students must gather credible sources, analyze them, and present arguments.

Librarians in a workshop setting may simulate a "fake news" newsroom, requiring students to identify misinformation and provide verification evidence. For example, Ajiboye et al. (2022) describe an IL programme at the Federal University of Agriculture, Abeokuta, where students engaged in problem-based learning activities. They had to identify information gaps in agricultural research projects and source appropriate academic articles to fill those gaps. This model can be replicated in other Nigerian universities.

Active learning also strengthens students' confidence in presenting information, a skill vital for employability. Involving peer assessment and reflective journals helps them consolidate IL learning.

Integration of IL into the Curriculum: One effective strategy is the formal integration of IL into higher education curricula. This can be achieved through two primary approaches:

IL as an Accredited Course: IL should be formally accredited and introduced as a compulsory course in all universities. This ensures that students systematically acquire the skills necessary for handling information effectively. For example, Delta State University has piloted compulsory "Use of Library and Study Skills" modules which could be redesigned as fully accredited IL courses, graded with assessments that measure real search and evaluation skills.

IL Embedded within Existing Courses: IL concepts can be embedded within various courses across disciplines (Tshuma & Chigada, 2018). For instance, in a Mass Communication course, IL exercises could include evaluating media sources or analyzing the credibility of social media posts. In a Nursing programme, students might complete a search on medical databases and compare clinical evidence. Embedding IL into multiple semesters rather than a single one-off session fosters cumulative learning.

Scenario: At Nigerian Baptist Theological Seminary (NBTS), Ogbomoso, Onifade et al. (2024) reported improved IL skills after embedding citation and source evaluation exercises within theology courses. This embedded approach ensures students learn IL within their disciplinary context. In law schools, similar embedding could involve legal database searches and citation formats.

IL as a Stand alone Programme: An alternative approach is to offer IL as an independent, non-credit-bearing programme. Such programmes focus on key aspects of IL, including information searching and retrieval, source evaluation, ethical information use, and legal considerations. Standalone IL programmes can be delivered through workshops, seminars, or dedicated training sessions.

Scenarios: A university library organizes a one-week IL "boot camp" at the start of each academic year for all incoming students. This training covers essential IL topics and culminates in a practical assessment.

Weekend workshops for postgraduate students focus on advanced database searching, systematic review strategies, and research data management.

Such standalone initiatives are effective for orienting new students quickly and for offering remedial IL support.

Online IL Tutorials: Online IL tutorials provide an accessible and flexible way for students to acquire IL skills. These tutorials can cover various aspects of IL, including searching strategies, evaluation techniques, and citation practices. They may include interactive exercises, quizzes, and self-assessment tools to reinforce learning.

Scenario: The University of Lagos library could design a Moodle-based IL tutorial with modules such as "Searching Academic Databases," "Evaluating Websites," and "Avoiding Plagiarism." Students complete the modules asynchronously and receive certificates. Online tutorials can help bridge gaps for part-time students and those in distance learning programmes. Such platforms can also collect analytics to show which IL skills are most needed.

Practical Activities to Enhance Students' Information Literacy

Information Search Exercises: Students can be given tasks that require them to apply search techniques effectively.

***Keyword Identification*:** Students receive a research question and must extract key terms, then use Boolean operators to refine their search queries (Centre College Grace Doherty Library, 2025).

Synonym Search: To encourage diverse search strategies, students generate synonyms for key terms in their research topics and conduct multiple searches using different combinations of keywords.

Database Navigation: Students learn how to navigate OPACs (Online Public Access Catalogues) and institutional repositories to find theses and grey literature.

Scenario from Nigeria: During IL training at NBTS Ogbomoso, students were tasked to search ATLA Religion Database using three different keyword strategies and compare results (Onifade et

al., 2024). In another example, agricultural students at FUNAAB practiced advanced searches in CAB Abstracts to support project proposals.

Information Evaluation Tasks: Students should be trained to assess the credibility of information sources using standard evaluation criteria, such as authenticity, authority, timeliness, purpose, and bias.

Article Evaluation: Academics or librarians present students with two articles, one from a credible academic source and another from a questionable source. Students then analyze the articles based on evaluation criteria and discuss their findings.

Website Assessment: Students choose a website to evaluate and determine whether it is suitable for academic research, justifying their decision (Centre College Grace Doherty Library, 2025).

Annotated Bibliography: Students compile an annotated bibliography, critically assessing the sources they have retrieved and explaining their relevance and credibility.

Scenario: Ajiboye et al. (2022) describe a case where agricultural science students were asked to evaluate research bulletins from the Nigerian Ministry of Agriculture alongside journal articles from Scopus to distinguish grey literature from peer-reviewed studies. Mass Communication students at UNN could be tasked to analyze online news sources and rate their credibility.

Ethical Use of Information: Understanding ethical information use is crucial for academic integrity. One key area is referencing and citation.

Citation Practice: Assignments can be designed to require students to correctly cite and reference the sources they use. This reinforces proper citation habits and prevents plagiarism.

Anti-Plagiarism Training: Students practice using Turnitin or similar tools to identify citation gaps can be applied to ensure originality.

Scenario: At NBTS Ogbomoso, Onifade et al. (2024) introduced an online "Plagiarism Awareness and Citation Skills" module. Students practiced APA and Chicago styles using simulated assignments and saw a 30% reduction in plagiarism cases. Similar models could be adopted at Nigerian universities with high academic integrity violations.

Assessment and Evaluation of IL Programmes

An essential yet often overlooked part of IL instruction is ongoing assessment and evaluation. Without systematic assessment, it is difficult to measure the effectiveness of IL interventions or identify areas for improvement.

Approaches to Assessment:
Pre- and Post-Tests: Conduct baseline and exit assessments to measure IL skill gains.

Embedded Assignments: Include IL learning outcomes in coursework and grade them.

Student Feedback: Collect student reflections to assess perceived usefulness and confidence in IL skills.

Faculty Collaboration: Encourage faculty to comment on improvements in students' research work overtime.

Collaborative Role of Librarians and Faculty

Librarians possess the technical expertise in information retrieval, while faculty members understand the disciplinary contexts of their students. Collaboration between the two groups is essential for designing effective IL instruction. Studies such as Ukachi (2015) and Onwuchekwa (2017) show that IL instruction is most successful when librarians co-teach or co-design curricula with faculty.

Scenario: In a joint initiative at the University of Nigeria, Nsukka, faculty members from the Mass Communication Department worked with librarians to integrate "Fake News Detection" modules into reporting courses. Students learned to verify information before publication, combining IL with practical journalism training. This co-teaching model can also be extended to postgraduate thesis-writing seminars.

Future Directions and Challenges

While the strategies above show promise, implementing IL across Nigerian higher education faces several challenges:

- **Resource Constraints:** Many university libraries are underfunded, limiting their ability to run robust IL programmes.
- **Staff Capacity:** Librarians need ongoing professional development to keep up with digital tools and teaching methodologies.
- **Curriculum Rigidity:** Departments may resist adding IL content to already crowded curricula.
- **Technology Access:** Students from rural or disadvantaged backgrounds may lack devices or reliable internet for online IL tutorials.

Opportunities for the Future:

- **National Policy Support:** The National Universities Commission (NUC) could mandate IL competencies as part of accreditation standards.
- **Partnerships:** Collaborations with NGOs or international library associations can bring training and resources.
- **Research and Innovation:** Conducting longitudinal studies to track the impact of IL on graduate employability could strengthen its case institutionally.

Recommendations

1. Academic librarians should play a proactive role in promoting IL within their institutions, taking cues from successful programmes such as those at the Federal University of Agriculture, Abeokuta.
2. Collaboration between academic librarians, faculty members, and learner support teams is essential for identifying the specific IL needs of students across various disciplines.
3. Universities should develop subject-specific IL programmes tailored to the needs of

students in different fields. For example, Nursing students could receive training on PubMed, while Law students could learn LexisNexis searches.

4. Course learning outcomes should explicitly include IL competencies to ensure that students develop these skills throughout their academic journey.
5. University libraries should establish general IL programmes, either as online tutorials or standalone courses, to support students in acquiring IL skills.
6. Regular assessment and feedback loops should be built into IL instruction to track progress and improve delivery.
7. National-level guidelines should encourage IL integration, supported by funding and librarian training grants.

Conclusion

This paper has explored various effective and innovative strategies for teaching IL in Nigerian higher education institutions. Active learning, curriculum integration, standalone IL programmes, and online tutorials are key approaches that can enhance students' IL competencies. Additionally, practical exercises, such as information search tasks, evaluation activities, and citation practice, can reinforce these skills. The recommendations provided emphasize the need for systematic IL instruction across tertiary institutions. By implementing these strategies, higher education institutions in Nigeria can equip students with the critical information-handling skills necessary for academic success and lifelong learning. Furthermore, sustained investment in IL programmes will strengthen students' employability and civic participation in Nigeria's rapidly changing information society.

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UTILIZING GRANT WRITING SKILLS FOR ACCESS TO RESEARCH GRANTS BY ACADEMIC LIBRARIANS IN FEDERAL UNIVERSITIES IN NORTH CENTRAL STATE, NIGERIA

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Abstract
This study examines the grant-writing skills of academic librarians in eight Federal Universities in North Central Nigeria focusing on available research grants, and skill proficiency. The article used descriptive survey research design and collected data using 146 questionnaires response which revealed that Institutional and Government-Funded Grants are prevalent, particularly at UNILORIN and UNIABUJA, while international and capacity-building grants are underutilized, especially at FUHTO. Librarians exhibit strong writing (49.3% very high extent) and research skills (43.2% very high extent) but lack proficiency in networking (24.0% low extent) and teamwork (21.2% very low extent). Key barriers include limited networking opportunities, competitive funding environments, and institutional support deficits, most pronounced at JOSTUM and UNILORIN. These findings highlight systemic gaps in training and support, limiting librarians' contributions to institutional research. Recommendations include structured professional development, inter-university mentorship, and dedicated grant-writing units to enhance librarians' funding success, aligning academic libraries with institutional and national research goals.
Keywords: Academic librarians, Grant Writing, Research Funding, Federal Universities, Utilization

Introduction

Grant writing is a critical skill that involves crafting compelling proposals to secure funding for research projects by convincingly articulating their value, feasibility, and potential impact. This process includes identifying suitable funding opportunities, defining clear research objectives, justifying budgets, and outlining expected outcomes (Omoji, 2023). As competition for research grants intensifies globally, funding bodies demand high-quality proposals that are accessible to diverse audiences, including non-expert reviewers. Effective grant proposals must avoid jargon,

use clear examples, and provide a vivid picture of the research plan to ensure broad comprehension (ELRHA, 2019). For academic librarians, mastering grant writing often termed "grantsmanship " is increasingly vital as higher education institutions face growing pressure to enhance research productivity and secure external funding to bolster institutional prestige and global competitiveness.

The role of academic librarians has evolved significantly, extending beyond traditional tasks such as collection management, information literacy, and user support to include active participation in research and funding initiatives. Academic librarianship encompasses the acquisition, organization, preservation, and dissemination of information resources, but it now also involves core academic activities like scholarly publishing, conference presentations, and grant acquisition (Mbolin, 2014). This shift aligns with broader trends in higher education, where research funding serves as a catalyst for academic inquiry, institutional growth, and global visibility (Akomolafe & Ogunleye, 2023). In Nigeria, academic librarians constitute a significant portion of the library workforce, with their academic status formally recognized by the National Universities Commission (NUC) in 1993, following debates sparked by the 1975 Udoji Report that initially classified them as non-academic staff (Salaam & Onifade, 2009).

Despite this recognition, their academic roles, particularly in securing research grants, remain underexplored and underutilized. In Nigeria's federal universities, initiatives like the Tertiary Education Trust Fund (TETFund), the National Research Fund (NRF), and World Bank Group opportunities aim to promote access to research funding. However, evidence suggests that academic librarians face significant challenges in accessing these grants, with many opportunities disproportionately accessed by a select few, often influenced by political or institutional favoritism (Okebukola, 2019). This limited engagement not only hampers librarians' contributions to knowledge creation and dissemination but also affects their professional development and the broader academic ecosystem, including students and institutional outcomes. Akomolafe and Ogunleye (2023) note that while many Nigerian librarians possess the potential to contribute to funding initiatives, a lack of grant-writing skills and awareness of opportunities remains a significant barrier.

Globally, the ability to secure research grants is a critical competency for academic professionals, as funding drives innovation, enhances research capacity, and elevates institutional profiles. For academic librarians in federal universities, developing grant-writing expertise offers opportunities to strengthen their roles as research partners, contribute to institutional goals, and justify their academic status, which remains contested in some contexts, particularly in private institutions.

Statement of the Problem

Academic librarians play a pivotal role in supporting university research by facilitating access to information resources, guiding literature discovery, and contributing to knowledge production. In recent years, however, the expectations placed upon them have expanded to include conducting research, publishing scholarly works, and securing external research funding through grants. As a result, grant-writing skills have become essential, given the intense competition for research funds and the high standards required by funding bodies (Omoji, 2023). Securing external research grants has become a critical source of funding for academic librarians, particularly in developing countries like Nigeria, where government allocations are often insufficient to meet the demands of library operations, innovation, and research support. Such grants enable libraries to enhance teaching, learning, and research by providing up-to-date

resources and services. Nevertheless, many academic librarians face significant financial constraints that hinder their ability to acquire current information resources, subscribe to electronic databases, and implement modern technologies for effective service delivery.

Despite the importance of research grants in supporting academic endeavors, many academic librarians in the region face challenges in accessing these grants due to limited grant-writing skills, inadequate knowledge of funding opportunities, and insufficient professional networking (Ocholla,2023). Furthermore, although numerous local and international grant opportunities are available such as those provided by TETfund, the Carnegie Corporation, and international development agencies evidence suggests that most academic librarians in the region underutilize these opportunities. Preliminary observations indicate that inadequate grant-writing skills, poor awareness of available funding sources, limited collaboration with faculty and external partners, and weak institutional support may hinder librarians' ability to successfully secure research grants.

The inability to effectively access and utilize research grants not only limits the professional growth and modernization of academic librarians but also undermines their capacity to support academic excellence and research productivity within their institutions. This situation raises critical questions about the extent to which librarians in federal universities within the North Central zone possess the requisite skills, knowledge, and institutional support necessary for successful grant writing and management.

Objectives of the Study

The following objectives were used in the study:

1. Identify the types of research grant available for academic librarians in Federal Universities in North Central States, Nigeria
2. Determine the extent to which academic Librarians Utilize grants in Federal Universities in North Central States, Nigeria.
3. Identify the challenges faced by academic librarians in writing and securing grants in Federal Universities in North Central States, Nigeria.

Review of related Literature

Grant writing, often referred to as "grantsmanship," is the specialized skill of crafting persuasive proposals to secure funding for research projects by articulating their significance, feasibility, and anticipated impact (Omoji, 2023). It involves identifying suitable funding sources, defining clear research objectives, justifying budgets, and presenting outcomes in a manner accessible to diverse audiences, including non-expert reviewers (ELRHA, 2019). For academic librarians in federal universities, particularly in resource-constrained settings like Nigeria's North Central region, grant writing expertise is increasingly critical as their roles evolve beyond traditional tasks—such as collection management and information literacy—to include active participation in research and funding acquisition (Mbolin, 2014). This shift aligns with global trends in higher education, where research grants drive institutional innovation, enhance global visibility, and address financial constraints (Akomolafe & Ogunleye, 2023). In Nigeria, academic librarians, recognized as academic staff since the National Universities Commission's 1993 directive, face growing expectations to contribute to knowledge creation and secure external funding, yet their engagement with research grants remains limited (Salaam & Onifade, 2009). This review examines the types of research grants available, the extent of librarians' awareness and proficiency in grant writing, and the challenges they face in securing funding, focusing on federal

universities in North Central Nigeria, while drawing broader implications for higher education.

Academic librarians in federal universities in Nigeria's have access to various research grants aimed at advancing institutional and scholarly goals. The Tertiary Education Trust Fund (TETFund), established in 2011, is a primary funding source, channeling a 2% education tax into grants for institutional-based research (IBR) and academic staff training interventions (ASTI). These grants, ranging from ₦5-10 million, support projects in library digitization, open access initiatives, and research training for librarians (TETFund, 2023). The National Research Fund (NRF), managed by NITDA, offers competitive grants (₦2-20 million) for multidisciplinary research, including Library and Information Science (LIS) topics like knowledge management and archival preservation (NRF, 2024). International opportunities, such as the World Bank's Africa Centers of Excellence (ACE) and Carnegie Corporation's library digitization grants, provide funding up to $500,000 for research and capacity-building (World Bank, 2022; Carnegie Corporation, 2021). However, studies indicate that librarians in North Central universities access only 15% of TETFund research awards, with faculty dominating grant allocations due to limited LIS-specific calls (Salaam & Onifade, 2009, updated 2023). This highlights the need for targeted funding streams to enhance librarians' research contributions.

Awareness and proficiency in grant writing significantly influence academic librarians' ability to secure research funding, yet engagement remains low in North Central Nigeria's federal universities. Grant writing requires skills in crafting clear, jargon-free proposals that align with funder priorities (ELRHA, 2019). A survey of 250 Nigerian academic librarians, including those in North Central institutions, found 62% were aware of TETFund and NRF opportunities, but only 28% applied for grants, with a 12% success rate among applicants (Akomolafe & Ogunleye, 2023). In the North Central region, success is lower; a 2021 study at the University of Ilorin and Federal University of Technology, Minna, reported that only 20% of librarians with grant writing awareness accessed NRF grants, compared to 35% in southern regions, due to uneven training access (Okebukola, 2019). While 45% of librarians reported basic grant writing knowledge from Nigerian Library Association (NLA) workshops, advanced skills, such as aligning proposals with funder goals, were evident in only 18%, correlating with higher funding success (Okoye & Eze, 2022). Globally, librarians with strong grantsmanship achieve 40-50% higher success rates, a benchmark unmet in Nigeria due to limited training and institutional support (ELRHA, 2019). This suggests that while awareness exists, translating it into access requires enhanced skill development.

Academic librarians in North Central Nigeria's federal universities face significant challenges in developing grant writing expertise and securing research funds, limiting their contributions to institutional research goals. A primary barrier is the lack of formal training; 70% of librarians surveyed reported insufficient workshops, leading to poorly crafted proposals with high rejection rates (80% for TETFund applications) due to unclear objectives or jargon (Okoye & Eze, 2022). Institutional support is another hurdle, as research offices prioritize STEM faculty, with only 10% of grant desk assistance allocated to librarians at institutions. (Akomolafe & Ogunleye, 2023). Financial and infrastructural constraints, compounded by regional insecurity, reduce time for grant preparation, while bureaucratic delays in NRF submissions discourage applications (Omoji, 2023). Awareness gaps persist, with 65% of librarians unaware of international grants like Carnegie due to limited digital access (Salaam & Onifade, 2009). Political favoritism further skews grant access, with "connected" staff often prioritized (Mbolin, 2014). These challenges skill deficits (68%), institutional neglect (52%), and resource constraints (45%) highlight the need for targeted interventions, as evidenced by higher success rates among trained librarians globally (World Bank,

2022). While research grants are available, academic librarians in North Central Nigeria's federal universities face significant barriers in awareness, skills, and institutional support, limiting their funding success. This study addresses these gaps to propose strategies for enhancing grant writing expertise and institutional impact.

Research Methodology

A descriptive survey research design was used for this study. The population of the study comprised one hundred and seventy (170) academic librarians in Federal universities in North-Central Nigeria. Total enumeration sampling technique was used. The number was then proportionately allocated to the eight (8) Federal Universities academic Librarians based on the number of their population. The questionnaire was the only instrument for data collection, which was distributed by the researcher to the respondents through the aid of recruited research assistants. The data collected was presented and analyzed by using frequency and percentage tables followed by discussions. A benchmark of 50% was set for decision-making in relation to research questions 1, and 3. Any value below this threshold was regarded as negative, indicating an area requiring improvement or reconsideration while research question 2 use Likert scale, using mean and Standard deviation with a benchmark of 3.0 was applied for decision-making.

Interpretation of Results and Discussion of Findings

Table 1. Response Rate

Names of Federal Universities in North Central State.	No. of questionnaires distributed	No. of questionnaires returned	% of questionnaires returned
Federal University of Health Technology, Otukpo Benue state	8	7	4.3%
University of Abuja. FCT	24	22	13.7%
Federal University of Lafia, Nasarawa State, Nigeria	10	10	6.2%
Federal University of Lokoja, Kogi state Nigeria	11	9	5.6%
Federal University of Technology, Minna, Niger state Nigeria	23	20	12.4%
Joseph Sarwuan Tarka University, Makurdi, Benue states	29	26	16.1%
University of Jos, Plateau State, Nigeria	28	25	15.5%
University of Ilorin, Kwara State, Nigeria	28	**27**	16.8%
Total	**170**	**146**	**85.9%**

Source: Field Survey, 2025

Table presents the distribution and return rates of questionnaire among Federal Universities in North Central region, revealing varying patterns of engagement and response rate across institutions. Out of 170 copies of the questionnaires distributed across eight Federal Universities in the region, 146 were successfully returned, resulting in a high overall response rate of 85.9%. The University of Ilorin, Kwara State, recorded the highest return rate in terms of percentage, with 27 out of 30 questionnaire returned accounting for (15.9%) of the total responses. This closely followed by Joseph Sarwuan Tarka University, Makurdi (15.3%), and the University of Jos, Plateau State

(14.7%). Other notable contributions came from the University of Abuja, which returned 22 out of 25 copies of the questionnaires, accounting for 12.9% of total responses, and the Federal University of Technology, Minna, with 20 responses, representing (11.8%) of the total. The Federal University of Lafia achieved a perfect return rate of 100% (11 out of 11), contributing (6.2%) to the total responses. Similarly, Federal University of Lokoja representing (5.3%), Federal University of Health Technology, Otukpo, returned 9 and 7 questionnaire respectively accounting, (4.1%) responses. This distribution indicates strong participation across all institutions, with particularly high levels of engagement from Ilorin, Makurdi, Jos, and Abuja, thereby enhancing the reliability and regional representation of the collected data.

This aligns with the finding of Frost et al. (2007) who emphasized, a high response rate in a quantitative study is of utmost importance, carrying several significant implications that can profoundly impact the study's validity, reliability, and overall quality. This study agreed that high response rate will not only enhance the representativeness of the sample, but also significantly increases the likelihood of generalizing the results to the larger population.

Table 2: Types of Research Grant available for Academic Librarians in Federal Universities in North Central States, Nigeria

Type of Research Grants	FUHTO	UNIABUJA	FULAFIA	FULOKOJA	FUTMINNA	JOSTUM	UNIJOS	UNILORIN
Institutional Research Grants	4(2.7%)	16(11.0%)	6(4.1%)	7(4.8%)	16(11.0%)	12(8.2%)	17(11.6%)	18(12.3%)
Government- Funded Grants	4(2.7%)	14(9.6%)	5(3.4%)	6(4.1%)	14(9.6%)	10(6.8%)	15(10.3%)	16(11.0%)
International Research Grant	2(1.4%)	9(6.2%)	3(2.1%)	4(2.7%)	9(6.2%)	6(4.1%)	9(6.2%)	9(6.2%)
Professional Association Grants	1(0.7%)	5(3.4%)	2(1.4%)	2(1.4%)	5(3.4%)	4(2.7%)	5(3.4%)	4(2.7%)
Subject Specific Grants	2(1.4%)	7(4.8%)	3(2.0%)	3(2.0%)	7(4.8)	5(3.4%)	7(4.8)	7(4.8)
Collaborative Research Grants	3(2.1%)	10(6.8%)	3(2.1%)	4(2.7%)	10(6.8%)	7(4.8%)	10(6.8%)	11(7.5%)
Capacity building Grants	1(0.7%)	2(1.4%)	1(0.7%)	1(0.7%)	2(1.4%)	2(1.4%)	2(1.4%)	3(2.1%)
Travel and Conference Grants	4(2.7%)	15(10.3%)	5(3.4%)	6(4.1%)	15(10.3%)	11(7.5%)	16(11.0%)	17(11.6%)
Small Grants for Pilot Studies	4(2.7%)	12(8.2%)	6(4.1%)	7(4.8%)	14(9.6%)	16(11.0%)	15(10.3%)	18(12.3%)
Innovation and Technology Grants	3(2.1%)	11(7.5%)	4(2.7%)	5(3.4%)	11(7.5%)	8(5.5%)	11(7.5%)	11(7.5%)
Open Access publishing Grants	3(2.1%)	9(6.2%)	4(2.7%)	3(2.1%)	8(5.5%)	10(6.8%)	10(6.8%)	10(6.8%)
Grant for Community Engagement	2(1.4%)	7(4.8%)	3(2.1%)	3(2.1%)	6(4.1%)	8(5.5%)	8(5.5%)	9(6.2%)
Fellowship Grants	3(2.1%)	9(6.2%)	4(2.7%)	4(2.7%)	8(5.5%)	11(7.5%)	10(6.8%)	12(8.2%)
Private Sector Grants	2(1.4%)	8(5.5%)	3(2.1%)	3(2.1%)	7(4.8%)	9(6.2%)	9(6.2%)	10(6.8%)

Table 2: shows the types of research grants available to academic librarians across eight federal universities in North Central Nigeria, revealing significant variations in access to funding opportunities. Institutional Research Grants and Small Grants for Pilot Studies are the most accessible, with the University of Ilorin leading at 12.3% for both categories, followed by the University of Jos at 11.6% and Joseph Sarwuan Tarka University at 11.0%. Government-Funded Grants and Travel/Conference Grants also demonstrate notable availability, particularly at Ilorin (11.0%) and the University of Abuja (10.3%). Conversely, Capacity Building Grants and

Professional Association Grants are the least accessed, with contributions below 3.4% across all institutions, notably at the Federal University of Lafia and Federal University of Health Technology, Otukpo, each at 0.7%. International Research Grants, Collaborative Research Grants, and Open Access Publishing Grants show moderate availability, with higher access at Abuja and Ilorin (6.2%-7.5%).

Smaller institutions like Lafia and Otukpo exhibit limited engagement, likely due to nascent research infrastructures and fewer librarians, which constrain their participation in grant opportunities (Akomolafe & Ogunleye, 2023). These findings align with existing literature highlighting the dominance of institutional and government-funded grants in Nigerian universities, driven by mechanisms like TETFund and NRF, while international and specialized grants remain underutilized due to limited awareness and grant-writing proficiency (Okoye & Eze, 2022). The higher grant availability at Ilorin and Jos may reflect stronger institutional research cultures or established library leadership, fostering greater engagement with funding opportunities (Okebukola, 2019). The low uptake of capacity-building grants, critical for skill development, underscores a systemic gap in professional training, as global studies suggest that targeted workshops significantly enhance grant success rates (ELRHA, 2019).

The findings implies that the diverse availability of grant types highlights the need to investigate academic librarians' awareness, proficiency, and barriers in accessing funding, particularly for underutilized categories like international and capacity-building grants. These insights will guide the study in identifying targeted interventions to enhance grant-writing expertise, enabling librarians to contribute more effectively to institutional research goals and professional development in North Central Nigeria's federal universities.

Table 3: Extent to which Academic Librarians Utilize Grants Writing Skills in Federal Universities in North Central States, Nigeria

Extent	VHE	HE	U	VLE	LE	Total	Mean	STD
Grant proposals writing skills	57	31	29	17	12	146	3.55	1.46
Research Skills and subject expertise	63	24	29	19	11	146	3.57	1.52
Information literacy and database navigation Skills	45	32	33	27	27	146	3.23	1.54
Networking and collaboration skills	31	42	27	29	35	146	3.27	1.34
Writing and communication Skills	72	41	21	17	13	146	3.72	1.43
Technological proficiency Skills	58	46	22	17	21	146	3.64	1.39
Teamwork and interpersonal Skills	39	34	36	31	24	146	3.27	1.43

Table 3: Shows the extent to which academic librarians across eight federal universities in North Central Nigeria such as Federal University of Health Technology, Otukpo (FUHTO), University of Abuja (UNIABUJA), Federal University of Lafia (FULAFIA), Federal University of Lokoja (FULOKOJA), Federal University of Technology, Minna (FUTMINNA), Joseph Sarwuan Tarka University, Makurdi (JOSTUM), University of Jos (UNIJOS), and University of Ilorin (UNILORIN) possess grant-writing skills and their influence on accessing research grants. Writing and communication skills are the strongest, with 49.3% of librarians reporting a very high extent (VHE) and 28.1% a high extent (HE), particularly notable at University of Ilorin (UNILORIN) and the University of Jos (UNIJOS), where robust library training programs are established

(Akomolafe & Ogunleye, 2023). Research skills and subject expertise follow closely, (43.2% VHE, 16.4% HE), of librarians demonstrating Strong competent. Notably, the University of Abuja (UNIABUJA) and Federal University of Technology Minna (FUTMINNA) show strong research support capabilities, likely, due to their emphasis on research roles. Technological proficiency (39.7% VHE) and grant proposal writing skills (39.0% VHE) are also prominent, particularly at the University of Ilorin (UNILORIN) and University of Jos (JOSTUM,). However, variability is evident across institutions like Federal University of Health Science otokpo (FUHTO) and Federal University of Lafia (FULAFIA) with Standard deviation of 12.4 and 4.6, respectively, suggesting inconsistent training.

Conversely, networking and collaboration skills are weaker, (24.0%) of the librarians reporting a low extent, particularly at smaller institutions like Federal University Lokoja (FULOKOJA) and Otukpo, where limited staffing and research infrastructure hinder engagement (Okebukola, 2019). Teamwork and interpersonal skills also lag with (21.2%) reporting a very low extent, VLE), with FULAFIA and FUHTO reporting the lowest proficiency, reflecting institutional silos. Information literacy and database navigation skills show moderate proficiency (18.5% VLE, 18.5%), with the University of Jos (UNIJOS) and University of Abuja (UNIABUJA) performing better due to advanced digital resources. However, the mean Score of 22.5 and Standard deviation (SD=5.0) indicates consistent but limited expertise across the region.

It also implies that the uneven skill distribution, particularly weaker networking and teamwork in universities like FUHTO and FULAFIA, underscores the need for targeted, region-wide training programs and inter-university collaborations to enhance grant-writing proficiency. This informs the study's focus on developing tailored interventions to address skill gaps, enabling librarians across all eight institutions to improve grant access and contribute to institutional research goals.

Table 4. Challenges faced by Academic Librarian s in writing and securing grants in Federal Universities in North Central State, Nigeria

Challenges	FUHTO	UNIABUJA	FULAFIA	FULOKOJA	FUTMINNA	JOSTUM	UNIJOS	UNILORIN
Time constraints	3(2.1%)	3(2.1%)	2(1.4%)	3(2.1%)	2(1.4%)	2(1.4%)	3(2.1%)	3(2.1%)
Complexity of the grant application process	4(2.7%)	4(2.7%)	3(2.1%)	3 (2.1%)	3(2.1%)	2(1.4%)	3(2.1%)	2(1.4))
Lack of institutional support	3(2.1%)	9(6.2%)	5(3.4%)	5(3.4%)	10(6.8%)	13(8.9%)	12(8.2%)	13(8.9%)
Lack of Knowledge regarding funding agency priorities	2(1.4%)	8(5.5%)	4(2.7%)	3(2.1%)	7(4.8%)	9(6.2%)	9(6.2%)	10(6.8%)
The competitive nature of grant funding	4(2.7%)	11(7.5%)	5(3.4%)	5(3.4%)	10(6.8%)	13(8.9%)	13(8.9%)	14(9.6%)
Lack of networking opportunities and professional connections	4(2.7)	13(8.9%)	6(4.1%)	5(3.4%)	12(8.2%)	16(11.0%)	15(10.3%)	16(11.0%)
lack of participation in workshops	1(0.7%)	4(2.7%)	2(1.4%)	2(1.4%)	4(2.7%)	5(3.4%)	4(2.7%)	4(2.7%)
Lack of critical thinking	1(0.7%)	3(2.1%)	1(0.7%)	1(0.7%)	2(1.4%)	3(2.1%)	3(2.1%)	3(2.1%)

Source: Field Survey, 2025.

Table 4: delineates challenges faced by academic librarians in securing research grants across eight federal universities in North Central Nigeria: FUHTO, UNIABUJA, FULAFIA, FULOKOJA, FUTMINNA, JOSTUM, UNIJOS, and UNILORIN. The most significant barrier is the lack of networking opportunities and professional connections, most pronounced at JOSTUM and UNILORIN (11.0% each), followed by UNIJOS (10.3%) and UNIABUJA (8.9%). The competitive nature of grant funding is also critical, particularly at UNILORIN (9.6%), JOSTUM, and UNIJOS (8.9% each). Lack of institutional support is a major issue at JOSTUM and UNILORIN (8.9% each) and FUTMINNA (6.8%). Knowledge gaps regarding funding agency priorities are notable at UNILORIN (6.8%) and JOSTUM (6.2%). Lesser challenges include limited workshop participation (3.4% at JOSTUM, 2.7% at UNIABUJA, FUTMINNA, and UNILORIN), complex application processes (2.7% at UNIABUJA and FULAFIA), time constraints (2.1% across most institutions), and lack of critical thinking (2.1% at JOSTUM, UNIJOS, and UNILORIN), with FUHTO and FULAFIA reporting minimal issues (0.7%).

These findings corroborate studies highlighting networking deficits and institutional neglect as primary barriers to grant success in Nigerian universities (Akomolafe & Ogunleye, 2023). The procminence of these challenges at larger institutions like UNILORIN and JOSTUM suggests resource allocation disparities, while smaller universities like FUHTO and FULAFIA face constraints due to limited staffing (Okebukola, 2019). The moderate prevalence of knowledge gaps and low workshop participation aligns with global evidence that targeted training enhances grant outcomes (ELRHA, 2019).

The findings implies that the pervasive networking and institutional support barriers across all eight universities highlight the need for inter-university mentorship and dedicated grant-writing support units. This informs the study's focus on designing targeted training and policy interventions to bolster librarians' grant-writing proficiency and funding access, enhancing their role in institutional research advancement.

Discussion of Findings

This study investigates the grant-writing expertise of academic librarians across eight federal universities in North Central Nigeria—FUHTO, UNIABUJA, FULAFIA, FULOKOJA, FUTMINNA, JOSTUM, UNIJOS, and UNILORIN—focusing on available research grants, skill proficiency, and associated challenges. The findings reveal a complex interplay of opportunities and barriers that shape librarians' ability to secure funding, with implications for their professional development and institutional research goals.

Table 2 indicates a range of accessible grants, with Institutional Research Grants and Small Grants for Pilot Studies being the most prevalent, particularly at UNILORIN (12.3%) and UNIJOS (11.6%). Government-Funded Grants and Travel/Conference Grants are also prominent, notably at UNIABUJA (10.3%) and UNILORIN (11.0%), while Capacity Building and Professional Association Grants are least accessed, especially at FUHTO and FULAFIA (0.7% each). This distribution aligns with prior studies noting the dominance of domestic funding like TETFund in Nigerian universities, yet highlights underutilization of international and specialized grants due to limited awareness (Akomolafe & Ogunleye, 2023; Okoye & Eze, 2022). Larger institutions like UNILORIN and UNIJOS benefit from established research infrastructures, while smaller universities like FUHTO face structural constraints, underscoring disparities in grant access (Okebukola, 2019).

Table 3 reveals diverse proficiency in grant-writing skills, writing and communication skills (49.3% VHE) and research skills (43.2% VHE) are strengths, particularly at UNILORIN and UNIABUJA, reflecting strong training programs. However, networking (24.0% LE) and teamwork (21.2% VLE) skills are weaker, especially at FULOKOJA and FUHTO, indicating institutional silos that hinder collaborative grant applications (Okoye & Eze, 2022). Information literacy skills show moderate proficiency (18.5% VLE), with variability (SD=5.0) suggesting inconsistent training access across institutions. These findings corroborate global evidence that strong communication enhances grant success, while networking deficits limit outcomes (ELRHA, 2019)

Table 4 identifies lack of networking opportunities (11.0% at JOSTUM and UNILORIN) and the competitive nature of funding (9.6% at UNILORIN) as primary barriers, followed by institutional support deficits (8.9% at JOSTUM and UNILORIN). Knowledge gaps about funding priorities (6.8% at UNILORIN) and limited workshop participation (3.4% at JOSTUM) further impede success. Smaller institutions like FUHTO and FULAFIA report lower challenges due to limited engagement, reflecting resource constraints (Okebukola, 2019). These barriers align with regional studies highlighting institutional neglect and skill gaps as critical impediments (Akomolafe & Ogunleye, 2023).

The findings collectively suggest that while grant opportunities exist, librarians' access is constrained by uneven skill proficiency and systemic barriers, particularly in smaller universities. Strong communication skills at UNILORIN and UNIJOS contrast with networking weaknesses across the region, limiting collaborative funding pursuits. Institutional support deficits and competitive funding environments further exacerbate challenges, particularly in resource-constrained settings. These insights align with global literature emphasizing the need for targeted training to enhance grantsmanship (ELRHA, 2019).

The disparities in grant access and skill proficiency across the eight universities underscore the urgency for region-wide interventions, such as inter-university mentorship, dedicated grant-writing units, and tailored workshops. This study informs policy reforms to strengthen librarians' capacity, enabling them to leverage diverse funding opportunities, enhance institutional research outputs, and advance their professional roles in Nigeria's higher education landscape.

Conclusion

This study investigated the grant-writing expertise of academic librarians in eight federal universities in North Central Nigeria: Federal University of Health Technology, Otukpo; University of Abuja; Federal University of Lafia; Federal University of Lokoja; Federal University of Technology, Minna; Joseph Sarwuan Tarka University, Makurdi; University of Jos; and University of Ilorin. Findings reveal that while Institutional Research Grants and Government-Funded Grants are widely available, particularly at the University of Ilorin and University of Abuja, international and capacity-building grants are underutilized, especially at smaller institutions like Otukpo, due to limited awareness and skill proficiency. Librarians demonstrate strengths in writing and research skills but exhibit weaknesses in networking and teamwork, notably at Lokoja and Otukpo, which restrict collaborative funding success. Major barriers include insufficient networking opportunities, highly competitive funding environments, and lack of institutional support, most evident at Makurdi and Ilorin, alongside limited access to training workshops. These results highlight systemic constraints rather than a lack of motivation among librarians, emphasizing their critical role in knowledge management and research support within

Nigeria's evolving higher education landscape. To address these challenges, universities and library associations should establish structured professional development programs, incorporating targeted grant-writing workshops, inter-university mentorship, and dedicated support units. Such initiatives will enhance librarians' grantsmanship, enabling them to secure diverse funding and strengthen their contributions to institutional research objectives. Policymakers must prioritize investments in these programs to empower librarians, fostering innovation in academic libraries and aligning their efforts with national development goals.

Recommendations

1. Federal universities in North Central Nigeria, including FUHTO, UNIABUJA, FULAFIA, FULOKOJA, FUTMINNA, JOSTUM, UNIJOS, AND UNILORIN, should implement structured capacity-building programs to enhance academic librarians' grant-writing proficiency. These programs should include regular workshops, seminars, and conferences focused on grant proposal development, funding agency priorities, and effective communication strategies.
2. Universities should prioritize initiatives to strengthen librarians' networking and teamwork skills, which are notably weak, particularly at FULOKOJA AND FUHTO. This can be achieved through inter-university collaborative platforms and professional development programs that promote partnerships with faculty and external researchers.
3. To overcome challenges such as institutional support deficits and competitive funding environments, universities should institute mandatory training and retraining programs for academic librarians. These should cover essential grant-writing competencies, including proposal structuring, navigating grant websites, and aligning applications with funder criteria.

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INFLUENCE OF PUBLIC RELATION PRACTICES ON EFFECTIVE SERVICE DELIVERY IN STATE UNIVERSITY LIBRARIES IN BENUE AND NASARAWA STATES, NIGERIA

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Abstract
This study investigated the influence of public relations practices on effective service delivery in State University Libraries in Benue and Nasarawa States, Nigeria. The study used a descriptive survey research design. Two objectives were formulated to guide the study while one hypothesis was tested at 0.05 level of significance. The population of the study was made of 93,986 library staff and registered library users of Rev. Fr. Moses Orshio Adasu University Makurdi and Nasarawa State University Keffi. A sample of 531 Library staff and registered users was determined using Taro Yamane formula. Data were collected using structured questionnaire titled "Influence of public relations practices on effective service delivery questionnaire, (IPRPESDQ). Descriptive and inferential statistics were used for the data analysis. The finding of the study revealed a consistently high mean scores across the public relations practice listed indicating that the state university libraries recognize the importance of public relations and are making concerted efforts to implement varied public relations practices. The study found that public relations practices significantly influence effectiveness of service delivery Based on the findings, it concluded that the effectiveness of all services in the state university libraries is in response to public relations activities such as user orientation programs, guides, strategic information dissemination and awareness campaigns which enhances the university libraries visibility and increase user patronage. It recommends among others, that University library administrators should adopt regular service evaluation and feedback to ensure continuous improvement of services in tandem with the evolving user needs.
Keywords: Public Relation, Practices, Service Delivery, State University Libraries, Benue, Nasarawa States, Nigeria

Introduction

All over the world, there is the recognition that education is the way out of series of bondages plaguing human society. Suffice it to say that, education is a tool for reconstruction of an individuals' consciousness, fostering innovation and reshaping social values. The University as a higher institution of learning plays a critical role in this process by providing an environment for not just the training of individuals to acquire knowledge and skills in various disciplines. It is also a

place of intellectual inquiry and knowledge creation, innovation and nurturing of human needs for sustainable development.

In Nigeria, universities whether public or private are seen as places of great personal development and advancement of individual's knowledge, skills and competencies in their field of interest. Central to the actualization of the university's' mission is the university library which serves as the intellectual hub of the institution. It is a common fact that, the university library role is to ensure students, staff and researchers have access to latest scientific trends in their field of specialization by providing information resources of various types or forms, processing and organizing them in order to facilitate easy access and use. Nongo, Ubagu and Adejo (2020) agrees that university libraries provide access to resources that will satisfy the informational, educational and recreational needs of the university community in respective faculties of the university. Beyond the traditional role of housing information resources like books, the modern university library is clearly a dynamic hub for knowledge creation, access to information and communication technology (ICT) tools for digital resources and the promotion of information literacy. It is also important to stress that university libraries significantly contribute to the realization of Sustainable Development Goals, SDGs particularly goal 4 which is focused on achieving quality education and goal (focused on industry, innovation and infrastructure). This view is supported by Ammenuveve Dei and Asante (2022) who noted that university libraries provide relevant materials to support students' learning, organize training on information literacy and engage their patrons periodic information literacy programs to create awareness of the SDG goal. In essence, it is possible to assert that, the strength of a university's library is often a direct reflection of its capacity to produce transformative knowledge, provide access to information resources without discrimination to address social challenges and drives national progress. To reach out to the publics, the university library needs to employ public relations.

Public relations is a global practice which involves building and maintaining a beneficial relationship between an organization and its publics by continually providing up-to-date information and receiving feedback from the publics. Public relations in libraries according to Shidi and Sambe, (2019) are those library activities that are geared towards creating positive image and reputation of the library institutions before their publics. This involves deliberate, planned and sustained efforts to establish and maintain mutual understanding between the library and its publics. Adewusi (2015) noted that, the importance of public relations cannot be overlooked in any organization, including the library. In university libraries, Public relations focuses on developing a good image, building favorable relationships with the library publics, marketing the library resources and services, as well as disseminating a clear message to the user community to correct misinformation and wrong perception of the library to enhance effective service delivery. It is possible that many students or staff may be unaware of the vast print and electronic resources available in the university library. Through public relations practices, university libraries ensure publicity of new acquisitions including e-resources and information services delivery.

Service delivery in libraries maybe described as the activity of providing access to information resources, programs and services offered by the library to meet the information, educational, cultural and recreational need of a user community. In other words, the concept of service delivery in libraries entails the act of providing library users with the necessary professional assistance required to meet their information needs (Ogbonyomi, 2024). University libraries deliver a variety of services to the users. In the light of this, Nnadozie, Nnadozie and Okeke (2016) argues that some library services have close aims and objectives with public relations practices; these are, library publications, inter-library loan services, reservation services, exhibition

display, user education, referral services, translation services, abstracting and indexing services, consultancy services, provision of seating and study facilities, reference service, current awareness service (CAS), selective dissemination of information (SDI). Apparently, it is possible to describe service delivery in libraries as activities that bridges the gap between users and the resources or services rendered by the library to serve patrons information need. Effective services delivery ensures that university libraries remain relevant, impactful and responsive to the ever-changing demands of its user community. A service is described to be effective if it accomplishes the objective and produce the required outcome. As such, the library users who directly benefit the service provides their judgment of how well the service is performed. This implies that, there is need to assess the effectiveness of service delivery from the users hence the University libraries employ various public relations practices to attract patronage.

Public relations practices can be explained in the context of this work as approaches or activities employed by librarians to attract people and influence favourable attitude and support from library parent body and its internal as well as external publics. These activities help to establish mutual understanding and beneficial relationship between the library and its stakeholders. Oziko and Usman (2019) posited that public relations practices are intended activities arranged by organizations (such as libraries) to ensure that they remain relevant and create a positive image to their patrons. In their argument, Shidi and Sambe (2019) noted that the application of Information and Communication Technology (ICT) in libraries has changed the over reliance on the traditional library public relations activities thereby making it possible for the use of electronic public relations tools by librarians in reaching out to users to enable them know about resources and services of the library. These electronic means of carrying out public relations activities included the use of social media, creation of library website, electronic displays/exhibitions program, subscription and posting library activities, placement of adverts on radio and Television. The use of these electronic channels is a fast and effective way of reaching out to large user groups within and outside the university environment.

So far as the university library has enormous resources and services to deliver, university libraries also have to continually strive to create the consciousness and awareness of their available information resources and services so as to attract potential users. Nnadozie and Okeke (2021) observes that despite noticeable variations in the methods, strategies and tools used to reach out to the publics, the target of public relation in libraries is to maintain good social image, communicate activities of the library effectively and foster good mutual understanding and relationship between the library and its user community.

Statement of the Problem

Public relations have become an indispensable tool for organisations that seek to build and sustain their trust, project their positive image and maintain a beneficial relationship with their publics. University libraries as service oriented integral part of academic institutions are not exempted from this reality. They require strong, well planned and implemented public relations practices to showcase their value, attract sustained support from their institutions and stakeholders as well as foster continuous engagement with their publics.

However, despite the perceived benefits of public relations practices, it is observed that many university libraries struggle with low patronage from users, negative public perception, limited funding, and weak institutional support. This suggest that public relations are ineffectively managed in such libraries. While existing literature such as the study by Umelo and Nyemezu (2023) as well as Udofot and Abi (2024) provides insight into public relations practices and service

delivery in university libraries in other geopolitical regions or states, there is limited research specifically on State university libraries in Benue and Nasarawa States. This gap in knowledge makes it necessary to empirically investigate the influence of public relations practices on effective service delivery in State University libraries in Benue and Nasarawa States, Nigeria.

Objectives of the Study

This study seeks to:

1. examine the public relations practices in State University libraries in libraries under study.
2. investigate the level of effectiveness of public relation practices have on service delivery to users in the libraries under study.

Research Questions

1. What are the public relations practices in State university libraries in libraries under study
2. How effective has public relations influenced service delivery in libraries under study

Hypothesis

Ho1. Public relations practices have no significant influence on effectiveness of service delivery in State University libraries in Benue and Nasarawa States.

Research Methodology

The study used descriptive survey research design. The basis for this design is that, it allows the description of the variables of the study without manipulation. According to Emaikwu (2021) descriptive survey research design is only interested in describing certain variables in relations to population. The population of the study was made up of 93,986 library staff and registered library users of Rev. Fr Moses Orshio Adasu University (MOUAM) and Nasarawa State University Library Keffi (NSUK). The population was obtained from the office of the University Librarians of the institutions under study. This approach was to ensure accurate and reliable data on the library staff and registered library users' population. The sample size for this study was 531 library staff and registered users of MOUAM and NSUK. A census method was used to adopt all 131 library staff which is supported by Kelechi (2025) who noted that census method suitable with small population to obtain accurate information from every single member of the population. The study used Taro Yamane formula to arrive at a sample of 400 registered library users and proportionally distributed between the two universities with MOUAM having 24 while NSUK 376. Data were collected using well-structured questionnaire titled "Influence of public relations practices on effective service delivery questionnaire, (IPRPESDQ). Descriptive and inferential statistics were used for the data analysis. For research question 1, the decision making accepted a mean criterion of 2.50 and above was agreed while a mean below 2.50 was considered disagree. However, for research question 2, a mean score of 2.50 above were considered effective while mean score below 2.50 were considered not effective. Chi-square was used to test the hypothesis at 0.5 level of significance where the value greater than 0.5 were considered significant while values below 0.5 were considered insignificant. A total of 531 questionnaires were administered to both library staff and registered library users in the universities under study. Out of this number; 131 questionnaires were distributed to library staff in the two universities. Of these, 103 were duly completed and returned representing a return rate of 78.6%. Also, 400 questionnaires were administered to registered library users across the two universities. Out of these, 376 were returned representing a return rate of 94%. Summarily, 479 questionnaires were successfully retrieved in good condition

and used for analysis representing an overall return rate of 90.2%.

Results and Discussion of Findings

1. **Research Question 1:** What are the public relations practices in State university libraries in Benue and Nasarawa States?

Table 1: Public Relations Practices in State University Libraries in Benue and Nasarawa States

N=103

S/N	Items	SA	A	D	SD	Mean	Standard Deviation	Decision
1	Planning and implementation of library week	39	42	15	7	3.11	0.82	Agree
2	Use of library notice board and suggestion box	41	46	10	6	3.18	0.79	Agree
3	Online presence through social media use	43	42	12	6	3.18	0.81	Agree
4	Library Website and Email to communicate with users and staff	40	44	13	6	3.14	0.80	Agree
5	Library user education/ orientations	39	44	14	6	3.11	0.82	Agree
6	Reference and referral service	42	43	12	6	3.17	0.81	Agree
7	Display and Exhibition of information resources	41	43	13	6	3.14	0.80	Agree
8	Organizing book fairs, news talk, and phone-in programmes	40	42	15	6	3.11	0.82	Agree
9	Creation of film hours and periodic library publications	41	42	14	6	3.13	0.81	Agree
10	Subscription and resource sharing	42	41	14	6	3.14	0.82	Agree
11	Creation of relaxation and special information corners	41	40	15	7	3.14	0.81	Agree

Source: (Field Survey, 2025)

Table 1 showed the mean scores of response value of items 1-11 as 3.11, 3.18, 3.18, 3.14, 3.11, 3.17, 3.14, 3.11, 3.13, 3.14, and 3.14 with a clustering mean 3.14. The standard deviation values 0.82, 0.79, 0.81, 0.80, 0.82, 0.81, 0.80, 0.82, 0.81, 0.82 and 0.81 also tallied respectively. The result indicated respondents agree that various public relations practices are being implemented in state university libraries in Benue and Nasarawa States. It is an indication that the libraries under study embraced and effectively engage in public relations activities such as organizing library week, using notice board, exhibitions, social media communication, and collaborative resource sharing to promote positive relationship with their users. Similarly, user education and orientation are acknowledged as important practices which reflects the libraries commitments to ensuring that patrons are well guided in the use of library resources and services. Public relations practices such as book fairs, news talks, phone-in-programmes, and display of resources demonstrated the libraries effort in enhancing visibility and strengthen visibility. Summarily, the high mean scores recorded by all items indicated that the two states university libraries employed a range of public relations

practices and these practices contributes to promoting the library resources and services. The practices also strengthen user engagement with the libraries thereby showing it as an indispensable academic entity.

Research Questions Two: How effective has public relations practices influence services delivery in State University libraries in Benue and Nasarawa States?

Table 2: Effectiveness of Service Delivery to Users in the State University Libraries in Benue and Nasarawa States

N=376

S/N	Items	VE	E	LE	NE	Mean	Standard Deviation	Decision
12	User education/orientation through directional guides	120	130	66	60	2.80	1.07	Effective
13	Reference and referral services	110	140	86	40	2.72	1.11	Effective
14	Lending services	120	136	90	30	2.92	0.93	Effective
15	Strategic dissemination of information (SDI)	96	160	80	40	2.72	1.06	Effective
16	Abstracting and indexing services	80	160	96	40	2.59	1.08	Effective
17	Current Awareness Service (CAS)	200	100	50	26	3.19	1.08	Effective
18	Consultancy services	140	110	80	46	2.86	1.00	Effective
19	Literature search for research	150	120	56	50	2.96	1.06	Effective
10	Reprographic services e.g., photocopying, scanning, downloading	111	149	70	46	2.86	0.97	Effective
10	Internet and virtual library services	170	118	50	38	3.08	1.03	Effective
11	Anti-plagiarism test services	180	79	70	47	3.04	1.07	Effective

Source: (Field Survey, 2025)

The data presented in table 2 assessed the effectiveness of service delivery in the university libraries under study as influenced by public relations practices. The mean scores of response value of items 12 – 20 ranges from 2.80, 2.72, 2.92, 2.72, 2.59, 3.19, 2.86, 2.96, 2.86, 3.08 and 3.04. The table showed corresponding standard as 1.07, 1.11, 0.93, 1.06, 1.08, 1.08, 1.00, 1.06, 0.97, 1.03 and 1.07 respectively. The result revealed high mean scores above the criterion mean of 2.50 and 0.50 respectively indicating that respondents agreed that public relations practices have a positive influence on the effectiveness of service delivery in the university libraries under study. The standard deviation values indicated that respondents were fairly consistent which suggested that their opinions were not widely dispersed and there were common perception of effectiveness among the library users. From the results, services such as current awareness service, internet and virtual library and anti-plagiarism test recording high mean scores indicated that these services are perceived as most effectively delivered. Additionally, services such as lending services, consultancy and reprographic services were also considered effective by the respondents. However, services like abstracting and indexing, though rated effective by respondents, they

recorded low mean scores indicating that these technical services seem not to be well promoted or utilized by patrons. This implies the need for more user education or publicity on the relevance of abstract and indexes to academic research and knowledge organization in libraries. Summarily, the high mean scores and corresponding standard deviation confirms that public relations practices have significantly influence the effectiveness of service delivery in the state university libraries studied. It is possible from the result to maintain that the libraries are performing well in meeting their user's information need by combining traditional and modern services supported by robust communication and user engagement practices.

Table 3: Chi-square Test on the influence of public relations practice on effective service delivery

Opinions	Observed Frequency	Expected Frequency	Df	X^2cal	X^2tab	Level of Sig	Decision
No Influence	37 (36.7%)	50 (49.5%)	1	14.76	3.84	0.000	Significant
Influence	66 (65.3%)	50 (49.5%)					

Values in parentheses are percentages ($X^2 = 14.76$, $df = 1$, $p = 0.05 > 0.00$)

Table 3 presents the descriptive statistics (percentages) and inferential statistics (chi-square test) used to determine the significant influence of public relations practice on effective service delivery in State University libraries in Benue and Nasarawa States. The results show that 65.3% of respondents agreed that public relations practices has a significant influence on the effectiveness of service delivery, while 36.7% disagreed. The calculated chi-square value (14.76) is greater than the table value (3.84) at a 0.05 level of significance with 1 degree of freedom. Therefore, the null hypothesis (H_0) is rejected. This implies that public relations practices has a significant influence on effective service delivery in State University libraries in Benue and Nasarawa States.

Discussion of Findings

The first finding of the study discovered that, the listed public relations practices are active in the State university libraries in Benue and Nasarawa States as results showed a consistent and consensus agreement by the respondents evidenced by the mean scores above 3.00. Each item received a response of strongly agree and agree confirming the activeness of the listed public relations practices; notably, the mean score of 3.11 to 3.18 for library week, user orientation and book fairs indicated a strong consensus of their implementation. Also, library websites, email, and social media use received the high mean scores above 3.14 which indicated that the university libraries align with digitalization as global best practices. This study discovered that State university libraries in Benue and Nasarawa States are implementing various public relations practices positively shown by the respondents.

The second finding of this study revealed that public relations practices has significant influence on the effectiveness of service delivery in the States University libraries in Benue and Nasarawa States. The study revealed an overall high effectiveness of service delivery, from user education to anti-plagiarism test, mean scores between 3.11 and 3.17 were recorded from the respondents which showed a strong performance of the State university libraries in Benue and Nasarawa States. It further indicated that library services in Benue and Nasarawa States to a large

extent are meeting user needs. This further revealed that public relations practices make information accessible to satisfy their need. The result further showed that the degree of use of the library was very high.

Conclusion

Based on the findings of the study, this study therefore concludes that public relations practices have a significant influence on the effectiveness of service delivery in the States University libraries in Benue and Nasarawa States. The study established that the effectiveness of all services is in response to public relations activities such as user orientation programs, guides, information dissemination and awareness campaigns which enhances the university libraries visibility and increase user engagement. It is clear that a well-planned and coordinated public relation practices help in bridging the gap between library resources and utilization by users, ensuring that library resources and services are more accessible and tailored to meet the needs of students, faculty staff and researchers. Given the essential role of public relations practices in boosting service effectiveness, policies should be made to ensure regular user education, digital literacy training and ensuring that students as well as academic staff are informed of the library collections and services.

Recommendations

Based on the findings of the study, it is recommended that;

1. University management should establish and ensure funding of public relations units in libraries to manage communication, user engagement, and service promotion.
2. Given the essential role of public relations in boosting service effectiveness, policies should be made to ensure regular user education, digital literacy training and ensuring that students as well as academic staff are informed of the library collections, programmes and services offered.
3. Libraries should closely work with faculties and departments to ensure strengthening academic integrity through anti-plagiarism test into research (projects, dissertation and thesis) submission process. This will increase the value of libraries and attract the support of the university management and other stakeholders.
4. University library administrators should adopt regular service evaluation and feedback to ensure continuous improvement of services in tandem with the evolving user needs.
5. Libraries should prioritize the adoption of well-structured public relations practices to enhance service delivery. This could be achieved when institutions develop clear communication strategies that will ensure effective engagement between library staff and users.

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OPEN ACCESS RESOURCES AND THEIR INTEGRATION INTO DIGITAL LIBRARY COLLECTION

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Abstract
The growing shift toward open access (OA) publishing has reshaped how knowledge is produced, shared, and preserved, offering new opportunities and challenges for digital library collections. This study examined the inclusion of open access resources in digital libraries, assessed their impact on accessibility, diversity, and usability, and identified the challenges that affect their effective integration. A qualitative research design was adopted, relying on document analysis and an interpretive review of empirical studies, policy documents, and professional reports. Evidence from recent literature reveals a steady but uneven integration of OA resources, with significant progress in the adoption of Gold, Green, and hybrid OA models that expand access and reduce financial barriers. Libraries that successfully embed OA resources report improved user satisfaction, broader content diversity, and the ability to redirect funds from costly subscriptions to infrastructure development. However, persistent challenges such as inconsistent metadata, poor internet connectivity, inadequate staff training, weak institutional support, and legal uncertainties continue to limit widespread adoption, particularly in developing contexts. Guided by the Open Access Movement Theory, this study highlights that effective integration requires not only technical solutions but also strong policy frameworks, sustained funding, and active user engagement. Strengthening infrastructure, improving staff capacity, and promoting user awareness are recommended as key strategies for building inclusive, dynamic, and sustainable digital library collections.
Keywords: Open Access, Resources, Digital Library, Collection, Integration

Introduction

The movement toward open access has transformed the creation, sharing, and preservation of digital information, creating both opportunities and challenges for managing large electronic collections. As knowledge production accelerates, the free availability of research outputs has helped narrow the gap between privileged and marginalised users, a development seen as a step toward overcoming academic elitism through institutional repositories. This transition also illustrates a broader culture of open innovation in science, characterised by a collaborative rethinking of how ideas circulate and evolve within the global research community (Bashir *et al.,* 2022; Beck *et al.,* 2022).

Open access resources; whether peer-reviewed articles, books, datasets, or multimedia

objects are defined by their removal of price and permission barriers, a principle that Brunsting *et al.* (2022) characterise as central to modern library practice. Integrating these freely available materials into digital library collections allows for wider dissemination of scholarly work and helps institutions respond to the growing demand for immediate access to high-quality information. The success of such integration depends heavily on the reliability of metadata and linked data structures, a concern highlighted by Candela *et al.* (2022) in their evaluation of data quality within digital libraries.

Advocates of open science argue that the benefits of transparency and collaboration outweigh the technical and policy difficulties that still exist, as Chakravorty *et al.* (2022) point out when outlining both the challenges and possible solutions for sustaining openness. Institutions that have already adopted structured open access strategies demonstrate the feasibility of these approaches, with de Castro *et al.* (2022) reporting successful implementations in science and technology settings where policy support and infrastructure investment work hand in hand. Such examples show that the integration of open access resources is not only a technical process but also a strategic effort to reshape information ecosystems.

The rapid expansion of open access also affects the economics of publishing and collection development. Koley and Lala (2022) observe that changing subscription models, including national-level agreements, are forcing libraries and publishers to reconsider cost structures, while Harker *et al.* (2022) note that these shifts require a redefinition of collection development services to balance open content with licensed resources. Visibility and citation advantages further drive adoption; Majhi *et al.* (2023) emphasise that open dissemination practices enhance research impact, and Vadhera *et al.* (2022) show that open articles attract more social media attention and citations compared with pay-walled content.

Nevertheless, integration is not without obstacles. Lund *et al.* (2023) document the barriers researchers face in publishing openly, including funding limitations and uneven institutional support, while Nobes and Harris (2023) report that scholars in low- and middle-income countries experience both enthusiasm and hesitation as they navigate these new publishing norms. Concerns about predatory journals remain widespread, a problem examined by Okwu and Oladokun (2023), and legal uncertainties continue to complicate implementation, with Oladokun et al. (2024) noting that copyright and national regulations still shape how materials can be shared. Ploman and Hamilton (2024) further argue that intellectual property rights must be carefully balanced with the principle of free access if digital collections are to remain sustainable.

Digital libraries provide the technological framework that makes large-scale integration of open resources possible. Their success depends on the ability to organise and retrieve content effectively, and Quarati and Raffaghelli (2022) demonstrate how the quality of metadata directly influences the discoverability of open research data across disciplines. Discovery layers and open-source retrieval services such as VuFind illustrate practical approaches to this challenge, as Roy *et al.* (2022) describe in their work on library retrieval systems for developing contexts. Beyond technology, open publishing itself carries cultural value, with Thiel (2022) emphasising that access must be paired with trust and recognition to truly democratise knowledge. Sustainability also remains central to long-term success, and Tlili *et al.* (2023) show that evolving models for open educational resources can guide similar strategies for open access integration.

The growing significance of these developments provides the foundation for selecting "Open Access Resources and Their Integration into Digital Library Collection" as the focus of this study. This is justified because it addresses an urgent need to understand how freely accessible scholarly materials can be systematically incorporated into digital collections to enhance visibility,

reduce costs, and promote equitable access to information. By examining the extent, impact, and challenges of this integration, the study offers timely insights that can guide librarians, policy makers, and institutions in building inclusive and sustainable digital knowledge environments.

Statement of the Problem

Digital libraries have become vital platforms for organising, preserving, and providing access to diverse information resources in both developed and developing regions. Traditionally, many digital library collections have been built around licensed or subscription-based content, which often limits access to users who can afford or are affiliated with particular institutions. The emergence of open access (OA) resources; scholarly materials such as journals, datasets, e-books, and research outputs that are freely available online; has introduced new opportunities to expand the reach and impact of digital collections. By removing price and permission barriers, open access holds the potential to enhance equity, support global knowledge sharing, and enrich the content of digital libraries.

Despite these benefits, integrating open access resources into digital library collections remains uneven and sometimes problematic. Challenges such as inconsistent metadata, limited interoperability between open access repositories and existing library platforms, inadequate technical infrastructure, and low user awareness often hinder effective integration. In many contexts, especially in developing regions, unreliable internet connectivity, lack of skilled personnel, and sustainability concerns further restrict the full adoption of open access resources. As a result, the promise of open access to transform digital libraries into truly inclusive and comprehensive knowledge hubs has not yet been fully realised.

Objectives of the Study

The main objective of this study is to examine open access resources and their integration into digital library collections. Specifically, the study seeks to:

1. Determine the extent to which open access resources are included in digital library collections.
2. Assess the impact of integrating open access resources on the accessibility, diversity, and usability of digital library content.
3. Identify the challenges encountered in incorporating and maintaining open access resources within digital library systems.

Reviewof related Literature

This section of the research reviewed: theoretical and conceptual frameworks and previous works by other scholars.

Theoretical Framework

This study is anchored on the Open Access Movement Theory, which emerged from the Budapest Open Access Initiative of 2002 and has since been advanced by scholars such as Suber (2012). The theory promotes the principle that scholarly and educational resources should be freely available online without financial, legal, or technical barriers. It aximize that knowledge is a public good and that unrestricted access fosters wider dissemination of information, accelerates research, and supports equitable participation in global scholarship.

The relevance of this theory lies in its focus on removing barriers to information, which directly connects to the integration of open access resources into digital library collections. Digital libraries aim to preserve, aximize, and provide seamless access to diverse resources, and the

inclusion of open access materials aligns with the core ideals of free and universal knowledge sharing. By applying the Open Access Movement Theory, this study evaluates how digital libraries can incorporate open access resources to enhance accessibility, reduce cost constraints, and broaden the scope of information available to users.

This theoretical lens is appropriate because it explains not only the technical and aximizeonal aspects of integration but also the social and ethical imperatives driving the global shift toward open access. Unlike retrieval-focused models, the Open Access Movement Theory highlights the structural and policy changes needed to sustain open access resources within digital library environments, making it well-suited for examining their adoption, challenges, and long-term sustainability.

Review of Concepts

The following concepts are reviewed in line with the study:

Open Access: Open access is the practice of making scholarly work freely available for reading, downloading, and reuse without financial or legal barriers, a principle framed by Brunsting *et al.* (2022) as essential for modern information services. Its models include gold open access journals, hybrid publishing arrangements, and self-archiving in repositories, approaches that de Castro et al. (2022) show can be successfully implemented when supported by clear institutional strategies. The philosophy of open science described by Chakravorty *et al*. (2022) underpins these models by promoting transparency and global collaboration.

Resources: In the context of digital libraries, resources include every form of digital content—articles, books, datasets, multimedia files, and grey literature—that supports learning and research. Bashir *et al*. (2022) illustrate how institutional repositories expand resource diversity while narrowing gaps in access, and Majhi *et al*. (2023) note that well-managed open resources improve research visibility and citation impact.

Digital Library: A digital library is a technology-driven environment that aximize and preserves electronic materials for structured retrieval. Candela *et al.* (2022) highlight the importance of metadata quality in sustaining discovery, while Roy *et al.* (2022) show how open-source discovery layers can enhance user access in resource-constrained settings. These platforms evolve continuously to accommodate new forms of open content and changing patterns of user aximize.

Collection: The collection refers to the curated set of digital resources that a library or information service selects for long-term access. Harker *et al.* (2022) emphasise that integrating open access materials requires balancing quality control with broad inclusion, and Ploman and Hamilton (2024) remind practitioners that copyright compliance remains a central concern even in open systems. Sustainable models, such as those explored by Tlili *et al.* (2023) for open educational resources, provide guidance for maintaining vibrant and reliable collections over time.

Related Works on the Open Access Resources and their Integration into Digital Library Collection

Oladokun, Sambo, Bassey, and Enakrire (2024) conducted a qualitative systematic literature review on the role of open repositories in transforming collection development. Their findings reveal significant growth in hybrid, Gold, and Green open access journals, which has broadened access to scholarly materials and reduced dependence on costly subscriptions. The

study underscores the benefits of OA integration in promoting collaboration, innovation, and equitable knowledge sharing, while also noting persistent challenges relating to sustainability, quality assurance, copyright, and digital preservation.

Anyira, Udem, and Njoeteni (2023) examined strategies for integrating open access resources (OAR) into library collections through an online survey of 78 collection development staff, with a 79.4% response rate. Respondents, drawn from diverse Nigerian libraries and certified by professional bodies, reported that while most libraries do not currently acquire OAR, many plan to incorporate them into acquisition workflows. The study found strong consensus on the importance of collection development policies, though such documents and staff training remain absent. Key challenges identified include inadequate electricity supply, lack of OA management skills, weak institutional support, and absence of formal policy frameworks.

Nwabueze, Echedom, and Anyira (2020) investigated the challenges of integrating open access (OA) into collection development workflows in Nigerian academic libraries using a survey of 194 collection development staff, with a 92% response rate. The findings reveal that defining OA itself is a major challenge, alongside difficulties in title discovery, complex preservation requirements, licensing and legal issues, and inadequate policy support. Additional barriers include lack of staff skills, limited ICT deployment, absence of OA in curricula and duty schedules, slow internet, and unreliable power supply, all of which significantly hinder systematic OA integration.

Kalerao, Katuri, and Bhushan (2025) examined the challenges of digital libraries, identifying key issues such as digital preservation risks, accessibility barriers for diverse users, interoperability problems arising from varied content formats and metadata standards, and persistent privacy and copyright concerns. The study also highlights the impact of the digital divide on equitable access to resources, emphasizing the need for collaborative efforts among libraries, technology developers, and policymakers to ensure sustainable and inclusive digital library systems.

Goyal and Reago (2024) examined students' perceptions of developing a digital library for the Electronics Technology Department at Valenzuela City Technological College using a survey of 150 students. Statistical analysis revealed a significant difference in students' views on the efficacy of digital versus physical libraries, with digital libraries rated highly for accessibility, system quality, user-friendliness, and information value. The study concludes that digital libraries are strongly perceived as vital extensions of physical collections, reinforcing their role as integral components of the university's information infrastructure.

Research Methodology

The study employed a qualitative research design based on document analysis and interpretive review. This design enabled an in-depth examination of empirical studies, policy documents, and professional reports concerning the integration of open access resources into digital library collections. The objectives were threefold: to assess the extent of inclusion of open access resources, to evaluate their impact on accessibility, diversity, and usability, and to identify challenges associated with their incorporation and sustainability.

Data were sourced systematically from scholarly databases, institutional repositories, open access platforms, and library science journals. Core evidence was drawn from recent studies, including those of Oladokun et al. (2024), Anyira *et al.* (2023), Nwabueze et al. (2020), Kalerao *et al.* (2025), and Goyal and Reago (2024), supplemented by reference list screening to capture additional relevant literature. This approach ensured comprehensive coverage and provided a reflective

synthesis of existing knowledge without the limitations of field-based surveys.

Extent to which open access resources are included in digital library collections

The findings indicate that the inclusion of open access (OA) resources in digital library collections is gradually expanding, although the pace remains uneven across different contexts. Globally, significant progress has been made through the adoption of Gold OA, Green OA, and hybrid publishing models, which have enabled libraries to reduce reliance on costly subscriptions and to reallocate funds towards supporting OA initiatives. However, within the Nigerian context, incorporation is still largely at a developmental stage. While many academic libraries acknowledge the relevance of OA and have expressed intent to embed it into their acquisition workflows, systematic integration into collection development policies remains limited. This suggests that OA adoption is still more aspirational than comprehensive, particularly in developing countries where infrastructural and institutional constraints persist.

Impact of integrating open access resources on accessibility, diversity, and usability

The integration of OA resources into library collections has had a demonstrably positive impact on accessibility and diversity, particularly where implementation has been more advanced. The adoption of OA resources has broadened access to scholarly materials, reduced financial barriers for both libraries and users, and enhanced opportunities for knowledge sharing. Furthermore, OA has allowed libraries to redirect subscription budgets toward infrastructure and digital preservation, thereby strengthening long-term sustainability. From the perspective of users, digital libraries enriched with OA resources are perceived as highly valuable for their accessibility, usability, and informational quality. This reinforces the position of digital libraries as critical extensions of physical libraries and as central infrastructures for academic learning, research, and innovation.

Challenges in incorporating and maintaining open access resources

Despite these advantages, a range of structural and operational challenges continue to impede the smooth integration of OA resources into digital library collections. In Nigeria, these challenges include unreliable electricity supply, inadequate internet bandwidth, shortage of trained personnel, and weak institutional support. Policy-related gaps, such as the absence of clear collection development guidelines for OA materials, further limit consistent adoption. At a broader level, additional challenges include definitional ambiguities, resource discovery difficulties, digital preservation concerns, and complex copyright and licensing issues. Technical barriers relating to interoperability, sustainability, and the digital divide also remain prevalent. These findings indicate that the successful integration of OA resources depends not only on availability but also on the establishment of robust infrastructure, supportive policies, and staff competencies that can sustain their long-term management and accessibility.

Conclusion

The study establishes that the integration of open access resources into digital library collections holds considerable promise for advancing equitable knowledge dissemination. The adoption of OA enhances accessibility, promotes diversity of information, and increases the overall impact of research. Nevertheless, the uneven pace of adoption, particularly in developing contexts, highlights the need for targeted interventions. Overcoming barriers such as infrastructural inadequacies, insufficient institutional support, and legal uncertainties requires coordinated efforts among libraries, government agencies, and the scholarly community. With sustained investment in infrastructure, the development of comprehensive policies, and the enhancement of staff capacities, libraries can maximize the potential of OA to build inclusive, dynamic, and sustainable collections for the future.

Recommendations

1. Establish clear policies to guide the systematic selection, integration, and preservation of open access resources, ensuring consistency in collection development.
2. Strengthen infrastructure and build staff capacity through investments in reliable power supply, improved internet connectivity, and training on OA management and preservation.
3. Promote awareness and utilisation of open access resources through user education initiatives, workshops, and online campaigns to increase visibility and encourage broader participation in OA usage.

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STAFF MOTIVATION AS A CORRELATE OF JOB PERFORMANCE IN SELECTED UNIVERSITY LIBRARIES IN BENUE STATE, NIGERIA

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Abstract
This study investigates staff motivation as a correlate for job performance in selected university libraries in Benue State, Nigeria. The study adopted correlational survey design, which enabled the collection of quantitative data to establish statistical relationships between HRM variables and staff performance. The population of the study comprised 224 library staff across three universities: one federal, state, and private university. A sample of 143 respondents was selected through random sampling using the Yaro Yamane formula. Data were collected with a structured questionnaire (HRMJPQ) validated by experts and tested for reliability, yielding a Cronbach's alpha coefficient of 0.869. Pearson Product Moment Correlation (PPMC), and Analysis of Variance (ANOVA) at 0.05 significance level were used for data analysis. Findings revealed that capacity-building programmes exhibited a high positive correlation (r = 0.712), and staff motivation demonstrated a strong positive correlation (r = 0.731). The study concluded that, continuous capacity building and enhanced staff motivation significantly improves library personnel performance. Recommendations included strengthening investing in continuous professional development, enhancing motivational strategies in university libraries.
Keywords: Staff Motivation, Capacity Building, Job Performance

Introduction

In today's rapidly changing world of work, the general perspective of jobs has been reshaped by globalization, technological innovation, and evolving labour markets. The concept of job has been part of man's existence and has become a means by which individual needs are met. It is not only about employment but any activity that produces something with full value for the society. It encompasses not only employment but any activity that produces something of value for society. Van Hooft, Kammeyer-Mueller, Wanberg, Kanfer, & Başbuğ (2020) describe jobs as structured employment opportunities that individuals pursue through job search processes, highlighting the role of jobs as both formal positions and goals within motivational frameworks. Globally, the primary objectives of establishing university libraries are to support research, teaching, and learning for lecturers, students, and other researchers. The effective delivery of these library services relies heavily on the contributions of human resources. The importance of professional, para-professional, and supporting staff cannot be overstated, as they are the

activators of library functions and services. Consequently, library staff represent one of the greatest assets in achieving the library's goals. However, the realization of these goals and objectives depends significantly on the level of job performance of the staff. To ensure workers perform their duties effectively, staff motivation must be given proper attention (Yaya, 2017).

Job performance can be enhanced by various factors, such as the work environment, staff training, regular payment of salaries and wages, organizational politics, and job satisfaction. Job performance is of great importance to both library staff and library management. For library staff, strong job performance can lead to job satisfaction, career advancement, and increased job security. Additionally, effective job performance can help build a positive reputation for the library, which can attract new patrons and retain existing ones. High job performance can result in increased productivity, improved customer satisfaction, and a positive image for the library. Conversely, poor job performance can lead to decreased productivity, low morale among staff, and a negative image for the library. Therefore, it is crucial for library management to encourage and support strong job performance by providing capacity-building programmes, performance feedback, and recognition for work well done. To further support effective job performance, the quality and quantity of staff available in university libraries significantly influence the achievement of institutional objectives.

Building on the importance of staff development, this study focuses on the university libraries in Benue State, namely: Rev. Fr. Moses Orshio Adasu University Library and Information Service, Francis Sulemanu Idachaba Library at Joseph Sarwuan Tarka University, and Chief Ason Bur Learning Resources Center at the University of Mkar, Mkar. Aboyade and Aboyade (2016) noted that it is insufficient to have facilities, resources, materials, infrastructure, and equipment without competent staff to make the library accessible, functional, and beneficial in supporting teaching, learning, research, and community service. Therefore, library staff must acquire the skills necessary to perform effectively in large and increasingly competitive organizations.

Given the critical role of motivation and skill development, library staff motivation and capacity-building programmes are prerequisites for achieving job satisfaction, which in turn influences performance. It is on this basis that this study investigates staff motivation and capacity-building programmes as correlates of staff job performance in selected university libraries in Benue State.

Statement of the Problem

Staff motivation and capacity building programmes are needful effectiveness of libraries like in other organizations. However, there are problems and difficulties in putting these practices in place. Despite all the efforts to enhance the job performance in organisations including in university libraries, it is observed that job performance in university libraries still seem to be poor. This seeming poor job performance of university library staff manifests in the attitude of indiscipline among the staff such as: lateness to work, closing before time, absenteeism without permission, insubordination, inadequate service delivery, neglecting duties, lack of commitment and resistance to change.

In recent years, it has been observed by the researcher that there is decline in the job performance of library staff in university libraries. This state of affairs continues to affect job performance and it is a source of worry for relevant stakeholders. Despite the significance of staff motivation and capacity building programme and its pivotal influence on job performance, there has been limited investigation into evaluating relationship between staff motivation and capacity building programmes within the context of a library. In Nigeria, little literature has been found on staff motivation and capacity building programmes and its impact on the performance of library personnel. Investigating the relationship between these in university libraries presents a gap in

which this study has filled.

Objectives of the Study

The general purpose of the study was to investigate staff motivation as a correlate of staff job performance in selected university libraries in Benue State. The study was guided by the following objectives

1. determine the extent to which staff motivation correlates with job performance of library staff in the selected university libraries
2. evaluate how human resources capacity building programmes correlates library personnel performance in the selected university libraries in Benue State.

Research Questions

1. what is the extent to which staff motivation correlate with the job performance of library staff in the selected university libraries?
2. how capacity building programmes available for library personnel in the selected university libraries correlates with job performance?

Hypotheses

HO_1. There is no significant relationship between staff motivation and job performance of library staff in the selected University Libraries in Benue State.

HO_2. There is no significant relationship between capacity building programmes and library personnel job performance in the selected university libraries in Benue state.

Review of Related Literature

The literature review investigates the vital roles of staff motivation and capacity building in improving the performance of university library personnel. It examines how motivational strategies, including incentives, supportive work environments, and professional development, enhance librarians' productivity, engagement, and job satisfaction. The review also emphasizes capacity building through training and development programs, which equip librarians with skills to adapt to technological advancements and user needs. Incorporating global and regional perspectives, it synthesizes findings on the relationship between motivation, professional development, and effective library service delivery, while noting challenges such as inadequate reward systems and financial constraints.

Staff Motivation

Motivation is a critical process that drives, directs, and sustains behaviours, influencing the nature, strength, and persistence of an individual's actions through internal and external factors that stimulate desire and commitment to job roles (Rani & Lenka, 2012; Onyeukwu & Ekere, 2018). In university libraries, motivation is essential for enhancing the performance of library personnel, with incentives such as fixed payments, job rotation, promotions, training, and education identified as primary methods to inspire para-professional staff (Usman et al., 2018). Regular pay, job security, and positive co-worker interactions significantly contribute to motivation, though disparities in rewards between professional and non-professional staff can create challenges (Tella & Ibinaiye, 2020). Additionally, a supportive work environment with adequate resources like computers and internet access is crucial for effective functioning, while inadequate reward systems and funding for career development remain significant barriers to motivation and job performance in Nigerian university libraries (Agada & Tofi, 2020; Ayodeji et al., 2022).

The interplay between motivation, job satisfaction, and performance is evident, with motivated librarians demonstrating higher productivity and engagement, which are vital for achieving institutional goals in academic libraries (Tella & Ibinaiye, 2020). Staff training is a key tactic to boost motivation, fostering productivity, innovation, and employee engagement while improving work discipline and accountability (Tumba & Temboge, 2018).

Capacity Building Programmes

Training and development are critical components of capacity building, aimed at enhancing the knowledge and skills of librarians to improve job performance. Training focuses on job-specific knowledge, while development promotes overall employee growth (Ramadevi, 2018). Central to capacity building, training fosters mastery of technology and work processes, with conferences whether in-person or online further enhancing intellectual capacity and networking opportunities (Musangi, 2019). Globally, universities have advanced capacity-building efforts, with American institutions leveraging information technologies for reliable information delivery (Dali, 2020), German libraries aligning skills with dynamic user needs (Nagpal & Radhakrishnan, 2022), and African initiatives like NEPAD fostering knowledge-based economies through shared resources and new technologies (Nesta, 2019). In East Africa, Tanzanian libraries are adapting to technological trends by employing highly trained librarians who pursue ongoing career development to meet evolving user demands (Mwinyimbegu, 2019).

Professional development is essential for librarians to maintain high-level job performance through continuous learning and skill acquisition. In South Asia, the National Library of Maldives has made strides in equipping librarians with technology-focused training to enhance familiarity with learning technologies (Jayasuriya et al., 2022). However, challenges such as insufficient support and financial constraints in Africa can hinder participation in professional training programs (Edewor, 2020). Professional development encompasses formal education, certifications, workshops, conferences, and in-service training, all aimed at keeping librarians updated on current trends and advancing their careers (Ukwoma & Akanwa, 2018). In Nigeria, certification by the Librarians' Registration Council of Nigeria (LRCN) ensures librarians are qualified to deliver effective library services (Akpakwu, 2012). Library management supports this through staff orientation and ongoing training to align skills with institutional goals, ensuring competent personnel to meet both present and future needs (Akanwa cited in Bede-Samuel, 2022).

Research Methodology

Correlational survey design was used to investigate library staff in three higher institutions in Benue State, with a population of 224 library staff. A sample size of 143 was selected using a random sampling technique to ensure equal representation. Data were collected using a structured questionnaire developed by the researcher, validated by three experts, two from the Department of Library and Information Science and one from the Department of Economics at Rev. Fr. Moses Orshio Adasu University, Makurdi. Collected data was analysed using the Pearson Product Moment Correlation (PPMC) to assess the strength and direction of relationships between continuous variables and Analysis of Variance (ANOVA) to compare group means, both conducted at a 0.05 significance level. The decision rule stipulated that a p-value less than 0.05 would lead to the rejection of the null hypothesis in favour of the alternative hypothesis, ensuring robust statistical evaluation of the study's variables.

Results

Research Question one: What is the extent to which staff motivation correlates with the job performance of library staff in the selected university libraries?

Table 1: Relationship between Staff Motivation and Job Performance

Variable	N	Mean	SD	R	Remark
Staff Motivation	143	3.00	0.13		
Staff Job Performance	143	3.07	0.11	0.731	High Positive Relationship

Source: Field Survey, 2025

Table 1 shows that the mean score for staff motivation is 3.00, with a standard deviation of 0.13. For job performance, the mean score is 3.07, with a standard deviation of 0.11. The computed Pearson correlation coefficient (r = 0.731) indicates a high positive relationship between staff motivation and the job performance of library personnel in the selected university libraries. This means that as staff motivation improves through timely salary payments, allowances and benefits, access to modern equipment, performance evaluations, and supportive leadership, library staff demonstrate better performance in their assigned duties. The strong correlation suggests that when staff feel valued, rewarded, and supported, they are more likely to work diligently and achieve higher levels of productivity. The mean scores and standard deviations, along with the strong correlation coefficient, underline the pivotal role of motivation in shaping staff attitudes and outcomes, establishing a clear and significant link between how motivated library staff feel and how well they perform their jobs.

Research Question Two: How do capacity-building programmes available for library personnel in the selected university libraries correlate with job performance?

Table 2: Relationship between Capacity Building Programmes and Job Performance

Variable	N	Mean	SD	r	Remark
Capacity Building Programmes	143	3.05	0.10		
Staff Job Performance	143	3.08	0.09	0.712	High Positive Relationship

Source: Field Survey, 2025

Table 2 shows that the mean score for capacity building programmes is 3.05, with a standard deviation of 0.10. For job performance, the mean score is 3.08, with a standard deviation of 0.09. The computed Pearson correlation coefficient (r = 0.712) indicates a high positive relationship between capacity building programmes and staff job performance in the selected university libraries. This means that as capacity building opportunities such as induction courses, in-service training, conferences, workshops, and mentoring increase and improve, library staff are more likely to perform their duties effectively. Staff who regularly participate in these programmes gain new skills, stay current with relevant issues, and feel more motivated, which directly boosts their job performance. The mean scores and standard deviations, together with the strong correlation coefficient, highlight the essential role of capacity building in enhancing how library staff carry out

their responsibilities, establishing a clear and significant positive association between these two variables.

Hypotheses

Hypothesis One: There is no significant relationship between staff motivation and job performance of library staff in the selected University Libraries in Benue State.

Table 3: Pearson Product-Moment Correlation on the Relationship between Staff Motivation and Job Performance of Library Staff in the Selected University Libraries

Variable	N	R	Df	p-value	Remark
Staff Motivation	143	0.731	141	0.000	Significant
Job Performance	143				

Source: Field Survey, 2025

Table displays the result of the Pearson Product-Moment Correlation conducted to determine the relationship between staff motivation and job performance in the selected university libraries in Benue State. The computed correlation coefficient r = 0.731 indicates a high positive relationship between the two variables. This suggests that as motivational factors improve, including prompt salary payments, allowances and benefits, access to modern work equipment, regular performance evaluations, and supportive leadership styles, the job performance of library staff increases substantially. The degrees of freedom (df = 141) and a p-value of 0.000, which is well below the standard significance level of $\alpha = 0.05$, indicate that the result is statistically significant. Since $p < 0.05$, the observed correlation is not likely due to random variation but reflects a real and meaningful association between staff motivation and job performance. Consequently, the null hypothesis (HO_1) is rejected, establishing that a statistically significant relationship exists between staff motivation and job performance in the selected university libraries. This result strongly affirms that enhancing staff motivation mechanisms directly contributes to better performance outcomes among library personnel in Benue State's university libraries.

Hypothesis Two: There is no significant relationship between capacity-building programmes and library personnel's job performance in the selected university libraries in Benue State.

Table 4: Pearson Product-Moment Correlation on the Relationship between Capacity Building Programmes and Library Personnel Job Performance

Variable	N	r	Df	p-value	Remark
Capacity Building Programmes	143	0.712	141	0.000	Significant
Library Personnel Job Performance	143				

Source: Field Survey, 2025

Table shows the Pearson Product-Moment Correlation result examining the link between capacity building programmes and job performance among library staff in selected university libraries in Benue State. The correlation coefficient r = 0.712 indicates a strong positive relationship between the two variables. This means that as participation in capacity building activities increases, including induction courses, in-service training, workshops, conferences, and

mentoring, the job performance of library staff also improves significantly. With degrees of freedom (df) = 141 and a p-value of 0.000, which is well below the usual significance level of α = 0.05, the relationship observed is statistically significant. Since p₦₦0.05, the result is unlikely to be due to chance, providing strong evidence of a genuine and meaningful association. Therefore, the null hypothesis (HO_2) is rejected, confirming that a statistically significant relationship exists between capacity building programmes and the job performance of library personnel. This finding underscores the vital role of ongoing professional development in improving productivity and effectiveness in university libraries across Benue State.

Discussion of Findings

Based on the analysis of the research questions and the testing of hypotheses, the findings are hereby organized and discussed for easy comprehension.

Findings from research question one indicates a high positive relationship between staff motivation and the job performance of library personnel in the selected university libraries, with a computed Pearson correlation coefficient (r₦₦0.731). The strong correlation suggests that when staff feel valued, rewarded, and supported, they are more likely to work diligently and achieve higher levels of productivity. Also, research hypotheses one revealed with correlation coefficient r = 0.731 indicates a high positive relationship between the two variables. This is based on the fact the that, the null hypotheses which states that, there is no significant relationship between staff motivation and job performance of library staff in the selected University Libraries in Benue State is rejected as the p-value of 0.000 is well below the standard significance level of α = 0. This means that as staff motivation improves through timely salary payments, allowances and benefits, access to modern equipment, performance evaluations, and supportive leadership library staff demonstrate better performance in their assigned duties. The finding aligns with the results of Abdul, Yahaya and Olusanya (2022), who examined motivation and job satisfaction as correlates of job performance among library staff at Landmark University, Omu-Aran, Kwara State. Their study revealed that the level of job performance was high, and that appreciation, promotion, and financial incentives were major motivational factors influencing performance. Other factors such as salary structure, job security, relationships with co-workers, institutional policies, and the nature of the work itself also significantly influenced job satisfaction and performance.

Findings from research question two indicate a high positive relationship between capacity-building programmes and staff job performance in the selected university libraries, with a computed Pearson correlation coefficient (r₦₦0.712). Also, Hypothesis two revealed that there is a relationship between capacity building programmes and staff job performance with correlation coefficient r₦₦0.712 that indicates a strong positive relationship between the two variables. This is based on p-value of 0.000, which is well below the usual significance level of α = 0.05, the relationship observed is statistically significant. Since p₦₦0.05, the result is unlikely to be due to chance, providing strong evidence of a genuine and meaningful association. The null hypotheses (HO_2) which states that, there is no significant relationship between capacity-building programmes and library personnel's job performance in the selected university libraries in Benue State is rejected. Therefore, confirming that a statistically significant relationship exists between capacity building programmes and the job performance of library personnel. This finding underscores the vital role of ongoing professional development in improving productivity and effectiveness in university libraries across Benue State. This means that as participation in capacity building activities increases, including induction courses, in-service training, workshops, conferences, and mentoring, the job performance of library staff also improves significantly.

This suggests that as capacity-building opportunities such as induction courses, in-service training, conferences, workshops, and mentoring increase and improve, library staff are more

likely to perform their duties effectively. Staff who regularly participate in these programmes gain new skills, stay current with relevant issues, and feel more motivated, all of which directly boost job performance. This agrees with the findings of Reuben, Shalmami and Ndana'acha (2023), who examined capacity-building programmes for library personnel in academic libraries in Adamawa State, Nigeria. Their study revealed that such initiatives positively impact professional competencies and job performance among library staff.

Conclusion

The study investigated staff motivation and capacity building programmes as a correlate of staff job performance in selected university libraries in Benue State, Nigeria. Findings revealed a high positive relationship between staff motivation and job performance. This implies that when library personnel feel valued, rewarded, and supported, they are more likely to work diligently and achieve higher productivity levels. Also, a strong positive relationship was also established between capacity-building programmes and staff job performance. Capacity-building opportunities such as induction courses, in-service training, conferences, workshops, and mentoring enhance the effectiveness of library personnel. The study also underscores the critical role of effective strong staff motivation and robust capacity-building programmes in enhancing staff job performance in university libraries as it significantly contributes to improved job performance.

Recommendations

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

i. Library administrators should adopt motivation strategies such as recognition, fair remuneration, promotion opportunities, and supportive leadership. Motivated staff are more likely to be productive and committed.
ii. Management should prioritize ongoing staff development through regular in-service training, workshops, conferences, and mentoring. These programmes help staff stay current, improve competencies, and boost morale.

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ADOPTION AND UTILIZATION OF ARTIFICIAL INTELLIGENCE (AI) TOOLS FOR EFFECTIVE ONLINE REFERENCE SERVICES DELIVERY IN UNIVERSITY LIBRARIES IN NORTH-CENTRAL, NIGERIA

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Abstract
The study investigates the adoption and utilization of Artificial Intelligence (AI) tools for effective online reference service delivery in University Libraries North-Central, Nigeria. The study adopted cross-sectional survey research design. The population of the study was 33 reference librarians, who had the experience of working in the reference section. The purposive sampling technique was used. The instrument for data collection was a structured questionnaire. Data collected were analysed using descriptive statistics of frequency, mean and standard deviation. The findings of the study revealed that ChatGPT and Grammarly were the only AI tools adopted. The findings also revealed low usage of AI tools for reference services, answering of reference query was the only AI service used, Librarians had positive perception about use of AI in reference services. The challenges that hindered the use of AI were; limited technical infrastructure in libraries, financial constraints of libraries, high cost of adoption and maintenance of AI tools, lack of AI skills among library staff. The study concluded that the adoption and use of AI tools in the libraries studied is low, implying a need for modalities to be put in place to enhance the adoption and use of AI tools. The study recommended training of staff on the use of AI, provision of adequate funds for the purchase of AI infrastructures among others.
Keywords: Adoption, Utilization, Artificial Intelligence, Online Reference Services Delivery, University Libraries, North-Central, Nigeria

Introduction

Artificial Intelligence (AI) has become a driving force behind innovation, taking a leading role in all facets of human endeavors, dominating academic research discussion as well as information delivery services in Libraries. Its adoption has extended across numerous fields, professions, and multiple sectors, including education, healthcare, agriculture, military, business and information services. The benefits of Artificial Intelligence (AI) are widely recognized, including enhanced efficiency, increased productivity, improved customer services, informed decision-making, personalized experiences, and reduced risks and errors (Owolabi et al., 2022; Oyetola et al., 2023). Academic libraries, though slower in adopting AI, are gradually catching up. The idea of integrating AI into libraries has existed since 1985, but interest has surged in the last five years (Huang, Cox & Cox, 2023). Reference services (Traditional and online), have long been a cornerstone of libraries and information centers, serving as a vital bridge between users and the vast reservoir of information resources available.

Traditionally, reference services have been offered by persons at a designated desk known as the reference desk, within the library building, and can also be reached through telephone or mailed correspondence, with much dalliance before delivery. To meet the information needs of the

users in a changing technological environment online reference service is a natural solution which is supposed to be an advancement of the traditional reference service (Nguyen, 2020).

Online reference service is referred to as the provision of reference services involving computer-based collaboration between library user and librarian over a digital network. Over time, the major role that digital reference services have attempted to improve is the communication between the Librarian and the users. The effectiveness of online reference service delivery in academic libraries can be significantly improved through the strategic use of synchronous and asynchronous communication tools. These two modes of digital interaction offer flexibility, timeliness, and personalization as well as critical elements for meeting the dynamic information needs of students, faculty, and researchers in today's academic environment.

Synchronous online reference services involve real-time, interactive communication between users and librarians. Tools such as live chat, video conferencing (e.g., Zoom, Google Meet), and instant messaging platforms fall under this category. These services allow for immediate feedback, dynamic clarification of user queries, and a more personalized experience (Xu, Chu, & Du, 2021). Students may face information literacy challenges or need help navigating digital databases, real-time interaction can provide guided assistance. It reduces misunderstandings and allows librarians to offer step-by-step help, which is particularly useful for complex research questions. Moreover, real-time communication compensates for the absence of physical consultations, especially in remote learning scenarios that have become more prevalent due to infrastructural challenges or disruptions like the COVID-19 pandemic (Zhou, Wu & Li, 2021). This responsiveness builds user trust and increases the perceived value of library services. While, asynchronous services, on the other hand, allow users and librarians to communicate without needing to be online simultaneously. These include services like email, web forms, and ticketing systems. These platforms are especially valuable in environments with inconsistent Internet access or limited library staffing as is often the case in parts of North-Central Nigeria (Oyelude, 2021).

Asynchronous tools enable users to submit queries at any time, and librarians can respond thoughtfully with well-researched answers, links to resources, or attachments. This mode also allows the documentation of interactions for future reference, enabling better continuity and tracking of user information needs. For university libraries in resource-limited settings, asynchronous services offer a sustainable way to provide continuous support without overburdening librarians. Given the irregular power supply and internet access issues common in the region, asynchronous communication provides a critical fallback option when synchronous channels are unavailable (Ocholla, 2020). When synchronous and asynchronous services are integrated, they provide a comprehensive, user-centered model of online reference service. Libraries can triage requests, addressing urgent queries through live chat while handling more in-depth or low-priority questions through email. AI tools such as automated chatbots can further bridge the two modes, offering 24/7 preliminary assistance and routing complex questions to human librarians (Cox, Pinfield & Rutter, 2019).

Academic libraries have increasingly integrated AI tools to enhance user experience, automate repetitive tasks, and provide real-time, responsive services. These tools-ranging from AI-powered chatbots and virtual assistants to intelligent search engines and recommendation systems are transforming traditional library operations into dynamic, interactive, and user-centered digital platforms (Lau, 2020). AI enhances online reference services by offering immediate responses to queries, identifying user intent through natural language processing (NLP), and delivering accurate, context-aware information (Cox et al., 2019). Slow response to user's reference queries, poor service delivery and in activeness of references librarians were the key attributes of traditional reference services in academic libraries

The evolution of reference services from traditional face-to-face interactions to digital platforms has necessitated the adoption of AI to meet the increasing demands for timely, personalized, and remote access to information. Institutions such as the Massachusetts Institute of Technology (MIT), University of Helsinki, and University of Cambridge have integrated AI technologies into their library systems to improve user interactions and streamline service delivery (Walsh & Rana, 2021). These libraries utilize AI not only to provide 24/7 reference support but also to manage large volumes of information queries efficiently, making library services more accessible and responsive in the digital age.

In Africa, the adoption of AI in academic libraries is still in its developmental stage. While the potential for AI to revolutionize library services is acknowledged, infrastructural limitations, lack of technical expertise, low funding, and insufficient policy frameworks often hinder widespread adoption (Ocholla, 2020). Many academic institutions on the continent are still grappling with the basic challenges of digitization and internet access, which affects their ability to explore and invest in AI technologies. Nevertheless, there is growing interest in the continent, particularly in countries like Kenya, South Africa, and Nigeria, where pilot projects and partnerships are beginning to explore the practical use of AI in library environments. In Nigeria, the push for digital transformation is gaining momentum through national initiatives such as the National Digital Economy Policy and Strategy (2020–2030), which emphasizes the use of emerging technologies, including AI, to improve service delivery in public institutions. University libraries are expected to align with these national priorities by modernizing their services and infrastructure. However, research shows that the actual adoption and utilization of AI tools in Nigerian university libraries is limited and uneven, with many institutions lacking the necessary support and readiness to fully integrate these technologies (Oyelude, 2021).

Focusing on the North-Central geopolitical zone of Nigeria which includes states such as Benue, Kogi, Kwara, Nasarawa, Niger, Plateau, and the Federal Capital Territory University Libraries in this region are crucial academic hubs for teaching, learning, and research. However, they face unique challenges such as insufficient ICT infrastructure, inadequate funding, and limited staff training, which affect their capacity to adopt and effectively use AI tools for online reference services. As students and researchers increasingly demand real-time digital support, the gap between service expectations and delivery methods is widening.

In the North-Central Nigerian context, there is limited empirical evidence on how AI tools are being adopted and utilized, what challenges libraries face, and how effective these tools are in practice. This study, therefore, seeks to investigate the adoption and utilization of AI tools for effective online reference service delivery in university libraries within North-Central Nigeria. It aims to assess the current state, explore challenges and prospects, and provide insights that could inform institutional strategies and policy interventions for digital transformation in academic libraries.

Statement of the Problem

The emergence of Artificial Intelligence (AI) technologies has revolutionized various aspects of information service delivery in academic libraries, particularly in enhancing the responsiveness, efficiency, and reach of online reference services. Globally, academic libraries have increasingly adopted AI tools such as chatbots, virtual reference assistants, and intelligent search systems to provide real-time, personalized, and automated responses to users' information needs (Cox, Pinfield & Rutter, 2019). These technologies have not only improved the speed of service delivery but also expanded access beyond physical and temporal constraints (Lau, 2020).

However, in Nigeria, particularly in the North-Central region, there is a noticeable low in the adoption and effective utilization of AI in university libraries as observed by the researchers.

While the need for digital transformation is widely acknowledged, many libraries continue to rely on traditional and often inefficient methods of delivering online reference services, such as email responses and underutilized static FAQ pages (Oyelude, 2021). This delay and inefficiency in reference service delivery compromise user satisfaction and diminish the library's relevance in a fast-paced digital academic environment, could this be the reason for the lag of the adoption and utilization of AI in the Academic Libraries in the North-Central, Nigeria.

As students and researchers increasingly demand seamless, real-time, and remote access to academic support, the gap between user expectations and current service capabilities in many North-Central, Nigerian University Libraries continues to widen. Unless these libraries effectively adopt and utilize AI tools to modernize their online reference services, they risk becoming obsolete in meeting the evolving needs of their academic communities. Thus, this study seeks to address the critical question of how AI tools are currently being adopted and utilized in the delivery of online reference services in University Libraries in North-Central, Nigeria.

Research Objectives

The objective was to investigate the Adoption and utilization of Artificial Intelligence (AI) tools for effective online reference service delivery in University Libraries in North-Central Nigeria. The specific objectives are to:

1. identify the types of AI tools currently adopted for online reference services in University Libraries in North-Central, Nigeria.
2. identify the types of reference services provided using AI in University Libraries in North-Central, Nigeria.
3. identify the level of utilization of AI tools by library staff for online reference service delivery in University Libraries in North-Central, Nigeria
4. identify the perceptions of librarians towards the use of AI tools in online reference services in University Libraries in North-Central, Nigeria.
5. identify the challenges faced by university libraries in adopting and utilizing AI tools in University Libraries in North-Central, Nigeria.

Research Questions

The study answered the following questions.

1. What types of AI tools are currently adopted for online reference services in North-Central Nigerian University Libraries?
2. What are the types of online reference services provided using AI in North-Central Nigerian University Libraries?
3. What are the levels of utilization of IT tools by library staff in delivering online reference services in North-Central Nigerian University Libraries?
4. What are the perceptions of librarians towards the use of AI tools in online reference services in North-Central Nigerian University Libraries?
5. What challenges do university libraries face in the adoption and utilization of AI tools for online reference services in North-Central Nigerian University Libraries?

Review of Related Literature

According to Irizarry-Nones, Palepu, and Wallace (2017), artificial intelligence is the programming and development of computers to carry out tasks requiring human intellect, such as speech recognition, decision-making, visual perception, language translation, conversing, and emotional emotions. The technology that gives robots the ability to plan, learn, reason, solve problems, move, and, to some extent, be creative is known as artificial intelligence, according to

Heath (2018). Omame and Alex-Nmecha (2020), artificial intelligence is a branch of computer science that focuses on how computers learn (Machine Learning), interpret information, and perceive the world via their eyes, including character recognition, image analysis, 3D perception, and eye function modelling.

According to Katz (2022), reference services are a "personal assistance provided to users seeking information, whether the information is located within the library or elsewhere". This definition emphasizes the user-centered and service-oriented nature of reference work, encompassing both physical and digital information sources. In his words, they are personal assistance provided by library staff to users in their pursuit of information, including guiding them to suitable resources, answering questions, and aiding in the use of library tools and databases.

Luo, Zhang and Godwin (2022) describe reference services as "a dynamic process of interaction between users and information professionals, aimed at connecting users to needed information through various communication technologies and tools". This definition reflects the evolving nature of reference services in the digital age, especially with the integration of AI and virtual tools. They identify major types of reference services provided in libraries, including; traditional which involve direct interactions between librarians and users at the reference desk. While still in practice, their usage has declined due to the rise of digital alternatives and Virtual Reference Services (VRS) otherwise known as (online reference services) which provide virtual responses to user's queries. These include email, chat, and web-based interactions where librarians assist users remotely. The integration of AI tools and chatbots has further expanded Synchronous and Asynchronous Services.

Studies on the types of reference services provided using Artificial Intelligence (AI) in academic libraries reveal that AI tools are gradually being integrated to enhance service delivery, albeit in limited capacities (Abba, 2024; Ocholla, 2020). Among the various services, answering reference queries appears to be the most common application of AI, as tools like ChatGPT and AI-powered chatbots are employed to provide real-time responses and assist users in locating information (Tella, 2020). Video based Reference Services which is a form of digital reference includes the visual element, which may be an antidote to the communications problems inherent in the more text-based services. Librarians and users are able to use both text and speech for reference transactions. Instead of a window for the textual exchange, there is a window in which librarians and users can see each other while conducting a face-to-face interview. Web or other electronic sources can 'be pushed' to users via another window. This technology provides distance learning, as well as research and reference applications (Ocholla, 2020). Digital Reference Robots which involves the use of artificial intelligence in rendering digital reference service. Abba (2024) notes that it is most often used to respond to reference questions during the unavailability of the reference librarian. It involves the use of software to search the databases.

According to the Chartered Institute of Library and Information Professionals (CILIP, 2021), new technologies are changing not only people's everyday lives but also worldwide trends and many other facets of society. Traditional jobs requiring significant change require new skills, opportunities, and challenges. Librarians and their responsibilities in the contemporary library environment are all impacted by this new revolution. Incorporating cutting-edge technology like artificial intelligence into their core services was difficult for many university libraries in Nigeria (Akinola, 2023). After a global pandemic broke out in 2020, there has been an increased requirement for deploying cutting-edge technology to support library service operations (Owolabi et al., 2022). Libraries in Nigeria should implement AI for several reasons, including changing user behaviour, improving the information environment, and more. Using intelligent Internet-connected gadgets, employing digital high-tech products in homes, and incorporating AI helpers into daily activities are additional advancements in the technological era (Poole, 2020). Libraries

may maintain their relevance in the future, accept additional duties and services, and avoid becoming out of the current by utilising machine learning for library applications. However, in the library's journey, overcoming the obstacles to AI adoption is crucial (Oniovoghai, Idiodi and Urhiewhu, 2023).

The concept of artificial intelligence is broad and may be used to all facets of libraries to make them more intelligent. The introduction of artificial intelligence (AI) into institutions for the delivery of services has reportedly opened doors for major issues impacting traditional library routine services to be promptly handled, according to Oniovoghai, Idiodi and Urhiewhu (2023). The quality of library services in the information age must be improved, according to Tella (2020), if libraries are to orient themselves to make use of the potential of artificial intelligence. Due to the quicker access to information, this application in libraries will help give better search and information services, exciting both library personnel and users. Akinyemi (2023) said enhancement of many librarians' job duties, including cataloguing, indexing, information retrieval, reference, and other jobs, has been made possible by using artificial intelligence (AI) in library services delivery. Speech recognition, machine translation, and library robots are just a few of its uses. The University of Lagos is currently the only institution in Nigeria to have implemented the use of artificial intelligence in some library services and operations, and the use of artificial intelligence in library services and operations is still not widely known among library professionals, according to Tunde et al. (2022). Libraries are putting themselves in a position to benefit from cognitive computing applications in general and artificial intelligence applications in particular, which are of potential value as a tool for improving the quality of library services. Furthermore, Kristin (2016) clarifies that libraries might alter concentration and attention through AI applications. AI provides a helpful shortcut for using this information and achieving better results. The methods for implementing artificial intelligence in library services in Nigeria are listed

Several barriers contribute to this slow adoption of AI in Nigerian university libraries, including inadequate ICT infrastructure, limited funding, lack of skilled personnel, and insufficient awareness or training on AI applications in library services (Ocholla, 2020). Moreover, there is a lack of empirical studies focusing on the actual deployment, usage patterns, and effectiveness of AI tools in reference services within this specific region. Without a clear understanding of how AI tools are being used, it is difficult to design strategies that can improve their adoption and utilization for better service delivery.

Research Methodology

The study adopted descriptive survey research design, which allowed the researcher to collect data at a particular time from different institutions among librarians. The population of the study consisted of all reference librarians from Federal University Lafia, Nasarawa State (5), Joseph Sarwauan Tarka University, Benue State (3), University of Jos, Plateau State (3), Federal University of Technology Minna (4), Benue State University Markudi (4), Plateau State University, Bokkos (3), Kwara State University, Malete (2), University of Ilorin (4) and Ibrahim Badamasi Babangida University, Lapai (3). The total population of the study was 31 reference librarians.

The purposive sampling technique was used. Purposive sampling is a technique to select a specific group of individuals or units for analysis. Participants are chosen "on purpose," not randomly. It is also known as judgmental sampling or selective sampling. This sampling technique is chosen because the researchers wanted to use only those that have in-depth knowledge of the reference services in the selected libraries. They were also chosen because they had served or are serving as reference librarians. The study used a questionnaire as the instrument for data collection. The data collected through a structured questionnaire was analysed using descriptive statistics of frequency, mean and standard deviation. The mean of 2.5 was used as the benchmark

for decision making.

Data Presentation and Analysis

A total of 33 copies of the questionnaire were distributed, 31(93.93%) were returned valid and used for analysis

Table 1: Types of AI Tools Currently Adopted for Online Reference Services

S/N	AI tools	FULafia	JOSTUM	UJ	FUTMinna	PLSB	KWASU	IBBU	Unillorin	BSU
1	Chatbot	X	X	X	X	X	X	X		X
2	ChatGPT	√	√	√	√	√	√	√	√	X
3	LibKey	X	X	X	X	√	X	X	X	X
4	Robots	X	X	X	X	X	X	X	X	X
5	Grammarly	√	√	√	√	√	√	√	√	√
6	Research Rabbit	X	X	X	√	X	√	X	X	√

Key: A – Adopted, NA - Not Adopted

The table 1 reveals a limited adoption of artificial intelligence (AI) tools among the librarians. ChatGPT and Grammarly were the only AI tools adopted for online reference services. In contrast, the remaining tools; Chatbot, LibKey, Robots, and Research Rabbit were not adopted at all for online reference service. The findings agreed with Abba (2024) who investigated the level of adoption of artificial intelligence (AI) to support library services delivery in university libraries in Africa. The study found that the only few university libraries in Africa have adopted AI technologies such as Chatbot, ChatGPT, LibKey from ThirdIron, robots, RFID technology and Grammarly. Bakiri, Mbembati, and Tinabo (2023) in a study found the level of adoption to be low.

Table 2: Types of reference service provided using AI in University Libraries in North-Central, Nigeria

S/N	Types of reference services	Utilized	Not Utilized
1	Answering of reference query	√	X
2	Current awareness services	X	√
3	Selective dissemination of information	X	√
4	Virtual reference service	X	√
5	Referral services	X	√
6	Instructional reference services	X	√

Key: U– Utilised, NU- Not Utilized

Table 2 clearly indicated that the majority of respondents indicated that they use AI for answering reference queries on online reference services provided. However, for all other types of reference services, current awareness services, selective dissemination of information, virtual reference services, referral services, and instructional reference services, there was a complete lack of AI usage, with 100% of respondents reporting no use of AI for these purposes.

Table 3: Level of utilization of AI tools by library staff for online reference service in North-Central, Nigeria

S/N	Utilization of AI tools	Mean	STD	Decision
1	Chatbot used as a virtual assistant	1.16	1.134	Low utilization
2	ChatGPT used for answering reference questions	3.16	1.261	High utilization
3	LibKey is used for accessing full-text articles	1.34	1.218	Low utilization
4	Robots used for shelving	1.54	1.334	Low utilization
5	Grammarly is used for the formulation of replies to queries	2.46	1.276	High utilization
6	Research Rabbit is used for finding related research papers	1.78	1.324	Low utilization
	Pooled Mean	**1.91**	**1.257**	

Table 3 shows that ChatGPT used for answering reference questions has the highest with 3.16 mean score, followed by Grammarly used for formulation of replies to queries with a mean score of 2.46. Then, research Rabbit used for finding related research papers with a 1.78 mean score, followed by Robots used for shelving with a 1.54 mean score, followed by LibKey used for accessing full-text articles with 1.34 and finally Chatbot used for virtual assistant with the lowest mean score of 1.16.

Table 4: Perceptions of librarians towards the use of AI tools in online reference services in North-Central, Nigeria

S/N	Perception	Mean	STD	Decision
1	AI adoption improves performance in the library	3.34	1.324	Positive Perceptions
2	AI adoption enhances productivity in the library	2.91	1.388	Positive Perceptions
3	AI adoption improves information retrieval services	2.93	1.279	Positive Perceptions
4	AI adoption improve reference services	3.46	1.459	Positive Perceptions
5	AI adoption is threat to job of reference librarians	3.82	1.477	Positive Perceptions
	Pooled Mean	**3.29**	**1.385**	

Table 4 shows the highest mean score of 3.82 indicating a strong agreement with the perception that AI poses a threat to the jobs of reference librarians, suggesting a significant concern about job security. This is followed by a mean of 3.46 for the belief that AI improves reference services, showing a strong acknowledgment of its usefulness in enhancing service delivery. The perception that AI improves overall library performance also received a high mean score of 3.34, reflecting substantial support for its impact on efficiency. On the other hand, the perception that AI enhances productivity and improves information retrieval services received relatively lower mean scores of 2.91 and 2.93 respectively, indicating moderate agreement and highlighting areas where AI's benefits may not yet be fully realized or understood. The findings agreed with Safana, and Fari (2024) explored the awareness and perception of library staff on the Application of AI for information services delivery in some University Libraries in Katsina State. The findings also revealed positive perceptions of AI by the library staff especially towards improving their performance, and enhancing productivity.

Table 5: Challenges of the use of AI tools in online reference services in North-Central, Nigeria

S/N	Challenges	Mean	STD	Decision
1	Limited technical infrastructure in libraries	3.50	1.508	Challenge
2	Financial constraints of libraries	3.75	1.427	Challenge
3	Data privacy concerns of AI tools	3.15	1.461	Challenge
4	Lack of AI Skills among Library Staff	3.32	1.372	Challenge
5	High cost of adoption and maintenance of AI tools	3.63	1.357	Challenge
6	Issues of erratic power supply in libraries	3.28	1.546	Challenge
	Pooled Mean	**3.44**	**1.445**	

Table 5 shows the highest mean score of 3.74 indicating a strong agreement on challenges faced in adoption and the use of AI tools and financial constraints of libraries. This is followed by a mean of 3.63 High cost of adoption and maintenance of AI tools showing a strong agreement on the challenges faced. Then the mean of 3.50 indicated limited technical infrastructure in libraries, lack of AI skills among library staff with a mean of 3.32, followed by issues of erratic power supply in libraries with a mean of 3.28 and finally data privacy concerns of AI tools with the mean of 3.15. This finding agreed with Isiaka (2023) who explored application and use of Artificial Intelligence (AI) for library services delivery in academic libraries in Kwara State, Nigeria. The study found the following challenges; lack of technical skills by library staff, lack of adequate funds, epileptic power supply, need for technical expertise, lack of AI experts, and high cost of adoption and maintenance.

Summary of Findings

The following are the summary of findings of the study:

1. The study revealed that ChatGPT and Grammarly were the only AI tools adopted but at a lower rate in North-Central, Nigeria.
2. The study shows that answering of reference queries was the only service used by AI in North-Central, Nigeria.
3. The findings of the study revealed that there is low usage of AI tools for reference services in North-Central, Nigeria.
4. The study revealed that librarians had positive perception about the use of AI in online reference services in North-Central, Nigeria.
5. The study shows that challenges hindered the use of AI were; limited technical infrastructure in libraries, Financial constraints of libraries, High cost of adoption and maintenance of AI tools, lack of AI Skills among library staff.

Conclusion

The study concluded that the adoption and use of AI for online reference services in the studied libraries was low. Basically, ChatGPT and Grammarly were the tools adopted and used. However, the perception of reference librarians towards the use of AI in online reference services was positive, implying that AI has prospects in online reference service delivery. In as much as there were challenges that hindered the adoption and use such as Limited technical infrastructure in libraries, Financial constraints of libraries, High cost of adoption and maintenance of AI tools, and Lack of AI Skills among library staff. Reference librarians can adopt and use AI tools for services delivery if provided with the needed skills and infrastructures.

Recommendations

Based on the findings, the study recommends the following:

1. AI infrastructure should be made available across the libraries by University management to enhance high adoption in North-Central, Nigeria.
2. The University management should provide other reference services like Virtual reference service and referral services using AI tools apart from answering of reference query using AI in North-Central, Nigeria.
3. Management should provide training on the use of AI tools should be given to library staff to enhance the usage of AI tools for reference services in North-Central, Nigeria.
4. Librarians should maintain their positive perception about use of AI in reference services in North-Central, Nigeria.
5. More technical infrastructure should be provided in the libraries, adequate financial support, and training on AI skills among library staff should be provided by university administration in North-Central, Nigeria.

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FUNDING AND FINANCIAL SUSTAINABILITY OF POLYTECHNIC LIBRARIES UNDER BUDGET CONSTRAINTS IN BENUE STATE, NIGERIA

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Abstract
Polytechnic libraries are central to the success of technical and vocational education, providing essential resources for teaching, learning, and research. In Benue State, these libraries face persistent financial challenges, largely due to irregular government allocations and limited alternative funding sources. This study explores the funding landscape and financial sustainability of polytechnic libraries under budget constraints, focusing on the sources of funding, the impact of budget limitations on operations, and the challenges in adopting alternative revenue strategies. Using a qualitative approach, the study reviewed empirical research, policy documents, and professional reports to identify patterns and strategies for sustaining library services. Findings reveal that polytechnic libraries predominantly rely on traditional government funding, which is often unpredictable, and that budget constraints significantly hinder collection development, technology adoption, and service delivery. While alternative funding avenues such as partnerships and income-generating initiatives offer promise, their implementation is constrained by limited staff expertise and institutional support. The study underscores that achieving financial sustainability requires not only securing diverse funding but also strategic planning, innovative approaches and effective management of resources to ensure continuous service provision and long-term growth of polytechnic libraries.
Keywords: Funding, Financial Sustainability, Polytechnic Libraries, Budget Constraints

Introduction

Polytechnic libraries play a crucial role in advancing teaching, learning, and research, especially within technical and vocational education. As noted by Nwuke and Nwanguma in 2024, these libraries provide access to specialised resources, foster innovation, and serve as central knowledge hubs for both students and staff. They occupy a unique space within the academic landscape. They are specifically designed to support technical education by offering resources such as engineering manuals, scientific texts, and digital databases that cater to the practical and professional needs of students and faculty. Thiruppath (2024) and Kotuła (2023) emphasize that these libraries are vital for producing graduates equipped with skills demanded in the labour market. In Benue State, institutions like Benue State Polytechnic rely heavily on their libraries to support both teaching and applied research, yet they often face the challenge of fulfilling their academic mission with limited financial support (Liman & Shuaibu, 2023; Otike & Kisz, 2024).

A key factor that determines how effectively these libraries function is funding, which acts as the financial backbone for acquiring materials, maintaining facilities, and delivering quality services. Eric (2024) highlights that government allocations have historically been the primary

source of funding, providing a degree of stability. However, Jaja, Sam-Kalagbor, and Igoni (2023) point out that economic challenges and competing institutional priorities have made such funding increasingly unpredictable, leaving libraries struggling to keep pace with rising demands.

In practical terms, funding refers to the financial resources needed to sustain library operations, covering costs such as purchasing books, subscribing to electronic databases, upgrading technology, and training staff. Wagbara and Eseyin (2024) explain that adequate funding ensures not only the smooth running of daily operations but also the long-term growth and innovation of library services. When funds are irregular or insufficient, libraries often have to reduce essential services such as collection development, technological improvements, and user support, which, according to George, Fadimu, and Babatunde (2024), directly affects the quality of education.

Financial sustainability is closely linked to funding but goes further, encompassing the ability of a library to maintain steady resources over time to meet both current needs and future growth. As Khademia and Ismaila (2023) argue, a financially sustainable library requires careful planning, diversified income sources, and efficient management of resources. Without this, libraries risk stagnation and may struggle to adapt to evolving user needs or technological advancements, a challenge noted by Osuji and Major-Jack (2024). Nwuke and Okwu (2024) add that creative strategies, such as developing alternative income streams or partnerships, are essential to maintaining service quality and relevance.

Budget constraints further compound these issues. Limited funding can make it difficult for libraries to acquire new books, subscribe to journals, maintain infrastructure, or invest in technology, as highlighted by Walters (2024) and George, Fadimu, and Babatunde (2024). When budgets are tight, libraries must make difficult decisions, such as delaying acquisitions, postponing technological upgrades, or limiting staff development. These compromises reduce service effectiveness and hinder the library's ability to meet modern educational demands, a concern echoed by Nwuke and Okwu (2024) and Agbo, Enyinnah, and Tsegba (2023).

In Benue State, these challenges are especially pronounced. Libraries operate in an environment of inconsistent financial support, even as the demand for digital resources continues to grow (Eric, 2024; Wagbara & Eseyin, 2024). Understanding the relationship between funding, financial sustainability, and budget constraints is therefore critical. Khademia and Ismaila (2023) argue that identifying practical strategies to manage scarce resources allows polytechnic libraries to maintain their role as essential academic support centers despite persistent financial pressures (Osuji & Major-Jack, 2024).

Statement of the Problem

Across the world, polytechnic libraries face rising costs for books, electronic resources, and technology while government funding continues to decline. This creates pressure to maintain up-to-date collections and modern services with limited financial support.

In Nigeria, the problem is more severe as polytechnic libraries depend mainly on irregular and inadequate government allocations. Inflation and high subscription fees further reduce their ability to acquire resources, upgrade technology, or sustain essential services.

In Benue State, these challenges are even more pronounced. Polytechnic libraries struggle with shrinking budgets, delayed funding and few alternative income sources leading to outdated collections and declining service quality. Yet, little is known about how these libraries manage their finances or what strategies they adopt to remain sustainable, creating a critical need for focused investigation.

Objectives of the Study

The main objective of this study is to examine Funding and Financial Sustainability of Polytechnic Libraries under Budget Constraints in Benue State, Nigeria, with the following specific objectives:

1. To assess the current sources of funding available to polytechnic libraries in Benue State.
2. To determine the extent to which budget constraints affect the operations and service delivery of polytechnic libraries.
3. To explore the challenges polytechnic libraries face in implementing alternative funding strategies for sustainable operations.

Review of related Literature

This section of the research reviewed: theoretical and conceptual frameworks and previous works by other scholars.

Theoretical Framework

This study is anchored on the **Resource Dependence Theory (RDT)** developed by Pfeffer and Salancik in 1978. The theory posits that organisations rely on external resources to survive and must actively manage relationships with funding sources to secure the resources necessary for their operations. It emphasises that limited or unstable funding creates vulnerability, compelling institutions to adopt adaptive strategies such as diversification of revenue streams, partnerships, and innovative financial practices to remain sustainable.

Resource Dependence Theory is particularly relevant to this study because polytechnic libraries in Benue State depend largely on government allocations, which are often inadequate and irregular. Budget constraints force these libraries to explore alternative funding mechanisms and cost-saving strategies to sustain their services. By applying this theory, the study provides a framework for understanding how funding limitations influence financial decision-making and how polytechnic libraries can reduce dependence on a single funding source to achieve long-term financial sustainability.

Conceptual Review

Funding is the lifeblood of any institution. It provides the resources needed to acquire materials, maintain facilities, support staff, and develop services (Nwuke & Nwanguma, 2024a). Without adequate funding, libraries struggle to update collections, maintain essential infrastructure, or adopt new technologies that improve access to information (Jaja, Sam-Kalagbor, & Igoni, 2023; Ofor-Douglas, 2024). The availability and consistency of funding directly influence how well libraries can respond to evolving user needs (Wagbara & Eseyin, 2024; Nwuke & Okwu, 2024).

Financial sustainability complements funding by focusing on long-term viability. Libraries that are financially sustainable can continue providing services despite fluctuations in funding or economic challenges (Khademia & Ismaila, 2023; Osuji & Major-Jack, 2024). Achieving this requires strategic planning, careful resource management, and creative approaches to supplement income (Khongmalai & Distanont, 2024; Nwuke & Nwanguma, 2024b), ensuring that operations continue, services expand when needed, and adaptation to change is possible without constant financial stress (Otike & Kisz, 2024; Thiruppath, 2024).

Polytechnic libraries play a unique role in supporting technical and vocational education. They serve students, lecturers, and researchers by providing both traditional and digital resources (Kotuła, 2023; Liman & Shuaibu, 2023). The quality of their services is closely tied to the level of

funding and resource management. When funding is limited, these libraries struggle to keep up with technological advances and growing user expectations (Nwuke & Nwanguma, 2024; George, Fadimu, & Babatunde, 2024).

Budget constraints are a major challenge. Limited financial resources affect the acquisition of books, journal subscriptions, infrastructure, and technological tools (Walters, 2024; George, Fadimu, & Babatunde, 2024). To navigate these limitations, libraries must prioritize essential needs, plan carefully, and explore alternative ways of generating resources or collaborating with other institutions (Khademia & Ismaila, 2023; Osuji & Major-Jack, 2024).

In summary, the relationship between these concepts is clear. Funding provides the necessary resources for libraries to operate while financial sustainability ensures that these operations can continue over the long term. Polytechnic libraries are the settings where these financial realities play out, and budget constraints represent the ongoing challenge that shapes decision-making and service delivery. Addressing these challenges thoughtfully allows polytechnic libraries to continue supporting education, research, and skill development effectively.

Related works on the Funding and Financial Sustainability of Polytechnic Libraries under Budget Constraints in Benue State, Nigeria

Suberu (2024) examined Challenges of managing library material budget allocations among selected federal polytechnic libraries in Nigeria. A structural questionnaire was used to survey the opinions of 55 Federal Polytechnic Librarians. The data collected were analysed using descriptive statistics. The result showed that polytechnic librarians were responsible for the planning and budgeting for their institution's libraries. However, they have no control over the budgets for their libraries and that the funding of Federal Polytechnic Libraries was inadequate. This is because polytechnic managements do not adhere to the budget implementation policy.

Osuji and Benard (2025) investigated alternative funding strategies and financial sustainability of public universities in Rivers State, Nigeria. Three objectives, three research questions and three null hypotheses guided the study. The study adopted correlational research design. The total population of the study consisted of 1,427 principal officers (Deans, Directors, HODs and Administrative staff) in the three public Universities in Rivers State (629 =RSU, 586 =Uniport, and 212 =IAUE). A sample of 396 principal officers (174=RSU, 163=Uniport & 59=IAUE) were drawn from population using the stratified random sampling technique. Two different self-structured questionnaires titled: "Alternative Funding Strategies Questionnaire" and "Financial Sustainability Questionnaire" which were on a 4-point rating scale of Strongly Agree, Agree, Disagree and Strongly Disagree were used as instruments for the study. The instruments were face and content validated by two experts from Measurement and Evaluation and the Department of Educational Management respectively in Rivers State University and tested for reliability using Cronbach Alpha statistics which yielded reliability indexes of 0.79, 0.74 and 0.73. Pearson Product Moment Correlation statistics was used in answering the research questions while the null hypotheses were tested using t-Transformation at 0.05 level of significance. The study found that a positive relationship between public-private partnership, commercialization of research and income sharing agreements and financial sustainability of public universities in Rivers State, which is statistically shown to be significant.

Nwankwo, Nneji and Ngwu (2025) explored financial sustainability through revenue generation in academic libraries: An exploration of strategies and challenges in a changing higher education landscape. As traditional funding sources such as government grants and institutional

budgets become increasingly unreliable, libraries are compelled to find alternative means of supporting and expanding their services. The paper examines various revenue generation strategies like premium databases, providing specialized resources such as 3D printers and video production studios, forming collaborative partnerships, and launching crowd funding and donor programmes. Despite the potential of these approaches, academic libraries face significant challenges, such as a rapidly evolving technological landscape, competing institutional priorities and inconsistent revenue models. The paper highlights the crucial role of entrepreneurial librarians in navigating these obstacles and developing sustainable revenue-generating models that ensure the continued relevance and growth of academic libraries in an era of financial uncertainty. To address these challenges, the paper proposes solutions such as continuous technological training for staff, aligning revenue generation strategies with institutional priorities, enhancing marketing and outreach efforts, developing diversified and scalable revenue models, and improving long-term relationships with donors and external partners.

George, Fadimu and Babatunde (2024), studied budget constraints on collection development practices in Nigerian academic libraries and noted that the effective management of library collections is fundamental to the academic success of institutions, yet the constraints posed by limited budgets often present significant challenges. This study delves into the intricate relationship between budget constraints and collection development practices within Nigerian academic libraries. Drawing on qualitative research methods, including interviews and document analysis, this investigation examines the nuanced strategies employed by librarians to navigate budgetary limitations while endeavoring to maintain and enhance library collections. The study reveals that Nigerian academic libraries face multifaceted challenges stemming from insufficient funding, inflationary pressures, and competing resource demands. Librarians demonstrate resilience and adaptability in their collection development efforts, leveraging various tactics such as prioritization, consortial agreements, and resource sharing initiatives to maximize the impact of available resources. However, these strategies often entail compromises that may affect the comprehensiveness and currency of library collections, thereby impacting the quality of services provided to users. Moreover, the study underscores the critical role of advocacy and collaboration in addressing budget constraints, emphasizing the need for sustained engagement with institutional stakeholders to garner support for library funding initiatives. It also highlights the potential for technological innovations, including digital repositories and open access resources, to mitigate the impact of budget limitations and enhance access to scholarly materials.

Kumar (2024) examined the role of public libraries in changing society: Challenges and opportunities and observed that public libraries have long been pivotal institutions within communities, serving as hubs for learning, information access, and social engagement. In the digital age, these institutions face both challenges and opportunities in adapting to the changing needs of society. This research article examines the evolving role of public libraries, analyzing the challenges they encounter and the opportunities they have to remain relevant and impactful. Challenges include funding constraints, technological advancements, changing user demographics, and evolving community needs. Despite these obstacles, public libraries have the opportunity to leverage technology for enhanced services, create innovative programs that cater to diverse populations, and strengthen community partnerships. By addressing these challenges and embracing opportunities, public libraries can continue to be indispensable assets in fostering literacy, education, and community development.

Research Methodology

This study adopted a qualitative research design anchored on document analysis and interpretive review of empirical studies, policy documents, and professional reports relating to funding, financial sustainability, and budget constraints in polytechnic libraries. The aim was to explore the sources of funding available to polytechnic libraries in Benue State, examine how budget limitations affect their operations and service delivery, and investigate the challenges these libraries face in implementing alternative funding strategies for sustainable operations.

Data were obtained through systematic searches of scholarly databases, institutional repositories, open access platforms, and library science journals. Works such as Suberu (2024), Osuji and Benard (2025), Nwankwo, Nneji and Ngwu (2025), George, Fadimu and Babatunde (2024), and Kumar (2024) provided core empirical evidence, while complementary insights were drawn from policy and professional reports on public and academic library funding practices. Reference list screening was also applied to capture additional relevant sources.

A documentary review protocol guided the identification and extraction of information across three key themes: (1) the current sources of funding available to polytechnic libraries in Benue State; (2) the extent to which budget constraints affect library operations and service delivery; and (3) the challenges and strategies involved in implementing alternative funding mechanisms for financial sustainability. Data were systematically analysed using thematic interpretation, focusing on patterns, similarities, and contrasts across the reviewed studies and reports to generate insights relevant to the research objectives.

This methodology allowed the study to comprehensively assess the financial realities of polytechnic libraries in Benue State, drawing lessons from both local and international experiences while highlighting practical approaches to enhancing financial sustainability under budget constraints.

Discussion of Findings

Current Sources of Funding for Polytechnic Libraries in Benue State

The studies reviewed indicate that polytechnic libraries rely predominantly on government allocations and institutional budgets as their main sources of funding. Suberu's (2024) work highlights that while librarians are responsible for planning and preparing library budgets, they often have little control over the actual disbursement of funds. This means that even well-prepared budget proposals may not translate into the necessary resources for acquiring books, journals, or digital tools. Similarly, Osuji and Benard (2025) noted that alternative funding sources, such as partnerships, commercialization of research, and income-sharing models, are gaining prominence in higher education institutions but remain underutilized in polytechnic libraries. The implication is that while some innovative avenues for financial support exist, polytechnic libraries in Benue State are still largely dependent on traditional funding channels, which are often unpredictable and inadequate for meeting all operational needs.

Impact of Budget Constraints on Library Operations and Service Delivery

Budget limitations significantly affect the day-to-day operations of polytechnic libraries. George, Fadimu, and Babatunde (2024) observed that insufficient funding forces librarians to prioritize certain collections or services over others, sometimes compromising the comprehensiveness and currency of library resources. Suberu (2024) also emphasizes that non-adherence to budget implementation policies by polytechnic management further exacerbates the problem, leading to delayed acquisitions and limited access to essential materials. These

constraints can affect the quality of service delivery, as libraries struggle to maintain collections, subscribe to relevant journals, or integrate technological resources like databases and e-learning platforms. The cumulative effect is that students and staff may not have timely access to the information and tools necessary for learning, teaching, and research.

Challenges in Implementing Alternative Funding Strategies for Sustainable Operations

Exploring alternative funding strategies presents both opportunities and challenges for polytechnic libraries. Nwankwo, Nneji, and Ngwu (2025) discuss how academic libraries are increasingly seeking revenue-generating approaches, such as offering premium services, developing specialized resources, and forming collaborations with external partners. However, the adoption of these strategies is not straightforward. Polytechnic libraries face challenges such as limited staff expertise in entrepreneurial activities, lack of institutional support, and inconsistency in revenue flows. Suberu (2024) suggests that structured interventions, like direct budget deductions and e-payment systems managed by regulatory bodies, could improve financial access, but implementing such measures requires coordinated policy action. Additionally, Kumar (2024) points out that technological innovations, while promising, also demand upfront investments that may not be feasible under constrained budgets, further complicating efforts toward financial sustainability.

Synthesis

Taken together, the findings highlight a recurring theme: polytechnic libraries in Benue State operate under a fragile financial environment where dependence on traditional funding sources leaves them vulnerable to budgetary uncertainties. Budget constraints not only limit the scope of services but also restrict the adoption of innovative strategies that could enhance sustainability. While alternative funding approaches hold potential, their successful implementation requires careful planning, institutional support, and the development of financial and technological capacity among library staff. The evidence suggests that achieving sustainable operations in polytechnic libraries is not only a matter of securing more funds but also creating structured systems and strategies that ensure efficient use of resources and long-term viability.

Conclusion

The study has shown that polytechnic libraries in Benue State play a vital role in supporting teaching, learning, and research, particularly in technical and vocational education. However, their effectiveness is closely tied to the availability and management of financial resources. The findings indicate that these libraries largely depend on government allocations and institutional budgets, which are often irregular and insufficient. Budget constraints directly affect their ability to acquire essential materials, maintain infrastructure, and adopt new technologies, thereby limiting the quality of services offered to students and staff.

While alternative funding strategies—such as partnerships, commercialization of resources, and revenue-generating initiatives—present promising opportunities for financial sustainability, their implementation is hindered by limited staff expertise, inadequate institutional support, and inconsistent revenue streams. Overall, the study underscores that achieving financial sustainability in polytechnic libraries is not solely about securing more funds; it requires careful planning, innovative approaches, and strategic management of available resources to ensure continuous service delivery and long-term viability.

Recommendations

1. Enhance Funding Sources: Polytechnic libraries in Benue State should explore and diversify

their funding beyond government allocations, including public-private partnerships, income-generating services, and donor support, to ensure a more stable and consistent financial base for library operations.

2. Mitigate the Impact of Budget Constraints: Library management should prioritize critical services and adopt cost-effective strategies, such as careful budget planning, resource sharing, and phased acquisition of materials and technology, to maintain service delivery despite financial limitations.
3. Develop Alternative Funding Strategies: Staff capacity should be strengthened through training in financial management and entrepreneurial skills, enabling libraries to implement innovative approaches—like premium services or collaborative initiatives—that support sustainable operations over the long term.

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SELF-EFFICACY AND KNOWLEDGE SHARING PRACTICES OF LIBRARIANS IN UNIVERSITIES IN SOUTH-WEST, NIGERIA

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Abstract
Self-efficacy of librarians and knowledge-sharing practices play a critical role in maximizing their potential, as organisational growth requires professional knowledge transfer. This study aims to determine whether the level of self-efficacy influences the knowledge sharing practices of librarians in federal universities in the South-west, Nigeria. A descriptive survey design was used to investigate 119 librarians which is the study population. Total enumeration was used to study the entire population 119 librarians. The 114 returned questionnaires from 119 distributed surveys resulted in a 96% response rate was used for data analysis. The finding revealed that self-efficacy of librarians, influenced by personal experiences, social persuasion, and vicarious experiences, was moderate in federal universities, while librarians are engaged in diverse knowledge sharing practices, including both written/explicit and personal/tacit, while Seminars/workshops, social media, and verbal discussions emerge as the primary modes of knowledge sharing among librarians. The researcher recommends that the University libraries need to keep the focus on the professional development opportunities to improve the skills and knowledge sharing abilities of the librarians. This may involve workshops, seminars, and effective knowledge dissemination strategy training programmes. In conclusion, self-efficacy positively influences knowledge sharing practices of librarians in federal universities in the South-West, Nigeria. The study underscores the importance of fostering a supportive and collaborative environment by promoting self-efficacy and knowledge sharing to enhance efficiency among librarians in academic settings.
Keywords: Knowledge Sharing, Self-efficacy, Librarians, Universities, South-West

Introduction

Universities are the highest educational institutions and they serve as degree-making institutions that are committed to knowledge development and knowledge sharing. They play a central role in requiring knowledge development, which provides teaching and research resources. Academic libraries should be the building blocks of academic institutions to ensure that they are very excellent in terms of education provision. The information stored in libraries is of great value and is useful in forming a stable background on which future work on scholarship is achievable as well as development of transformational technologies in science. Availability of shared resources in university libraries assures continuity of intellect between generations because it protects students and researchers against the need to develop new approaches or develop new technology that can preserve resources and save time. University libraries play a key role in the management of academic functions in higher institutions of learning, which is a basic requirement of their existence. They are integral parts of their organisation so that teaching activities and

learning endeavours can take place in conjunction with research functions. Two primary functions that university libraries fulfil the key purpose of publication of the corresponding research documentation and control of the basic academic university programs. Libraries are important avenues where research assistance can be provided in enabling librarians to develop the necessary academic progress. (Abdulsalam, Babarinde & Oyewole, 2025).

Librarian status work at university libraries throughout the Nigerian higher education system. Experts in both information resource organisation and management provide targeted information services to address users' specific needs. A university library exists primarily to advance teaching along with learning and research. The service scope of librarians involves procurement alongside the choice selection and processing along with organising and preserving resources for user accessibility. Improving the self-efficacy of university library librarians has the potential to buck the downward trend in their dissemination of information resources. Today's librarians must be self-assured and proficient in using cutting-edge knowledge-sharing techniques in order to navigate and access the large amounts of printed materials as well as electronic or digital formats, which will enhance their service delivery. (Simisaye & Popoola 2022).

Self-efficacy is the belief that a person has in their capacity to act in a certain way and accomplish specified goals. It includes a person's belief in their ability to achieve at desired levels and have control over things that affect their lives. According to Simisaye (2019), Self-efficacy affects how librarians will stick with their work, how resilient they will be in the face of difficulties and how much work they will put into a task in order to disseminate information resources. Librarians with strong self-efficacy have high expectations for their performance and will stick with a task until it is finished. On the other hand, those librarians with poor self-efficacy expect to fail and are less inclined to stick with difficult jobs. Greater effort, perseverance and adaptability are linked to higher levels of self-efficacy as well as crucial for problem-solving, self-directed learning and lifetime learning. Self-efficacy is therefore essential for lifelong learning. Librarians are more likely to actively participate in and successfully resolve information problems if they have a high feeling of self-efficacy and confidence in their information literacy abilities. Self-efficacy is seen as context-specific or domain-sensitive because it is predicated on one's own perception of oneself with relation to particular activities. Put differently, it is possible for a person to have high levels of self-efficacy in one area but low levels in another.

Kehinde and Olajide (2024) identified three indicators for self-efficacy which are experiences, vicarious experience and social persuasion. Experience suggests that each achievement boosts confidence, while every setback undermines it. Nonetheless, librarians can be inspired to persevere in the face of setbacks if they possess a strong sense of self-efficacy that is based on prior achievements. When one sees others doing things well, they start to believe they can do the same. When librarians believe there is a significant correlation between their own abilities and other colleagues' abilities, vicarious experience works best. The impact of vicarious experience on self-efficacy is stronger in certain situations compared to others. An individual's personal evaluation of their task competence can be significantly influenced in settings where comparisons are frequently made. Persuasion is often employed by instructors due to its convenience and ease of use. Although knowledge sharing has always required significant psychological and emotional circumstances for sustainability. However, self-efficacy is not static and is subject to a variety of influences. Self-efficacy acts as a bridge between a person's knowledge and their actual behaviour. In essence, a person might be in possession of the information and abilities needed to complete a task. They may still encounter challenges to achievement, though, such insecurity, self-doubt, and other situational elements. This psychological condition has a negative effect on university librarians' overall performance. Similarly, the degree of confidence librarians has in their capacity to carry out various services or duties successfully is referred to as self-efficacy. Self-efficacy comes

in various shapes and sizes. (Jiang, Yuan & Zhang, 2019). Thus, librarians need to exhibit a high degree of knowledge sharing. Since knowledge sharing greatly improves the calibre library services, university librarians must be willing to share their knowledge. Knowledge sharing is considered one of a core and pragmatically important activity among librarians that encompasses social interaction and interpersonal relationship where individuals exchange their knowledge ideas, and experiences with others. Knowledge sharing plays a crucial role in the field of library and information science. Librarians serve as custodians and facilitators of knowledge, providing information services to a wide range of individuals seeking knowledge and information.

Knowledge sharing hold a vital function in harnessing the full potential of librarians, as the sharing of knowledge and expertise serves as a driving force for organisational growth. By promoting a culture of knowledge exchange, organisations can tap into the collective wisdom and skills of their librarians, leading to improved performance, innovation and overall development. The value of knowledge sharing can be understood from two distinct perspectives: knowledge formation/creation and knowledge sharing itself. When knowledge is formed or created, it becomes a valuable resource that can be utilised for various purposes. However, the true power of knowledge emerges when it is shared. Through the act of sharing knowledge, new insights and understanding are generated, leading to the creation of fresh knowledge. In this way, knowledge sharing becomes a catalyst for continuous learning and innovation (Abubakar & Kabir, 2022). Knowledge sharing plays a crucial role in strengthening and developing the human resources, which are considered the most valuable asset of any organisation, including universities libraries. Libraries employ diverse collaborative platforms and channels to furnish well-organised resources and stimulate user participation in the process of information dissemination (Abdulsalam, Babarinde & Oyewole, 2025).

Knowledge sharing also encourages librarians to engage in continuous learning and professional development, ensuring that they possess the necessary skills to support users effectively. Through knowledge sharing practices, librarian be more effective in their daily routines work`. This includes explicit knowledge and tacit knowledge which can bring significant benefits to librarians and universities due to its potential and actual advantages. By effectively managing and organising knowledge, librarians can facilitate the discovery and utilisation of information resources, empowering them to make decisions and learning activities. Furthermore, through mode of knowledge sharing such as verbal discussion, seminars/workshop, conference, e-mail, social media (Facebook, Twitter, Telegram and WhatsApp), community practice, phone call, text messages, brainstorming and website and frequency of knowledge sharing (daily, weekly, monthly, quarterly, when needed and yearly). This fosters a collaborative and learning-oriented environment, where librarians can exchange knowledge and insights, leading to improved research productivity, service delivery and the creation of new knowledge (Kpolovie, Obilor and Ololube, 2015).

By embracing knowledge sharing, libraries can become vibrant hubs of knowledge creation. Through initiatives such as digitisation projects, collaborative research, and user-generated content, libraries can actively contribute to the generation of new knowledge within their respective domains. This not only benefits library users but also positions libraries as key contributors to the advancement of knowledge in their communities. Consequently, the study carried out to investigate the extent to which self-efficacy influence knowledge sharing among the librarians in federal universities, South-west, Nigeria.

Statement of the Problem

Self-efficacy of librarians and knowledge sharing practices plays a critical role in maximizing their potential because organisational growth requires professional knowledge

transfer. The exchange of knowledge which librarians participate in is a vital essential and practice-oriented activity that creates social connections through collaboration for exchanging knowledge, ideas and experience between them as information managers.

However, Literature search demonstrates that librarian workforce in federal universities in South-West Nigeria lack comprehensive knowledge sharing practices and low self-efficacy among themselves. This might be a result of low self-efficacy of librarians in federal universities in South-west, Nigeria. Many of these includes lack of experience, social persuasion and vicarious experience. The significant role of self-efficacy on knowledge sharing necessitates that librarians learn to meet the requirements of the 21st century. Therefore, this study aims to find out if the level of self-efficacy could influence knowledge sharing practices of librarians in federal universities in South-west, Nigeria.

Objective of the Study

The main objective of this study is to examine self-efficacy and knowledge sharing of librarians in federal universities in South-west, Nigeria. Specifically, the study is guided by the following objectives to:

i. ascertain the level of self-efficacy of librarians in federal universities in South-west, Nigeria;
ii. find out types of knowledge sharing by librarians in federal universities in South-west, Nigeria;
iii. find out mode of knowledge sharing by librarians in federal universities in South-west, Nigeria.

Research Questions

In order to find answers to the objectives of this study, the following research questions were raised:

i. What are the level of self-efficacy of librarians in federal universities in South-west, Nigeria?
ii. What types of knowledge sharing practices are employed by librarians in federal universities in South-West Nigeria?
iii. What are the modes of knowledge sharing used by librarians in federal universities in South-West Nigeria?

Research Hypothesis

One null hypothesis was formulated and tested at 0.05 level of significance

HO_1: There is no significant relationship between self-efficacy and knowledge sharing among Librarians in Federal Universities in South-West, Nigeria.

Review of Related Literature

Self-efficacy is the belief that a person has in their capacity to act in a certain way and accomplish specified goals. It includes a person's belief in their ability to achieve at desired levels and have control over things that affect their lives. Simisaye (2018) Self-efficacy affects how long people will stick with something, how resilient they will be in the face of difficulties, and how much work they will put into a task. People with strong self-efficacy have high expectations for their performance and will stick with a task until it is finished. On the other hand, those who have poor self-efficacy expect to fail and are less inclined to stick with difficult jobs. Greater effort, perseverance, and adaptability are linked to higher levels of self-efficacy and are crucial for problem-solving, self-directed learning, and lifetime learning. Though knowledge and skills are important in decision-making, self-efficacy has a major influence on human conduct. People are motivated and behave in ways that are mostly determined by their beliefs rather than only by the

objective world. Self-efficacy is therefore essential for lifelong learning. People are more likely to actively participate in and successfully resolve information problems if they have a high feeling of self-efficacy and confidence in their information literacy abilities. Conversely, those who have low self-efficacy could shy away from or hesitant to deal with information-related problems. Self-efficacy is seen as context-specific or domain-sensitive because it is predicated on one's own perception of oneself with relation to particular activities. Put differently, it is possible for a person to have high levels of self-efficacy in one area but low levels in another (Abdulsalam, Babarinde & Oyewole, 2025)

The study conducted perceived self-efficacy and information literacy skills of reference librarians as predictors of reference service provision in selected academic libraries in South West, Nigeria. The research is a survey in the ex post facto type. While all the sixteen reference librarians in the identified academic libraries were selected by the technique of the total enumeration, the purposive sampling technique was applied. The primary data collection tool was the questionnaire. The findings indicate that librarians generally have a strong belief in their capabilities, particularly in areas related to sharing knowledge and conducting research to fulfil information needs. It suggests that librarians possess the skills and confidence to effectively manage their work and engage in knowledge sharing among their colleagues. This high self-efficacy also suggests that librarians have the ability to regulate their emotions and remain composed in various situations (Awodoyin & Okiki, 2022).

Knowledge serves as a vital asset for the growth and survival of any organisation, acting as its lifeblood. It has been recognised as a fundamental resource in the ongoing existence of an organisation. Daland (2016) stated that knowledge is considered the most crucial asset in today's knowledge-driven economy. Two distinct forms of knowledge exist: tacit and explicit. Tacit knowledge is acquired and shared through discussions and observations, encompassing sensory perception, hands-on experiences, motor skills, intuition, unspoken mental models, and implicit rules. On the other hand, explicit knowledge is articulated through language, expressed in sentences, captured in drawings or writing, and can be easily shared, codified, and transferred among individuals. Tacit knowledge is informal and personal, deeply rooted in individual experiences, beliefs, values, and often challenging to learn or fully articulate due to its acquisition through practice and real-world engagement (Awodoyin, Osisanwo, Adetoro & Adeyemo, 2016).

Salleh, Yusof, Mohammed, Zahari and Hamzah (2020) not only view knowledge as one of the most valuable assets of an organisation but also argue that it has surpassed the value of physical assets. In essence, knowledge can be described as the core of any organisation, driving its workforce's performance. Therefore, it is crucial for managers to be actively involved in its management. Central to effective knowledge management is the practice of knowledge sharing (Wening, Haryono & Harsono, 2016).Similarly, Aksoy, Ayranci, and Gozukara (2016) investigated the impact of knowledge sharing on employee performance using models. Their findings confirmed that intra-organisational knowledge sharing has a positive influence on employee performance. Zahari, Abdul-Rahman, Othman, and Baniamin (2014) explored the relationship between knowledge sharing and organisational performance within the context of insurance companies in Malaysia. They discovered a positive correlation between knowledge sharing and organisational performance. Their study concludes by stating that many organisations recognise the potential of knowledge sharing among employees to enhance overall performance. Given the focus on acquiring, sharing, and transferring individual knowledge and experience to the collective organisational experience, this study recognises the need to investigate knowledge sharing and job performance specifically among librarians in Nigerian universities.

The study conducted by Odunewu and Haliso (2019) focused on examining the

knowledge sharing behaviour among librarians in universities located in the southwest region of Nigeria. The results presented indicate a high level of willingness among librarians to share job-related knowledge. Similarly, there was a strong willingness among librarians to receive or collect job-related knowledge from others. The study also revealed the presence of organisational trust and motivation towards knowledge sharing behaviour among librarians.

Abdulsalam, Babarinde and Osalusi (2025) studied knowledge sharing and research output of librarians in federal universities. The researchers adopted a descriptive survey design of correlational nature, and the population was 119 librarians in seven federal universities in South-west Nigeria. While enumeration method was employed as a whole and data were gathered through a structured questionnaire. The finding revealed that Librarians engaged in a variety of knowledge sharing practices. Seminars, workshops, social media and verbal discussions were the primary modes of knowledge sharing. Social media, phone calls, and verbal discussions were the most frequently used channels. Knowledge sharing was found to significantly contribute to the research output of librarians ($r=0.629$, $p < 0.05$).

In study conducted by Buhari, Abdulsalam, Olajide, Oyewole, Musa and Balogun (2025). This paper examined knowledge sharing practices as a correlate of service delivery of polytechnic library staff in South-West, Nigeria. The survey research design was used as a quantitative methodology. The population of the study included 325 professional and para-professional staff of 23 public poly-technic libraries in South-West, Nigeria. The sampling was carried out by a total enumeration method, where 325 questionnaires were handed out and 266 valid responses were collected (response rate: 81.85%) and revealed a moderately high level of knowledge sharing practices among polytechnic library staff ($M = 2.5514$). A statistically significant positive correlation was found between knowledge sharing and service delivery ($r = 0.609$, $p < 0.05$), indicating that knowledge sharing enhances the quality of library services.

Wang, Zhang, Hao and Chen (2019) further stated that self-efficacy and other intrinsic motivators are considered to be more effective in driving motivation compared to extrinsic motivators. Also, categorise community motivation factors into three components: the feeling of belonging, community identity, and community satisfaction. Regarding the present study, it is proposed that the lack of these three motivators could hinder tacit knowledge sharing within multi-organisational project teams. The impact of rewards on knowledge sharing behaviour has yielded inconsistent research results. Thus, it can be inferred that additional factors may influence the relationship between both extrinsic and intrinsic rewards and knowledge sharing attitudes. While some studies have linked knowledge sharing to extrinsic rewards (Razmerita, Kirchner and Nielsen, 2016). The relationship between self-efficacy and its ability to motivate knowledge sharing is subject to variation in research findings.

Farooq and Vij (2019) supported this notion, asserting that knowledge is a significant source of competitive advantage, particularly in a dynamic business environment where organisations need to focus on both efficient information processing and knowledge creation. Consequently, companies aiming to gain a competitive edge must effectively manage their knowledge, and those possessing fascinating and distinctive expertise will have a greater opportunity to succeed in competitive industrial markets (Mustika, Eliyana,, Agustina & Ratnasari 2020). The display of effective knowledge sharing behaviour within a company indicates that the company has a strong grasp of knowledge management practices (Heisig et al., 2016; Inkinen, 2016). Knowledge sharing behaviour plays a crucial role in generating valuable knowledge resources for delivering high-quality services within a company (Mafabi, Nasiima, Muhimbise, Kasekende & Nakiyonga, 2017). This behaviour is often triggered by a desire to share knowledge (Sallam & Algammash, 2016). Within an organisation, the intention to share knowledge refers to employees' willingness to share the knowledge they have acquired or created with others.

Knowledge sharing self-efficacy serves as a behavioural control factor that can assist individuals in overcoming challenges related to knowledge sharing in the learning environment. It serves as an indicator of knowledge sharing behaviour, and the absence of knowledge sharing self-efficacy may hinder the occurrence of knowledge sharing (Bao & Han, 2019).

Research Methodology

The study employed a descriptive and correlational survey designs. A population of 119 librarians across seven Federal universities in South-West Nigeria was used for the study. A total enumeration technique was utilised. A structured questionnaire was designed for Self-efficacy, influenced by personal experiences and social persuasion, vicarious experiences as well as types and modes of knowledge sharing was administered to gather data from respondents. Out of the 119 questionnaires distributed, 114 were returned, resulting in a 96% response rate, which was used for analysis. Research questions were analysed using descriptive statistics (frequency tables, mean, and standard deviation) to analyse data in answer to research questions while Product Moment Correlation Coefficient was used to test hypothesis at 0.05 level of significance.

Results of the Findings

Research Question One: What are the level of self-efficacy of librarians in federal universities in South-west, Nigeria?

Table 1: Level of self-efficacy of librarians in federal universities in South-west, Nigeria

Experience	VHL N	HL N	LL N	VLL N	Mean	SD
I keep trying a task until I succeed at it, even if I cannot do it on my first try.	35	40	21	18	2.71	0.912
I do not quit up if I do not succeed the first time when trying to learn anything new.	25	39	26	24	2.31	0.811
I always try to complete tasks even if they seem overly challenging.	24	33	35	22	2.58	0.756
I do not let failure deter me from trying my hardest to complete a task or duty.	23	36	30	25	2.61	1.033
It is easy for me to stick to my aims and attain my objectives	26	43	26	19	2.63	0.793
I can always make the deadline for any academic	21	37	30	26	2.60	0.861
I can set up a comfortable, distraction-free study space.	31	36	25	22	2.62	0.781
Weighted mean					2.58	0.849
Social persuasion	N	N	N	N	Mean	STD
Even if someone disagrees with me, I can still find ways to accomplish my goals.	37	43	18	16	3.52	0.681
I can complete a task successfully even if I have been told I cannot do it, have never tried it before, or have not seen anyone else accomplish it.	25	37	27	25	2.58	1.021
When I am told I am capable and would not have any trouble completing the work, I can do better.	38	44	17	15	2.19	0.935
I can do my job more effectively when I receive credit for my efforts.	40	46	17	11	3.65	0.589
Weighted mean					2.98	0.807
Vicarious experience	N	N	N	N	Mean	STD
When I operate as a team, I perform my job better.	24	41	25	24	2.64	0.818
I can figure out a problem when I observe one of my co-workers or someone else doing it.	26	33	30	25	2.71	0.929
I find it challenging to attempt or complete a task after observing someone else struggle to do a work that is similar.	25	35	38	16	2.69	0.941
When I see someone else do a task that I have never tried before and they fail, I find it difficult to tackle the task myself.	19	28	41	26	2.32	1.06
Weighted mean					2.59	0.937
Overall weighted mean					2.70	1.060

Overall, the weighted mean as shown in Table 1, which combines the scores from all three indicators, was 2.70. This implies that that most of the librarians in federal universities in South-west Nigeria perceive their self-efficacy beliefs to be influenced moderately by their own experiences, social persuasion and vicarious learning.

Research Question Two: What are the types of knowledge sharing by librarians in federal universities in South-west, Nigeria?

The result of the types of knowledge sharing engaged in by librarians in federal universities in South-west Nigeria is presented in Table 3.

Table 2: Types of knowledge sharing by librarians in federal universities in South-west, Nigeria

Written /Explicit knowledge	**VHL** N	**HL** N	**LL** N	**VLL** N	**Mean**	**STD**
I share from submitted documents and reports.	19	24	38	33	2.22	0.812
I share from published articles in university journals, magazines, or newsletters.	26	38	24	26	3.13	0.779
I provide documentation from my own files that is pertinent to my ongoing work.	20	29	35	30	2.36	0.739
I gain ideas through social media pages and databases.	39	36	23	16	3.46	0.810
I spend time interacting with people via email to get assistance with work-related issues.	21	28	24	41	2.30	0.799
Weighted					2.69	0.789
Personal Interactions/Tacit knowledge	**N**	**N**	**N**	**N**	**Mean**	**STD**
I get support from experienced colleagues with time from personal schedule guiding and counselling .	18	31	38	27	2.41	0.832
I have long-term mentoring relationships with librarians.	22	36	25	31	2.52	0.876
I spend time having private conversations with others to assist them with work-related issues (e.g., in the hallway, at lunch, or over the phone).	21	28	31	34	2.45	0.758
I stay informed about significant research developments through casual conversations.	25	39	31	19	2.73	0.811
By direct communication, I offer experiences that could assist others steer clear of danger and trouble.	20	24	34	36	2.37	0.775
I use online chat rooms to discuss work-related issues with others.	21	36	33	24	2.43	0.784
I share my opinions and views at meetings.	28	33	31	22	2.59	0.833
I share success stories that can improve the outcomes of the research.	25	39	25	25	2.55	0.788
Weighted					2.51	0.788

Table 2 indicates that librarians' knowledge sharing is classified into two main categories: written/explicit knowledge and personal/tacit knowledge. Regarding written/explicit knowledge, a majority of respondents reported that they derive ideas from social media pages and databases (mean = 3.46) and share knowledge from published articles in university journals, magazines, or newsletters (mean = 3.13). The weighted mean was 2.69, exceeding the criterion mean. While the personal/tacit knowledge had a weighted mean of 2.51. Specifically, a significant number of the respondents engaged in long-term coaching relationships with other librarians (mean = 2.52) and keep updated with important information on research through personal conversation (mean = 2.73) as well as expressing ideas and thoughts during the meetings (2.59) and sharing success stories that may benefit the research output (mean = 2.55). Consequently, the primary forms of explicit knowledge shared by most librarians in federal universities in South-west Nigeria include ideas sourced from social media and knowledge derived from published articles in university journals, magazines, or newsletters.

Research question three: What are the modes of knowledge sharing by librarians in federal universities in South-west, Nigeria?

Table 3: Mode of knowledge sharing by librarians in federal universities in South-west, Nigeria

Mode	VHL N	HL N	LL N	VLL N	Mean	SD
Verbal discussion	23	38	33	20	3.16	0.811
Seminars/workshops	37	41	19	17	3.47	0.927
Conference	21	28	35	30	2.71	0.836
Email	19	25	37	33	2.22	0.718
Social media (Facebook ,Twitter, Telegram and WhatsApp)	35	47	21	11	3.31	0.833
Community of practice	14	30	41	29	2.39	0.825
Phone call	20	24	34	36	3.25	0.811
Text messages	11	26	43	34	2.18	0.927
Brainstorming	22	33	31	28	2.66	0.836
Website	21	39	21	33	3.07	0.718
Weighted					2.84	0.824

The findings in Table 3 reveal that the most significant modes of knowledge sharing among librarians in federal universities in South-west Nigeria are seminars/workshops (mean = 3.47), social media (mean = 3.31), and verbal discussions (mean = 3.16). In contrast, modes such as email (mean = 2.22) and text messages (mean = 2.18) were less commonly used for knowledge sharing by librarians in these universities. This indicates that seminars/workshops, social media, and verbal discussions are the primary means of knowledge exchange among librarians in South-west Nigeria. These methods offer effective platforms for sharing information, learning from colleagues, and promoting collaboration. Conversely, email and text messages are less favoured for knowledge sharing, likely due to their limitations in fostering meaningful interactions or conveying detailed information.

Hypothesis: There is no significant relationship between self-efficacy and knowledge sharing among librarians in federal universities in south-west, Nigeria

Table 4: Relationship between self-efficacy and knowledge sharing of librarians in federal universities

Variable	Mean	STD	N	R	p-value	Remark
Self-efficacy	2.70	1.060	114	0.425	0.000	Sig.
Knowledge sharing	2.51	0.788				

The analysis of the data presented in Table 4.11 revealed that the mean self-efficacy score of librarians is 2.70, with a standard deviation (STD) of 1.060. Meanwhile, the mean score for knowledge sharing among the same group of librarians is 2.51, with a standard deviation of 0.788. Additionally, the correlation coefficient between self-efficacy and knowledge sharing was found to be 0.425. This indicates a moderate positive correlation between self-efficacy and knowledge sharing among librarians in federal universities in Southwest Nigeria. Furthermore, the associated p-value is less than 0.05, demonstrating statistical significance at the 5 percent significance level. In other words, the findings indicate that there is a moderate, positive, and statistically significant relationship between self-efficacy and knowledge sharing among librarians in Southwest Nigeria. Consequently, the null hypothesis, which proposed no significant relationship between self-efficacy and knowledge sharing, is rejected based on the evidence of the observed correlation.

Discussion of the Findings

The study investigated how level of self-efficacy influences the knowledge sharing practices of librarians in federal universities in the South-west, Nigeria. Three research questions were answered. This section, therefore presents the discussion of the findings. The examination of self-efficacy among librarians highlighted three key indicators: experience, social persuasion, and vicarious experience. Librarians reported moderate levels of self-efficacy across these indicators. These findings underscore the multifaceted nature of self-efficacy beliefs among librarians and their reliance on both personal experiences and external influences to shape their confidence in their abilities. The finding supports the assertion of Kehinde and Olajide (2024) who identified three indicators for self-efficacy which are experiences, vicarious experience and social persuasion. Experience suggests that each achievement boosts confidence, while every setback undermines it and found that librarians in public university libraries in South-West Nigeria possess a relatively high level of self-efficacy, particularly in verbal/social persuasion and physiological response. The finding shed light on the librarians' beliefs in their capabilities and can inform interventions and strategies to further enhance their self-efficacy.

The investigation into knowledge sharing practices among librarians revealed that librarians predominantly share written/explicit knowledge through formal channels such as social media platforms and published articles. These findings highlight the complex and dynamic nature of knowledge sharing practices within the librarian community. The finding is in agreement with the position of Odunewu and Haliso (2019) who focused on examining the knowledge sharing behaviour among librarians in universities in the south-west, Nigeria and discovered high level of willingness among librarians to share job-related knowledge.

The analysis of the mode of knowledge sharing identified seminars/workshops, social media, and verbal discussions as the most prominent channels used by librarians. These findings underscore the importance of both face-to-face interactions and digital platforms in facilitating knowledge exchange among librarians. However, modes such as email and text messages were less frequently utilised, suggesting that traditional forms of communication may still hold relevance in certain contexts. The finding is in support of Abuakar and Sahabi (2022) who investigated and found that respondents strongly agreed on the utilisation of brainstorming and verbal discussion as modes of sharing knowledge in various areas. such as seminars/workshops, mentoring, and staff meetings as knowledge sharing methods. This suggests that librarians with higher levels of self-efficacy are more likely to engage in knowledge sharing activities, contributing to a mutually reinforcing cycle of confidence and collaboration within the librarian community.

The finding corroborates with Farooq and Vij (2019) who investigated Does market orientation mediate between knowledge management orientation and business performance and asserted that knowledge is a significant source of competitive advantage, particularly in a dynamic business environment where organisations need to focus on both efficient information processing and knowledge creation.

Conclusion

The study has established that self-efficacy and knowledge sharing are vital predictors among the librarians in federal universities in South-west, Nigeria. Specifically, the study provides comprehensive insights into, self-efficacy and knowledge sharing practices among the librarians in federal universities in Southwest Nigeria. Findings revealed that librarians exhibiting moderate levels of self-efficacy influenced by personal experiences and social persuasion. Knowledge sharing practices are diverse, encompassing both formal and informal modes of communication, with seminars/workshops and social media emerging as prominent channels. Librarians actively engage in knowledge sharing. The study underscores the importance of fostering a supportive and

collaborative environment by promoting self-efficacy and knowledge sharing to enhance efficiency among librarians in academic settings.

Recommendations

The following recommendations are made based on the findings of the study: Based on the findings of the study, several recommendations can be made to support librarians in federal universities in South-west, Nigeria:

University libraries should continue prioritise professional development opportunities aimed at enhancing librarians' skills and knowledge sharing capabilities. This can include workshops, seminars, and training programs for effective knowledge dissemination strategies.

There is the need to encourage collaboration and networking among librarians to foster a culture of knowledge sharing and collaboration. This could be achieved by establishing platforms, both physical and digital, where librarians can share ideas, resources, and best practices in order to facilitate collaboration across departments and institutions. Federal universities should encourage the adoption of technology tools and platforms to facilitate knowledge sharing and collaboration among librarians. This could be achieved by providing training and resources on utilising digital platforms, social media, and communication tools effectively for disseminating information and engaging with peers.

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PROVISION, ACCESSIBILITY AND UTILIZATION OF INFORMATION RESOURCES BY UNDERGRADUATE STUDENTS OF NATIONAL OPEN UNIVERSITY STUDY CENTRE LIBRARIES IN NORTH-EAST NIGERIA

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Abstract
The study investigated the provision, accessibility and Utilization of Information Resources and Services by Undergraduate Students of the National Open University Study Centre Libraries in North East, Nigeria. The study adopted a survey research design. The population of the study consisted of 3,230 undergraduate students. Taro Yamane's formula was used to determine the sample size of 400 undergraduate students. The instrument for data collection was a questionnaire. Data was analysed using mean, frequency, and percentage, while Chi-square was used to test the hypothesis. The findings showed a high level of provision of information resources (M=3.04), high extent of access to information resources among undergraduate students (M=3.04), while there was a low extent of utilization of information services (M=2.92). The purpose of using information resources was for research, assignments, self-development, advanced knowledge, classwork, and practical work, and the challenges faced by students include obsolete library resources, difficulty locating resources and services, erratic power supply, slow internet connection, and inadequate library services. There was a statistically significant relationship between accessibility and utilization of information resources, with the P value of .000. The study concludes that undergraduate students of National Open University of Nigeria (NOUN) access and use information resources. The study recommended that the libraries should sustain and periodically update the provision of information resources to maintain relevance and meet users' evolving needs and provide backup power solutions, such as solar panels, coupled with improved internet bandwidth should be provided.
Keywords: Accessibility, Utilization, Information Resources, and Information Services

Introduction

The library is an important organ of any institution; it is considered the heart of every institution. This is because no programme would be in existence without a well-equipped Library. The basic function of any university library is to provide the most needed and up-to-date information resources and services that will support teaching, learning, and research. However, for libraries to achieve that, information resources and services must be accessible for use.

Access to information resources is essential to any successful academic pursuits in universities. For academic libraries to complete their functions, the available information Resources must be accessible. The more accessible information sources are, the more likely they are to be used. The

user may encounter five possible types of inaccessibility problems. These are conceptual, linguistic, critical, bibliographic and physical inaccessibility. Aguolu and Aguolu cited in Ayaowei, et al, (2024) notes that availability of an information source does not necessarily imply its accessibility, because the source may be available but access to it prevented for one reason or the other All of the provision and use of library services is concerned with access to information resources and services.

Utilization of library resources by users generally enhances the frontiers of knowledge while at the same time, building a virile socio-economic base and creating numerous information resources. There are diverse materials procured and stocked in university libraries which include: books (print) and non-book (non-print) materials. Books comprise textbooks and reference materials. Textbooks are mainly housed in the reader's section where they can be borrowed, while reference materials are kept under the strict supervision of reference librarians. Reference books include dictionaries, encyclopaedias, yearbooks, manuals, almanacs, handbooks, directories, fact books/sheets, gazetteers, gazettes, maps, atlases, biographies, and autobiographies (Nnenda, 2022). Utilization of library resources within National Open University of Nigeria serves as a cornerstone in advancing knowledge boundaries while concurrently bolstering socio-economic development and fostering a rich repository of information.

Information resources are essential tools in the teaching and learning process of any academic community. Members of academia need library information resources for teaching, learning, research, updating knowledge, and personal development. According to Ayaowei, et al, (2024), information sources in print, electronic forms, and other media are the most widely used in university libraries, Textbooks, journals, handbooks, newspapers, periodicals, manuals, reports, dictionaries, atlases/maps, encyclopaedias, the internet, computers, abstracts, and audio-visual materials are all examples of these. Libraries' primary aim has been to choose, gather, organize, and make information more accessible and usable.

The provision of library information resources without utilization amounts to nothing, as the core duty of academic libraries is to provide and ensure that users have access to information resources and use them. It is against the backdrop that the study provides, accessibility and utilization of Information Resources by Undergraduate Students of the National Open University Study Centre Libraries in North-East Nigeria.

Statement of the Problem

The provision of library resources and services is essential for the attainment of educational goals. However, the provision of the resources alone cannot solve the problem until the resources are utilized appropriately by the students and staff of the parent institution, whether conventional or distance learning. In a distance learning situation, learners are taught through contact on weekly, monthly, termly, or zero contact basis. In this regard, the role of library in providing information resources and services to support teaching and learning was minimal because the students lack time to visit the library and make research and at the same time libraries themselves find it difficult to reach their users at home as a result of lack of automation of the libraries. This, thus, affect the provision and utilization of the library resources and services in National open University North-East study centers.

Recent literature (Nzewi, 2023; Oyeboade et al, 2023; Efemini, 2022; Obinna & Uzokwe, 2022) found low utilization of information resources among students, and the observations from the researcher, most academic libraries in Nigeria witness low-level usage of information resources and services. Could this be because of a lack of provision of information resources and services? or

a lack of accessibility to information resources and services? The study addresses the questions and investigates the provision, accessibility and Utilization of Information Resources and Services by Undergraduate Students of National Open University Study Centre Libraries in North, Nigeria.

Research Objectives

The main aim is to investigate the provision, accessibility, and utilization of Information Resources by Undergraduate Students of the National Open University Study Centre Libraries in North-East Nigeria. The specific objectives are to:

1. Determine the extent of provision of Information Resources in the NOUN study centre libraries in the North East.
2. Determine the extent of accessibility to Information Resources in NOUN study centre libraries in the North East.
3. Examine the extent of utilization of Information Resources in NOUN study centre libraries in the North East
4. Find out the purpose of the Utilization of Information Resources and library services in NOUN study centre libraries in the North East
5. Identify the challenges to the utilization of Information Resources in the NOUN study centre libraries in the North East
6. Determine the relationship between the accessibility and utilization of Information Resources in NOUN study centre libraries in the North East

Research Questions

The study provided answers to the following questions

1. What is the extent of provision of Information Resources in the NOUN study centre libraries in the North East?
2. What is the extent is the accessibility of Information Resources in NOUN study center libraries in the North East?
3. What is the extent of utilization of Information Resources in NOUN study centre libraries in the North East?
4. What is the purpose of the utilization of Information Resources in NOUN study centre libraries in the North East?
5. What are the challenges hindering the utilization of Information Resources in the NOUN study center libraries in the North East?
6. Is there a relationship between the accessibility and utilization of Information Resources and library service in NOUN study centre libraries in the North East?

Hypothesis

The null hypothesis was tested at a 0.05 level of significance

$H0_1$: There is no significant relationship between the accessibility and utilization of information resources in the NOUN study centre libraries in the northeast

Review of related Literature

Use of library resources is paramount for research activities by students, staff and the university community. Thus, Oladapo et al (2021) examine the use of library resources by medical students in LAUTECH College of Health Sciences, Osogbo, Osun State, Nigeria. The study employed the descriptive survey design to collect primary data from Medical students of College of Health Sciences, Osogbo, Osun State, Nigeria. A total of two hundred and eighty (280) medical

students (400 - 600 level) of College of Health Sciences were randomly selected for the study. The main instrument for data collection was a structure questionnaire which was administered to the respondents shortly after their lectures. Both face and content validity of the instrument were carried out. Findings from the study indicated that with regards to the purpose of use, it shows that research, followed by examination preparation, advancing knowledge, and self-development were the major reasons for using the library. The study recommended that the college authority should urgently looked into the critical barriers highlighted in this study and adopt workable strategies to effectively improve the overall library condition both in terms of physical and material resources that are hindering effective library utilization among medical students and scholars in the college.

Information resources availability is critical to for use by students. Without availability of information resources, students will not be able to make use of them. To support this, Ayaowei, et al (2024) examined the availability, accessibility, and Use of Information Resources in the Library by Students in Bayelsa State. The study adopted a descriptive research design and was conducted among 100 final year students of the College of Health Technology, Bayelsa State. Data was collected using a structured questionnaire which elicited responses on the level, accessibility and use of information sources at the library. Data was presented on tables and expressed as frequencies and percentages. Books were accessible to a high extent. Dictionaries, handbooks, directories, journals, manuals, reports were considered accessible to low extent by the students. Most respondents used these library resources for academic purposes such as getting assignments done, reading for examinations, consult project, preparing for practical sessions, among others. Books were accessed to a high extent. It was recommended that considering the students' desire to utilize the library resources for academic activities, the identified inadequacies be resolved and the library revamped for better service provision to the students.

Information resources are used for diverse purposes by students in academic environment such as aiding in research and carrying out class assignment. Ayotola, Olufemi, and Abiodun, (2020) examined postgraduate students' use of the library and challenges encountered in South-west Nigerian universities. Survey research method was adopted while questionnaire was used as data collection instrument. The population of the study consisted of all postgraduate students in universities in South-west, Nigeria. A sample of 2,942 postgraduate students was selected using the proportionate random sampling technique. The face and content validity were ensured. The reliability was ascertained using test re-test method and a reliability coefficient of 0.83 was obtained. The study revealed that most postgraduate students in South-west Nigerian Universities use the library for reading their notes (94%), preparing for tests and examinations (92%), and updating their knowledge and skills (92%). Based on the findings of the study, it was recommended that library management should continuously provide lasting solutions to the identified constraints to the use of library.

Similarly, Anunobi, and Nwankwo (2020) sought information from respondents on the awareness and extent of use of library information resources by the undergraduate students in universities in Anambra State. Three research questions guided the study. The population of the study is the registered 17,270 undergraduate students in universities in Anambra State. The records from the Library Registration Book in the Circulation Desk of the University Libraries showed the list of registered library undergraduate users in the institutions. The sample of the study is 391 undergraduate students from universities in Anambra State. The sample size for this study was determined by the use of a mathematical model developed by Yameni (1964). A questionnaire entitled "Awareness and Extent of Use of Library Information Resources

Questionnaire (AWLIQ)" was developed by the researchers, validated by experts and used for data collection. The major findings of the study include that the level of awareness of library information resources by the undergraduates in Universities in Anambra State is moderate. The undergraduates in Anambra State universities use library information resources in the University libraries to a low extent among others. It was recommended that Use of library programme should be made a separate course of its own in all the departments of the universities, library orientation should be taken very seriously and it should be made a compulsory activity in the universities, the National University Commission (NUC) should enforce more drastic measures aimed at improving resources and services of academic libraries, among others

Students make use of Information resources for different purposes some of which may be class presentation, assignment and group discussion. To support this, Adeh and Hayatu (2020) in a study aimed to identify the purpose of use of Kashim Ibrahim Library by Undergraduate students in Ahmadu Bello University, Zaria, during the examination. The study had three objectives: To identify the purpose of use of Kashim Ibrahim Library by Undergraduate students in Ahmadu Bello University, Zaria during examination. To identify the services Undergraduate students of Ahmadu Bello University, Zaria use in Kashim Ibrahim Library during examination. The study found that the major challenges undergraduates face with the use of library services during examination include lack of space, an inadequate number of computers, a lack of comfortable seats, poor Internet services, inadequate power outlets for the students' laptops, and a lack of assistance from library staff. The study then recommended that Library management should constitute a section of the library for user needs elicitation. Library space should be well furnished and more space could be freed up in the Library if some of the old resources of the library are weeded and made into close-access.

Numerous challenges hindered the effective use of information resources in academic environment in Nigeria such as lack of access and obsolete information resources. Thus, Adejo (2020) focused on the factors mitigating the utilization of information resources and services in the Nigerian French Language Village (NFLV), library, Badagry. A descriptive survey research design was used for the study. The population of the study is 2,258 which comprised ten (10) library staff, thirty (30) lecturers and two thousand, two hundred and eighteen (2218) undergraduates of Nigerian universities and colleges of education who come from the six geo-political zones of the country to NFLV which is the area of study for their language immersion programmes. A sample of 226 respondents was obtained for this study through stratified random sampling and proportionate technique. Instrument for data collection was the questionnaire alongside the observation method. Findings showed that the factors affecting the utilization of information resources and services are as follows: Epileptic power supply, lack of ICT facilities in the library, poor reading culture among undergraduates on language immersion programme, and lack of modern facilities in the library. Based on the findings, the study finally recommended that the library should procure its own generator so that it could power the library when there is power outage/failure from the Power Holding Company of Nigeria (PHCN). However, more staffs should be employed so that it could withstand pressure from library users' requests.

In the same vein, Oladapo et al (2021) examine the use of library resources by medical students in LAUTECH College of Health Sciences, Osogbo, Osun State, Nigeria. The study employed the descriptive survey design to collect primary data from Medical students of College of Health Sciences, Osogbo, Osun State, Nigeria. A total of two hundred and eighty (280) medical students (400 - 600 level) of College of Health Sciences were randomly selected for the study. The main instrument for data collection was a structure questionnaire which was administered to the

respondents shortly after their lectures. Both face and content validity of the instrument were carried out. The reliability test of the research instrument was done by means of the Cronbach alpha test and a Cronbach's score of 0.7 was derived. Findings with regard to barriers militating against effective use of the library and its resources, the study shows that obsolete library resources (0.743), difficulty locating resources (0.703), poor sitting arrangement (0.671), poor ventilation (0.675), noisy library environment (0.652), and slow internet network (0.733) constituted major barriers. The study recommended that the college authority should urgently looked into the critical barriers highlighted in this study and adopt workable strategies to effectively improve the overall library condition both in terms of physical and material resources that are hindering effective library utilization among medical students and scholars in the college

Research Methodology

The study adopted survey research design. The population of the study consisted of 3,230 undergraduate students in NOUN study centres in north-east Nigeria which, include: Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe. Stratified sampling by grouping Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe into stratum. Simple random sampling was then used to select the population to be used for the study. Yamane's formula was used to arrive at a sample size of 400. The researcher used questionnaire as the instrument for data collection. The data collected for the study was analyzed using descriptive statistics of percentage, mean, frequency and standard deviation for data organization and data summarization and the Chi-square was used for testing of hypothesis. All was done with the use of the Statistical Package for the Social Sciences (SPSS) 20.0 version. The mean of 3.0 was used as the benchmark for decision-making. Findings will be presented using a table of frequencies and percentages

Presentation of Results

Table 1: Extent of the provision of information resources

Information resources	Very High extent	High extent	Moderate high extent	Low extent	Very low extent	Mean	Decision
Text Books	5	111	191	0	0	3.39	High extent
Thesis	0	128	145	0	34	3.20	High extent
Dissertations	0	60(19.5%)	213(69.4%)	0	34(11.1%)	2.97	Low extent
Dictionaries	0	212(69.1%)	0	0	95(30.9%)	3.07	High extent
Encyclopaedia	0	144(46.9%)	68(22.1%)	0	95(30.9%)	2.85	Low extent
Journals	5	139(45.3%)	68(22.1%)	95(30.9%)	0	2.87	Low extent
Newspapers	5	27(8.8%)	180(58.6%)	0	95(30.9%)	2.50	Low extent
Magazines	5	95(30.9%)	112(36.5%)	0	95(30.9%)	2.72	Low extent
Yearbooks	5	200(65.1%)	68(22.1%)	0	34(11.1%)	3.46	High extent
Conferences proceedings	66	27(8.8%)	180(58.6%)	0	34(11.1%)	3.30	High extent
Archival Reports	0	189(61.6%)	0	0	118(38.4%)	2.85	Low extent
Manuscripts	0	93(30.3%)	96(31.3%)	0	118(38.4%)	2.53	Low extent
E-books	33	240(78.2%)	0	0	34(11.1%)	3.78	High extent
E-journals	33		68(22.1%)	0	34(11.1%)	3.55	High extent
CD and DVD ROMs	5	172(56.0% 200(65.1%)	68(22.1%)	0	34(11.1%)	3.46	High extent
Online Databases	5	179(58.3%)	95(30.9%)	0	28(9.1%)	2.18	Low extent
Clustermean						**3.04**	

Source: Field Work, 2025

Resources such as e-books (mean = 3.78), e-journals (3.55), yearbooks (3.46), and CD/DVD ROMs (3.46) were among the most readily provided. Textbooks also scored moderately high (3.39), showing a strong presence in the library. Conversely, resources like newspapers (2.50), manuscripts (2.53), and online databases (2.18) had relatively lower mean scores, suggesting limited provision. Dictionaries, encyclopedias, journals, and archival reports showed mixed availability with mean scores ranging between 2.85 and 3.07. The mean of 3.04 shows high extent of provision of information resources.

able 2: Extent of accessibility of information resources

Information resources	Very highly accessible	Highly accessible	Moderately accessible	Low accessible	Very Low accessibility	Mean	Decision
Text Books	33(10.7%)	111(36.2%)	163(53.1%)	0	0	3.58	High extent
Thesis	128(41.7 %)	95(30.9%)	84(27.4%)	0	0	4.14	High extent
Dissertations	121(39.4 %)	0	152(49.5%)	0	34(11.1%)	3.57	High extent
Dictionaries	39(12.7%)	207(67.4%)	0	0	61(19.9%)	3.53	High extent
Encyclopaedia	5(1.6%)	207(67.4%)	0	0	95(30.9%)	3.09	High extent
Journals	0	60(19.5%)	152(49.5%)	0	95(30.9%)	2.59	Low extent
Newspapers	0	95(30.9%)	28(9.1%)	0	184(59.9%)	2.11	Low extent
Magazines	0	95(30.9%)	28(9.1%)	0	184(59.9%)	2.11	Low extent
Yearbooks	0	184(59.9%)	0	0	123(40.1%)	2.80	Low extent
Conferences proceedings	0	161(52.4%)	28(9.1%)	0	118(38.4%)	2.76	Low extent
Archival Reports	0	190(61.9%)	28(9.1%)	0	89(29.0%)	3.04	High extent
Manuscripts	33(10.7%)	88(28.7%)	152(49.5%)	0	34(11.1%)	3.28	High extent
E-books	33(10.7%)	156(50.8%)	84(27.4%)	0	34(11.1%)	3.50	High extent
E-journals	207(67.4%)	0	68(22.1%)	27(8.8%)	5(1.6%)	1.77	Low extent
CD and DVD ROMs	121(39.4%)	0	152(49.5 %)	0	34(11.1%)	3.31	High extent
Online Databases	156(50.8%)	28(9.1%)	0	0	123(40.1%)	3.52	High extent
Clustermean						**3.04**	

Source: Field work, 2025

The mean scores provide a useful summary of the accessibility levels of various information resources. Resources such as theses (mean = 4.14), textbooks (3.58), and dissertations (3.57) are

among the most accessible, indicating that respondents generally found them to be highlyor very highly accessible. Similarly, dictionaries (3.53), online databases (3.52), and e-books (3.50) also

show relatively high accessibility. In contrast, resources like e-journals (1.77), newspapers (2.11), and magazines (2.11) have the lowest mean scores, reflecting limited accessibility and suggesting these are less frequently accessed or available. Journals (2.59), yearbooks (2.80), and conference proceedings (2.76) fall in the mid-range, indicating moderate levels of accessibility. These mean score of 3.04 shows high extent of accessibility of different types of resources.

Table 3: The Purpose of use of Information Resources

Purposes	Yes	No
Research	279(90.8%)	28(9.1%)
Examination preparation	196(63.8%)	111(36.2%)
Advance knowledge	168(54.7%)	134(45.3%)
Self-development	172(56.1%)	135(43.9%)
Assignment	207(67.4%)	100(32.6%)
Presentation/seminar	153(49.8%)	154(50.2%)
Reading for pleasure	102(33.2)	205(66.8%)
Classwork	168(54.7%)	134(45.3%)
Practical work	209(69.2%)	98(30.8%)

Source: Field work, 2025

The data reveals that the primary purpose for using library resources among respondents is for research, with a significant 90.8% indicating this use. This is followed by assignment work (67.4%), practical work (69.2%), and examination preparation (63.8%), suggesting a strong academic orientation in library usage. A moderate number use the library for classwork (54.7%), self-development (56.1%), and to advance knowledge (54.7%). Interestingly, only 49.8% utilize the library for presentations or seminars, while the lowest usage is for reading for pleasure, with just 33.2% indicating this purpose.

Table 4: Challenges to the utilization of information resources in the Library

Challenges	Yes	No
Obsolete library resources	241(78.5%)	66(21.5%)
Difficulty locating resources and services	179(58.3%)	128(41.7%)
Erratic power supply	185(60.3%)	122(39.7%)
Slow internet network	219(71.3%)	88(28.7%)
Inadequate library resources	218(71.0%)	89(28.9%)
Lack of library services	252(82.1%)	55(17.9%)
Attitude of library staff	67(21.8%)	240(78.2%)
Breakdown facilities	67(21.8%)	240(78.2%)

Source: Field work, 2025

The data reveals several prominent challenges affecting library use. The most commonly

reported issue is the lack of library services, acknowledged by 82.1% of respondents. This is followed closely by obsolete library resources (78.5%) and slow internet (71.3%), highlighting infrastructure and service delivery concerns. Inadequate library resources (71.0%) and erratic power supply (60.3%) were also significant, indicating broader systemic limitations. Over half of the respondents (58.3%) cited difficulty in locating resources and services, suggesting the need for better organization and user guidance. In contrast, fewer respondents identified the attitude of library staff (21.8%) and breakdown of facilities (21.8%) as major challenges.

Table 5: Chi-square result of the relationship between the Accessibility and Utilization

	Accessibility	Utilization
Chi-Square	105.590[a]	121.072[b]
Df	6	5
Asymp. Sig.	.000	.000

The chi-square results indicate a statistically significant relationship between accessibility and utilization of information resources and library service, with a P value of .000, which is well below the conventional alpha level of 0.05. Thus, the null hypothesis is rejected and the alternative hypothesis accepted.

Summary of Findings

1. There was a high extent of provision of information resources, with a mean of 3.04
2. There was a high extent of accessibility of different types of information resources, with a mean score of 3.04
3. There was a low extent of utilization of information resources, with a mean score of 2.94
4. The purpose of using information resources includes research, assignments, classwork, practical work, advanced knowledge, self-development, and examination preparation.
5. The challenges faced include obsolete library resources, erratic power supply, inadequate library resources, lack of library services, and slow internet network
6. There was a statistically significant relationship between accessibility and utilization of information resources

Discussion of Findings

The findings revealed there was a high extent of provision of information resources, with a mean of 3.04. It further reveal high extent of accessibility of different types of resources, with a mean score of 3.04. The findings agree with Ayaowei et al (2024) examined the availability, accessibility, and Use of Information Resources in the Library by Students in Bayelsa State. Books were accessible to a high extent.

The purpose of using information resources includes research, assignments, classwork, practical work, advanced knowledge, self-development, and examination preparation. The findings agreed with Ayaowei et al (2024) examined the availability, accessibility, and Use of Information Resources in the Library by Students in Bayelsa State. Most respondents used these library resources for academic purposes such as getting assignments done, reading for examinations, consult project, preparing for practical sessions, among others. Also, Oladapo et al (2021) examine the use of library resources by medical students in LAUTECH College of Health Sciences, Osogbo, Osun State, Nigeria, and found that the purpose of use, it shows that research,

followed by examination preparation, advancing knowledge, and self-development were the major reasons for using the library.

The challenges faced include obsolete library resources, erratic power supply, inadequate library resources, lack of library services, and slow internet. The findings collaborated that of Adeh and Hayatu (2020) who identify the purpose of use of Kashim Ibrahim Library by Undergraduate students in Ahmadu Bello University, Zaria, during the examination and found that the major challenges undergraduates face with the use of library services during examination include lack of space, an inadequate number of computers, a lack of comfortable seats, poor Internet services, inadequate power outlets for the students' laptops, and a lack of assistance from library staff. Also, Adejo (2020) focused on the factors mitigating the utilization of information resources and services in the Nigeria French Language Village (NFLV), library, Badagry and found factors affecting the utilization of information resources and services are as follows: Epileptic power supply, lack of ICT facilities in the library, poor reading culture among undergraduates on language immersion programme, and lack of modern facilities in the library.

Conclusion

The study revealed that there is a generally high level of provision, access, and low level utilization of both information resources among students. The study further showed that students primarily use information resources for research, assignments, self-development, advancing knowledge, classwork, and practical work. However, several challenges hinder optimal use, including outdated resources, unstable power supply, slow internet connectivity, and inadequate library services. The study concludes that undergraduate students of NOUN access and use information resources.

Recommendations

Based on the findings, the study recommends the following:

1. The library should sustain and periodically update the provision of information resources to maintain relevance and meet users' evolving needs.
2. The library should enhance accessibility through fine-tuning cataloguing processes, signage, and websites to make information resources more usable and findable.
3. The library should launch user education programs, library orientation, and awareness programs to encourage active use of the resources available.
4. The library should come up with resources and tailor services to meet diverse academic needs such as research, assignments, and personal improvement towards aligning with curriculum requirements.
5. The library should substitute obsolete resources, delivering a steady power supply, expanding internet accessibility, improving library services, and accessing fresher and related resources

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PERCEPTION AND UTILIZATION OF ARTIFICIAL INTELLIGENCE (AI) FOR EFFECTIVE SERVICE DELIVERY IN UNIVERSITY LIBRARIES IN GOMBE STATE

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Abstract
This study explores the perceptions and utilization of AI for effective service delivery in university libraries in Gombe State, Nigeria. The study was guided by four specific objectives and in line with the objectives, four research questions were answered and one hypothesis was answered. It adopted the descriptive survey method. A total of 37 professional librarians in university libraries was used as the population of the study using the census sampling technique. A questionnaire was used as the data collect instrument. Data collected was analyzed using descriptive statistics of mean and standard deviation while inferential statics of correlation was used to test the hypothesis. The study found that; Chatbots and Dynamed were the AI tools that the respondents were aware of. The respondents have the perception that AI technologies can be adopted in university libraries, are capable of replacing human librarians in the future, and are a positive development for librarians. Findings further indicated respondents' perception that AI is beneficial in university libraries because it provides patron-tailored recommendations to items, can reduce manual and repetitive tasks performed by librarians, and facilitates the discovery of new knowledge. But the major factors affecting the adoption of AI include poor internet connectivity and a lack of expertise among librarians. The study concluded that librarians' awareness of AI influences their perceptions of it. It recommends, among others, that management of university libraries in Gombe State should train their librarians on AI.
Keywords: Perception; Utilization; Artificial Intelligence; Effective Service Delivery; University Libraries; Gombe State

Introduction

Technological advancements have ushered in a pulsating paradigm shift in all dimensions of the daily activities of human endeavor, and libraries were not left behind. This can be attested to the fact that libraries of any type are being challenged to strive towards responding to the trending practices of the century. Today, institutions established for the propagation of access to and dissemination of information in contemporary times have been riddled with the tasks of providing enabling technologies to support research, teaching, and learning. The submission above aligns with the claim of Hervieux and Wheatley (2021) that librarians and information practitioners have historically responded to new technological advancements that lead to the advancement of professional growth. (Nitecki et al., 2017) One of the technological tools that has caused a significant disruption to the operations and services of academic libraries is artificial intelligence (AI). Utilization is the process of making judicious use of something in order to satisfy wants or desires. Utilization is important because it directly impacts an organization's productivity, costs,

and profitability. However, effective use of ICT strongly depends on the perception of the user community.

User expectation is an essential tool for assessing the quality of services in e-libraries, because it cannot only use text data but also use sound, graphics, and motion videos in the form of digital data. There are two levels of expectations, namely "minimum expectations" and "desired expectations." Minimum expectations reflect the level of service, which is acceptable to the users, while the desired expectations are the level of service considered ideal, and they want that to be provided to them by the library. The range between the minimum and desired expectations is termed the zone of tolerance (ZOT) (Parasuraman, Zeithaml, and Berry, 2017). The way an individual understands or perceive the nature and capabilities of a particular machine or an object determines the way he/she decides to use it or not. It is this perception that triggers the interest of the users to whether or not to utilize the available technological advancements in handling their information needs.

Utilization of resources ensures that the organization gets the maximum output from its investments in personnel, equipment, and materials. This can lead to cost savings and higher profits. On the other hand, underutilization can indicate wasted resources, while overutilization can lead to burnout or accelerated wear and tear on equipment. Utilization of AI refers to how efficiently the tools are being used in terms of capacity or time. This process is carried out by librarians and ICT staff (Mosiac, 2024). Utilization of web-based information management tools in university libraries is the determinant of effective service delivery. Utilization simply means the extent to which people are making use of whatever resources are already available in the community or an organization. Consequently, AI is one of the most utilized technological advancements in the area of information problem management.

AI is the progression of computer systems that are capable of executing tasks that normally require human intelligence, such as decision-making, object detection, solving complex problems, and so on (Mamela, 2023). AI is characterized by the technology that able the abilities to plan, learn, reason, solve problems, move, and be creative to some extent (Mamela, 2023; Subaveera, Pandiyan, Sunanthini & Amees, 2023). Hence, academic libraries should consider integrating AI into their services for better user satisfaction. AI has enormous potential to greatly improve a library's productivity. Memela (2023) argued that academic libraries have been trying to find ways to offer automated services to their users over the years. From the card system to computers, to digitization, to e-books and databases, and even RFID.

AI is a rapidly evolving field, changing how librarians interact with technology. It involves the development of intelligent computers that can perceive, think, and behave like humans (Goralski and Tan 2020; Hassani, Silva, and Unger 2020; Popenici and Kerr 2017). The four types of AI are reactive AI, limited memory AI, theory of mind AI, and self-aware AI. AI technology in academic libraries has raised the bar for the effectiveness and efficiency of library users' service delivery, enabling libraries to enhance and offer dynamic services for library users.

Statement of the Problem

The integration of Artificial Intelligence (AI) in academic libraries has gained significant attention due to its potential to enhance service delivery, improve information management, and streamline library operations. However, despite the growing adoption of AI technologies in various sectors, academic libraries face challenges in maximizing their potential for improving services. The perception of AI, particularly among library staff and users, and the extent to which AI tools are being effectively utilized, remain areas of concern. Library professionals and academic

institutions are often uncertain about the capabilities of AI, while some perceive it as a complex or threatening technology. To others, users are sure of the potential applications of AI in library settings. Furthermore, the level of investment in AI tools and systems varies, and there are concerns regarding the integration of AI into the existing library management systems, training needs, and the adaptability of staff to the new technologies. Understanding these perceptions, along with identifying barriers to the implementation and use of AI, is crucial for improving service delivery in academic libraries. There is also a need to investigate how AI can be better utilized to streamline operations, personalize services, enhance resource discovery, and improve user satisfaction in academic libraries. These factors prompted the need to explore the perceptions of library staff and users towards AI and how these perceptions influence the effective utilization of AI technologies.

Objectives of the Study

The general objective of this study is to investigate the perception and utilization of Artificial Intelligence (AI) for effective service delivery in university libraries in Gombe State. The specific objectives are to:

1. Determine the current level of awareness and understanding of AI among university librarians in Gombe State.
2. Determine the extent to which AI is being utilized in academic libraries for service delivery in Gombe State.
3. Assess the relationship between AI and effective service delivery in university libraries in Gombe State.
4. Identify the barriers associated with the adoption of AI in university libraries in Gombe State.

Research Questions

1. What is the level of awareness and understanding of AI among university librarians in Gombe State?
2. To what extent is AI being utilized by libraries for service delivery in Gombe State?
3. What is the relationship between AI and effective service delivery in university libraries in Gombe State?
4. What are the barriers associated with the adoption of AI in university libraries in Gombe State?

Hypothesis

Ho1: There is no significant relationship between AI and effective service delivery in Gombe State University libraries.

Review of related Literature

Libraries have traditionally been viewed as institutions that promote access to information and knowledge. The invention of AI has greatly enhanced the potential of academic libraries' services. It has become necessary for academic libraries to introduce and exploit artificial intelligence in their operations and services. Currently, the wide evolution of AI in academic libraries with its clear-cut, sophisticated, and overwhelming proficiency (Omigie, Krubu & Anthony, 2023) has ensured multiple and specific uploads of tasks and also been integrated with other system solutions for super results (Konfuzio, 2022). Massis (2018) found that while AI may be seen as a threat to traditional institutions like libraries, it also has the potential to enhance library services

greatly. It is important to note that AI is still in its early stages of development, and many challenges need to be addressed before it can be fully integrated into libraries and information services. Asim, Arif, Rafiq, and Ahmad (2023) investigated the applications of Artificial Intelligence (AI) in the university libraries of Pakistan. Following the explanatory sequential mixed-methods approach, the study was completed in two phases. In the first phase, quantitative data were collected from 237 university librarians across Pakistan. In the second phase, 10 purposefully selected university librarians were interviewed. The results reveal that Pakistani university libraries are using limited AI-based library services, including text-to-speech and speech-to-text technologies, Google Assistant to search by voice command, Radio Frequency Identification (RFID) systems for self-checkout, check-in, and security purposes, and intelligent data analysis for collection management.

These challenges include privacy, security, and ethical considerations. Asim, Arif, Rafiq, and Ahmad (2023) itemized highly integrated technological infrastructure, funding/cost associated with AI, collaboration between AI experts and professionals, library users' feedback, the requirement of a highly networked and integrated environment, lack of budget, high cost of AI technologies, and lack of staff expertise as some key factors influencing AI's adoption and application in academic libraries. This justifies why this study is structured to explore the awareness and perceptions of AI among librarians in university libraries in Gombe State, Nigeria. They found that LIS professionals were aware of the skills required to adopt AI technologies, hence their eagerness and preparedness to take the lead role, which is contrary to what Cox et al. (2018) suggested when they stated that 'IT [information technology] services might be in a greater natural position to take on some of these [AI management] duties.' The study also shows that LIS professionals were concerned that AI could threaten their jobs, with the fear that most of their roles could be replaced by intelligent machines. There is strong evidence that LIS professionals perceive AI as playing a significant role in library services in the future, based on the study's favorable findings on its usage in various library-related contexts.

Similarly, Moustapha and Yusuf (2023) wrote a conceptual paper on the adoption of AI for effective library services in academic libraries in Nigeria. They identified the advantages of adopting artificial intelligence in academic libraries, which include ease of use, endless functionality, and the ability to perform complex work, among others. However, they noted that the challenges faced by library management towards adopting artificial intelligence include financial uncertainty, job loss, technological defects, and others. They concluded that the adoption of AI in academic libraries sets a new level of efficient and effective library service delivery, but its adoption in developing countries such as Nigeria is low due to some identified challenges. Xie (2023) explores the application of artificial intelligence in interlibrary loan in public library information retrieval. The paper argues that the public library as an important place in the society to provide mass education for the masses, should fully seize the development opportunity with artificial intelligence technology as the core idea in the operation and development, carry out intelligent, automatic, and digital reform and innovation of the library, and optimize the links of information retrieval, book borrowing, information service, and access to the library. Through artificial intelligence and other advanced technologies, the whole science and technology content of public libraries and public service quality is improved so as to meet the specific needs of the public for the use of public education resources. The paper highlights the specific application of artificial intelligence technology in providing public library information retrieval links and related service applications, and provides some reference for professionals. Cox (2022) investigated how artificial intelligence might change academic library work. The paper considers the likelihood of

the adoption of different approaches to AI in academic libraries and draws on both the library and information science (LIS).

Research Methodology

This study adopted the descriptive survey method since the study is aimed at gathering opinions of university librarians in Gombe State libraries. Its population consists of 37 librarians from two selected university libraries in Gombe State. This comprises 23 librarians from Federal University Kashere libraries, Gombe State and 14 from Gombe State University library. The study adopted a census sampling technique. A self-developed questionnaire was used as the instrument for data collection. Data collected was analyzed using mean and standard deviation to answer the questions, while regression was used to analyze the hypothesis. In making a decision, any mean score of 2.50 and above is accepted, while anything below 2.50 is rejected. The null hypothesis is rejected when the calculated value is higher than the critical value of 0.05 set for the study.

Results and Presentation

Out of the thirty-seven instruments administered to the respondents, all were retrieved and found usable for the analysis. Additionally, it was found that 25 (67%) were males as against 12 (34%) who are females.

Research Question: What is the level of awareness and understanding of AI among university librarians in Gombe State?

Table 1: ***Mean and Standard Deviation Ratings on the*** **Level of awareness of AI by in University Librarians for service delivery in Gombe state.**

S/N	Level of awareness of AI by Librarians in University libraries	N	Mean	Std	Rank	Dec
1	I have knowledge of AI basics	37	3.66	.70	2nd	**VGL**
2	I'm aware of the applications in libraries	37	3.56	.64	3rd	**VGL**
3	I'm aware of the perceived benefits and challenges associated with AI	37	3.54	.66	4th	**VGL**
4	I'm aware of the training and support needs for AI adoption	37	3.52	.65	5th	**VGL**
5	I'm aware of the user experience and expertise of A	37	3.72	.75	1st	**VGL**
	Cluster Mean		**3.60**	**.68**		**VGL**

VGL = Very Great Level, GL = Great Level, LL = Low Level, VLL = Very Low Level

Table 1 shows the result of the **level of awareness of AI by Librarians in University libraries** in Gombe state. The result reveals that the library staff of the university libraries are awareness of the basics of AL; aware of the applications in libraries; aware of the perceived benefits and challenges associated with AI; aware of the training and support needs for AI adoption; and, aware of the user experience and expertise of AI to a very great extent t with average mean score

from 3.72 to 3.54. The standard deviation scores that range from .75 to .64 shows high response dispersion among the library staff responses.

Research Question two: What extent does AI is being utilized by libraries for service delivery in Gombe state?

Table 2: ***Mean and Standard Deviation Ratings on the*** **extent to which AI is being utilized by libraries for service delivery in Gombe state**

S/N	Extent to which AI is being utilized by libraries for service delivery	N	Mean	Std	Rank	Dec
1	Chatbots for virtual reference service and user support.	37	2.26	.70	2nd	**LE**
2	Text and data mining tools for research and analysis	37	3.46	.70	3rd	**GE**
3	Generative AI tools for tasks like text generation and research assistance.	37	2.63	.83	1st	**LE**
4	The use of data bank for quality summary notes.	37	3.41	.76	4th	**GE**
5	Access to E-book and bibliographic details needed for acquisition	37	3.33	.72	5th	**GE**
	Cluster Mean		3.02	.72		**GE**

VGE = Very Great Extent, GE = Great Extent, LE = Low Extent, VLE = Very Low Extent

Table 2 shows the result of the extent to which AI is being utilized by libraries for service delivery in Gombe state. The result reveals that, text and data mining tools for research and analysis, The use of data bank for quality summary notes and, Access to E-book and bibliographic details needed for acquisition were used to a great extent with their mean score ranging from 3. 46 to 3.33. While Generative AI tools for tasks like text generation and research assistance and chatbots for virtual reference service and user support were utilized to a low extent with their mean score of 2.25 and 2.63 respectively. The standard deviation scores that range from .83 to .70 shows high response dispersion among the library staff responses.

Research Question Three: What is the relationship between AI and effective service delivery in university libraries in Gombe state?

Table 3: ***Pearson's Correlation Analysis of the Relationship between*** **AI and effective service delivery in university libraries in Gombe state**

Variables	Mean	Std	N	R	r^2
Artificial Intelligence(AI)					
	31.96	4.05	37		
				0.72	.55
Effective Library Service	31.51	5.03	37		

Standard Deviation, N = Population size, r = Correlation Coefficient, R^2 = Coefficient of determination

Table 3 presents the result of the relationship between the AI and effective service delivery in university libraries in Gombe state. It reveals that the correlation coefficient [r] is 0.72. This suggests that there is a positive high relationship between the AI and effective service delivery in university libraries in Gombe state. This result implies that the more the librarians conversant with adoption and application of AI, the more it will positively reflect on the effectiveness of library service delivery. The table also reveals that the coefficient of determination [r^2] associated with the correlation coefficient [r] of 0.72 is .55. This implies that 55 carried out by the library staff could predict by adopting AI in the libraries in Gombe state.

Ho1: There is no significant relationship between AI and effective service delivery in university libraries in Gombe state**.**

Table 4: ***ANOVA on the Relationship between the*** **AI and effective service delivery in university libraries in Gombe state.**

Model	Sum of Squares	Df	Mean Square	F	Sig	Decision
Regression	1984.957	1	1984.957	254.269	0.00	Significant
Residual	1787.692	35	7.807			
Total	3772.649	37				

df = degree of freedom, Sig = Level of Significance p 0.05, F = F-ratio

Table 4 shows that the obtained F-ratio 254.269 is significant at the 0.00 level. The null hypothesis was rejected because 0.00 is less than the 0.05 level of significance set for the study Therefore, it can be inferred that a significant relationship exists between **AI** and effective service delivery in university libraries studied.

Research Question Four: The Challenges Affecting the Adoption of AI by University Libraries in Gombe State?

Table 5: Challenges Affecting the Adoption of AI by University Libraries in Gombe State

s/n	Variables	N	Mean	Std	Ranks	Dec.
1	Techno- phobia among Librarians	37	3.28	.78	4th	VGE
2	Poor power supply	37	3.57	.85	3rd	VGE
3	Lack of technical know-how on AI accessories	37	3.26	.86	5th	GE
4	Inadequate orientation on the usefulness of AI	37	3.87	.82	2nd	VHE
5	Financial problem	37	3.89	.92	1st	VGE
	Cluster Mean		**3.57**	**.85**		

VGE = Very Great Extent, GE = Great Extent, LE = Low Extent, VLE = Very Low Extent
VGE = Very Great Extent, GE = Great Extent, LE = Low Extent, VLE = Very Low Extent

Table 4 shows the result of the challenges affecting the adoption of AI by university libraries in Gombe State. The result reveals that inadequate orientation on the usefulness of AI; Financial problem, and Poor power supply are the most prominent challenges faced at a very great extent t with average mean score from 3.57 to 3.89. While, Techno- phobia among Librarians and Lack of technical know-how on AI accessories are other problems rated at a great extent with mean score of 3.26 and 3.27. The standard deviation scores that range from .92 to .78 shows high response dispersion among the library staff responses. With regard to the challenges face in adopting AI by university libraries in Gombe State

Summary of Major Findings

Based on the analysis carried out on the perception and utilization of Artificial Intelligence (AI) for effective service delivery in university libraries in Gombe State, the following are the major findings:

1. The level of awareness of AI by librarians in university libraries in Gombe State was very great (3.60 ± .68). This includes awareness of the basics of AL; awareness of the applications in libraries; awareness of the perceived benefits and challenges associated with AI; awareness of the training and support needs for AI adoption; and awareness of the user experience and expertise of AI, amongst others.
2. The extent to which AI is being utilized by libraries for service delivery in Gombe State was to a great extent (3.02 ± .72). This includes the use of text and data mining tools for research and analysis. The use of a data bank for quality summary notes and access to e-books and bibliographic details needed for acquisition were used to a great extent, amongst other things.
3. A positive high relationship [r = 0.72] exists between AI and effective library service in the libraries studied. Consequently, a significant relationship exists between the AI and ensuring effective services delivery [0.00 < 0.05].

4. The challenges affecting the adoption of AI by university libraries in Gombe State were to a very great extent (3.57 ±.85). This includes inadequate orientation on the usefulness of AI, financial problems, and poor power supply, amongst others.

Discussion

This affirms the notion that chatbots are gaining prominence in the library and information science landscape. Since 2022, when chatbots were launched, they have become veritable AI tools that enhance the provision of more efficient and effective services to library patrons, provide round-the-clock support, answer user queries, and significantly enhance customer service in libraries (Jones, 2019). Discovering that the respondents are aware of Dyname, a not too common AI in Nigeria, indicates that the respondents are keeping themselves up-to-date with technological advancements that can help them in providing quality and reliable information to users.

Furthermore, this study revealed that the respondents have the perceptions that AI technologies can be adopted in university libraries, are capable of replacing human librarians in the future, and are a positive development for librarians. The implications of the respondents' perceptions are that aside from the possibility of adopting AI in university libraries, the respondents perceived that AI is a positive technological advancement that can be used to perform some tasks initially performed by librarians. This may make AI a replacement for librarians in the future.

The perceptions of the respondents make them believe that AI provides patron-tailored recommendations for items, can reduce manual and repetitive tasks performed by librarians, and facilitates the discovery of new knowledge in university libraries. These perceived benefits of the respondents corroborate the points of Hervieux and Wheatley (2021) that American and Canadian librarians perceived AI to be technological tools that can be leveraged to perform repetitive tasks and facilitate prompt discovery of knowledge among users of libraries.

Studies have established that AI has not been adopted in many libraries in different parts of the world because of a series of factors. This study revealed poor internet connectivity, an epileptic power supply, a lack of expertise among librarians, and a low level of support from government and funding agencies as the major challenges of adopting AI in libraries of the respondents. This buttresses the claims of Obiano et al. (2022) and Moustapha and Yusuf (2023) that the adoption and implementation of AI in Nigerian libraries have been affected by inadequate funding of university libraries, poor internet bandwidth, and inadequate ICT infrastructure.

Conclusion

AI is an emerging technology transforming the operations and services of libraries. But its seamless and prudent adoption and implementation in libraries are confronted with sorest of many factors. This study reveals that chatbots and Dynamed are the major AI librarians in university libraries in Gombe State that are aware of. It further established that librarians in university libraries in Gombe State have the perceptions that AI can be adopted in university libraries, it is capable of replacing human librarians in the future, and it is a positive development for librarians. This makes the librarians' celebrations perceived provision of patron-tailored recommendations to items, reduce manual and repetitive tasks performed by librarians and facilitates the discovery of new knowledge in university libraries. However, it is difficult to adopt AI in university libraries because of poor Internet connectivity, an epileptic power supply, and a lack of expertise among librarians.

Recommendations

Based on the research findings, several recommendations are proposed:

i. The management of university libraries in Gombe State takes proactive measures to train their librarians in the field of Artificial Intelligence (AI). This training is essential for enhancing the librarians' expertise in AI, enabling them to effectively integrate AI into library services.
ii. Collaboration between the management of university libraries in Gombe State and internet service providers is crucial. Establishing a reliable and robust internet connectivity infrastructure will facilitate the seamless adoption of AI in university libraries.
iii. Increased support from government and funding agencies for university libraries. Adequate financial backing will empower university libraries to invest in the necessary infrastructure for the successful integration of AI. Lastly, the management of university libraries in Gombe State should prioritize ensuring a stable power supply. This is essential for guaranteeing the consistent availability of the power needed to support AI adoption in library operations.
iv. More effort should be made on improved funding for efficient library services, library management should work to educate and train staff members to use AI.

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SEARCH ENGINE TECHNOLOGY AND EFFECTIVE INFORMATION ACCESS AMONG POSTGRADUATE STUDENTS OF REV. FR. MOSES ORSHIO ADASU UNIVERSITY, MAKURDI BENUE STATE, NIGERIA

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Abstract
The study examines use of search engine technology and effective information access to post graduate students of Rev. Fr. Moses Orshio Adasu University. Descriptive survey research design was adopted. The population of the study consisted of 617 registered postgraduate students who are beneficiaries of information access in the library. Two research questions were generated and one null hypothesis formulated and tested. The sample size for the study consisted of 61 registered postgraduate students using proportionate stratified random sampling technique. Search Engine Technology and Effective Information Access Questionnaire (SETEIAQ)" and interviews were used as instruments for data collection. The instrument was validated by three experts; two in Library and Information Science, one in Science and Mathematics Education. The reliability of the instrument was ascertained through a trial-test on thirty respondents. The test yielded Cronbach Alpha Coefficient of 0.98. Data were analyzed using mean and standard deviation to answer the research questions, while chi-square (χ^2) was used to test the hypotheses at 0.05 level of significance. Findings of the study revealed that internet search skills have a statistically significant impact on the quality of information accessed by postgraduate students. The study also identified specific areas where internet services are applied for effective information access in universities, including acquisition services, catalogue/classification services, selective dissemination of information, interlibrary loan services, documentary services, circulation services, and resource sharing, with data presented in frequencies and percentages. Based on the findings, it was recommended that among others that the university should organize regular workshops and training sessions to improve postgraduate students' internet search skills, ensuring they can effectively navigate search engines and retrieve high-quality academic information.
Keywords: Information Access, Internet Search Skills, Search Engine Technology, ICT Competencies, Postgraduate Students

Introduction

In today's digital knowledge society, search engine technology has transformed the global landscape of information retrieval, dismantling traditional barriers to knowledge access and enabling users across the world to locate relevant information swiftly, accurately, and efficiently. A search engine is a sophisticated software application designed to process user queries and return results from vast, distributed datasets irrespective of their format or content type. This technological advancement has become particularly significant within the academic environment, where postgraduate students and researchers rely heavily on the ability to access timely, credible, and precise information to support scholarly inquiry and knowledge creation (Gwarzo, 2020). According to the Encyclopedia of Library and Information Science (2015), a search engine is a computer-based application that enables users to locate specific terms or phrases on the internet at

remarkable speed, making it an indispensable tool for effective navigation of the vast resources available on the World Wide Web. While all search engines perform the fundamental task of matching documents with user-defined keywords, their underlying technologies differ significantly in sophistication, precision, and relevance. Vangie (2021) observes that some search engines depend on basic algorithms designed for general information retrieval, whereas others deploy highly advanced, subscription-based models that integrate artificial intelligence and machine learning to enhance personalization and optimize search accuracy.

Across the globe, search engines have evolved into powerful gateways to knowledge, reshaping how information is created, disseminated, and consumed. Widely used platforms such as Google and Google Scholar serve as central tools for locating both general and academic content, while specialized academic databases such as JSTOR, Scopus, and Web of Science provide more refined access to peer-reviewed research. The ability to navigate these tools effectively has become a vital component of academic literacy, enabling researchers to engage with an expansive body of global scholarship. As Webnots (2020) explains, search engines function through interconnected systems that include web crawlers, extensive indexing repositories, and ranking algorithms, working together to organize and retrieve the most relevant materials for users.

In academic contexts, particularly for postgraduate students, search engines have become indispensable for supporting research, teaching, and learning. The increasing digitization of academic journals, institutional repositories, and archival collections has heightened the significance of internet-enabled search technologies as a means of bridging gaps in access to scholarly resources. According to Lutus (2020), the internet functions as a "borderless world," facilitating the presentation, storage, and retrieval of vast quantities of contemporary information while enhancing the visibility of research outputs. Onah et al. (2020) emphasize that search engines leverage intelligent indexing and crawling mechanisms to organize enormous volumes of online content into structured, searchable formats, thereby making previously inaccessible materials readily available to scholars. Affum (2021) further underscores that information is at the heart of all academic endeavors and highlights the transformative role of search engines and online technologies in empowering academic libraries to better fulfill their mandate of supporting teaching, learning, and research activities.

The effective use of search engines and online academic platforms depends significantly on the internet search skills possessed by researchers and students. These competencies, which form a crucial aspect of digital literacy, include the ability to craft precise search queries, apply Boolean operators effectively, and critically evaluate the credibility and relevance of retrieved resources. Hooks (2020) highlights that search strategies such as selecting appropriate keywords and structuring queries with operators like AND, OR, and NOT enhance the precision of results and improve overall research efficiency. Van Deursen (2016) distinguishes internet search skills from general computer literacy, arguing that effective online research requires a more advanced understanding of database structures, search engine functionalities, and resource evaluation techniques. For postgraduate students, mastery of these competencies enables efficient navigation of online databases, institutional repositories, and digital scholarly networks. By effectively leveraging search engines and scholarly databases, Nigerian postgraduate students gain the capacity to engage with cutting-edge research, integrate diverse perspectives into their work, and contribute meaningfully to the broader global knowledge economy. This capacity to transcend geographical and infrastructural limitations underscores the growing centrality of search engine technologies and internet-driven information systems in reshaping academic research and enhancing information access in Nigerian higher education institutions.

Statement of the Problem

Libraries play a crucial role in advancing knowledge and supporting academic development by providing access to relevant information resources and services that align with users' diverse information needs. In the era of digital transformation, postgraduate students increasingly depend on library systems to access scholarly materials across different formats, including electronic journals, subscription-based databases, theses, and conference papers. With the growing volume of online resources, search engines have become important tools that may assist users in locating, evaluating, and retrieving needed information more effectively. For postgraduate students, the ability to use search engines proficiently could be essential for successful academic research, given their potential to facilitate access to high-quality scholarly resources.

Search engines such as Google Scholar, Microsoft Academic, PubMed, JSTOR, Scopus, Web of Science, and institutional repositories are believed to offer significant support to postgraduate students by improving the speed, efficiency, and accuracy of information retrieval. In Rev. Fr. Moses Orshio Adasu University Library, it is likely that postgraduate students make use of both general-purpose search engines (e.g., Google, Bing, Yahoo) and specialized academic databases (e.g., ScienceDirect, ProQuest, EBSCOhost) for literature review, data gathering, and academic writing. However, despite substantial investments in electronic resources and database subscriptions, there are indications that many postgraduate students may still experience challenges in accessing relevant information effectively. These challenges could be linked to several factors, including inadequate internet search skills, limited awareness of specialized search engines, insufficient training on database navigation, and low levels of information literacy. It also appears that poor infrastructure such as unstable power supply, insufficient bandwidth, outdated hardware and software, and inconsistent funding for ICT facilities may contribute to these difficulties. Consequently, many postgraduate students might rely heavily on basic keyword searches through general search engines, which could result in information overload, retrieval of irrelevant materials, or limited access to credible academic sources. It is on this premise that the present study seeks to investigate the use of search engine technology and effective information access to post graduate students of Rev. Fr. Moses Orshio Adasu University.

Objectives of the Study

The general purpose of the study was to investigate the use of search engine technology and effective information access to post graduate students of Rev. Fr. Moses Orshio Adasu University. The specific objectives were to:

1. identify the various types of search engines utilized by postgraduate students in Rev. Fr. Moses Orshio Adasu library.
2. examine the influence of internet search skills on effective information access by postgraduate students.

Research Questions

The following research questions were raised to guide the study.

1. What are the types of search engine used in Rev. Fr. Moses Orshio Adasu university library by postgraduate students?
2. What is the influence of internet search skills possessed on effective information access by postgraduate students?

Hypothesis

The following null hypotheses were formulated and tested at 0.05 level of significance

$H0_1$ Internet search skills have no significant influence on effective information access by postgraduate.

Review of Related Literature

A search engine has become an indispensable tool for conducting research and information retrieval based on user queries. It offers a faster and more convenient means of storing, accessing, retrieving, and utilizing information. This is achieved through the use of Information and Communication Technology (ICT) devices, including computers, the internet, and robust infrastructure. According to Onwih (2017), ICT has enabled libraries to access a wealth of up-to-date resources worldwide, providing quicker access to specific information across various disciplines. It also facilitates communication among librarians and users through messages and documents via the internet. This underscores the pivotal role of ICT as a leading technology and central driving force in search engines, which are often referred to as software or application systems designed to retrieve information from the internet based on user queries. Search engines operate by crawling through web pages, indexing their content, and presenting results that may be relevant to users. Narendra and Kamleh (2018) describe search engines as web application programs that run at specific web addresses, known as websites. Ayansewa (2023) posits that a search engine can be described as an information superhighway system used to retrieve information on the World Wide Web based on search queries. Search engines are internet-enabled software systems that employ algorithms to crawl related search queries from databases within milliseconds. Yanyan (2017) suggests that a search engine is essentially a class of database, operating through automatic information collection and regular searches. For instance, Google uses crawlers to actively search and extract relevant information from new sites, storing it in databases. This continuous updating of the search engine database expands its scope of application, enhancing user convenience.

Specifically, search engines process various document formats, including Hypertext Markup Language (HTML), Portable Document Format (PDF), Word, Excel, and others. The document preprocessing process involves not only reading characters from the file but also extracting relevant content according to its specific format. This is achieved through the application of corresponding open-source parsing modules to obtain text information. Users query information through browsers, which connect to web servers that access the index database. The user's query conditions are matched within the index database, sorted, and then returned to the user to complete the search. The search engine workflow comprises four key stages: Crawling, Indexing, Retrieving, Processing and Sorting.

Search engine technologies are diverse and categorized based on their functionality and information retrieval methods. Crawler-based search engines like Google and Bing use automated bots to index vast amounts of web content, ensuring updated and relevant results (Adebayo & Musa, 2021). Meta search engines such as Dogpile and Startpage aggregate results from multiple engines, providing broader coverage for academic, medical, and general information searches (Aremu & Salami, 2022). Semantic search engines like Google's Knowledge Graph and IBM Watson leverage artificial intelligence and natural language processing to understand user intent and deliver context-aware results (Ajayi & Oladimeji, 2022). Similarly, vertical (specialized) search engines like PubMed and SSRN focus on domain-specific content, while enterprise search engines such as Elasticsearch and Microsoft Search manage internal organizational data securely and

efficiently (Oyewole & Umeh, 2022). Real-time search engines like Twitter Search and Google Trends prioritize fresh, live information, whereas visual search engines such as PlantSnap and Google Lens enable image-based querying using AI-driven recognition (Olufemi & Abiodun, 2022). Voice search engines like Siri and Google Assistant allow spoken queries, improving accessibility and hands-free usage, while federated search engines integrate results from multiple heterogeneous databases into a unified list (Okoro & Eze, 2022). Decentralized (P2P) search engines like YaCy distribute indexing across independent nodes, enhancing privacy and resilience, while privacy-focused engines such as DuckDuckGo and Searx avoid tracking and protect user anonymity (Obasi & Lawal, 2022). Finally, AI-powered search engines like Google BERT and Semantic Scholar integrate machine learning and deep neural networks to deliver personalized, intelligent, and highly accurate search results across domains (Chinedu & Afolabi, 2022).

Information access is the ability of individuals or groups to locate, retrieve, and use information effectively and efficiently. In the contemporary digital era, access to information has become a crucial factor in educational, social, and economic development. Technological advancement has revolutionized the way people access information, making it faster and more diverse than ever before. However, disparities in access known as the digital divide still exist, especially in developing countries, which affects equitable distribution of knowledge and opportunities (Agbo, 2021). Libraries, internet services, and institutional repositories have played significant roles in facilitating access, but issues such as literacy levels, infrastructural deficits, and policy limitations often pose barriers. According to Aina (2020), information access involves the process by which individuals obtain and utilize information resources for personal or collective needs. Nwosu and Iroaganachi (2022) define it as the ease with which people can identify, retrieve, and apply information from different sources. Olanrewaju (2021) views information access as the right and ability of people to freely and equitably use information for learning, research, and decision-making. These definitions highlight access not only as a physical activity but also as a functional ability influenced by skill, environment, and availability of information sources.

The importance of information access has been widely acknowledged in scholarly discourse. According to Chukwu and Mohammed (2023), unrestricted information access fosters knowledge sharing and improves the quality of education and innovation. Udo and Okafor (2021) state that access to timely and accurate information empowers individuals to make informed decisions and participate meaningfully in social and economic development. In the view of Eze and Alabi (2022), information access is crucial for academic growth, as it enhances students' ability to engage with scholarly materials, develop research competencies, and stay current in their fields of study. These perspectives underscore that information access is foundational to intellectual empowerment and societal progress. Among students, information access can be effectively utilized through the integration of information literacy training and the provision of digital infrastructure. According to Ogbene and Yusuf (2020), equipping students with skills to search, evaluate, and use information is key to academic excellence. Umeh (2023) opines that university libraries should adopt ICT tools and e-resources to support students in accessing up-to-date materials. Additionally, Akpor and Bello (2021) emphasize the need for institutional policies that ensure equitable access to digital content, especially in remote or underserved areas. When students are trained and supported with the right tools, they are better positioned to use information meaningfully for assignments, research projects, and personal development.

ICT skills constitute another skill that librarians must have, especially in this 21st century information technology-driven world that has continually sharpened and shaped how

information is generated, organize, stored, retrieved and communicated. ICT skills have become essential for all postgraduate students especially in the digital age where search engine and highly sophisticated AI-powered tools have become imperative for effective service delivery. Postgraduate students are expected to acquire search skills and acquaint themselves with the various search engines for effective use. These skills are possessed through library orientation, workshop, seminars, on the job training, conference association with professional bodies etc. acquiring adequate skills will help postgraduate an information seekers built ICT skills in understanding a genuine website, information retrieval skills through formulating effective search queries, skills to navigate through different internet interface, search engine, and databases, metadata skills and how it can be use to improve search result in database, advance Boolean search techniques and use of operators such as (AND, OR NOT), understanding of different databases for specialize information and navigating through different databases, critical evolution of search result for accuracy, relevance and time saving, familiarity with browsers, search engine and database.

Olaiya *et al* (2024) carried out a study on internet service quality and use of electronic information resource by postgraduate students in public universities in Osun state, Nigeria. the objective of the study were to find out the challenges to the use of electronic information resources by postgraduate students in public universities in Osun State, Nigeria. Finding of the study revealed that there is a significant relationship between internet service quality and electronic information resources use by postgraduate students in public universities in Osun State, lack of relevant electronic resources in certain discipline, high cost of access to information materials. The study also reveal that postgraduate students in public university in Osun State Nigeria express significant concern about the quality of internet service provided in their institution specifically on internet speed, access and functionality, many students express interruption in access and issues with genera functionality of the internet service provided by their universities and that there is a significant relationship between internet service quality and use of electronic information resources use by postgraduate students.

Ibrahim *et al* (2023) conducted a study to examine postgraduate students' awareness and search skills for accessing online library databases in Nasarawa State University, Keffi, Nigeria. Major findings of the research reveal that awareness is critical to the development of electronic skills and use of library resources and services. That postgraduate student are more familiar with subject title of information resources in their search for information resource. That librarians still play significant role in providing support for postgraduate students or act as interface in their quest for use of information resources and skills development.

Ntuboderia *et al* (2023) investigated on librarians' ICT skills and effective library services delivery in university libraries in Rivers State. Major finding from the research study revealed that most librarians have the skills to use the web application to access the internet for information and skills to navigate the search engine to retrieve information, follow by librarian's knowledge of web browser use; most respondent did not have good ability to download and install web application. On the relationship between library networking skills to librarians and effective service delivery, respondents were found to lack skills on the tools for networking, how to manipulate and organize networked information, navigate with other librarians to share resources and the use of online databases.

Research Methodology

The research design chosen for this study was a descriptive survey design. The population

of the study consisted of 617 registered postgraduate students of Rev. Fr. Moses Orshio Adasu University who are beneficiaries of information access in the library. The sample size for the study consisted of 205 61 registered postgraduate students using proportionate stratified random sampling technique. This approach enhances the precision and generalizability of the findings by ensuring that important sub-populations within the total population are not underrepresented. The study utilized a self-structured questionnaire titled "Search Engine Technology and Effective Information Access Questionnaire (SETEIAQ)" and interviews. The instrument (questionnaire) was validated by three experts: two from the Department of Library and Information Science and one from Science and Mathematics Education, Rev. Fr. Moses Orshio Adasu University, Makurdi. The researcher tested the instrument's reliability by administering 30 copies to postgraduate students, analyzing the data using Cronbach's Alpha. The overall reliability coefficient was **0.98,** indicating a very high level of internal consistency across all measured variables. Data were analyzed using mean and standard deviation to answer research questions, with a midpoint mean of 2.5 on a 4-point Likert scale serving as the benchmark for decision-making mean scores of 2.5 or above were interpreted as positive responses or agreement with the statement, while mean scores below 2.5 indicated negative responses or disagreement. Chi-square (χ^2) was used to test the hypotheses at the 0.05 level of significance; a p-value less than 0.05 led to the rejection of the null hypothesis, indicating a significant difference, while a p-value equal to or greater than 0.05 resulted in the acceptance of the null hypothesis, indicating no significant difference.

Results

Research Question 1: What are the types of search engine utilized by postgraduate students in Rev. Fr. Moses Orshio Adasu university library by postgraduate students?

Table 1: Response of the Types of Search Engine utilized by postgraduate students in Rev. Fr. Moses Orshio Adasu University Library by Postgraduate Students

S/No	Item Description (N=61)	AU	U	FU	NU	$\bar{x}$	Std.D	Decision
1	Google	1	9	19	32	1.60	0.86	NU
2	Yahoo	1	14	9	37	1.48	0.91	NU
3	Bing	6	13	19	23	2.03	1.04	FU
4	Ask.com	8	12	15	26	2.03	1.11	FU
5	DuckDuckGo	9	12	21	19	2.33	1.01	FU
6	Baidu	9	9	12	31	1.82	1.09	NU
7	Yandex	1	14	18	28	1.93	0.94	FU
8	AOL Search	9	8	16	28	1.98	1.08	FU
9	Wolfram Alpha	1	14	19	27	1.93	0.94	FU
10	Dogpile	1	9	28	23	2.18	0.91	FU
11	StartPage	5	11	20	25	2.13	1.01	FU
12	MetaCrawler	7	9	16	29	1.97	1.04	FU
13	Qwant	1	13	19	28	1.93	0.94	FU
14	Swisscows	1	9	22	29	2.11	0.95	FU
15	Ecosia	1	12	19	29	2.00	0.98	FU
16	WebCrawler	6	9	17	28	2.03	1.03	FU
17	Info.com	1	9	24	27	2.10	0.94	FU
18	Google Scholar	1	16	19	25	2.10	0.94	FU
19	Microsoft Academic	1	13	19	28	1.93	0.94	FU
20	Semantic Scholar	1	14	19	27	1.95	0.94	FU
21	BASE	1	9	14	37	1.69	0.95	NU
22	CORE	6	15	14	26	2.10	1.08	FU
23	RefSeek	6	13	12	30	1.95	1.10	FU
24	Science.gov	1	14	19	27	1.95	0.94	FU
25	WorldWideScience.org	1	15	19	26	1.97	0.95	FU
	Cluster Mean/Std Dev					**1.98**	**0.99**	**FU**

Key: AU = Adequately Used, U = Used, FU = Fairly Used, NU = Not Used

Table 1 presents data on the types of search engines utilized by postgraduate students in Rev. Fr. Moses Orshio Adasu University Library. The findings show that the overall cluster mean is 1.98 with a standard deviation of 0.99, indicating that, on average, postgraduate students fairly use various search engines. Analysis of individual items reveals that the most commonly utilized search engine is DuckDuckGo with a mean score of 2.33, followed by Dogpile (2.18), StartPage (2.13), and CORE (2.10). These higher mean scores suggest that although none of the search engines is highly used, several are being accessed to a moderate extent. Some of the most widely known engines like Google (1.60), Yahoo (1.48), and Baidu (1.82) recorded low mean scores, indicating that they are not commonly used by the students in this context. Similarly, academic-specific engines such as BASE (1.69) and Microsoft Academic (1.93) were also among those less frequently utilized, suggesting limited awareness or preference for general-purpose search engines over academic databases. The standard deviations across items range from 0.86 to 1.11, showing a moderate level of variability in student responses. This suggests that while some postgraduate students actively explore lesser-known or privacy-focused search engines like DuckDuckGo and StartPage, others may be less familiar with or reliant on such tools. The variation could be attributed to differences in digital literacy, research needs, or subject discipline.

Research Question 2: What is the influence of internet search skills possessed on effective information access by postgraduate students?

Table 2: Mean and Standard Deviation of the Influence of Internet Search Skills Possessed on Effective information access by Postgraduate Students

S/No	Item Description (N=61)	SA	A	D	SD	$\bar{x}$	Std.D.	Decision
26	I can effectively retrieve academic materials using various internet search techniques.	13	24	10	14	2.59	1.07	Agree
27	My ability to refine search queries helps in locating relevant literature.	31	12	6	12	3.02	1.19	Agree
28	I understand how to use Boolean operators for efficient online searches.	11	20	12	18	2.69	1.10	Agree
29	I know how to evaluate the credibility of sources found online.	9	12	18	22	2.51	1.07	Agree
30	I frequently use multiple search strategies to find scholarly materials.	9	10	14	28	2.60	1.11	Agree
31	I am aware of academic-specific search engines for research.	26	20	2	13	2.97	1.15	Agree
32	My internet search skills have improved the quality of my academic work.	12	10	14	25	2.65	1.17	Agree
33	I am confident in identifying accurate and current online information.	10	20	14	17	5.38	1.07	Agree
34	I utilize internet search skills to reduce time spent on research.	6	8	24	23	2.95	0.96	Agree
35	Inadequate search skills negatively affect access to relevant information.	20	16	18	7	2.80	1.03	Agree
	Cluster	15	15	13	18	3.02	1.09	Agree

Table 2 indicates that postgraduate students generally agree that their internet search skills significantly influence their ability to information access. All items received "Agree" ratings, with mean scores ranging from 2.51 to 5.38. Notably, students expressed high confidence in their ability to identify accurate and current online information, with a mean of 5.38, highlighting its importance while the standard deviation of 1.09 indicates a moderate level of variability in the responses among the postgraduate students. This suggests that while most students generally agree that their internet search skills influence effective information access, there is some degree of variation in their perceptions and confidence levels. In other words, although the overall trend points to a positive influence, individual experiences may differ, with some students feeling more confident and proficient than others in utilizing internet search techniques for academic purposes. The cluster average mean of 3.02 and a standard deviation of 1.09 suggest a consensus that proficient internet search skills enhance research quality and efficiency, while also recognizing that insufficient search skills can impede access to relevant information and negatively impact information access by postgraduate students.

Hypothesis 1: Internet search skills have no significant influence on effective information access by postgraduate.

Table 3: Chi-Square Analysis of Significant Influence of Internet search skills on effective information access by postgraduate

Responses	Fo	Fe	*P.value*	Df	x^2 Cal.	Remark
SA	15	15.3				
A	15	15.3	0.003	3	8.574	Sign.
D	13	15.3				
SD	18	15.3				
Total	**61**					

The chi-square analysis in Table 3 shows that respondents' perceptions about the influence of internet search skills on effective information access are significantly different from what would be expected if there were no effect, as indicated by a p-value of 0.003. The observed responses are fairly evenly distributed among the categories, with slightly more respondents strongly disagreeing (18) compared to other groups. The chi-square value of 8.574 exceeds the critical threshold for the given degrees of freedom, leading to the conclusion that internet search skills have a statistically significant impact on the quality of information access by postgraduate students. This suggests that enhancing these skills could positively influence information access effectiveness.

Discussion of Findings

This section discusses the following findings of the study:

The results revealed that internet search skills have a statistically significant impact on the quality of information accessed by postgraduate students. This could be because librarians with strong internet search skills are better able to locate relevant, high-quality information quickly, thereby improving the efficiency and effectiveness of information accessed by postgraduate students. The findings aligns with that of Mansour *et al* (2021) who found that the level of electronic search skills among postgraduate students is medium; furthermore, there is a statistically significant difference in the level of electronic search skills. The result also agrees with Gwarzo (2020) who found that respondents indicated they have access to the internet from both their homes and offices. The findings also reveal that respondents connect to the internet 24 hours a day, 7 days a week. In related developments, Chidaka *et al* (2021) agreed that students are highly aware of the internet but are not very satisfied with its effectiveness in terms of information access. Similarly, Martyns (2021) revealed that internet services such as electronic mail, the World Wide Web, internet chat, internet telephone, online public access catalog, electronic library, and video conferencing are used frequently for effective information access in university libraries in Plateau State. The study also identified specific areas where internet services are applied for effective information access in universities, including acquisition services, catalog/classification services, selective dissemination of information, interlibrary loan services, documentary services, circulation services, and resource sharing, with data presented in frequencies and percentages.

From the interview schedule, Mr. Begi Desmond (2025) noted that Meta Crawler is very useful for academic research. He added that Meta Crawler enables effective and efficient retrieval of information materials and supports document access across a large web browser. Mr. Abaagu Hilary (2025) stated that he uses Google, emphasizing that search engine queries enhance his ability to employ search techniques, thereby broadening access to a wide range of information, including texts, pictures, and videos. He also mentioned that internet connection speed influences the stability of access, with stable connections saving time when using online services. Mr. Asemakaha Gabriel (2025) suggested that Google is predominantly used to find academic

resources online. Mr. Dekaa Anthony (2025) identified Google as the most well-known search engine in society and pointed out that, although search techniques improve search relevance, responses are not always very valid, and users need to be cautious to find relevant information. Mr. Josseph Andong (2025) highlighted that Google and Dogpile provide platforms for building knowledge and retrieving large-scale information. He elaborated that the ability to use search techniques helps him obtain better research results and more relevant information.

Conclusion

Based on the findings, it was concluded that internet search skills, access to search engines, and the effective use of online resources significantly influence the quality of information accessed by postgraduate students. The study revealed that search engines such as Google, Meta Crawler, and Dogpile play a vital role in academic research by enabling quick and efficient retrieval of relevant information. However, factors such as internet speed, search techniques, and users' proficiency impact the effectiveness of information access, highlighting the need for improved digital literacy and better optimization of search tools for enhanced academic outcomes.

Recommendations

Based on the conclusion, the following recommendations are made:

1. The university should organize regular workshops and training sessions to improve postgraduate students' internet search skills, ensuring they can effectively navigate search engines and retrieve high-quality academic information.
2. Librarians and academic staff should guide students on utilizing advanced search techniques on platforms like Google, Meta Crawler, and Dogpile to improve the accuracy and relevance of retrieved information.

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INFORMATION LITERACY FOR FOOD SECURITY IN NIGERIA

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Abstract
This study examined the information literacy for food security in Nigeria. Key reasons why information is crucial for food security in Nigeria are food safety, early warning, improved agricultural practices, capacity building. The study suggested that information professional should think out of the box by looking for various ways of satisfying the information/agricultural needs of farmers through provision of information to user through different social media platforms. The establishment of information centers and or functional libraries in rural and urban areas so that farmers can have access to agricultural information on regular basis. Information providers should be more proactive rather than reactive or passive. In conclusion, libraries are germane to the development of agricultural sector of a nation. This task is performed through the various information resources and services rendered in libraries. It is therefore, crucial for librarians to ensure the acquisition of up-to-date information resources that will meet the information needs of various user communities of which farmers are the main focuse.
Keywords: Information Literacy, food security, Nigeria.

Introduction

Information is essential in all forms of human endeavour as is it is an ingredient to national development. In order to grow more efficiently in all aspects of the society, Nigeria must collect and provide access to relevant, adequate and current information on food security. Nigeria cannot develop agriculturally or put an end to hunger without adequate information, therefore, people must be able to identify their information needs, where to explore them, access and utilize the information to develop themselves and Nigeria at large information refers to facts, data or knowledge that are communicated, stored or retrieved to convey meaning. It can take various forms, including text, images, audio or video and is often used to inform, educate or influence others.

The importance of information lies in its ability to informed decision-making, knowledge acquisition, growth, social progress, personal growth, critical thinking and evidence-based practice. Information literacy, according to UNESCO (2013) is a:

> "set of competencies that empower citizens to access, retrieve, understand, evaluate and use to create as well as share information and media content in all formats, using various tools, in a critical, ethical and effective way, in order to participate and engage in personal, professional and societal activities"

Information literacy has to do with knowing when and why you need information, where to find it and how to evaluate, use and communicate it in an ethical manner (CILIP, 2012). The scope of information literacy includes computer literacy, technology literacy, information technology literacy, Internet literacy, digital literacy, media literacy and more.

Based in the above, it is important that an average Nigerian who is believed to be a farmer is expected to know the importance of information and his/her information needs and where to explore his/her information as it relates to farming activities. This paper is promised on the Sustainable Development Goals (SDGs) which was formulated by the United Nations Organisation at the Sustainable Development Summit on the 25th December, 2015 by the United

Nations member states. It is now referred to as the 2030 agenda tor Sustainable Development, which according to Galynon (2016) includes a set of 17 Sustainable Development Coals (SDGs) aimed at ending poverty, fighting inequality and Justice and food security (End hunger) by 2030.

The Roles of Information Professionals in fighting Food Insecurity in Nigeria

Food security is a critical issue in Nigeria, with 14.5 million people in need of food assistance (UN, 2022) Libraries and Librarians can play vital roles in addressing food insecurity by providing outreach extension services through the following strategies:

1. Information user communities who constitute the different groups should be sensitized to become aware of their information needs through effective diagnosis and customization of information resources. In the opinion of Solanke and Osu-chukwu (2018:254)
   Libraries must thus begin now to connect and collaborate with government and agencies who have information needed to be disseminated to every user. That this is very important, not adhering to this will alienate the library from the people they are meant to serve to come close to and from the good services they are meant to render"
2. There is the need to train and retain user communities on the importance of evaluating information resources before consumption to avoid mis-or-dis information which can lead to fake news. According to Ubale (2018: 264)
   "For any nation to have and provide relevant, up-to-date and adequate information on good security, democracy, health, education, food security, gender equality etc. Libraries and Librarians can provide such access to information which would enable people lead gainful lives as they are skilled and when it is needed, it can be found and put to use''
3. There is also the need to reduce the information illiteracy divide among individuals, groups communities and government. To reduce the level of information illiteracy will go a long way in helping farmers to know their information needs, where to get information and how to use information effectively.
4. There is the need to promote information literacy in the Nigerian society to different user communities. Librarians should organize orientation Programmes for information users like farmers on how to use the library and inform them on the availability of certain resources and services on agricultural practices,
5. There is the need for information professionals in Nigeria to provide extension services for farmers. This service will be training and advisory services to farmers on the different types of farming equipment (both traditional and modern farming facilities) available in the Nigerian market. Advisory services could also he provided to farmers on how, why, where and when to use the farming equipment and products for different crops.
5. Finally, the information professionals can also provide market information services and insurance services. These combined services is to inform farmers about the price data and market trends of crops and livestock. It is also highly important to educate farmers through the provision of information on the importance of insurance services for crops and livestock at Nigeria Agrcultural Insurance Corporation (NAIC)

Benefits of Information on Food Security in Nigeria

Information plays a vital role in food security, and its importance cannot be overstated. Here are some key reasons why information is crucial for food security in Nigeria:

1. Food safety: Information on food handling, storage and processing ensures that food is safe for consumption
2. Early Warning: Information drought, floods and other disasters enables early response and mitigation, reducing the impact on food security.

3. Improved agricultural practices: Information on best farming practices, crop selection and soil management enhances productivity and reduces waste.
4. Data-driven decision making: Accurate and timely information enables policy makers, farmers and other stakeholder to make informed decisions about food production, distribution and consumption.
5. Market access and transparency: information on market prices, demand and supply helps farmers make informed decisions about what to produce and where to sell.
6. Capacity building: Information on new technologies, techniques and best practices enhances the capacity of farmers, extension agents and other stakeholders

Conclusion

Libraries and germane to the development of agricultural sector of a nation. This task is performed through the various information resources and services rendered in libraries. It is therefore, crucial for librarians to ensure the acquisition of up-to-date information resources that will meet the information needs of various user communities of which farmers are inclusive. This would help farmers to be up-to-date in modern farming equipment, facilities, practices, techniques and compete favourably with other nations.

Way forward/Suggestions

In line with the above submission, the following suggestions are put forward:

1. Information professional should think out of the box by looking for various ways of satisfying the information/agricultural needs of farmers through provision of information to user through different social media platforms.
2. The establishment of information centres and or functional libraries in rural and urban areas so that farmers can have access to agricultural information on regular basis. This would also reduce the level of information illiteracy and lack of reading ability among Nigerians
3. Information providers should be more proactive rather than reactive or passive. They should always embark on outreach extension services to farmers informing and distributing leaflets, pamphlets and other information materials on agriculture and rural development.

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INFORMATION LITERACY SKILLS AND UTILISATION OF WEB-BASED INFORMATION RESOURCES AMONG CLINICAL STUDENTS AT THE COLLEGE OF HEALTH SCIENCES, REV. FR. MOSES ORSHIO ADASU UNIVERSITY, MAKURDI

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Abstract
This study examined the information literacy skills and the utilisation of web-based information resources among clinical students at the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi. A descriptive survey design was adopted with a population of 166 clinical students. Data were collected through a structured questionnaire and analysed using mean, standard deviation, and a one-sample t-test. Findings revealed that students generally possess moderate to high levels of information literacy, with strengths in identifying information needs and evaluating sources but weaknesses in advanced search techniques, citation practices, and differentiating scholarly sources. Students frequently use web-based resources for academic, professional, and personal purposes, but the use of open-access journals was lower. A t-test result showed no significant difference between information literacy skills and utilisation of web-based information resources ($p > 0.05$). Recommendations include integrating information literacy training into the curriculum, organising workshops on advanced search and citation, promoting open-access resources, and improving institutional subscriptions.
Keywords: Information Literacy, Web-Based Information Resources, Clinical Students, Utilisation, Digital Libraries

Introduction

In this digital age, the ability to locate, evaluate, and effectively use information stands as a crucial skill for students, researchers, and professionals alike. This era is characterised by an unprecedented expansion of information, with a vast amount of data available in diverse forms, particularly in digital formats. This digital revolution has profoundly reshaped how information is accessed, acquired, disseminated, and utilised across all disciplines, with a notable impact on the field of health sciences. Therefore, there is need for clinical students to possess information literacy skills to be able to navigate the array of information resources (Lau, et-al, 2020).

According to the Association of College and Research Libraries (2022), information literacy skills constitute a set of abilities that enable individuals to recognise when information is needed and to locate, evaluate, and use that information effectively. The ACRL further specifies that these skills are centred on content, communication, analysis, information searching, and evaluation. Key information literacy skills include: identifying information needs, locating information, evaluating information sources, organising and managing information, using information ethically and legally, synthesising and applying information, communicating information effectively, reflecting on the information process and maintaining information literacy over time.

Utilisation of online or web-based information resources involves leveraging online tools and platforms to access and use information effectively. This includes using search engines, databases, online journals and other web-based services for one's benefit. Ani, et-al. (2022) opined

that web-based resources are the electronic representation of information available in various forms such as e-books, digital libraries, online journals, magazines, e-learning tutorials and online tests. Owing to their effective presentation with multimedia tools, these e-resources have become a key source of information.

Statement of the Problem

In today's knowledge-driven healthcare environment, the ability to access, evaluate and apply accurate and relevant information is fundamental to effective clinical practice and academic success. Information literacy skills, which are the set of skills required to identify, locate, evaluate and effectively use information, are especially vital for clinical students, who must navigate complex, dynamic and often high-stakes medical information in both academic and real-world settings.

At the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi, there is a growing concern about the extent to which clinical students are equipped with the necessary information literacy skills to effectively access, assess and utilise web-based information resources. If these concerns are not addressed, several negative consequences may arise for both the students and the wider healthcare sector, such as; poor academic performance, inadequate clinical decision-making, reduced competitiveness, poor adaptability to technological advancements, stagnation of lifelong learning, limited contribution to healthcare advancement, wasted institutional resources and ethical and legal implications.

Therefore, there is a pressing need to assess the level of information literacy skills among clinical students of the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, and to examine how these skills impact their utilisation of web-based information resources.

Objectives of the Study

The specific purposes of the study are to:

1. ascertain the level of information literacy skills of clinical students of the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi, and
2. investigate the extent of utilisation of web-based information resources by clinical students of the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi.

Research Questions

The following research questions were posed to guide the study:

1. What is the level of information literacy skills of clinical students of the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi?
2. What is the extent of utilisation of web-based information resources by clinical students of the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi?

Research Hypothesis

One hypothesis was tested at a 0.05 level of significances

HO_1: There is no significant differences between information literacy skills and the utilisation of web-based information resources of clinical students of college of health sciences Rev. Fr. Moses Orshio Adasu University, Makurdi.

Review of Related Literature

The study is anchored on Society of College, National and University Libraries (SCONUL)

Model 1999. And Technology Acceptance Models (TAM):

1. The SCONUL Seven Pillars of Information Literacy Model is a widely recognised model developed by the Society of College, National and University Libraries (SCONUL) in the UK in 1999. The framework outlines seven core elements or "pillars" that individuals must develop to become information literate. These pillars are:
2. Identify – Recognising a need for information.
3. Scope – Knowing what information is available and understanding the extent and relevance.
4. Plan – Develop effective strategies to locate information.
5. Gather – Accessing the required information efficiently.
6. Evaluate – Assessing the quality and reliability of information.
7. Manage – Organising and storing information properly.
8. Present – Applying and communicating information appropriately.

Technology Acceptance Model (Davis, 1989)

Technology Acceptance Model (TAM) developed by Davis (1989). TAM is one of the most influential theories used to explain technology adoption and utilization behaviors. The model proposes that two primary beliefs Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) determine an individual's acceptance and subsequent utilization of technology. Perceived usefulness refers to the degree to which an individual believes that using a particular technology will enhance their performance, while perceived ease of use reflects the extent to which the technology is considered free of effort (Davis, 1989). According to TAM, these perceptions influence a user's attitude toward using the technology, which subsequently affects their behavioral intention to use it, ultimately leading to actual utilization. In the context of this study, web-based information resources (WBIR) such as online journals, databases, search engines, and e-libraries are viewed as technological tools whose utilisation can be explained through the TAM framework.

This discussed the following concepts information literacy, level of information literacy skill of clinical Students, and extend of utilisation of web-based information resources

Information Literacy

Information literacy entails the capacity of an individual to sense, access, evaluate and Utilisatilise information in an ethical manner.The Association of Collage and Research Libraries (2022) define information literacy as the ability to identify the need for information, procure the information, evaluate the information, and subsequently revise the strategy for obtaining the information, using the information ethically and legally, and engaging in lifelong learning. Ullah and Ameen (2016) state that information literacy is an essential skill set that prepares students for critical thinking in college, the workplace, and everyday life. The authors further explain that students who are information literate are better equipped for today's multi-faceted information environment than students who are not.

Information literacy skills equip us with the skills to identify factual information from outdated, misleading, or false information. Consequently, information literacy skills are essential for students to locate, retrieve, select, record, organise, and present information from a variety of sources. These skills are vital for students as they enable them to efficiently filter through and identify relevant and reliable information from any source for their academic work (UNESCO, 2023). Web-based information resources, according to Sandeep and Chakravarthy (2022), are items that can be accessed remotely or locally over the Internet by using a personal computer, mainframe, or portable mobile devices.

Level of Information Literacy Skill of Clinical Students

Information literacy skills are vital to success in personal, professional, and academic life; the application of these skills extends beyond the academic realm and reaches right into our homes and workplaces. Every day we encounter an increasingly large and diverse sea of information through the Web, mass media, and published works (Hashim et-al., 2021). These pieces of information come in many different formats and from an endless number of sources. However, just because so much information is so easily and quickly available does not mean that all of it is worthwhile or even true. Information literacy skills equip us with the skills to identify factual information from outdated, misleading, or false information. In this generation of technological advancement, most information needs are met by electronic information resources due to the proliferation of digital information currently experienced as a result of various developmental activities worldwide. The complexity of electronic resources and the level of information literacy skills required cannot be overemphasized. At Rev. Fr. Moses Orshio Adasu University, Makurdi (MOAU), particularly within the College of Health Sciences, it was observed that, efforts have been made to improve students' access to digital resources through enhanced internet services and subscriptions to academic databases. Clinical students are exposed to both traditional learning materials and various web-based platforms supporting their academic and clinical training. However, disparities in how effectively these resources are utilized are evident. Some students demonstrate confidence and competence in conducting online research and accessing peer-reviewed literature, while others rely heavily on outdated sources and general search engines, reflecting varying degrees of information literacy.

Extent of Utilization of Web-Based Information Resources

The effectiveness of digital libraries depends on user acceptance, which in turn is affected by users' perceptions. The concept of 'utilisation' refers to the extent to which a product can be accessed to achieve specified goals with effectiveness, efficiency, and satisfaction within a defined scope of consumption. Utilisation of Electronic Information Resources (EIRs) also denotes the act of making actual use of the available EIRs to support research and learning goals (Diki, 2022). Onuaha and Yunisa 2020, reported that postgraduate students heavily relied on electronic databases and virtual reference services, highlighting the positive impact of Web-based library services on research skills. Daramola (2016) stated that the utilisation of online information resources in higher education institution libraries is mainly aimed at widening the variety of available information resources and improving their value by making them accessible digitally, so that users can access them at any time, regardless of their location.

Research Methodology

A descriptive survey research design was adopted. The population comprised 166 clinical students, and a total enumeration approach was used. Data were collected using a structured questionnaire and analysed using mean, standard deviation, and one-sample t-test at a 0.05 significance level.

Analysis and Interpretation

Objective 1: Extent of Utilisation of web-Based Information Resources

Table 1: Frequency of Information Literacy Skills of Clinical Students of College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi.

(n = 166)

S/no	Item Description	SA	A	D	SD	$\bar{x}$	.	Remark
1	I can clearly identify what information I need before searching	95	62	6	3	3.50	0.66	Agree
2	I am skilled at using advanced search techniques (e.g., Boolean operators, filters).	21	53	53	6	2.73	0.72	Agree
3	I critically evaluate the credibility and accuracy of online information sources.	59	83	15	9	3.16	0.80	Agree
4	I can differentiate between reliable and unreliable sources of information.	59	86	17	4	3.2	0.72	Agree
5	I can assess the credibility of a website or article before using its information.	55	66	41	4	3.04	0.82	Agree
6	I receive adequate training/support on how to access and use online information resources.	57	67	30	12	3.02	0.90	Agree
7	I am aware of different types of information sources (books, journals, websites, and government reports).	58	82	25	1	3.19	0.70	Agree
8	I verify the accuracy of information by cross-checking multiple sources.	69	76	16	5	3.26	0.75	Agree
9	I know how to use search engines (Google, Bing, etc.) effectively using keywords and I can find relevant information using online databases (e.g., Google Scholar, JSTOR, PubMed).	64	64	28	10	3.1	0.89	Agree
10	I can differentiate between scholarly, peer-reviewed sources and non-scholarly sources.	33	73	49	11	2.77	0.84	Agree
11	I know how to properly cite sources to avoid plagiarism.	38	57	57	18	2.69	0.95	Agree
	Cluster Mean					**3.06**	**0.80**	**Agree**

Table 1 presents the frequency, mean and standard deviation scores regarding the Information Literacy Skills of Clinical Students of the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi. Each item reflects respondents' views on their information literacy skills, with decisions based on a benchmark mean value of 2.50. The cluster mean score of 3.06 (SD = 0.796) indicates that the clinical students generally demonstrate a satisfactory level of information literacy. Item 1, 'I can clearly identify what information I need before searching', has the highest mean score (3.50) and a standard deviation of 0.658; this shows that a significant majority of students can clearly identify their information needs before commencing a search. Similarly, students demonstrated strong abilities in verifying information accuracy (Item 8, Mean 3.26 and a SD = 0.754) and distinguishing between reliable and unreliable sources (Item 4, Mean = 3.20 and SD = 0.718). Item 3, 'I critically evaluate the credibility and accuracy of online information sources',

posted a mean score of 3.16 and a SD = 0.801, implying agreement among the respondents and a relatively high level of consistency in their views on evaluation skills.

However, students reported less proficiency in the use of advanced search techniques (Item 2, Mean = 2.73 and SD = 0.723), differentiating between scholarly and non-scholarly sources (Item 10, Mean = 2.77 and SD = 0.843), and citing sources correctly to avoid plagiarism (Item 11, Mean = 2.69 and SD = 0.945). These areas suggest the need for targeted instructional support and capacity-building efforts.

Although respondents generally agreed that they receive adequate training and support (Item 6, Mean = 3.02), the relatively high standard deviation (0.904) for this item indicates variability in students' experiences or access to training opportunities. Item 9, focusing on 'I know how to use search engines (Google, Bing, etc.) effectively using keywords' and 'I can find relevant information using online databases (e.g., Google Scholar, JSTOR, PubMed)', garnered a mean score of 3.1 and a standard deviation of 0.889, reflecting a very strong agreement and widespread acknowledgement of the effective use of search engines and the use of keywords to find relevant information from databases.

Objective 2: Extent of utilisation of web-based information resources

Table 2: Extent of Utilisation of Web-Based Information Resources by Clinical Students of the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi, Nigeria.

(n=166)

s/no	Item Description	SA	A	D	SD	$\bar{x}$	σ	Remark
12	I utilise web-based databases (e.g., Google Scholar, JSTOR, PubMed, IEEEXplore).	45	80	35	6	2.99	0.79	Agree
I3	Use of web-based information resources and online libraries (e.g. library of congress, WorldCat)	36	84	41	5	2.91	0.76	Agree
14	Frequent use of digital repositories (researchgate, academia) and academic Databases (eggooglescholar, JSTOR, PubMe)	38	97	27	4	3.02	0.70	Agree
15	Easy to navigate, search and utilise web-based information resources.	49	78	35	4	3.04	0.78	Agree
16	Utilisation of web-based information resources for academic research	59	70	32	5	3.10	0.81	Agree
17	I utilize up-to-date and reliable web-based information resources	49	79	31	7	3.02	0.90	Agree
18	I utilize web-based information resources for professional work	55	67	39	5	3.04	0.83	Agree
19	Utilise web-based information resources for personal learning	55	82	24	5	3.13	0.76	Agree
20	I utilize web-based information resources for general browsing	62	68	35	1	3.15	0.77	Agree
21	I frequently use open-access journals (e.g, DOAJ, PLOS ONE)	35	84	35	12	2.86	0.83	Agree
	Cluster Mean					**3.026**	**0.79**	**Agree**

Table 2 presents the frequency, mean and standard deviation scores accessing the extent of utilisation of Web-based Information Resources by Clinical Students of the College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi. Each item presents information reported by respondents on the utilisation of web-based information resources. The results reveal a generally positive trend. With a cluster mean = 3.026 and SD = 0.785, it is evident that the students actively engage with a variety of web-based platforms.

The findings show that students regularly utilise item 28, scholarly databases such as Google Scholar, JSTOR, PubMed, and IEEE Xplore (Mean = 2.99 and a SD =0.794), as well as item 30, digital repositories like ResearchGate and Academia (Mean = 3.02 and a SD = 0.700), indicating a solid awareness of reputable academic sources. Moreover, students report ease in navigating these platforms (Mean = 3.04 and SD = 0.778), which suggests a level of digital competence and familiarity with online research tools.

Utilisation spans across different purposes, including academic research (Mean = 3.10 SD = 0.814), professional work (Mean = 3.04 and a SD =0.830), personal learning (Mean = 3.13 and SD =

0.764), and general browsing (Mean = 3.15 and SD = 0.768), demonstrating that web-based information resources are integrated into both formal and informal learning activities. Students also show confidence in the reliability and currency of the information they access online (Mean = 3.02 and SD = 0.809), which is a positive indicator of information literacy. However, the use of open-access journals such as DOAJ and PLOS ONE, though still above the agreement threshold (Mean = 2.86 and a SD = 0.833), is comparatively lower, suggesting a potential area for improved awareness or training.

Table 3: One-sample t-Test Results on Significance Difference between Information Literacy Skills and Utilisation of Web-Based Information Resources among Clinical Students of College of Health Sciences Rev. Fr. Moses Orshio Adasu University, Makurdi.

Comparison	N	Mean Difference	Std. Deviation	T	df	p-value	95% Confidence Interval	**Decision**
Information Literacy vs Utilisation of WBIR	166	0.04	0.50	0.89	165	.373	[-0.04,0.11]	Not significant

Table 3 shows one sample t-test analysis of significant between Information Literacy Skills and the Utilisation of Web-Based Information Resources of Clinical Students of College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi. The result showed no significant difference (t(165) = 0.89, p = .373), with a mean difference of 0.04 (95% CI [-0.04, 0.11]). Since the obtained t-value is far below the critical t-value of (1.974), and the value is greater than 0.05, therefore, the null hypothesis is not rejected. There is no significant difference between information literacy skills and the utilisation of web-based information resources of clinical students of college of health sciences Rev. Fr. Moses Orshio Adasu University, Makurdi.

Discussion of Findings

The first findings reveal that clinical students possess a moderate to high information literacy, with notable strengths in identifying information needs and evaluating the credibility of sources. Nonetheless, targeted interventions are needed to enhance students' skills in citation practices, the use of advanced search techniques, and the identification of scholarly resources. These areas are critical to ensuring academic integrity and the effective utilisation of web-based information resources in academic and clinical settings. The findings align with previous research (Ani et al., 2022; Ullah & Ameen, 2016), it is also aligns with the SCONUL Seven Pillars of Information Literacy, particularly the 'Identify' and 'Evaluate' pillars, which emphasize the ability to recognize information needs and judge credibility. However, the noted weaknesses correspond to gaps in the 'Plan', 'Gather', and 'Manage' stages, where students need further development.

The second findings suggest that clinical students are well-versed in utilising web-based resources for a variety of academic and professional needs. Nonetheless, strategic efforts to promote underutilised resources, such as open-access journals, may further strengthen their information-seeking behaviours and research capacities. This finding suggests that while students may possess adequate information literacy skills, these skills do not automatically translate into higher levels of web-based resource utilisation. In other words, being information-literate does not

necessarily mean students are frequently or effectively using web-based academic resources in their academic or clinical work.

This finding aligns with that of Onuoha and Yunisa (2020), who found that students use e-library resources but not to the maximum. It also align with TAM, emphasizing that perceived usefulness and ease of access must be present for skills to translate into frequent usage.

Conclusions

Clinical students demonstrate moderate to high levels of information literacy and actively use web-based resources. However, gaps remain in advanced search techniques, citation, and awareness of open-access resources. Generally, information literacy skills significantly impact the students' utilization of web-based information resources.

Recommendations

Based on the findings, the following recommendations are made specifically to the management of College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi:

1. Provide practical workshop and courses on advanced search strategies, proper citation methods, and scholarly resource evaluation.
2. Support for Open-Access Resources: Promote awareness and integration of open-access platforms (e.g., DOAJ, PLOS ONE) into curriculum and library services.
3. Improve institutional subscriptions to peer- review medical databases.
4. Encourage collaboration between librarians and faculty to support information literacy skills development.

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SATISFACTION OF LIBRARY USERS ON THE USE OF ELECTRONIC INFORMATION RESOURCES IN POLYTECHNIC LIBRARIES IN JIGAWA STATE

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Abstract
The study investigated the satisfaction of library users with the use of electronic information resources (EIRs) in polytechnic libraries in Jigawa State. A quantitative research methodology employing a cross-sectional survey design was adopted to collect data from library users. Three hundred and eighty-four (384) respondents were randomly selected from a total population of nine thousand five hundred (9,500) library users across the target institutions in Jigawa State. The stratified sampling technique was used to ensure adequate representation of the population, and Taro Yamane's formula was applied to determine the sample size. A total of 384 copies of questionnaires were distributed, out of which 341 were successfully retrieved and found usable. Data were analyzed using descriptive statistics such as percentages and frequency distribution tables with the aid of the Statistical Package for the Social Sciences (SPSS) version 23.0. Findings revealed that the majority of library users were satisfied with the use of ***e-books, e-journals, e-newspapers, and CD-ROMs****. However, a substantial number of respondents were* ***very dissatisfied*** *with the use of* ***databases, wireless internet access, and digital maps and images****. About half of the users expressed* ***strong dissatisfaction*** *with the* ***projector****, while more than half were dissatisfied with* ***e-magazines****. In contrast, more than a quarter of the respondents were satisfied with* ***e-audio-visual resources*** *and* ***webpage resources****, while almost a quarter expressed satisfaction with* ***email*** *and* ***e-abstracts****. Many respondents were* ***undecided*** *regarding their satisfaction with* ***e-theses/dissertations, OPAC, e-dictionaries/encyclopedias, institutional repositories,*** *and* ***computer****. The study recommends the provision of modern information and communication technology (ICT) facilities – such as adequate Internet bandwidth and computer systems – and the extension of e-library operating hours to enhance teaching, learning, and research in polytechnic libraries.*
Keywords: Satisfaction, Library Users, Electronic Information Resources, Polytechnic, Jigawa

Introduction

The use of electronic resources refers to the utilization of digital information materials by individuals or organizations to enhance information access, facilitate learning, and support research and innovation. These resources can be accessed through computers, handheld devices, and other ICT facilities. Some materials may require the use of peripheral devices directly

connected to a computer, such as a CD-ROM drive, or a network connection, such as the Internet. Electronic resources offer significant convenience, as users can access them from anywhere with an internet connection. This flexibility allows individuals to conduct research and obtain information at their own convenience. Such accessibility is particularly beneficial for students and other library users who have limited time or need to access information outside traditional library hours. Moreover, electronic resources are updated more frequently than print materials, enabling users to access the most current information available. For instance, digital libraries allow for regular updates and revisions, helping users stay informed about the latest research and developments in their respective fields.

Tella and Adekunle (2021) conducted a study on the use of electronic resources by undergraduate students in Nigerian academic libraries. Using a survey method, they collected data from 350 students. The findings revealed that the use of electronic resources among undergraduates was relatively low, with many students continuing to rely on print materials. The authors recommended that academic libraries increase their efforts to promote the adoption and effective use of electronic resources among undergraduate students.

Statement of the Problem

Electronic information resources are vital components of all academic libraries, offering numerous advantages over traditional print-based resources. These resources provide significant opportunities for library users by enabling easier access to information, saving time, offering up-to-date content, and providing links to related sources. They also enhance library operations by facilitating various tasks such as online selection, acquisition, organization, and reference services within academic libraries.

The use of electronic information resources encourages library users to generate new ideas, apply knowledge more effectively, and share information with others in real time. However, existing literature indicates that academic libraries face several challenges in managing these resources effectively. Such challenges include a shortage of qualified professionals to oversee electronic resources, misplaced priorities in library budgeting and acquisitions, poor management practices, and subsequent underutilization of available resources.

Preliminary investigations have revealed that although polytechnic libraries possess a considerable number of electronic information resources, their level of usage among patrons remains low. Yet, the use of these resources offers numerous benefits, including enhanced accessibility, convenience, timeliness, cost-effectiveness, customization, multimedia integration, improved search efficiency, and sustainability. These advantages are well-documented in the literature, which emphasizes the critical role electronic resources play in modern library services. This situation may be influenced by factors such as the types of electronic information resources available, the extent of their use, and the level of satisfaction users derive from them. Therefore, a study on user satisfaction with electronic information resources in polytechnic libraries in Jigawa State is essential, as it aims to address the existing gap and contribute valuable insights toward improving resource utilization and service delivery.

Research Questions

1 What is the extent of use of electronic information resources in the libraries studied?
2 What is the extent of satisfaction derived from the use of electronic information resources in the libraries studied?

Review of related Literature

Bhattacharjee and Das (2021) investigated the use of electronic resources by researchers in Indian academic libraries, employing a survey method to collect data from 150 researchers. Their study revealed that researchers made extensive use of electronic resources, with databases and e-journals being the most commonly accessed. However, the authors emphasized the need for academic libraries to promote open access resources, as many researchers continued to face barriers in accessing costly subscription-based materials. Similarly, Kim and Lee (2020) conducted a study on the use of electronic resources by graduate students in Korean academic libraries, surveying 534 students. The findings indicated that graduate students made frequent use of electronic resources, particularly e-journals and databases. The authors recommended that academic libraries continue investing in electronic resources to meet the growing needs of graduate students.

Roknuzzaman and Hossain (2020) examined the use of electronic resources by faculty members in Bangladeshi academic libraries, using a survey to collect data from 200 faculty members. Their study found extensive use of electronic resources, especially databases and e-journals. Nonetheless, the authors noted that access barriers persisted due to the high cost of subscription-based resources, and therefore, academic libraries should promote greater use of open access materials. In Pakistan, Yasin, Mohammed, and Azra (2019) explored the use of electronic resources by scholars in academic libraries through a survey of 300 respondents. The study revealed that scholars relied heavily on electronic resources—particularly e-journals and databases—for their research and academic activities. The authors concluded that continued investment in electronic resources was essential to support scholarly research in Pakistani academic institutions. Collectively, these studies indicate that electronic resources have become increasingly significant in academic libraries, with scholars and researchers across different countries relying on them extensively for research and learning. However, persistent challenges remain, particularly regarding access limitations and the need to promote open access resources, as well as the need to encourage more widespread adoption among undergraduate students.

Adegbilero-Iwari and Ogedengbe (2020) investigated the use of electronic resources by postgraduate students in academic libraries. Their findings showed that postgraduate students frequently used electronic resources but still encountered challenges related to access and availability, especially for open access materials. The authors recommended that academic libraries prioritize the acquisition of electronic resources—particularly open access materials—to better support postgraduate research needs.

Akinloye & Oyewusi (2022) studied the use of electronic resources by undergraduate students in a Nigerian university library using a survey questionnaire. Their findings revealed that although students were aware of the availability of electronic resources, they faced challenges such as poor internet connectivity and inadequate skills for effective utilization. Similarly, Fasae and Salisu (2021) examined the use of electronic resources by faculty members in Nigerian university libraries and found that faculty members primarily used them for research purposes, yet encountered obstacles such as poor internet access and insufficient training. Karuri &Muiruri (2021) investigated the use of electronic information resources by postgraduate students in a university library, using a survey questionnaire. The findings indicated that students had positive attitudes toward electronic resources and primarily used them for research and coursework. Likewise, Ogunlade & Aderonmu (2022) examined the use of electronic resources by undergraduate students in Nigerian university libraries and found that students mainly used them for academic purposes but faced similar challenges of poor internet connectivity and inadequate training in effective use.

Research Methodology

The study adopted a quantitative research methodology using a cross-sectional survey design to collect data from library users. A total of three hundred and eighty-four (384) respondents were randomly selected from a population of nine thousand five hundred (9,500) library users across the target institutions in Jigawa State. Stratified sampling technique was employed to ensure adequate representation of different user groups, and the sample size was determined using Taro Yamane's formula. A total of 384 copies of the questionnaire were distributed to the selected library users, out of which 341 were successfully retrieved and found suitable for analysis. The collected data were analyzed using descriptive statistical techniques, including frequency and percentage distributions. Data analysis was carried out with the aid of the Statistical Package for the Social Sciences (SPSS), version 23.0.

Results interpretation and Discussions

Extent of Use of Electronic Information Resources in Polytechnic Libraries

Table 1: Extent of Use of ElR

SN	Electronic Information Resources	Highly Use	Moderately Use	Rarely Use	Undecided
1	E-books	127(38.8%)	98(30.0%)	57(17.4%)	45(13.8%)
2	E-journals	122(37.3%)	85(26.0%)	58(17.7%)	62(19.0%)
3	E-newspapers	131(40.1%)	86(26.3%)	30(9.2%)	80(24.5%)
4	CD-ROM	45(13.8%)	56(17.1%)	169(51.7%)	57(17.4%)
5	Databases e.g HINARI, AGORA, Jstore etc.	115(35.2%)	79(24.2%)	58(17.7%)	75(22.9%)
6	Wireless Internet	86(26.3%)	78(23.9%)	85(26.0%)	78(23.9%)
7	Digital maps & images	108(33.0%)	42(12.8%)	37(11.3%)	140(42.8%)
8	Projector	43(13.1%)	56(17.1%)	87(26.6%)	141(43.1%)
9	Internet Access	91(27.8%)	45(13.8%)	148(45.3%)	43(13.1%)
10	OPAC	45(13.8%)	71(21.7%)	88(26.9%)	123(37.6%)
11	E-theses and Dissertation	75(22.9%)	115(35.2%)	17(5.2%)	120(36.7%)
12	E-magazines	55(16.8%)	117(35.8%)	36(11.0%)	119(36.4%)
13	E-mail	124(37.9%)	85(26.0%)	57(17.4%)	61(18.7%)
14	E-abstracts	59(18.0%)	39(11.9%)	17(5.2%)	104(31.8%)
15	E-indexes	38(11.6%)	87(26.6%)	94(28.7%)	108(33.0%)
16	E-dictionary, Encyclopedia e.t.c	60(18.3%)	46(14.1%)	82(25.1%)	139(42.5%)
17	Search engines	110(33.6%)	88(26.9%)	76(23.2%)	53(16.2%)
18	computer accessories (e.g flash, printer, scanner)	48(14.7%)	51(15.6%)	114(34.9%)	114(34.9%)
19	Webpage Resources	94(28.7%)	102(31.2%)	53(16.2%)	78(23.9%)
20	Institutional Repository	54(16.5%)	68(20.8%)	99(30.3%)	106(32.4%)
21	E-audio-visual Resources	102(31.2%)	68(20.8%)	74(22.6%)	83(25.4%)

Table 1 revealed varying levels of usage across different resources. A total of 127 (38.8%) respondents indicated that they highly used e-books, followed by 98 (30.0%) who moderately used them, while 57 (17.4%) reported rare use. Additionally, 45 (13.8%) were undecided about their use of e-books. Similarly, 122 (37.3%) respondents indicated high use of e-journals, followed by 85 (26.0%) who moderately used them, and 58 (17.7%) who rarely used e-journals, while 62 (19.0%) were undecided. Regarding e-newspapers, 131 (40.1%) respondents reported high use, 86 (26.3%)

indicated moderate use, and 30 (9.2%) indicated rare use, while 80 (24.5%) were undecided. In contrast, the use of CD-ROMs was relatively low, with 169 (51.7%) of respondents reporting rare use, 57 (17.4%) undecided, 56 (17.1%) moderate users, and only 45 (13.8%) high users. Findings also revealed that 115 (35.2%) respondents highly used electronic databases such as *HINARI, AGORA,* and *JSTOR*. This was followed by 79 (24.2%) who moderately used them, 75 (22.9%) who were undecided, and 58 (17.7%) who rarely used databases. The use of wireless internet showed mixed responses, as 86 (26.3%) indicated high use, 78 (23.9%) moderate use, 85 (26.0%) rare use, and 78 (23.9%) were undecided.

In terms of digital maps and images, 108 (33.0%) respondents indicated high use, 42 (12.8%) moderate use, and 37 (11.3%) rare use, while 140 (42.8%) were undecided. Similarly, for projectors, 141 (43.1%) were undecided, 87 (26.6%) rarely used, 56 (17.1%) moderately used, and 43 (13.1%) highly used. Regarding internet access, 148 (45.3%) respondents rarely used it in their libraries, 91 (27.8%) indicated high use, 45 (13.8%) moderate use, and 43 (13.1%) were undecided. For Online Public Access Catalogues (OPAC), 123 (37.6%) were undecided, 88 (26.9%) rarely used, 71 (21.7%) moderately used, and 45 (13.8%) highly used. As for e-theses and dissertations, 115 (35.2%) of respondents moderately used them, 75 (22.9%) highly used, 17(5.2%) rarely used, and 120 (36.7%) were undecided. In the case of e-magazines, 117 (35.8%) indicated moderate use, 55 (16.8%) high use, 36 (11.0%) rare use, and 119 (36.4%) were undecided. Furthermore, 124 (37.9%) respondents highly used e-mail, followed by 85 (26.0%) who moderately used 31.8%) were undecided. For e-indexes, 108 (33.0%) were undecided, 94 (28.7%) rarely used, it, 57 (17.4%) who rarely used it, and 61 (18.7%) who were undecided. With regard to e-abstracts, 59 (18.0%) reported high use, 39 (11.9%) moderate use, and 17 (5.2%) rare use, while 104 (87 (26.6%) moderately used, and 38 (11.6%) highly used. In addition, 139 (42.5%) of respondents were undecided about using e-dictionaries and encyclopaedias, while 82 (25.1%) rarely used them, 46 (14.1%) moderately used, and 60 (18.3%) highly used. Regarding search engines, 110 (33.6%) respondents highly used them, 88 (26.9%) moderately used, 76 (23.2%) rarely used, and 53 (16.2%) were undecided. For computer accessories (e.g., flash drives, printers, scanners), 114 (34.9%) were undecided, 114 (34.9%) rarely used, 51 (15.6%) moderately used, and 48 (14.7%) highly used. Findings further show that 94 (28.7%) respondents highly used webpage resources, 102 (31.2%) moderately used, 78 (23.9%) were undecided, and 53 (16.2%) rarely used them. Concerning institutional repositories, 106 (32.4%) were undecided, 99 (30.3%) rarely used, 68 (20.8%) moderately used, and 54 (16.5%) highly used.

Finally, 102 (31.2%) of respondents highly used e-audio-visual resources, 68 (20.8%) moderately used, 74 (22.6%) rarely used, and 83 (25.4%) were undecided about their use.

Table 2 presents the findings on users' extent of satisfaction with electronic information resources in polytechnic libraries.

SN	Electronic Information Resources	Highly Satisfied	Satisfied	Undecided	Dissatisfied	Very Dissatisfied
1	E-books	55(16.8%)	103(31.5%)	31(9.5%)	18(5.5%)	56(17.1%)
2	E-journals	30(9.2%)	182(55.7%)	86(26.3%)	16(4.9%)	13(4.0%)
3	E-newspapers	109(33.3%)	29(8.9%)	162(49.5%)	14(4.3%)	13(4.0%)
4	CD-ROM	9(2.8%)	31(9.5%)	172(52.6%)	17(5.2%)	98(30.0%)
5	Databases e.g HINARI, AGORA, Jstore etc.	16(4.9%)	28(8.6%)	14(4.3%)	133(40.7%)	135(41.3%)
6	Wireless Internet	11(3.4%)	33(10.1%)	107(32.7%)	24(7.3%)	152(46.5%)
7	Digital maps & images	15(4.6%)	28(8.6%)	69(21.1%)	16(4.9%)	199(60.9%)
8	Projector	31(9.5%)	11(3.4%)	29(8.9%)	84(25.7%)	172(52.6%)
9	Internet Access	11(3.4%)	64(19.6%)	125(38.2%)	25(7.6%)	102(31.2%)
10	OPAC	13(4.0%)	12(3.7%)	143(43.7%)	11(3.4%)	125(38.2%)
11	E-theses and Dissertation	12(3.7%)	35(10.7%)	177(54.1%)	13(4.0%)	90(27.5%)
12	E-magazines	10(3.1%)	36(11.0%)	14(4.3%)	180(55.0%)	87(26.6%)
13	E-mail	68(20.8%)	79((24.2%)	37(11.3%)	74(22.6%)	69(21.1%)
14	E-abstracts	57(17.4%)	87(26.6%)	53(16.2%)	66(20.2%)	64(19.6%)
15	E-indexes	60(18.3%)	92(28.1%)	45(13.8%)	55(16.8%)	75(22.9%)
16	E-dictionary, Encyclopedia e.t.c	46(14.1%)	74(22.6%)	104(31.8%)	37(11.3%)	66(20.2%)
17	Search engines	41(12.5%)	82(25.1%)	53(16.2%)	62(19.0%)	89(27.2%)
18	computer accessories (e.g flash, printer, scanner)	43(13.1%)	66(20.2%)	110(33.6%)	48(14.7%)	60(18.3%)
19	Webpage Resources	50(15.3%)	99(30.3%)	57(17.4%)	69(21.1%)	52(15.9%)
20	Institutional Repository	20(6.1%)	86(26.3%)	104(31.8%)	64(19.6%)	53(16.2%)
21	E-audio-visual Resources	27(8.3%)	120(36.7%)	54(16.5%)	71(21.7%)	55(16.8%)

Table 2 revealed varied levels of satisfaction across different resource types. A total of 103 (31.5%) respondents indicated that they were satisfied with the use of e-books, followed by 55 (16.8%) who were highly satisfied. Conversely, 56 (17.1%) were very dissatisfied, 18 (5.5%) were dissatisfied, and 31 (9.5%) were undecided about their satisfaction with e-books. In the case of e-journals, 182 (55.7%) respondents were satisfied, 30 (9.2%) were highly satisfied, while 86 (26.3%) were undecided. Only 16 (4.9%) were dissatisfied, and 13 (4.0%) were very dissatisfied. Regarding e-newspapers, 162 (49.5%) respondents were undecided, while 109 (33.3%) expressed high satisfaction and 29 (8.9%) were satisfied. A smaller number, 14 (4.3%), were dissatisfied, and 13 (4.0%) were very dissatisfied. For CD-ROMs, the majority, 172 (52.6%), were undecided, while 98 (30.0%) were very dissatisfied, 17 (5.2%) dissatisfied, 31 (9.5%) satisfied, and 9 (2.8%) highly satisfied. In terms of database usage, 135 (41.3%) respondents were very dissatisfied, 133 (40.7%) were dissatisfied, 28 (8.6%) were satisfied, and 16 (4.9%) were highly satisfied, with 14 (4.3%) remaining undecided. Similarly, for wireless internet access, 152 (46.5%) were very dissatisfied, 133 (40.7%) were dissatisfied, while 33 (10.1%) were satisfied, 11 (3.4%) highly satisfied, and 107 (32.7%) undecided. A substantial number of respondents, 199 (60.9%), were very dissatisfied with digital maps and images. In addition, 69 (21.1%) were undecided, 28 (8.6%) were satisfied, 16 (4.9%) were dissatisfied, and 15 (4.6%) were highly satisfied. Similarly, 172 (52.6%) were very dissatisfied with projectors, 84 (25.7%) were dissatisfied, 29 (8.9%) undecided, 31 (9.5%) highly

satisfied, and 11 (3.4%) satisfied. Concerning internet access, 125 (38.2%) respondents were undecided, 102 (31.2%) were very dissatisfied, 64 (19.6%) were satisfied, 25 (7.6%) were dissatisfied, and 11 (3.4%) were highly satisfied. For OPAC, 143 (43.7%) were undecided, 125 (38.2%) very dissatisfied, 13 (4.0%) highly satisfied, 12 (3.7%) satisfied, and 11 (3.4%) dissatisfied.

In relation to e-theses/dissertations, 177 (54.1%) respondents were undecided, 90 (27.5%) were very dissatisfied, 35 (10.7%) were satisfied, 13 (4.0%) were dissatisfied, and 12 (3.7%) were highly satisfied. Similarly, for e-magazines, 180 (55.0%) respondents were dissatisfied, 87 (26.6%) very dissatisfied, 36 (11.0%) satisfied, 14 (4.3%) undecided, and 10 (3.1%) highly satisfied. Regarding e-mail, 79 (24.2%) respondents were satisfied, 68 (20.8%) highly satisfied, while 74 (22.6%) were dissatisfied, 69 (21.1%) very dissatisfied, and 37 (11.3%) undecided. For e-abstracts, 87 (26.6%) were satisfied, 57 (17.4%) highly satisfied, 66 (20.2%) dissatisfied, 64 (19.6%) very dissatisfied, and 53 (16.2%) undecided. In the case of e-indexes, 92 (28.1%) respondents were satisfied, 60 (18.3%) highly satisfied, 55 (16.8%) dissatisfied, 75 (22.9%) very dissatisfied, and 45 (13.8%) undecided. Concerning e-dictionaries/encyclopedias, 104 (31.8%) were undecided, 74 (22.6%) satisfied, 46 (14.1%) highly satisfied, 37 (11.3%) dissatisfied, and 66 (20.2%) very dissatisfied. With respect to search engines, 89 (27.2%) respondents were very dissatisfied, 62 (19.0%) dissatisfied, 82 (25.1%) satisfied, 41 (12.5%) highly satisfied, and 53 (16.2%) undecided. For computer accessories (e.g., flash drives, printers, scanners), 110 (33.6%) were undecided, 66 (20.2%) satisfied, 43 (13.1%) highly satisfied, 48 (14.7%) dissatisfied, and 60 (18.3%) very dissatisfied. Regarding webpage resources, 99 (30.3%) respondents were satisfied, 50 (15.3%) highly satisfied, 57 (17.4%) undecided, 69 (21.1%) dissatisfied, and 52 (15.9%) very dissatisfied. In the case of institutional repositories, 104 (31.8%) were undecided, 86 (26.3%) satisfied, 20 (6.1%) highly satisfied, 64 (19.6%) dissatisfied, and 53 (16.2%) very dissatisfied. Finally, for e-audio-visual resources, 120 (36.7%) respondents were satisfied, 27 (8.3%) highly satisfied, 71 (21.7%) dissatisfied, 55 (16.8%) very dissatisfied, and 54 (16.5%) undecided.

Conclusion

The study investigated the satisfaction of library users with the use of electronic information resources (EIRs) in polytechnic libraries in Jigawa State. Findings from the study revealed that the majority of library users were satisfied with the use of e-books, e-journals, e-newspapers, and CD-ROMs. However, most respondents were very dissatisfied with the use of databases, wireless internet access, and digital maps and images. About half of the users expressed strong dissatisfaction with the use of projectors, while more than half were dissatisfied with e-magazines. In contrast, more than a quarter of the respondents were satisfied with e-audio-visual resources and webpage resources, and almost a quarter expressed satisfaction with the use of e-mail and e-abstracts. On the other hand, more than a quarter of the respondents were very dissatisfied with the use of search engines, while less than a quarter reported very low satisfaction with the use of e-indexes. Based on these findings, the study provided several recommendations aimed at improving the level of user satisfaction with electronic information resources in polytechnic libraries.

Recommendations

1. *The study recommends the* provision of necessary and modern information and communication technology resources and equipment, such as adequate Internet bandwidth, and computers. Extension of e-library closing hours should be given priority to enhance access, usage and the level of user's satisfaction.
2. Provision of adequate and currently multimedia platforms will provide opportunities for

the satisfaction of needs and aspirations of the polytechnic library users because, utilization serves as necessary prerequisite for academic success.

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ASSESSMENT OF KNOWLEDGE AND COMPETENCE POSSESSED BY CATALOGUERS FOR JOB PERFORMANCE IN FEDERAL UNIVERSITY LIBRARIES IN NORTHEAST AND NORTH CENTRAL NIGERIA

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Abstract
This study determined Knowledge and Competence of Cataloguers for Job Performance in Federal University Libraries in Northeast and North Central, Nigeria. Four objectives and one hypothesis guided the study. The hypothesis formulated was tested at the fixed probability level of 0.05. Survey design was used for the study. The population of the study was sixty-one (61) cataloguers of eight (8) Federal University Libraries in Northeast and North Central, Nigeria. A self-designed seventy-five (75) item questions questionnaire made up of four (4) sections (A-D) Sections with a Cronbach's Alpha reliability test result of 0.86 was used. Data collected were analyzed, using descriptive statistics of frequency counts, and percentage while results were presented in tables; hypothesis was tested using multiple linear regression. The findings of the study revealed that Cataloguers have knowledge on cataloguing and classification in Federal University Libraries in Northeast and North Central, Nigeria. Cataloguers have competence in cataloguing and classification in Federal University Libraries in Northeast and North Central, Nigeria. There is high level of job performance in cataloguing and classification among cataloguers in Federal University Libraries in Northeast and North Central, Nigeria. There is a significant relationship between knowledge, competence, and job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria. Recommendations raised include library management should provide opportunities for cataloguers to update their knowledge and stay current with emerging trends and best practices in cataloguing and classification. This can be achieved through training programmes, workshops, and conferences. Library management should provide resources and support to enable cataloguers to maintain and enhance their competence in cataloguing and classification. This can include providing access to latest cataloguing tools and technologies and encouraging participation in professional development activities.
Keywords: Knowledge, Competence, Cataloguers, Job Performance, Federal University Libraries, Northeast, North Central, Nigeria.

Introduction

Cataloguers play a vital role in ensuring that information resources are properly organised and accessible to users in libraries. In North Central and Northeast Nigeria, Federal University Libraries rely heavily on cataloguers to manage their collections and provide efficient access to

information. However, the changing landscape of librarianship, driven by technological advancements, necessitates that cataloguers in these regions possess the required knowledge and competencies to effectively perform their duties. Cataloguers play a vital role in ensuring that information resources are properly organised and accessible to users in libraries (Nkechi & Nwosu, 2021). The changing landscape of librarianship, driven by technological advancements, necessitates that cataloguers possess the required knowledge and competencies to effectively perform their duties (Onyebuchi & Christopher, 2017). The traditional role of cataloguers has expanded to include automated cataloguing systems, professional knowledge, and technical skills (Bello & Mansor, 2012).

Despite this expansion, there is a decline in knowledge and competencies among young librarians in cataloguing and classification (Onyebuchi & Christopher, 2017). The libraries under study tend to predominantly practice cataloguing and classification manually, such as original cataloguing, authority work, and assigning call numbers and subjects. This is compounded by a shortage of staff with the required knowledge, skills, and competence to carry out the cataloguing and classification job effectively. Despite several workshops, seminars, and conferences being organised from time to time, it appears that the knowledge of cataloguers on current trends in cataloguing and classification seem inadequate. This is confirmed by Amkpa and Obaje, (2012) and Ajani, F. O. & Sulyman, A. S., (2023) that Cataloguers face challenges due to inadequate knowledge and skills in digital cataloguing tools and technologies. The use of outdated cataloguing tools, insufficient knowledge of digital cataloguing rules and tools, shortage of trained professional staff, and inadequate continuous skills development in technology-oriented cataloguing hinder digital cataloguing. Furthermore, cataloguing and classification experts are not conversant with the rudiments of virtual cataloguing, making it difficult to effectively practice in the digital age. This lack of required knowledge and skills is a significant obstacle to adopting digital cataloguing tools and technologies, ultimately affecting the efficiency of libraries in the digital era.

Capacity building is essential for cataloguers to acquire the necessary skills and knowledge to remain relevant in the modern library environment (Oguche, Lamidi & Gabasa, 2017). This includes training in troubleshooting new technologies, academic research, internet search skills, e-library management, and library automation (Imam, Muhammad, Abba & Ijiekhuamhen, 2020). Effective cataloguing training, with an emphasis on special formats and continuing education, is crucial for a cataloguer to achieve high job performance (Hosein & Bowen-Chang, 2011).

Job performance is defined as the attained outcome of actions with the knowledge or skills of employees who perform in some situation (Prasetya & Kato, 2011). In the context of cataloguing, job performance can be measured by the number of items catalogued properly within a given period (Anyafulu & Okiki, 2014). The primary responsibility of a cataloguer is to prepare bibliographic records and provide efficient access and retrieval tools for users, which require certain competencies in terms of knowledge and skills (Omekwu, 2008).

While the importance of acquiring new skills for cataloguers is well-documented in the literature, there is a need to investigate the specific knowledge and competencies possessed by cataloguers in Federal University Libraries in North Central and Northeast Nigeria. Given the unique challenges and opportunities faced by these libraries, it is essential to assess the capacity of cataloguers to effectively perform their duties and identify areas for improvement. This study aims to fill this gap by assessing the knowledge and competence possessed by cataloguers for job performance in Federal University Libraries in North Central and Northeast Nigeria.

Statement of the Problem

The cataloguing process in Federal University Libraries in Northeast and North Central, Nigeria faces significant challenges, likely due to inadequate knowledge and competence among cataloguers. This may result in suboptimal job performance, characterised by inaccurate and inconsistent bibliographic records, inadequate subject heading and classification, and poor metadata quality. The lack of expertise in metadata creation and management, as well as ineffective cataloguing workflows, further exacerbates the issue. Consequently, library services are compromised, hindering effective information retrieval and impacting academic success. Despite the importance of cataloguing in supporting teaching, learning, and research, there is a dearth of empirical research on the specific knowledge and competence of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria.

Objectives of the Study

The study was guided by the following objectives, that is, to determine the:

1. knowledge of cataloguers on Cataloguing and Classification in Federal University Libraries in Northeast and North Central, Nigeria.
2. competence possessed by cataloguers in Cataloguing and Classification in Federal University Libraries in Northeast and North Central, Nigeria.
3. level of job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria.
4. relationship between knowledge, competence, and job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria.

Hypothesis

The study tested the following null hypotheses at the 0.05 significant level.

Ho_1: There is no significant relationship between knowledge **on Cataloguing and Classification**, competence possessed by cataloguers i**n Cataloguing and Classification**, and job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria.

Review of related Literature

The assessment of knowledge and competence of cataloguers is crucial for optimal job performance in Federal University Libraries. Studies highlight the importance of cataloguers having adequate knowledge and competence in cataloguing and classification for effective service delivery. This implies that for cataloguers to perform optimally, they need to possess the right knowledge and competencies in their field, aligning with the demands of their job in Federal University Libraries.

Recent studies like Ihekwoaba and Okwor (2019) emphasise the importance of cataloguers having skills in information management, computer applications, and cataloguing databases. They stress the need for cataloguers to be skilled in handling information and using relevant computer applications and databases for effective cataloguing. Ezeibe, Udo-Okon, and Okwu (2021) found that library personnel lacking necessary skills hinder effective cataloguing and classification services in university libraries. This suggests that a lack of necessary skills among library personnel can lead to inefficiencies in cataloguing and classification services. Fadekemi, Junji, and Bruno (2019) found that cataloguers in Nigerian academic libraries have competencies in using Library of Congress Classification (LCCS) and Library of Congress Subject Headings (LCSH). Ihekwoaba and Okwor (2019) noted that cataloguers require information management competence, proficiency with computer applications, and cataloguing database skills for effective cataloguing. These findings underscore the necessity of these competencies for effective cataloguing practices.

Challenges like lack of training opportunities and obsolete cataloguing tools can hinder cataloguers' service delivery (Fadekemi, Junji, & Bruno, 2019). Monyela (2019) revealed that experienced cataloguers might not fully adhere to cataloguing rules without continuous development programmes. This suggests that ongoing development is necessary even for experienced cataloguers to keep up with cataloguing standards. Studies like Ihekwoaba and Okwor (2019) highlight the importance of competencies for effective cataloguing and classification. Nkechi & Nwosu (2021) and Nwabugwu et al. (2021) found that motivation and work motivation significantly influence job performance of cataloguers in academic libraries. Cataloguers require knowledge of descriptive and subject cataloguing, classification, subject analysis, authority control, and technical skills in using tools like AACR, MARC, LCC, and LCSH for optimal job performance. Collectively, these studies indicate that having the right competencies and being motivated are crucial for cataloguers to perform their jobs effectively in academic libraries.

Nwabugwu, Unegbu, and Onajite (2021) found that the level of job performance of cataloguers in academic libraries in South-West Nigeria is low and a cause for concern. However, Istifanus, Usman, and Bomai (2025) discovered that cataloguers in Federal University Libraries in Northern Nigeria demonstrated a high level of job performance despite poor motivation and attitude towards work. These findings highlight the complexity of job performance amongst cataloguers and the need for further research to understand the factors that influence their performance.

Research Methodology

The target population for the study was sixty-five (65) cataloguers of eight (e) Federal University Libraries in Northeast and North Central, Nigeria. The universities are University of Jos, Plateau State, Federal University of Agriculture Makurdi, Benue State, University of Ilorin, Kwara State, Federal University of Technology, Minna, Niger State, University of Abuja, Federal Capital Teritory, Nigeria, Abubakar Tafawa Balewa Balewa University Bauchi, Bauchi State, Modibbo Adama University of Technology, Yola, Adamawa State and University of Maiduguri, Maiduguri Borno State. A total enumeration sampling technique was used because the entire population was manageable. The study adopted a self-designed questionnaire as the instrument for data collection, 5-point likert scale was used with rating as; Strongly Agreed (SA) = 5, Agreed (A) = 4, Undecided (UD) = 3, Disagreed (DA) = 2 and Strongly Disagreed (SD) = 1. While Very High Level (V.H.L) = 5, High Level (H.L) = 4, Moderate Level (M.L) = 3, Low Level (L.L) = 2, and Very Low Level (V.L.L) = 1. The instrument consisted of seventy-five (75) item questions with a Cronbach's Alpha reliability test result of 0.86 which indicates a very good internal consistency reliability for the questionnaire. Descriptive statistics of frequency counts and percentage scores were used in analyzing the data that answered the research questions formulated and inferential statistics of multiple linear regression were adopted for the hypothesis formulated.

Response Rate

Out of the sixty-five (65) copies of the questionnaires distributed to the respondents in the library under study, 61 (93.8%) copies were duly completed, returned and found valid for the analysis, whereas 4 (6.2%) were not returned. In order to assessment the Knowledge and Competence of Cataloguers for Job Performance in Federal University Libraries in Northeast and North Central, Nigeria, the results were presented in the tables below:

Data Analysis, Results and Discussion

Research Question 1: What is the knowledge of cataloguers on Cataloguing and Classification in Federal University Libraries in Northeast and North Central, Nigeria?

Table 1: Knowledge of Cataloguers on Cataloguing and Classification in Federal University Libraries in Northeast and North Central, Nigeria.

Statement	N	Strongly Agreed	Agreed	Undecided	Disagreed	Strongly Disagreed
Knowledge on Subject Analysis						
I have the knowledge on how to use all the cataloguing tools for cataloguing and classification.	61	26 (42.6%)	32 (52.5%)	3 (4.9%)	0 (0.0%)	1 (1.6%)
I know how to carry out subject analysis when trying to ascertain the subject of an information resources of whatever types.		18 (29.5%)	38 (62.3%)	3 (4.9%)	0 (0.0%)	2 (3.3%)
I understand the relationship between AACR2/RDA and MARC coding.		14 (23.0%)	34 (55.7%)	0 (0.0%)	8 (13.1%)	5 (8.2%)
I can explain the steps in subject analysis.		21 (34.4%)	31 (50.8%)	0 (0.0%)	9 (14.8%)	0 (0.0%)
I know the concept, principles, and methods of subject analysis.		20 (32.8%)	34 (55.7%)	7 (11.5%)	0 (0.0%)	0 (0.0%)
I can identify and explain the subject of an information resources.		17 (27.9%)	40 (65.6%)	5 (8.2%)	0 (0.0%)	0 (0.0%)
I know how to analyze the concept, principles, and methods of subject analysis		22 (36.1%)	34 (55.7%)	4 (6.6%)	0 (0.0%)	1 (1.6%)
Knowledge on Subject Cataloguing						
I know what is meant by the term subject heading.		35 (57.4%)	23 (37.7%)	1 (1.6%)	0 (0.0%)	2 (3.3%)
I know how to assign a subject with the aid of a subject heading.		34 (55.7%)	25 (41.0%)	2 (3.3%)	0 (0.0%)	1 (1.6%)
I can analyze the subjects of an information resources.		23 (37.7%)	34 (55.7%)	3 (4.9%)	0 (0.0%)	1 (1.6%)
I can define the concept of subject cataloguing.		25 (41.0%)	34 (55.7%)	1 (1.6%)	0 (0.0%)	1 (1.6%)
I can identify and explain the principles of cataloguing subjects.		19 (31.1%)	38 (62.3%)	2 (3.3%)	0 (0.0%)	2 (3.3%)
I can define the concept of subject headings.		23 (37.7%)	34 (55.7%)	3 (4.9%)	0 (0.0%)	2 (3.3%)
I know the purposes of subject headings.		29 (47.5%)	29 (47.5%)	2 (3.3%)	0 (0.0%)	1 (1.6%)
Knowledge on Subject Classification						
I can define the concept of library classification.		29 (47.5%)	30 (49.2%)	1 (1.6%)	0 (0.0%)	1 (1.6%)
I know the purposes of library classification.		29 (47.5%)	27 (44.3%)	5 (8.2%)	0 (0.0%)	0 (0.0%)
I know how to construct subject headings for informational materials.		23 (37.7%)	31 (50.8%)	2 (3.3%)	0 (0.0%)	5 (8.2%)
I know and can relate academic disciplines / subjects to classification and call number.		29 (47.5%)	26 (42.6%)	5 (8.2%)	0 (0.0%)	1 (1.6%)
I know how to construct class / call numbers for informational materials.		23 (37.7%)	31 (50.8%)	5 (8.2%)	0 (0.0%)	2 (3.3%)
Knowledge on Cataloguing Tools						
I am knowledgeable on how to use Anglo-American Cataloguing Rules, 2nd edition (AACR2).		18 (29.5%)	38 (62.3%)	3 (4.9%)	0 (0.0%)	2 (3.3%)
I am knowledgeable on how to use international standard bibliographic description (ISBDs) for cataloguing.		14 (23.0%)	34 (55.7%)	8 (13.1%)	0 (0.0%)	5 (8.2%)
I am knowledgeable on how to use Web-Dewey and e-LC.		21 (34.4%)	31 (50.8%)	0 (0.0%)	9 (14.8%)	0 (0.0%)
I am knowledgeable on how to use metadata formats/schemas/standards.		20 (32.8%)	34 (55.7%)	7 (11.5%)	0 (0.0%)	0 (0.0%)
I am knowledgeable on how to use e-tools in cataloguing and classification.		17 (27.9%)	40 (65.6%)	5 (8.2%)	0 (0.0%)	0 (0.0%)
I am knowledgeable on how to use MARC 21 Formats for bibliographic data.		22 (36.1%)	34 (55.7%)	4 (6.6%)	0 (0.0%)	1 (1.6%)

I am knowledgeable on how to use OCLC Bibliographic Formats and standards.		35 (57.4%)	23 (37.7%)	1 (1.6%)	0 (0.0%)	2 (3.3%)
I am knowledgeable on how to use Resource Description and Access (RDA) for cataloguing.		34 (55.7%)	25 (41.0%)	2 (3.3%)	0 (0.0%)	1 (1.6%)
I am knowledgeable on how to use Web Dewey and/or printed Dewey Decimal Classification (DDC).		23 (37.7%)	34 (55.7%)	3 (4.9%)	0 (0.0%)	1 (1.6%)
I am knowledgeable on how to use Library of Congress Classification (LCC).		25 (41.0%)	34 (55.7%)	1 (1.6%)	0 (0.0%)	1 (1.6%)
I am knowledgeable on how to use Library of Congress Subject Headings (LCSH).		19 (31.1%)	38 (62.3%)	2 (3.3%)	0 (0.0%)	1 (1.6%)
I am knowledgeable on how to use Library of Congress Subject Cataloguing Manual (LCSCM).		23 (37.7%)	34 (55.7%)	3 (4.9%)	0 (0.0%)	1 (1.6%)
I am knowledgeable on how to use Library of Congress-Program for Cooperative Cataloguing Policy Statements (LC-PCC PSs).		29 (47.5%)	29 (47.5%)	2 (3.3%)	0 (0.0%)	1 (1.6%)
I am knowledgeable on how to use Library of Congress Name Authorities.		23 (37.7%)	31 (50.8%)	5 (8.2%)	0 (0.0%)	2 (3.3%)
I am knowledgeable on how to use CONSER Cataloguing Manual (for Serials).		28 (45.9%)	30 (49.2%)	1 (1.6%)	0 (0.0%)	2 (3.3%)
Gross		**807**	**1104**	**102**	**1**	**1**
Average	**61**	**24 (39.3%)**	**32 (52.5%)**	**3 (4.9%)**	**1 (1.6%)**	**1 (1.6%)**

Source: Field Work 2025

Table 1 above presents the responses of respondents on the knowledge of cataloguers on cataloguing and classification in Federal University Libraries in Northeast and North Central, Nigeria. 24 (39.3%) of the respondents strongly agreed, 32 (52.5%) agreed, 3 (4.9%) were undecided, 1 (1.6%) disagreed, and 1 (1.6%) strongly disagreed with the statements on which preferences were made as regards the knowledge of cataloguers on cataloguing and classification. Overall, the findings suggest that cataloguers in Federal University Libraries Northeast and North Central, Nigeria have a good knowledge of cataloguing and classification, as evidenced by the high percentage of respondents who agreed or strongly agreed with the statements. The average responses indicate that 56 (91.8%) of the respondents have knowledge of cataloguing and classification. This implies that cataloguers have knowledge on subject analysis, subject cataloguing, subject classification and knowledge on cataloguing tools in Federal University Libraries in Northern Nigeria.

Research Question 2: What is the competence of cataloguers i**n Cataloguing and Classification** in Federal University Libraries in Northeast and North Central, Nigeria?

Table 2: Competence of Cataloguers in Cataloguing and Classification in Federal University Libraries in Northeast and North Central, Nigeria.

Statement	N	Strongly Agreed	Agreed	Undecided	Disagreed	Strongly Disagreed
I do not find it difficult to spot errors and anomalies on the catalogue and correct them.		15 (24.6%)	31 (50.8%)	5 (8.2%)	0 (0.0%)	10 (16.4%)
I do train other library staff and users in the effective use of the catalogue		18 (29.5%)	33 (54.1%)	6 (9.8%)	0 (0.0%)	4 (6.6%)
I easily adopt new and emerging standards.		16 (26.2%)	34 (55.7%)	9 (14.8%)	0 (0.0%)	2 (3.3%)
I am familiar with the criteria for deciding when to contribute a new record to the bibliographic utility to avoid duplicate records and unnecessary efforts.		12 (19.7%)	32 (52.5%)	13 (21.3%)	0 (0.0%)	7 (7.6%)
I can easily input information in the records correctly.		18 (29.5%)	42 (68.9%)	1 (1.6%)	0 (0.0%)	0 (0.0%)
I do not find the class number misleading.		16 (26.2%)	37 (60.7%)	7 (11.5%)	0 (0.0%)	1 (1.6%)
I am time conscious, maintain record and eliminate backlog.		20 (32.8%)	25 (41.0%)	11 (18.0%)	4 (6.6%)	1 (1.6%)
I ensure the cataloguing rules and standards are applied consistently to ensure quality.		21 (34.4%)	32 (52.5%)	5 (8.2%)	0 (0.0%)	3 (4.9%)
I have a logical and consistent mind-set about cataloguing procedures.		17 (27.9%)	36 (59.0%)	3 (4.9%)	5 (8.2%)	0 (0.0%)
I am flexible enough to quickly abandon the old ways and adopt the new way for better productivity.	61	15 (24.6%)	31 (50.8%)	5 (8.2%)	0 (0.0%)	10 (16.4%)
I find it convenient to make good judgments in handling gray areas and differences in interpretation of cataloguing rules and standards.		18 (29.5%)	33 (54.1%)	6 (9.8%)	0 (0.0%)	4 (6.6%)
I understand my library documented local procedures, policies, and practices in cataloguing to provide consistency throughout the collection and for future use.		16 (26.2%)	34 (55.7%)	9 (14.8%)	0 (0.0%)	2 (3.3%)
I can easily use a cutter table effectively to enhance author identification number.		12 (19.7%)	32 (52.5%)	13 (21.3%)	0 (0.0%)	5 (8.2%)
I find it convenient to carry out subject analysis.		18 (29.5%)	42 (68.9%)	1 (1.6%)	0 (0.0%)	0 (0.0%)
I do not find it difficult to carry out descriptive cataloguing.		16 (26.2%)	37 (60.7%)	7 (11.5%)	0 (0.0%)	1 (1.6%)
I can easily identify access points; main entry and added entry.		20 (32.8%)	25 (41.0%)	11 (18.0%)	4 (6.6%)	1 (1.6%)
I can identify cataloguing entries under most specific Subject headings that accurately represent content using LCSH.		21 (34.4%)	32 (52.5%)	5 (8.2%)	3 (4.9%)	0 (0.0%)
I have proficiency with computer applications associated with cataloguing and classification.		17 (27.9%)	36 (59.0%)	3 (4.9%)	5 (8.2%)	0 (0.0%)
I am comfortable in the use of Cataloguing databases.		17 (27.9%)	36 (59.0%)	3 (4.9%)	5 (8.2%)	0 (0.0%)
Gross		**322**	**677**	**120**	**25**	**51**
Average	**61**	**17 (27.9%)**	**34 (55.7%)**	**6 (9.8%)**	**1 (1.6%)**	**3 (4.9%)**

Source: Field Work 2025.

Table 2 shows the analysis on the competence of cataloguers in Cataloguing and Classification in Federal University Libraries in Northeast and North Central, Nigeria. 17 (27.9%) of the respondents strongly agreed, 34 (55.7%) agreed, 6 (9.8%) were undecided, 1 (1.6%) disagreed, and 3 (4.9%) strongly disagreed with the statements on which preferences were made as regards the competence of cataloguers in cataloguing and classification. Overall, the findings suggest that cataloguers in Federal University Libraries in Northeast and North Central, Nigeria have a good competence in cataloguing and classification, as evidenced by the high percentage of respondents who agreed or strongly agreed with the statements. The average responses indicate that 51 (83.6%) of the respondents have competence in cataloguing and classification. This implies that cataloguers have competence in cataloguing and classification in Federal University Libraries in Northeast and North Central, Nigeria**.**

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Research Question 3: What is the level of job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria?

Table 3: Level of Job Performance of Cataloguers in Federal University Libraries in Northeast and North Central, Nigeria.

Statement	N	V.H.L	H.L	M.L	L.L	V.L.L
I always put in more effort to do descriptive cataloguing of information materials in different formats daily.		29 (47.5%)	11 (18.0%)	5 (8.2%)	8 (13.1%)	7 (11.5%)
Always assigning access points to books using AACR2 guidelines every working day.		28 (45.9%)	13 (21.3%)	1 (1.6%)	16 (26.2%)	4 (6.6%)
I regularly sort and files typed catalogue cards before closing time.		28 (45.9%)	19 (31.1%)	5 (8.2%)	7 (11.5%)	3 (4.9%)
I regularly upgrade the shelf list catalogue.		28 (45.9%)	19 (31.1%)	3 (4.9%)	9 (14.8%)	2 (3.3%)
I take my time to do original cataloguing of local publications on every working day.		28 (45.9%)	19 (31.1%)	3 (4.9%)	6 (9.8%)	6 (9.8%)
I go for breaks only during the time appropriate for that.		28 (45.9%)	14 (23.0%)	1 (1.6%)	10 (16.4%)	8 (13.1%)
I make sure I assist others who have heavy workload.		28 (45.9%)	14 (23.0%)	4 (6.6%)	7 (11.5%)	8 (13.1%)
I create records for all processed information items daily.		28 (45.9%)	15 (24.6%)	1 (1.6%)	11 (18.0%)	7 (11.5%)
I assign main entries and always determining subject headings in my working place.		28 (45.9%)	15 (24.6%)	2 (3.3%)	13 (21.3%)	3 (4.9%)
I identify edition statements, imprints, collations, series, and notes of information resources in large quantity.	61	15 (24.6%)	28 (45.9%)	2 (3.3%)	12 (19.7%)	5 (8.2%)
I do copy cataloguing in all subject areas from OCLC and LC in a large quantity within the shortest possible time.		15 (24.6%)	28 (45.9%)	7 (11.5%)	9 (14.8%)	2 (3.3%)
I create records for all processed information items given to me.		15 (24.6%)	28 (45.9%)	2 (3.3%)	13 (21.3%)	3 (3.3%)
I assign cutter numbers to items in different formats without wasting time.		15 (24.6%)	28 (45.9%)	1 (1.6%)	8 (13.1%)	9 (14.8%)
I print spine labels for information items to all materials sent to my desk.		28 (45.9%)	20 (32.8%)	1 (1.6%)	8 (13.1%)	5 (8.2%)
I work hard and always aid other cataloguers in resolving difficult cataloguing problems.		28 (45.9%)	19 (31.1%)	1 (1.6%)	8 (13.1%)	5 (8.2%)
I make sure I maintain the authority control list for the library.		19 (31.1%)	28 (45.9%)	0 (0.0%)	10 (16.4%)	4 (6.6%)
I always enter catalogue information for new materials into the library's online catalogue system and edit online catalogue for removed items.		31 (50.8%)	19 (31.1%)	3 (4.9%)	5 (8.2%)	3 (4.9%)
Gross		**419**	**337**	**42**	**160**	**84**
Average	**61**	**25 (41.0%)**	**19 (31.1%)**	**3 (4.9%)**	**10 (16.4%)**	**4 (6.6%)**

Source: Field Work 2025

Table 3 shows the analysis on the level of job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria**.** 25 (41.0%) of the respondents indicated a very high level, 19 (31.1%) high level, 3 (4.9%) moderate level, 10 (16.4%) low level, and 4 (6.6%) very low level of job performance in the statements on which preferences were made as regards the level of job performance of cataloguers in cataloguing and classification. Overall, the findings suggest that cataloguers in Federal University Libraries in Northeast and North Central, Nigeria have a high level of job performance in cataloguing and classification, as evidenced by the high percentage of respondents who indicated very high level or high level with the statements. The average responses indicate that 44 (72.1%) of the respondents have a high level of job performance in cataloguing and classification. This implies that cataloguers have a high level of job performance in cataloguing and classification in Federal University Libraries in Northeast and North Central, Nigeria**.**

Hypotheses Testing

Ho_1: There is no significant relationship between knowledge on Cataloguing and Classification, competence in Cataloguing and Classification and job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria.

Table 4a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1.	.867a	.752	.670	8.39059
2.	.979b	.958	.916	4.22295

Table 4b: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1.	Regression	641.994	1	641.994	9.119	.057b
	Residual	211.206	59	70.402		
	Total	853.200	60			
2.	Regression	817.533	2	408.767	22.921	.042c
	Residual	35.667	58	17.833		
	Total	853.200	60			

Table 4c: Coefficients

Model		B	Std. Error	Beta	T	Sig.
1.	(Constant)	7.808	5.137		1.520	.226
	Knowledge	.576	.191	.867	3.020	.000
2.	(Constant)	9.988	2.677		3.731	.065
	Knowledge	1.678	.364	2.529	4.607	.044
	Competence	.740	.200	.750	3.700	.000

Table 4a-c shows the analysis on the relationship between knowledge on Cataloguing, Classification, competence in Cataloguing and Classification, and job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria. Based on the results, the multiple regression analysis reveals that the model is significant ($F = 22.921$, $p = 0.042$), indicating a good fit. The R-squared value is 0.958, suggesting that about 95.8% of the variation in job performance can be explained by knowledge and competence. The β coefficients for knowledge ($\beta = 2.529$, $p = 0.044$) and competence ($\beta = 0.750$, $p = 0.000$) are both significant, indicating a positive relationship between these variables and job performance. Given the significance of the model and the positive relationships, we reject the null hypothesis that there is no significant relationship between knowledge on Cataloguing, Classification, competence in Cataloguing and Classification, and job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria.

Summary of Findings

1. Cataloguers have knowledge on subject analysis, subject cataloguing, subject classification and knowledge on cataloguing tools in Federal University Libraries in Northern Nigeria.
2. Cataloguers are competent in cataloguing and classification in Federal University Libraries in Northern Nigeria.
3. There is high level of job performance in cataloguing and classification among cataloguers in Federal University Libraries in Northeast and North Central, Nigeria.
4. There is a significant relationship between knowledge on Cataloguing, Classification,

competence in Cataloguing and Classification, and job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria.

Discussion

The finding that cataloguers have knowledge on cataloguing and classification in Federal University Libraries in Northeast and North Central, Nigeria is a positive indication of the profession's strength in these institutions. As highlighted in the literature review, the assessment of knowledge and competence of cataloguers is crucial for optimal job performance in Federal University Libraries. According to Yusuf (2015), knowledge of cataloguing and classification is essential for professional cataloguers, including descriptive and subject cataloguing, classification, subject analysis, and authority control. This knowledge enables cataloguers to organise and provide access to library resources effectively. The implication of this finding is that cataloguers in Federal University Libraries in Northeast and North Central, Nigeria can leverage their knowledge to improve library services, enhance user satisfaction, and support the academic mission of their institutions. By building on this knowledge, cataloguers can continue to provide high-quality services and adapt to the evolving needs of their users.

The finding that cataloguers have competence in cataloguing and classification in Federal University Libraries in Northeast and North Central, Nigeria suggests that they possess the necessary skills to perform their duties effectively. As noted in the literature review, recent studies like Ihekwoaba and Okwor (2019) emphasise the importance of cataloguers having skills in information management, computer applications, and cataloguing databases. Bello and Mansor (2012) noted that cataloguers' competence in cataloguing and classification enables them to apply information and communication technologies (ICTs) and other related cataloguing tools in the conduct of their work. This competence is crucial in today's digital environment, where cataloguers need to be proficient in using various tools and technologies to provide access to library resources.

The finding that there is a high level of job performance in cataloguing and classification among cataloguers in Federal University Libraries in Northeast and North Central, Nigeria is a testament to the profession's excellence in these institutions. The literature review highlighted that challenges like lack of training opportunities and obsolete cataloguing tools can hinder cataloguers' service delivery (Fadekemi, Junji, & Bruno, 2019). According to Omekwu (2007), job performance in cataloguing and classification requires certain competencies, including knowledge and skills in the application of rules and use of appropriate schemes, subject headings, and ICT technologies. The high level of job performance among cataloguers in Federal University Libraries in Northeast and North Central, Nigeria implies that they are able to provide efficient and effective services to users, which can lead to increased user satisfaction and library effectiveness.

The finding that there is a significant relationship between knowledge, competence, and job performance of cataloguers in Federal University Libraries in Northeast and North Central, Nigeria highlights the importance of these variables in determining cataloguers' effectiveness. As indicated in the literature review, studies like Ihekwoaba and Okwor (2019) highlight the importance of competencies for effective cataloguing and classification. According to Miksa (2008), the ability of a cataloguer to perform their duties depends on their knowledge and expertise with cataloguing tools and resources. This finding implies that cataloguers who possess high levels of knowledge and competence are more likely to perform their jobs effectively, which can lead to better library services and user satisfaction. The implication of this finding is that investing in cataloguers' professional development can lead to improved job performance, increased productivity, and enhanced library effectiveness, ultimately contributing to the achievement of institutional goals.

Conclusion

This study's findings suggest that cataloguers in Federal University Libraries in Northeast and North Central, Nigeria possess the necessary knowledge and competence in cataloguing and classification. The study also found a high level of job performance amongst cataloguers. Moreover, the findings revealed significant positive relationships between knowledge, competence, and job performance of cataloguers, indicating that investing in the knowledge and competence of cataloguers can lead to improved job performance. Overall, the study highlights the importance of knowledge and competence in determining job performance amongst cataloguers and underscores the need for continued investment in their professional development to enhance library services and support the academic mission of their institutions.

Recommendations

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

1. Library management should provide opportunities for cataloguers to stay current with emerging trends and best practices in cataloguing and classification through training programmes, workshops, and conferences, enabling them to maintain their expertise and adapt to changing industry requirements.
2. Library management should provide resources and support to enable cataloguers to maintain and enhance their competence in cataloguing and classification. This can include providing access to latest cataloguing tools and technologies and encouraging participation in professional development activities.
3. Library management should recognize and reward cataloguers' high level of job performance and provide opportunities for career advancement and professional growth. This can include providing incentives for excellent performance and supporting cataloguers' participation in professional development activities.
4. Library management should prioritize investing in cataloguers' professional development, including training programmes, workshops, and conferences, to enhance their knowledge and competence. This can lead to improved job performance, increased productivity, and enhanced library effectiveness. Additionally, library management should consider providing incentives for cataloguers to pursue certifications or advanced degrees in cataloguing and classification.

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INFLUENCE OF INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS ON THE USE OF INFORMATION RETRIEVAL TOOLS AMONG USERS IN SELECTED LIBRARIES IN NORTHERN, NIGERIA

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Abstract
This study determined Influence of Information and Communication Technology on the Use of Information Retrieval Tools Among Users of selected Libraries in Northern, Nigeria. The study was guided by three (3) objectives and three (3) research questions. A descriptive survey research design was adopted for the study and six thousand nine hundred and twelve (6,912) registered library users were used as target population. While, the sample size for the study was seven hundred and twelve (712) users drawn from the target population using Krejcie, and Morgan (1970) table for determining sample size. Systematic sampling technique was used to ascertain the respective sample of the study. Thus, 712 copies of questionnaire were distributed to respondents with 633 (88.9%) valid responses. Data analysis involved descriptive statistics (frequency counts and percentage scores), Findings indicated that types of Information Retrieval Tools available for users of selected libraries in northern Nigeria were Online Public Access Catalogue (OPAC), bibliographies, Library Management Systems (such as KOHA), indexes and abstracts, databases, search engines, internet search engines (including Google Scholar), and multimedia databases (comprising audio and video). However, meta search engines are not available. The level of used of information retrieval tools by users of selected libraries in northern Nigeria was high. The level of ICT skills among users of selected libraries in northern Nigeria was high. Based on the findings, it is recommended that Libraries should regularly survey users to improve services, update ICT training to match new technologies, and offer advanced training for users needing specialized skills.
Keywords: ICT Skills on the Use of Information Retrieval Tools among Users in Selected Libraries.

Introduction

Information and Communication Technology (ICT) has become central to modern library and information services, transforming how information is produced, organized, accessed, and shared in academic settings. Academic libraries have evolved from traditional book repositories into hybrid knowledge hubs that combine print with digital resources, such as databases, online catalogues, and institutional repositories. This transition reflects the growing reliance on digital information and the demand for efficient retrieval systems. Studies highlight that the effectiveness of these tools largely depends on both the availability of ICT infrastructure and the digital literacy of users (Smith & Johnson, 2020; Ahmed, 2021). Consequently, examining how ICT skills influence the use of information retrieval tools has become an important area of research.

Information and Communication Technology (ICT) refer to a range of skills used for managing, processing, and communicating information, thereby improving efficiency and expanding access. In academic libraries, ICT supports digital catalogues, online databases, and electronic resources, but also introduces challenges such as inadequate digital literacy and infrastructural limitations. While ICT has improved the speed and accuracy of information retrieval, issues like the need for continuous staff training, unequal access to technology, and the digital divide remain pressing concerns. According to Khan and Jansen (2016), stated that ICT has transformed library services globally, enhancing librarians' effectiveness in tasks such as cataloguing, classification, reference services, circulation, serials management, and digital library operations. Beyond library services, information is recognized as a vital economic resource that contributes to national growth and influences key sectors including education, security, politics, business, and social development.

Information retrieval tools are software and systems designed to assist users in finding and accessing information, which include search engines, online catalogs, digital databases, library management systems, electronic repositories, information retrieval systems, knowledge management systems, and reference management software. These tools enhance the efficiency and effectiveness of retrieving and managing information across various contexts and platforms, utilizing techniques like natural language processing and machine learning. Smith, and Doe (2023) evaluates the effectiveness of information retrieval tools in academic libraries using a mixed-methods approach. Results show that the tools' effectiveness varies significantly among libraries, with some struggling with complexity. Libraries with user-friendly interfaces and better support services reported higher user satisfaction. The study recommends libraries invest in user-centered design, regular training, and support to maximize the potential of these tools.

In academic libraries, ICT has revolutionized operations by replacing manual processes with technology-driven systems. Key functions such as cataloguing, classification, circulation, and reference services are now enhanced through digital platforms like online public access catalogues (OPAC), institutional repositories, e-journals, and databases. These tools have made information retrieval faster, more accurate, and accessible to a broader range of users. Traditionally, libraries relied on physical card catalogues, which were often limited in efficiency and accessibility. Today, OPACs and integrated library systems (ILS) provide dynamic, user-friendly, and round-the-clock access to resources. As highlighted by Smith and Johnson (2023), OPACs not only improve search capabilities and system integration but also support inclusivity through features such as text-to-

speech and multilingual options, thereby meeting the diverse needs of library users, including remote patrons and individuals with disabilities.

Digital libraries provide electronic access to a broad array of resources, such as e-books, e-journals, research papers, and multimedia content. Hosted on web-based platforms, they enable users to access these resources from different locations and devices. Notable features include a wide variety of content, remote access, improved search and retrieval capabilities, interactive components, and efforts for preservation and accessibility. Advanced search technologies, like full-text search, indexing, and metadata, are used to streamline information retrieval. Williams and Brown (2024) described digital repositories as specialized databases crafted to store, preserve, and facilitate access to digital content. These repositories are frequently utilized by institutions such as universities, research centers, and government agencies for managing their digital assets.

Modern academic libraries have embraced the integration of advanced search engines and discovery tools to improve user access to information. Search engines offer comprehensive indexing, advanced search algorithms, faceted search options, and real-time search results, enabling users to access a wide range of materials from a single interface. Discovery tools, on the other hand, aggregate information from diverse sources into a unified interface, simplifying the research process and providing a holistic view of available resources. Key features of discovery tools include a unified search interface, rich metadata, enhanced search, integration with existing library systems, user-friendly design, and analytics features that track search patterns, user behavior, and resource usage, ultimately improving collections and services. This integration has transformed the way academic libraries operate, making them more efficient and accessible for users. Johnson and Lee (2024) **i**nvestigate recent progress in search engines and discovery tools that are revolutionizing research methods in academic libraries. Their analysis offers an in-depth look at how these technological advancements improve the efficiency and effectiveness of information retrieval for academic users.

Library Management Systems (LMS) are essential tools for modern libraries, integrating functions like circulation, cataloging, and acquisitions into a single platform. They automate borrowing and returning of materials, manage cataloging, and assist in acquisition processes. LMS also handle user account management, enhancing user engagement and simplifying account management. They also provide robust analytics tools for data-driven decisions, enabling libraries to optimize operations, plan future acquisitions, and improve service delivery. This integration of functions enables libraries to operate more efficiently, reduce administrative overhead, and provide better services to patrons. Smith (2023) noted that the Library Automation explores the transformative impact of Library Management Systems (LMS) on modern libraries, highlighting their ability to automate tasks, integrate functions, and provide powerful analytical tools, thereby enhancing efficiency and service delivery.

Statement of the Problem

Despite numerous efforts by academic library, observations by the researcher indicated that selected academic libraries in Northern Nigeria face similar challenges. Specifically, the libraries seem to lack essential tools, including Online Public Access Catalogues (OPACs), database search engines, and discovery systems. Additionally, subject guides, reference materials, and digital repositories appear insufficient. These deficiencies hinder the effective use of information retrieval tools. This study investigated the influence of ICT on library usage and information

retrieval tools among users of academic libraries in Northern Nigeria.

Objectives of the Study

The objectives of the study were to determine the:

1. types of information retrieval tools used by the users of selected libraries in northern Nigeria.
2. level of used of information retrieval tools by users of selected libraries in northern Nigeria.
3. level of ICT skills among users of selected libraries in northern Nigeria.

Review of related Literature

A study conducted by Olaifa (2023) investigating the types of information retrieval tools favored by university students. The research employed a survey design, targeting undergraduate students in Nigerian universities with a sample size of 500 participants. Data was collected using questionnaires and analyzed using descriptive statistics. The findings revealed that online databases were the most commonly used tools, followed by library catalogs. Based on these results, the study recommended implementing training programs to improve students' proficiency in utilizing advanced retrieval tools.

Study conducted by Mustapha, Muhammad, and Ibrahim (2023) also recorded mixed responses: 26.21% of users found OPAC user-friendly, 26.28% said it made retrieval easier, 24.83% felt it provided timely information, and 26.21% noted it delivered precise results. Beyond OPAC, Garba, Mohammed, and Umar (2021) studied indexing and abstracting services, finding that 59% of students moderately used indexing, 9% did not use it at all, and 50% did not use abstracting services, while 31.8% used them moderately. They attributed these limitations to inadequate facilities and low awareness. Collectively, these studies suggest that while information retrieval tools both print and electronic are widely available and generally accessible in academic libraries, their use remains inconsistent.

Study conducted by Mula and Natarajan (2020) assess the level of computer skills of academic librarians at the University of Jimma. The study is premised on six specific objectives. Using a descriptive survey design the study employed a questionnaire to collect data and used SPSS 2.0. The results showed that academic librarians' ICT skills were around average. It was recommended that LIS professionals maintain their proficiency in a wide range of ICT skills.

Research Methodology

Survey research design was used for the study. The population comprised of six thousand nine hundred and twelve (6,912) registered users of the three selected Libraries, Northwest University Library Kano, Olusegun Obasanjo Library, National institute for policy and Strategic Studies Kuru Jos and Robert Pastor Digital Library, Nigeria's American University Yola. The sample size for the three selected libraries in Northern Nigeria comprised of seven hundred and twelve (712) registered library users of the selected Libraries drawn from the three selected Libraries in Northern Nigeria as presented in table 3.1. The reason for selecting the three selected libraries were chosen for the study because they represent federal, state, private, college, and polytechnic institutions in the region. These libraries stand out for their implementation of ICT and information retrieval tools, making them more advanced compared to other libraries in Northern Nigeria. Moreover, they are well-known selected libraries with a history of using retrieval tools,

further distinguishing them from others in the area. Table 3.1 gave a detailed categorization of the study population and their respective sample size of the three selected Libraries in Northern Nigeria. The sample size from the three selected Libraries were shown below:

Table 1: Population and Sample Size of the Registered Users in selected Libraries in Northern Nigeria.

S/N	Tertiary Institutions Libraries	Population (Registered Users)	Sample
1.	Northwest University Library Kano	780	254
2.	Olusegun Obasanjo Library, National institute for policy and Strategic Studies Kuru Jos	132	97
3.	Robert Pastor Digital Library, Nigeria's American University Yola	6,000	361
	Total	**6,912**	**712**

Source: Membership Registration Files of the three selected Libraries in Northern Nigeria. 2023/2024 session.
To draw the sample size from the targeted population, systematic sampling techniques will be use.

Data Analysis and Interpretation

The response rate indicated that Out of the seven hundred and twelve (712) questionnaires distributed to the respondents in the library under study, 633(88.9%) copies were duly completed, returned and found valid for the analysis, whereas 79 (11.1%) were not returned.

Research Question 1: What are the types of information retrieval tools used by the users of selected libraries in northern Nigeria**?**

Table 2: Types of information retrieval tools used by the users of selected libraries in northern Nigeria**.**

S/N.	Tools	Available	Not Available
1.	Online Public Access Catalog (OPAC)	√	X
2.	Bibliographies	√	X
3.	Library Management Systems (e.g., KOHA)	√	X
4.	Indexes and Abstracts	√	X
5.	Databases	√	X
6.	Search Engines	√	X
7.	Internet Search Engines (e.g., Google Scholar)	√	X
8.	Meta Search Engines	√	X
9.	Multimedia Databases (Audio, Video)	√	X

Table 2. presented types of information retrieval tools used by users of selected libraries in northern Nigeria According to the table, the following tools are available to users: Online Public Access Catalogue (OPAC), bibliographies, Library Management Systems (such as KOHA), indexes and abstracts, databases, search engines, internet search engines (including Google Scholar), and

multimedia databases (comprising audio and video). However, meta search engines are not available. The availability of these tools suggests that users of academic libraries in northern Nigeria have access to a wide range of resources that can enhance their ability to locate and access relevant information. Furthermore, the provision of OPAC, e-journals, e-books, and digital repositories indicates that users can access library resources remotely, thereby facilitating their research and learning activities. Overall, the findings suggest that academic libraries in northern Nigeria are utilising technology to provide users with access to various information retrieval tools, which can support their research and learning needs.

Research Question 2: What is the level of used of information retrieval tools by users of selected libraries in northern Nigeria**?**

Table 3: Level of used of information retrieval tools by users of selected libraries in northern Nigeria**.**

S/N	ICT Tool/Service	Very High Extent	High Extent	Low Extent	Very Low Extent
1	Online Public Access Catalog (OPAC)	200 (31.6%)	220 (34.8%)	120 (19.0%)	93 (14.7%)
2	Databases (e.g., JSTOR, Science Direct, etc.)	280 (44.2%)	200 (31.6%)	80 (12.6%)	73 (11.5%)
3	Institutional Repositories (IRs)	220 (34.8%)	200 (31.6%)	120 (19.0%)	93 (14.6%)
4	Electronic Journals (e-journals)	320 (50.6%)	180 (28.4%)	60 (9.5%)	73 (11.5%)
5	Electronic Books (e-books)	240 (37.9%)	220 (34.8%)	100 (15.8%)	73 (11.5%)
6	Search Engines (e.g., Google Scholar, Microsoft Academic)	380 (60.0%)	150 (23.7%)	40 (6.3%)	63 (10.0%)
7	Reference Management Tools (e.g., EndNote, Zotero, Mendeley)	180 (28.4%)	200 (31.6%)	130 (20.5%)	123 (19.4%)
8	Library Discovery Tools (e.g., Primo, Summon, EDS)	200 (31.6%)	180 (28.4%)	130 (20.5%)	123 (19.4%)
9	Metadata Tools (e.g., Dublin Core, MARC 21)	150 (23.7%)	150 (23.7%)	150 (23.7%)	183 (28.9%)
10	Electronic Databases for Special Collections	180 (28.4%)	180 (28.4%)	130 (20.5%)	143 (22.6%)
	Total	**2,350**	**1,880**	**1,060**	**1,040**
	Average	**235 (37.1%)**	**188 (29.7%)**	**106 (16.8%)**	**104 (16.4%)**

Table 3 presents the responses of respondents on the level of use of information retrieval tools among users of selected library in northern Nigeria. The responses show that 200 (31.6%) indicated a very high level of use of Online Public Access Catalogue (OPAC), 220 (34.8%) indicated a high level, 120 (19.0%) indicated a low level, and 93 (14.6%) indicated a very low level. Furthermore, 280 (44.2%) indicated a very high level of use of Databases (e.g., JSTOR, Science Direct, etc.), 200 (31.6%) indicated a high level, 80 (12.6%) indicated a low level, and 73 (11.5%)

indicated a very low level. The responses also show that 220 (34.8%) indicated a very high level of use of Institutional Repositories (IRs), 200 (31.6%) indicated a high level, 120 (19.0%) indicated a low level, and 93 (14.7%) indicated a very low level. Additionally, 320 (50.6%) indicated a very high level of use of Electronic Journals (e-journals), 180 (28.4%) indicated a high level, 60 (9.5%) indicated a low level, and 73 (11.5%) indicated a very low level. Moreover, 240 (37.9%) indicated a very high level of use of Electronic Books (e-books), 220 (34.8%) indicated a high level, 100 (15.8%) indicated a low level, and 73 (11.5%) indicated a very low level.

The responses also show that 380 (60.0%) indicated a very high level of use of Search Engines (e.g., Google Scholar, Microsoft Academic), 150 (23.7%) indicated a high level, 40 (6.3%) indicated a low level, and 63 (10.0%) indicated a very low level. Furthermore, 180 (28.4%) indicated a very high level of use of Reference Management Tools (e.g., EndNote, Zotero, Mendeley), 200 (31.6%) indicated a high level, 130 (20.5%) indicated a low level, and 123 (19.4%) indicated a very low level. Moreover, 200 (31.6%) indicated a very high level of use of Library Discovery Tools (e.g., Primo, Summon, EDS), 180 (28.4%) indicated a high level, 130 (20.5%) indicated a low level, and 123 (19.4%) indicated a very low level. The responses also show that 150 (23.7%) indicated a very high level of use of Metadata Tools (e.g., Dublin Core, MARC 21), 150 (23.7%) indicated a high level, 150 (23.7%) indicated a low level, and 183 (28.9%) indicated a very low level. Additionally, 180 (28.4%) indicated a very high level of use of Electronic Databases for Special Collections, 180 (28.4%) indicated a high level, 130 (20.5%) indicated a low level, and 143 (22.6%) indicated a very low level. Overall, the findings suggest that the level of use of information retrieval tools varies across different tools, with Search Engines having the highest level of use (60.0%). The findings also suggest that some information retrieval tools, such as Metadata Tools, have a significant proportion of respondents indicating a very low level of use. The findings also indicate that Electronic Journals (e-journals) and Search Engines are among the most widely used information retrieval tools, with 320 (50.6%) and 380 (60.0%) respondents indicating a very high level of use, respectively. On the other hand, Metadata Tools and Electronic Databases for Special Collections have a relatively lower level of use, with 150 (23.7%) and 180 (28.4%) respondents indicating a very high level of use, respectively. Overall, the findings suggest that **the** level of used of information retrieval tools by users of selected academic libraries in northern Nigeria was high. This is evident by the fact that 423 (66.8%) of the respondents indicated that it was high while 210 (33.2%) indicated low. This implies that **the** level of used of information retrieval tools by users of selected academic libraries in northern Nigeria was high.

Research Question 3: What is the level of ICT skills among users of selected libraries in northern Nigeria**?**

Table 4: level of ICT skills among users of selected libraries in northern Nigeria**.**

S/N	ICT Tool/Service	Very High Level	High Level	Low Level	Very Low Level
1	With my ICT skills I can easily navigate Online Public Access Catalog (OPAC)	200 (31.6%)	220 (34.8%)	120 (19.0%)	93 (14.6%)
2	With my ICT skills I can easily navigate Databases (e.g., E-journals)	280 (44.2%)	200 (31.6%)	80 (12.6%)	73 (11.5%)
3	With my ICT skills I can easily navigate Library Management Systems (e.g., KOHA)	180 (28.4%)	200 (31.6%)	130 (20.5%)	123 (19.4%)
4	With my ICT skills I can easily navigate Electronic Reserve Materials	220 (34.8%)	180 (28.4%)	120 (19.0%)	113 (17.8%)
5	With my ICT skills I can easily download E-resources (e.g., E-books)	240 (37.9%)	200 (31.6%)	100 (15.8%)	93 (14.7%)
6	With my ICT skills I can easily navigate Digital Repositories	200 (31.6%)	180 (28.4%)	130 (20.5%)	123 (19.4%)
7	With my ICT skills I can easily navigate Internet Search Engines (e.g., Google Scholar)	380 (60.0%)	150 (23.7%)	50 (7.9%)	53 (8.4%)
8	With my ICT skills I can easily navigate Meta Search Engines	150 (23.7%)	120 (19.0%)	130 (20.5%)	233 (36.8%)
9	With my ICT skills I can easily navigate Multimedia Databases (Audio, Video)	180 (28.4%)	150 (23.7%)	120 (19.0%)	183 (28.9%)
	Total	**2,030**	**1,600**	**980**	**1,087**
	Average	**226 (35.7%)**	**178 (28.1%)**	**109 (12.2%)**	**120 (18.0%)**

Table 4 presents the responses of respondents on the level of ICT skills among users of selected libraries in northern Nigeria. The responses show that 200 (31.6%) indicated that they can easily navigate Online Public Access Catalogue (OPAC) to a very high level, 220 (34.8%) indicated a high level, 120 (19.0%) indicated a low level, and 93 (14.6%) indicated a very low level. Furthermore, 280 (44.2%) indicated that they easily navigate databases to a very high level, 200 (31.6%) indicated a high level, 80 (12.6%) indicated a low level, and 73 (11.5%) indicated a very low level. The responses also show that 180 (28.4%) indicated that they easily navigate Library Management Systems (e.g., KOHA), to a very high level 200 (31.6%) indicated a high level, 130 (20.5%) indicated a low level, and 123 (19.4%) indicated a very low level. Additionally, 220 (34.8%) indicated that they easily navigate Electronic Reserve Materials to a very high level, 180 (28.4%) indicated a high level, 120 (19.0%) indicated a low level, and 113 (17.8%) indicated a very low level. Moreover, 240 (37.9%) indicated they easily download E-resources (e.g., E-books) to a very high level, 200 (31.6%) indicated a high level, 100 (15.8%) indicated a low level, and 93 (14.7%) indicated a very low level. The responses also show that 200 (31.6%) indicated that they can easily navigate Digital Repositories to a very high level, 180 (28.4%) indicated a high level, 130 (20.5%) indicated a low level, and 123 (19.4%) indicated a very low level. Furthermore, 380 (60.0%) indicated they can easily navigate Internet Search Engines (e.g., Google Scholar) to a very high level, 150 (23.7%)

indicated a high level, 50 (7.9%) indicated a low level, and 53 (8.4%) indicated a very low level. Moreover, 150 (23.7%) indicated they can easily navigate Meta Search Engines to a very high level, 120 (19.0%) indicated a high level, 130 (20.5%) indicated a low level, and 233 (36.8%) indicated a very low level. The responses also show that 180 (28.4%) indicated that they can easily navigate Multimedia Databases (Audio, Video) to a very high level, 150 (23.7%) indicated a high level, 120 (19.0%) indicated a low level, and 183 (28.9%) indicated a very low level. Overall, the findings suggest that the level of ICT skills among users of selected academic libraries in northern Nigeria was high. This is evident by the fact that 404 (63.8%) of the respondents indicated that it was high while 229 (30.2%) indicated low. This implies that the level of ICT skills among users of selected libraries in northern Nigeria was high.

Discussion

The findings of this study are consistent with the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that users' behavioral intentions to use technology are influenced by performance expectancy, effort expectancy, social influence, and facilitating conditions. The study's findings that ICT use has a positive influence on information retrieval tools and that users perceive ICT as easy to use and requiring minimal effort support the effort expectancy construct of UTAUT. Additionally, the significant difference in level of use of information retrieval tools among users can be attributed to the social influence construct, which suggests that users' adoption and use of information retrieval tools are influenced by the opinions and behaviors of their peers and colleagues. Furthermore, the study's findings that users perceive the library as providing adequate support and resources for using ICT and information retrieval tools align with the facilitating conditions construct of UTAUT, highlighting the importance of providing a supportive environment for technology adoption and use. Overall, the study's findings underscore the relevance of UTAUT in understanding the factors that influence users' adoption and use of information retrieval tools in academic libraries.

The study identified various information retrieval tools available for users, including Online Public Access Catalogue (OPAC), bibliographies, Library Management Systems (such as KOHA), indexes and abstracts, databases, search engines, internet search engines (including Google Scholar), and multimedia databases. However, meta search engines are not available. This finding is consistent with Olaifa (2023), who reported that online databases and library catalogs were commonly used tools. Edom (2022) also listed similar tools, including OPAC, CD-ROMs, online databases, and internet search engines. The availability of these tools suggests that academic libraries in northern Nigeria are equipped with various resources to support users' information needs. However, the absence of meta search engines may limit users' ability to search multiple databases simultaneously.

The level of use of information retrieval tools by users was found to be high. This is in line with Adegoke (2021), who reported that students effectively used electronic tools to meet academic needs. However, studies such as Ilo and Ifijeh (2020) noted challenges in finding resources suited to users' learning styles. The high level of use suggests that users are familiar with the available tools and are utilizing them to support their academic activities. Nevertheless, libraries should continue to provide training and support to ensure users maximize the potential of these tools.

The level of ICT skills among users was found to be high. This contrasts with some studies,

such as Ademodi and Adepoju (2020), which reported low ICT skills among librarians. However, Ayoku and Okafor (2020) noted that many librarians are proficient in basic ICT tools. The level of ICT skills among users was found to be high. This contrasts with some studies, such as Ademodi and Adepoju (2020), which reported low ICT skills among librarians. However, Ayoku and Okafor (2020) noted that many librarians are proficient in basic ICT tools.

Conclusion

The study reveals that academic libraries in northern Nigeria offer a range of information retrieval tools, including OPAC, databases, and search engines, although meta search engines are notably absent. Users demonstrate a high level of engagement with these tools, indicating familiarity and effective utilization in support of their academic pursuits. Furthermore, users possess a high level of ICT skills, equipping them to leverage digital resources critical for success in today's academic landscape. Crucially, the study establishes that ICT skills significantly enhance the use of information retrieval tools, underscoring the need for libraries to priorities ICT training and support. By bolstering users' ICT proficiency, libraries can optimise resource utilization and better support academic achievement.

Recommendations

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

1. Academic libraries in northern Nigeria should consider subscribing to meta search engines to enhance users' ability to search multiple databases simultaneously. Additionally, libraries should regularly review and update their collection of information retrieval tools to ensure they remain relevant and effective in supporting users' information needs.
2. Libraries should continue to provide training and support to users to ensure they maximize the potential of available information retrieval tools. Furthermore, libraries should consider conducting regular user surveys to identify areas for improvement and tailor their services to meet users' evolving needs.
3. Academic libraries should maintain and enhance their ICT training programmes to ensure users' skills remain up-to-date and aligned with emerging technologies. Libraries should also consider offering advanced ICT training for users who require more specialised skills.

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ATTITUDE OF STAFF AND STUDENTS ON THE AWARENESS, AVAILABILITY AND UTILIZATION OF LIBRARY INFORMATION RESOURCES IN NASARAWA STATE UNIVERSITY, KEFFI

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Abstract
This study was on the availability, awareness and utilisation of information resources by staff and students of the Nasarawa State University, Keffi (NSUK). Three objectives guided the study. The instrument used for data collection was a researcher self-developed observation checklist. The instrument was used to identify the availability of information resources in the library while the other was used to solicit information on users' awareness and utilization of the library resource. The study uses the descriptive survey with a population of 2,181. The sample size of 436 was drawn using a simple 20% of the entire population. Data was analysed using simple percentage. From the finding it can be seen that the library have some information resources which can support teaching, learning and research as is obtainable in academic environments. The available resources include reference materials, textbooks, curriculum based text, journals, newspapers, online catalogue, online data bases among others. On the other hand, awareness of available information resources by users, result revealed that users are aware of some available information resources in the library. Result also shows that the users utilize some of the available information resources. The study concluded that, the library have some useful information resources, that user are aware of some of the available resources and in the same vain utilizes them. Finding also shows that users are not fully aware of some resources available in the library. Based on the findings of the study, it was recommended that; library should acquire more information resources especially ICT based ones, information access policies should be adjusted for more openness and the NSUK library should make deliberate efforts to make users aware of available information resource to encourage utilization of available information resources.
Keywords: Attitude, Awareness, Availability, Utilisation, Information Resources, Staff, Students.

Introduction

The library as a warehouse of knowledge is the heart of the development of the world and

it is an essential need and requirement that enables an individual to function. Knowledge is the most important factor that is required for an individual or organisation to function, flourish and take decisions that will lead to the improvement of human livelihood. This knowledge is acquired, processed and put into different disciplines of human endeavor in the library. Knowledge is one of the major resources in human development. Based on the foregoing, it behooved that information/knowledge should be accurate, relevant and current which is an important precursor of technological development and innovations. Information is said to be a group of processed data that can help an individual deduce an implication and value judgment in decision making. For information to be useful for human development, it must be processed, available and easily accessible to use on a timely base and user need to be aware of it existence. This is the role libraries all over the world irrespective of their type and size have been doing for a long time. Libraries have a significant role of procuring, processing, managing and making available this information to users in the form of knowledge.

According to Akpe, Ajav and Ngunna (2018), the library serves as an agency for acquisition, collections, organization, storage, preservation and dissemination of information. Libraries across the globe have one central goal which they try to achieve in providing services to its users. It is therefore important that library resources should be made available and to be utilize by users. It is also important that users are aware of the resources available in the library with the aim of encouraging usage by patrons to improve the overall development of the nation. Awareness of available resources and the utilization of same will enhance users' academic performance and in turn help in the development of the educational institutions.

Information resources when available and users are not aware of its availability is of no important because they have not serve the purpose it is meant for. Onye (2016) posits that awareness of an information resources mean that patron knows that the particular resource exist in the holding of a library. This feature is very important as it is only when you know something is in existence (aware) that you can think of utilizing it. Awareness of an information resources prepositioned availability. Availability simply put means an information resource is physically present when the information resource is needed. Availability means that the information resources are within reachable domain of the user when the user decides to utilize it. It means the resources can be easily accessed. Another importance of the library is utilization of information resources which refers to the situation where available resources are been put to use by patrons. Utilization means the resources are available for patrons to use. The library have the important role of ensuring that users are aware of the resource available in their holding as this could help to attract users to make use this resources and hence help the library to perform the require role of acquiring, processing, storing and disseminating information effectively.

Utilization is the ability to make practical way to utilize something effectively (Uzoigwe, 2024). The International Standard Organization defined utilization as (an act to which a commodity can be used by some) users to meet their targeted goals, objectives, efficiency and effectiveness with all amount of satisfaction in the way of use. It is the process of making use of something that is available. Uhegbu (2017) pined that utilization of information resources is the process of putting into appropriate use an acquired knowledge. It involves the utilization of information resources and services in the library. The use of information resources differs from one individual to the other, and from one university library to the other, according to their political

needs, information, social- economic, academic and educational imperatives as well as the level of knowledge usage. The use of information resources will outperform the current trends that are needed to find the data spread across the library activities and the process of drawing conclusion, (smostly in continually hindrance by their reliance on ad hoc, task specific frameworks in the new readers' service technologies).

In the words of Ojedokum (2017), he use of information resources is dependent on the kind of information needed to users. It must be made known that the needs for information resources exists and the need is defined. Therefore, there is no doubt saying that the use of information resources is one factor that is used for advancing knowledge. This informs the reason why information resources and library services are introduced in the university libraries. Philip and Mwamba (2025) maintain that the use of information resources will offer users greater opportunities in products that are standard and quite different from their predecessors, i.e. current information and the ease in getting library services.

Utilization entails the individuals that use the item, does so with ease and speed to enable them achieved their task and goal with ease, as observed by (Dumas & Redish 2013). The use of information resources either in electronic or manure form, sales or educational purpose requires careful attention for it to provide efficient results. University libraries will continue to encourage the use of information resources by ensuring that information to their users at the appropriate time. A medium for communicating and reaching out to its users, and by improving on the creation of a virtual presence in the library.

Statement of the Problem

The establishment of the Nasarawa State University, Keffi (NSUK), like other academic institutions of higher learning, the university library was established alongside with the aim and obligation it was meant for. This library was saddled with the responsibility of providing educational support for the academic performance of both staff and students of the institution in the area of research output and learning. Some information resources are provided and made available in the library but most of these resource cannot be utilised as they are seen in the shelves gathering dust without been used. The question which readily comes to mind is why are some information resources not utilized? Is that users are not aware of the existence of these resources? All this are not yet known, it is on this backdrop that this study on awareness, availability and utilization of information resources by staff and students of the Nasarawa State University Keffi (NSUK) was being undertaken.

Objectives of the Study

The objectives of the study are to:

1. identify types of information resources available in the Nasarawa State University, Keffi (NSUK) Library;
2. establish if staff and students are aware of available resources in the Nasarawa State University, Keffi (NSUK) Library; and
3. examine the types of information resources utilize by staff and students of Nasarawa State University, Keffi (NSUK) Library

Research Questions

The following research questions are posed for this study:

1. What are the information resources available in Nasarawa State University, Keffi (NSUK) Library?
2. Are staff and student aware of available information resources in Nasarawa State University, Keffi (NSUK) Library?
3. What are the information resources utilized by staff and students OF Nasarawa State University, Keffi (NSUK) Library?

Review of Related Literature

Primarily, libraries are established and saddled with the duty of acquiring, organizing, preservation and effective delivering of information to information seekers and users. This requires the capacity of the library to meet the various needs of it users by providing them required information resources needed for their learning, teaching, research and life-long career development. The ability to utilize available information resource is centered on the awareness that such resources is in existence in a library. Awareness of information resources entails that information resources be carefully arranged conspicuously placed or displayed in a way that user will know of its presence in the library.

Awareness according to Alhaji and Ndubisi (2022) refers to a condition of consciousness of information resources in the library. Even when a user is aware of an available resource, accessibility of such resources is another factor that must be considered and satisfied to ensure use. There are various methods which can be used to create awareness of the existence of an information resource. Libraries employ various methods to achieve the above objective and commonly among them according to Olayinka, Isaiah, Akaaka and David (2022) are displays on the open shelf, selected dissemination, library tours and new arrival display among others. To create awareness on available information resources in the library, it is important that information resources be arrange so that users can easily identify, locate and use them when needed.

The term availability of information resources refers to readily access to information with little or no stress for the library for service delivery. Availability of information resources in the library is not just enough; users must know of their existence to be able to use them effectively and to put to use what is available. Users must possess requisite skills that will enable them to exploit these technology and services. Information resources may be available in various formats via various channels. But then, there are different questions begging for answers. Are they being accessible? Do the users really have access to the information and avail themselves of the effective service delivery being provided by the library? The availability and awareness is one of the key elements in transition from a closed transition to utilization.

Furthermore, availability in this context is defined as the probability that the system is operating properly when it is requested for use. In other words, availability is the probability that a system has not failed or is undergoing a repair action when it needs to be used. Availability refers to a quality of being able to be used or to obtain something (Warren, P. 2025). It is the readiness to perform for specified purpose, under pre-determine conditions. The availability of information resources is about being made accessible as needed, when needed, and where needed. In other words, the availability of information resources relates to the provision for the inclusion of the

information sources in the collection of libraries at the disposal of users in the universities. Availability of information resources relates to the ease with which information can be accessed by librarians and library users (Ternenge & Kashimana, 2019).

The other element to look at is availability of information resources. Availability has been explained severally by various sources. Availability refer to information resources been within the vicinity of the library. Availability of an information resource is a situation whereby the information resource is within reachable domain of the library when the information resource is needed by library patrons and can easily be accessed (Kumar, 2015). Being available implies that information resource is at the place it is needed when it is needed. Availability of information resources as pointed out by Wu, Thompson, Vacek, Watkins, and Weidner (2016) is central to human development as non-availability of necessary and needed information may lead to chaos and untold volume of loss. For any library to flourish, it is important that their information resources are available and up to date in their details. Important factors affecting availability of information resources could be related to high cost of this resources and the steady creation of new fields of knowledge amidst others. But no matter the level of availability of information resources, if those resources are not utilized they are of no importance. Utilization refer to the information resources been but to use for a desired purpose. Utilization of information resources is the extent to which information resources are actually used for teaching, learning, and research. Utilization of information resources is the major trust of the library since the library changed from been a cultural monument to a knowledge acquisition and information communication center. Based on the realizations of this change librarians and information professional in the library sphere develop the need to educate their users in ways of finding information for their day to day activities. Utilization means making use of available information resources by users at the right time through the desired medium.

Research Methodology

The descriptive research was employed for this study. The population used in this study was two thousand, one hundred and eighty one (2,181) which comprised of up to thirty-eight (38) staffs and two thousand (2,143) students of the Faculty of Education in Nasarawa State University, Keffi (NSUK). A sample size of four hundred and thirty-six (436) was gotten using twenty percent (20%) of the entire population based on adoption from the sample frame. Observation checklist was used to collect data from respondents for the study. The checklist was administered on the library staff and students of Nasarawa State University, Keffi (NSUK). Random sampling technique was adopted for the study. Data collected was analyzed using simple percentage to answer researches. Decision rule was based on simple percentage. From the finding it was deduced that the library have some information resources which can support teaching, learning and research as is obtainable in academic environments. The available resources include reference materials (Dictionaries, encyclopedias and others), textbooks, curriculum based text, journals, newspapers, online catalogue, online data bases among others. On the other hand, awareness of available information resources by users; result revealed that users are aware of some available information resources in the library. Result also shows that the users (staff and students) utilize some of the available information resources. It was concluded that, the library have some useful information resources, that user are aware of some of the available resources and in the same vain

utilizes them. Finding also shows that users are not aware of some resources available in the library. Based on the findings of this study, it was recommended that; library should acquire more information resources especially ICT based ones, information access policies should be adjusted for more openness and the NSUK library should make deliberate efforts to make users aware of available information resource to encourage utilization of available information resources.

Data Analysis and Results

The checklist was administered to the Nasarawa State University Library which contained inventory of information resources available in the library. A total number of 436 questionnaires were administered to respondents. Out of the 436 questionnaires administered, 426 were returned given a percentage of (97.7%). And of the number returned, 351 (82%) were deemed good and useful for this study.

Research Question 1: What are the information resources available in Nasarawa State University, Keffi (NSUK) Library?

Table 1: Checklist on Information Resources Available

S/N	Items	Available	Not Available
1	Dictionaries		X
2	Encyclopedias	√	
3	Gazettes	√	
4	Indexes		X
5	Abstracts		X
6	Handbooks	√	
7	Government pub	√	
8	Year books		X
9	Textbooks	√	
10	Curriculum based Resources	√	
11	Journals	√	
12	Magazines	√	
13	Newspaper clipping		X
14	Pamphlets		X
15	Correspondence		X
16	Fictions	√	
17	Picture books		X
18	Radio		X
19	Tapes		X
20	Recorders		X
21	Realia		X
22	Discs	√	
23	Television/ cable satellites		X
24	Video cd	√	
25	Video cassettes		X
26	Motion pictures		X
27	Charts		X
28	Posters		X
29	Online catalogue (OPAC)	√	
30	Computer resources.	√	
32	Online data bases	√	
	Total mean %	**15(48.4%)**	**16(51.6%)**

Source: Field Survey, 2024

Table 1 shows response on the checklist showing the information resources available in the library of the Nasarawa State University, Keffi (NSUK) Library. Thirty-two information resources where listed and finding shows that the university library have fifteen (15) of the itemized information resources. The available information resources represent 48.4% of the listed items.

However the library did not have 16 of the information resources, this represents 51.6%.

Research Question Two: Are staff and student aware of available information resources in Nasarawa State University, Keffi (NSUK) Library?

Table 2: Awareness of Staff and Students of Available Information Resources

S/N	Items	Aware	Not Aware
1	Dictionaries	√	
2	Encyclopedias	√	
3	Gazettes		X
4	Handbooks		X
5	Government pub		X
6	Textbooks	√	
7	Curriculum based resources	√	
8	Journals	√	
9	Fictions	√	
10	Discs		X
11	Video cd	√	
12	Online Catalogue (OPAC)		X
13	Computer resources.	√	
14	Magazines	√	
15	Online Data bases	√	
	Total mean %	**9(60%)**	**6(40%)**

Field Survey, 2024

Table 2 is response showing the awareness of users (Staff and Students) of Nasarawa State University, Keffi (NSUK). The table shows that of the 15 items available in the library, users are aware of the availability of some of these items. The response shows that the users were aware of 60% (9) of the resources. The resources users are aware of include online data bases, magazines, computer resources, textbooks, dictionaries and others. On the other hand, users are not aware of the availability of 6 representing 40% of the available items.

Research Question Three: What are the information resources utilized by staff and students?

Table 3: Response on types of information resources utilized by staff and students

S/N	Items	Utilize	Not Utilize
1	Dictionaries		
2	Encyclopedias	√	
3	Gazettes		X
4	Handbooks		X
5	Government pub		X
6	Textbooks	√	
7	Curriculum based resources	√	
8	Journals	√	
9	Fictions	√	
10	Discs		X
11	Video cd		X
12	Online Catalogue (OPAC)		X
13	Computer resources.		X
14	Magazines	√	
15	Online data bases		X
	Total %	7(46.7)	8(53.3)

Field Survey, 2024

Table 3 is response by users (staff and students) of the library. Out of the 15 available items users responded that they utilizes 7. The 7 items utilized by users represents 46.7% of the items that are available in the library. Items utilized by user are, encyclopedias, textbooks, journals and curriculum based information resources. On the flip side user do not utilize 8 of the available information resources which represent 53.3%.

Discussion of the Findings

From the finding it can be seen that the library have some information resources which can support teaching, learning and research as is obtainable in academic environments. The available resources include reference materials (Dictionaries, encyclopedias and others), textbooks, curriculum based text, journals, newspapers, online catalogue, online data bases among others. With a total of thirty-two information resources that where listed, finding indicates that Nasarawa State University, Keffi (NSUK) Library have fifteen (15) information resources available in its library, which represent 48.4% of the listed items. However, the library did not have 16 of the information resources, this represents 51.6%. The library however did not have the like of maps, tape recorders, newspaper, motion pictures to mention a few. To buttress the findings, Abisoye (2010) broke it down by saying that, information resources are those documents that support both teaching and learning in academic environment such as textbooks, journals, encyclopedia, dictionaries etc.

On the other hand, awareness of available information resources by users, revealed that users are aware of some available information resources in Nasarawa State University, Keffi (NSUK) library. Users are aware of the availability information resource like dictionaries, encyclopedias textbooks and curriculum based resources including journals computer resources

and online data bases. Out of the fifteen 15 items available in the library, users are aware of the availability of some of these items, with response shows that the users were aware of 9 (60%) of the resources. On the other hand, users are not aware of the availability of 6 representing (40%) of the available items. Users are however not aware of the availability of information resources like gazette, handbooks and government publications neither are they aware of availability of Discs and Online Public Access Catalogue (OPAC). This phenomenal occurs because some of these information resources such as government publications may not be accessible by the users and hence concerted efforts is needed for user to know of their existence and availability in the library. Of the 15 available items, it was shown that (users) both staff and student utilizes 7 out of the 15 information resources, which represents 46.7% of the items that are available in Nasarawa State University, Keffi (NSUK) library. These information resources that are utilize by the users are dictionaries, encyclopedias, textbooks, curriculum based resources, journals, computer resources among others. Users however, do not utilize many of the available information resources like handbook, government publications, disc, and (OPAC). On the other side user do not utilize 8 of the available information resources which represent 53.3% including online data bases and some computer resource respectively. The lack of utilization of some information resource could be attributed to unawareness of the existence of this set of resources in the library which is an issue that will need proactive action by the library to improve on for the betterment of the library.

Conclusion

Based on findings from this study, it can be concluded that Nasarawa State University, Keffi (NSUK) library have information resources that can help them perform their tripartite function of learning teaching and research. Staff and Students are aware of some of these resources and utilize some of them. However the university lacks some information resources and users are not aware of some of the information resources available in the library which made the user not to utilize available information resources.

Recommendations

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

1. NSUK library should acquire more information (especially online and computer based) resource to improve its holding and hence encourage more usage.
2. Policies on access to information resources should be eased so to make for access to these resources as open as possible.
3. NSUK library should make deliberate efforts like selective dissemination of information (SDI) and Current Awareness Programs that make user know what is available in the library especially are regarding their area of specialization.

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CAPACITY BUILDING FOR CATALOGUERS IN FEDERAL UNIVERSITY LIBRARIES IN NORTHERN NIGERIA: OPPORTUNITIES, CHALLENGES, AND INFLUENCE ON JOB PERFORMANCE

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Abstract
This study assessed Capacity Building for Cataloguers in Federal University Libraries in Northern Nigeria. Four objectives and one hypothesis guided the study. The hypothesis formulated was tested at the fixed probability level of 0.05. Survey design was used in the study. The population of the study was one hundred and two (102) cataloguers of eleven (11) Federal University Libraries in Northern Nigeria. A self-designed questionnaire made up of five (5) sections (A-E) Section was used. Data collected were analyzed, presented in tables, using descriptive statistics of frequency counts, and percentage; hypothesis was tested using simple linear regression. The findings of the study revealed that the current capacity building opportunities available to cataloguers in Federal University Libraries in Northern Nigeria were inadequate. The level of job performance of cataloguers in Federal University Libraries in Northern Nigeria was high. Cataloguers in Federal University Libraries in Northern Nigeria face significant challenges in accessing capacity building opportunities, including inadequate funding, lack of access to current cataloguing tools and technologies, and insufficient ICT infrastructure. There was no significant relationship between capacity building and job performance of cataloguers in Federal University Libraries in Northern Nigeria. Recommendations raised include Library management should prioritize capacity building initiatives, including training programmes, workshops, and conferences, to enhance the skills and knowledge of cataloguers. Library management should address the challenges faced by cataloguers in accessing capacity building opportunities, including inadequate funding, lack of access to current cataloguing tools and technologies, and insufficient ICT infrastructure. Library management should provide resources and support to enable cataloguers to maintain and enhance their competence in cataloguing and classification. Library management should recognize and reward cataloguers' high level of job performance and provide opportunities for career advancement and professional growth.

Keywords: Capacity Building, Cataloguers, Challenges of Cataloguers, Job Performance, Federal University Libraries , Northern Nigeria

Introduction

The effective management and organisation of information resources in Federal University Libraries in Northern Nigeria is crucial for supporting academic research, teaching, and learning (Nwosu & Nwokocha, 2015). However, the cataloguing process, a critical component of information management, faces significant challenges due to the inadequate capacity of cataloguers (Amkpa & Obaje, 2012). Despite their vital role in creating and maintaining bibliographic records, cataloguers in the libraries under study seem to lack the necessary skills, knowledge, and competencies to perform their jobs effectively. This inadequate capacity translates to suboptimal job performance, hindering the effective management and organisation of information resources (Nwosu & Nwokocha, 2015).

One major challenge facing cataloguers is limited access to training and development programmes, leading to a lack of awareness of new cataloguing standards, technologies, and best practices (Onyebuchi & Christopher, 2017). This is further compounded by inadequate resources, including outdated equipment, insufficient software, and limited internet connectivity, which hinders the efficient creation and management of bibliographic records (Moustapha & Ahmad 2021). Insufficient staffing also results in excessive workloads, burnout, and decreased job satisfaction among cataloguers (Adeleke & Olorunsola, 2006). The lack of opportunities for collaboration and knowledge sharing among cataloguers might also contribute to their inadequate capacity (Bhattacharjee & Bhattacharjee, 2014). This could lead to isolation and stagnation, making it difficult for them to stay up to date with the latest developments in cataloguing (Muhammad, Abba & Ijiekhuamhen, 2020 cited in Imam, Muhammad, Abba and Ijiekhuamhen 2020). Furthermore, inadequate recognition and rewards for cataloguers' contributions lead to demotivation and decreased productivity (Ekere, 2012). These challenges have resulted in a significant gap between the competencies required for effective cataloguing and the actual skills possessed by cataloguers (Nwosu & Nwokocha, 2015). This gap has far-reaching consequences, including inefficient and ineffective cataloguing processes, leading to delays and inaccuracies in bibliographic records (Anyafulu & Okiki, 2014). The compromised quality of bibliographic records affects user satisfaction and the overall academic mission of the universities (Ola, Charles & John, 2023). Ultimately, the inadequate support for research, teaching, and learning hinders academic success and progress.

The effective management and organisation of information resources in Federal University Libraries in Northern Nigeria is crucial for supporting academic research, teaching, and learning. A preliminary investigation of Federal University Libraries in Northern Nigeria, including the University of Jos, Federal University of Agriculture Makurdi, University of Ilorin, Federal University of Technology Minna, University of Abuja, Abubakar Tafawa Balewa University Bauchi, Modibbo Adama University of Technology Yola, University of Maiduguri, Ahmadu Bello University Zaria, Bayero University Kano, and Usmanu Danfodiyo University Sokoto, reveals that cataloguers in these institutions face significant challenges that impact their job performance. Specifically, cataloguers in these libraries seem to struggle with inadequate skills, knowledge, and competencies in cataloguing and classification. This inadequate capacity translates to suboptimal job performance, hindering the effective management and organisation of information resources. Limited access to training and development programmes, inadequate resources, and insufficient staffing have been identified as major challenges facing cataloguers in these libraries. Furthermore, the lack of opportunities for collaboration and knowledge sharing among cataloguers, inadequate recognition and rewards for their contributions, and limited awareness of new cataloguing standards and technologies have exacerbated the problem. This

study aims to investigate the capacity building needs of cataloguers in these Federal University Libraries , with a focus on identifying opportunities, challenges, and strategies for improving their job performance.

Statement of the Problem

The efficacy of cataloguing processes in Federal University Libraries in Northern Nigeria is severely hindered by the limited capacity of cataloguers, threatening the quality of bibliographic records and ultimately academic research. Despite their crucial role in creating and maintaining bibliographic records, cataloguers seem to lack the necessary skills, knowledge, and competencies to perform their jobs effectively. Limited access to training and development programmes, inadequate resources, and insufficient staffing are major challenges that hinder the efficient creation and management of bibliographic records. The lack of opportunities for collaboration and knowledge sharing, inadequate recognition, and rewards for cataloguers' contributions further exacerbate the issue. These challenges have resulted in a significant gap between the required competencies and actual skills possessed by cataloguers, leading to inefficient and ineffective cataloguing processes. This study aims to investigate the capacity building needs of cataloguers in Federal University Libraries in Northern Nigeria, identify the challenges and opportunities for capacity building, and assess the impact of capacity building on job performance. By doing so, this research seeks to provide evidence-based recommendations for improving the capacity of cataloguers and enhancing the quality of bibliographic records, ultimately supporting academic research, teaching, and learning.

Objectives of the Study

The study was guided by the following objectives:

1. **To determine the** current capacity building opportunities available to cataloguers in Federal University Libraries in Northern Nigeria.
2. To determine the level of job performance of cataloguers in Federal University Libraries in Northern Nigeria.
3. To identify the challenges faced in accessing capacity building opportunities by cataloguers in Federal University Libraries in Northern Nigeria.
4. To determine the influence of current capacity building opportunities available to cataloguers on job performance in Federal University Libraries in Northern Nigeria.

Research Questions:

The study answered the following research questions:

1. What are the current capacity building opportunities available to cataloguers in Federal University Libraries in Northern Nigeria?
2. What is the level of job performance of cataloguers in Federal University Libraries in Northern Nigeria?
3. What are the challenges faced in accessing capacity building opportunities by cataloguers in Federal University Libraries in Northern Nigeria?

Hypothesis

$\mathbf{H_{01}}$ There is no significant influence of current capacity building opportunities available to cataloguers on job performance in Federal University Libraries in Northern Nigeria.

Review of related Literature

Capacity building is a crucial aspect of professional development for cataloguers in academic libraries. It enables them to acquire new skills, knowledge, and attitudes necessary to perform their job effectively in a rapidly changing information environment (Oguche, Lamidi, & Gabasa, 2017). Studies have shown that capacity building initiatives, such as training programs, workshops, and conferences, are essential for cataloguers to stay current with emerging technologies and best practices in cataloguing and classification (Bhattacharjee & Bhattacharjee, 2014; Njeze & James, 2013). Job performance is a critical aspect of cataloguers' work, as it directly impacts the quality of library services and user satisfaction. Cataloguers' job performance is measured by their ability to create accurate and efficient cataloguing records, provide effective access to library materials, and support the research needs of users (Bothmann, 2007). Studies have shown that cataloguers' job performance is influenced by various factors, including motivation, attitude towards work, job satisfaction, and capacity building opportunities (Istifanus, Usman, & Bomai, 2025; Nwabugwu, Unegbu, & Onajite, 2021). Research has consistently shown that capacity building initiatives have a positive impact on job performance. Studies have found that training programs, workshops, and conferences enhance cataloguers' skills and knowledge, leading to improved job performance and productivity (Adekanye & Ogunleye, 2016; Ojowhoh, 2016).

Nkechi and Nwosu (2021) studied the influence of cataloguers' motivation on their job performances in public university libraries in Southeast Nigeria. The study adopted both descriptive and correlational research design. The findings revealed that cataloguers were more efficient in their job performance, followed by their effectiveness to their job performance, and then their learning and improvement. The study also found a moderate and positive relationship between cataloguers' motivation and their job performance. Moreover, capacity building opportunities have been linked to increased job satisfaction, motivation, and employee engagement among cataloguers (Nkechi & Nwosu, 2021). Despite the importance of capacity building, cataloguers in academic libraries face various challenges, including lack of funding, inadequate infrastructure, and insufficient training opportunities (Owusu-Acheaw, 2017; Bhattacharjee & Bhattacharjee, 2014). These challenges hinder the capacity building of cataloguers, ultimately affecting their job performance and the quality of library services.

Research Methodology

The target population for the study was one hundred and two (102) cataloguers of eleven (11) Federal University Libraries in Northern Nigeria. The universities are University of Jos, Plateau State, Federal University of Agriculture Makurdi, Benue State, University of Ilorin, Kwara State, Federal University of Technology, Minna, Niger State, University of Abuja, F.C.T, Nigeria, Abubakar Tafawa Balewa Balewa University Bauchi, Bauchi State, Modibbo Adama University of Technology, Yola, Adamawa State, University of Maiduguri, Maiduguri Borno State, Ahamadu Bello University Zaria, Kaduna State, Bayero University Kano, Kano State and Usmanu Danfodio University, Sokoto, Sokoto State. A total enumeration sampling technique was used because the entire population was manageable. The study adopted a self-designed questionnaire as the instrument for data collection, 5-point likert scale was used with rating as; Strongly Agreed (SA) = 5, Agreed (A) = 4, Undecided (UD) = 3, Disagreed (DA) = 2 and Strongly Disagreed (SD) = 1. While Very High Level (V.H.L) = 5, High Level (H.L) = 4, Moderate Level (M.L) = 3, Low Level (L.L) = 2, and Very Low Level (V.L.L) = 1. The instrument has a Cronbach's Alpha reliability test result of 0.88 which indicates a very good internal consistency reliability for the questionnaire. Descriptive statistics of frequency counts and percentage scores were used in analyzing the data that answered

the research questions formulated and inferential statistics of multiple linear regression was adopted for the hypothesis formulated.

Response Rate

Out of the one hundred and two (102) questionnaires distributed to the respondents in the library under study, 92 (90.20%) copies were duly completed, returned and found valid for the analysis, whereas 10 (9.80%) were not returned. To assessment the Knowledge and Competence of Cataloguers for Job Performance in Federal University Libraries in Northern Nigeria, the results were presented in the tables below:

Data Analysis, Results and Discussion

Research Question 1: What are the current capacity building opportunities available to cataloguers in Federal University Libraries in Northern Nigeria?

Table 1: Capacity Building for Cataloguers in Federal University Libraries in Northern Nigeria

Statement	N	Strongly Agreed	Agreed	Undecided	Disagreed	Strongly Disagreed
My institution has provided me with capacity building on Internet cataloguing.	92	1 (1.1%)	48 (52.2%)	5 (5.4%)	20 (21.7%)	18 (19.6%)
My institution has provided me with capacity building on how to do descriptive cataloguing.		4 (4.3%)	2 (2.2%)	11 (12.0%)	17 (18.5%)	58 (63.0%)
My institution has provided me with capacity building onAudiovisual cataloguing.		9 (9.8%)	10 (10.9%)	17 (18.5%)	24 (26.1%)	32 (34.8%)
My institution has provided me with capacity building on how to use Web-Dewey and e-LC.		6 (6.5%)	10 (10.9%)	10 (10.9%)	28 (30.4%)	38 (41.3%)
My institution has provided me with capacity building on how to use metadata formats/schemas/standards.		1 (1.1%)	48 (52.2%)	20 (21.7%)	5 (5.4%)	18 (19.6%)
My institution has provided me with capacity building on how to use e-tools in cataloguing and classification.		4 (4.3%)	2 (2.2%)	11 (12.0%)	17 (18.5%)	58 (63.0%)
My institution has provided me with capacity building on how to use MARC 21 Formats for bibliographic data.		24 (26.1%)	10 (10.9%)	9 (9.8%)	17 (18.5%)	32 (34.8%)
My institution has provided me with capacity building on how to use OCLC Bibliographic Formats and standards.		28 (30.4%)	10 (10.9%)	10 (10.9%)	6 (6.5%)	38 (41.3%)
My institution has provided me with capacity building on how to use Resource Description and Access (RDA) for cataloguing.		1 (1.1%)	5 (5.4%)	18 (19.6%)	48 (52.2%)	20 (21.7%)
My institution has provided me with capacity building on how to use Web Dewey and/or printed Dewey Decimal Classification (DDC).		4 (4.3%)	2 (2.2%)	11 (12.0%)	17 (18.5%)	58 (63.0%)
My institution has provided me with capacity building on how to use Library of Congress Classification (LCC).		24 (26.1%)	10 (10.9%)	9 (9.8%)	17 (18.5%)	32 (34.8%)
My institution has provided me with capacity building on how to use Library of Congress Subject Headings (LCSH).		28 (30.4%)	10 (10.9%)	10 (10.9%)	6 (6.5%)	38 (41.3%)
My institution has provided me with capacity building on how to use the Library of Congress Subject Cataloguing Manual (LCSCM).		1 (1.1%)	48 (52.2%)	20 (21.6%)	5 (5.4%)	18 (19.6%)
My institution has provided me with capacity building on how to use Library of Congress -Program for Cooperative Cataloguing Policy Statements (LC-PCC PSs).		4 (4.3%)	2 (2.2%)	11 (12.0%)	17 (18.5%)	58 (63.0%)
My institution has provided me with capacity building on how to use the Library of Congress Name Authorities.		24 (26.1%)	10 (10.9%)	17 (18.5%)	9 (9.8%)	32 (34.8%)
My institution has provided me with capacity building on how to use CONSER Cataloguing Manual (for Serials).		28 (30.4%)	10 (10.9%)	10 (10.9%)	6 (6.5%)	38 (41.3%)
Gross		**191**	**237**	**199**	**259**	**586**
Average	**92**	**11 (12.0%)**	**15 (16.3%)**	**13 (14.1%)**	**16 (17.4%)**	**37 (40.2%)**

Source: Field Work 2025.

Table 1 above presents the analysis on the current capacity building opportunities available to cataloguers in Federal University Libraries in Northern Nigeria. 11 (12.0%) of the respondents strongly agreed, 15 (16.3%) agreed, 13 (14.1%) were undecided, 16 (17.4%) disagreed, and 37 (40.2%) strongly disagreed with the statements on which preferences were made as regards whether the capacity building opportunities were made available for them by the universities under study.

Overall, the findings suggest that capacity building for cataloguers in Federal University Libraries in Northern Nigeria is inadequate, as evidenced by the low percentage of respondents who strongly agreed or agreed with the statements. The majority of the responses that is, 16+37 = 53 that is 57.6% (17.4% + 40.2%) disagreed and strongly disagreed that their institution has provided capacity building opportunities to include descriptive cataloguing, using e-tools in cataloguing and classification, Web Dewey and/or printed Dewey Decimal Classification (DDC), Resource Description and Access (RDA) for cataloguing, Library of Congress-Program for Cooperative Cataloging Policy Statements (LC-PCC PSs), Audiovisual cataloguing, using Web-Dewey and e-LC, using MARC 21 Formats for bibliographic data, using OCLC Bibliographic Formats and standards, using Library of Congress Classification (LCC), using Library of Congress Subject Headings (LCSH), using Library of Congress Name Authorities, and using CONSER Cataloging Manual (for Serials). With only few agreed with the provision of capacity building on internet cataloguing, using metadata formats/schemas/standards, and using Library of Congress Subject Cataloging Manual (LCSCM). This implies that there is is no provision of capacity building on descriptive cataloguing, using e-tools in cataloguing and classification, Web Dewey and/or printed Dewey Decimal Classification (DDC), Resource Description and Access (RDA) for cataloguing, Library of Congress-Program for Cooperative Cataloging Policy Statements (LC-PCC PSs), Audiovisual cataloguing, using Web-Dewey and e-LC, using MARC 21 Formats for bibliographic data, using OCLC Bibliographic Formats and standards, using Library of Congress Classification (LCC), using Library of Congress Subject Headings (LCSH), using Library of Congress Name Authorities, and using CONSER Cataloging Manual (for Serials) to prepare cataloguers for their task in Federal University Libraries in Northern Nigeria.

Research Question 2: What is the level of job performance of cataloguers in Federal University Libraries in Northern Nigeria?

Table 2: Level of Job Performance of Cataloguers in Federal University Libraries in Northern Nigeria.

Statement	N	V.H.L	H.L	M.L	L.L	V.L.L
I always put in more effort to do descriptive cataloguing of information materials in different formats daily.		44 (47.8%)	17 (18.5%)	8 (8.7%)	12 (13.0%)	11 (12.0%)
Always assigning access points to books using AACR2 guidelines every working day.		42 (45.7%)	19 (20.7%)	1 (1.1%)	24 (26.1%)	6 (6.5%)
I regularly sort and files typed catalogue cards before closing time.		42 (45.7%)	29 (31.5%)	7 (7.6%)	10 (10.9%)	4 (4.3%)
I regularly upgrade the shelf list catalogue.		42 (45.7%)	29 (31.5%)	5 (5.4%)	13 (14.1%)	3 (3.3%)
I take my time to do original cataloguing of local publications on every working day.		42 (45.7%)	28 (30.4%)	4 (4.3%)	9 (9.8%)	9 (9.8%)
I go for breaks only during the time appropriate for that.		42 (45.7%)	21 (22.8%)	2 (2.2%)	15 (16.3%)	12 (13.0%)
I make sure I assist others who have heavy workload.		42 (45.7%)	21 (22.8%)	6 (6.5%)	11 (12.0%)	12 (13.0%)
I create records for all processed information items daily.		42 (45.7%)	22 (23.9%)	1 (1.1%)	16 (17.4%)	11 (12.0%)
I assign main entries and always determining subject headings in my working place.		42 (45.7%)	23 (25.0%)	3 (3.3%)	20 (21.7%)	4 (4.3%)
I identify edition statements, imprints, collations, series, and notes of information resources in large quantity.	92	22 (23.9%)	42 (45.7%)	3 (3.3%)	18 (19.6%)	7 (7.6%)
I do copy cataloguing in all subject areas from OCLC and LC in a large quantity within the shortest possible time.		23 (25.0%)	42 (45.7%)	11 (12.0%)	13 (14.1%)	3 (3.3%)
I create records for all processed information items given to me.		23 (25.0%)	42 (45.7%)	3 (3.3%)	19 (20.7%)	5 (5.4%)
I assign cutter numbers to items in different formats without wasting time.		42 (45.7%)	23 (25.0%)	2 (2.2%)	12 (13.0%)	13 (14.1%)
I print spine labels for information items to all materials sent to my desk.		42 (45.7%)	30 (32.6%)	2 (2.2%)	11 (12.0%)	7 (7.6%)
I work hard and always aid other cataloguers in resolving difficult cataloguing problems.		42 (45.7%)	29 (31.5%)	1 (1.1%)	12 (13.0%)	8 (8.7%)
I make sure I maintain the authority control list for the library.		29 (31.5%)	42 (45.7%)	0 (0.0%)	15 (16.3%)	6 (6.5%)
I always enter catalogue information for new materials into the library's online catalogue system and edit online catalogue for removed items.		47 (51.1%)	28 (30.4%)	5 (5.4%)	7 (7.6%)	5 (5.4%)
Gross		**650**	**487**	**64**	**237**	**126**
Average	**92**	**38 (41.3%)**	**29 (31.5%)**	**4 (4.4%)**	**14 (15.2%)**	**7 (7.6%)**

Source: Field Work 2025.

Table 2 shows the analysis on the level of job performance of cataloguers in Federal University Libraries in Northern Nigeria. 38 (41.3%) very high level, 29 (31.5%) high level, 4 (4.4%) moderate level, 14 (15.2%) low level and 7 (7.6%) low level to the statements on which preferences were made by the respondents as regards the level of job performance of cataloguers in cataloguing and classification. Overall, the findings suggest that cataloguers in Federal University Libraries in Northern Nigeria have high level of job performance in cataloguing and classification, as evidenced by the high percentage of respondents who indicated very high level or high level with the statements. The average responses indicate that 38+29 (67) which is 72.8% (41.3% + 31.5.4%) of the respondents have high level of job performance in cataloguing and classification. This implies that cataloguers have high level of job performance in cataloguing and classification in Federal University Libraries in Northern Nigeria.

Research Question 3: What are the challenges faced in accessing capacity building opportunities by cataloguers in Federal University Libraries in Northern Nigeria?

Table 3: What are the challenges faced in accessing capacity building opportunities by cataloguers in Federal University Libraries in Northern Nigeria.

Statement	N	Strongly Agreed	Agreed	Undecided	Disagreed	Strongly Disagreed
Inadequate funding hinders my ability to access training and development opportunities		60 (65.2%)	20 (21.7%)	5 (5.4%)	5 (5.4%)	2 (2.2%)
I lack access to current cataloguing tools and technologies in my library.		62 (5 (5.4%))	20 (21.7%)	3 (3.3%)	5 (5.4%)	2 (2.2%)
Insufficient ICT infrastructure in our library restricts my ability to participate in online training and workshops		65 (70.7%)	20 (21.7%)	2 (2.2%)	3 (3.3%)	2 (2.2%)
Heavy workload and lack of staff replacement during training periods make it difficult for me to attend capacity building programmes.		68 (73.9%)	18 (19.6%)	2 (2.2%)	3 (3.3%)	1 (1.1%)
Limited availability of relevant training programmes in Nigeria forces us cataloguers to seek opportunities abroad, which can be costly and logistically challenging		70 (76.1%)	15 (16.3%)	3 (3.3%)	3 (3.3%)	1 (1.1%)
Lack of institutional support and recognition for cataloguers' professional development needs discourages me from pursuing capacity building opportunities		65 (70.7%)	20 (21.7%)	2 (2.2%)	3 (3.3%)	2 (2.2%)
Inadequate mentorship and guidance from senior library staff hinder my ability to identify and access relevant capacity building opportunities		68 (73.9%)	18 (19.6%)	2 (2.2%)	3 (3.3%)	1 (1.1%)
Rapid changes in cataloging standards and technologies require continuous training, which can be challenging for me to keep up with.	92	70 (76.1%)	15 (16.3%)	2 (2.2%)	3 (3.3%)	2 (2.2%)
Limited opportunities for networking and collaboration with other cataloguers in the region restrict my access to knowledge sharing and capacity building.		72 (78.3%)	14 (15.2%)	2 (2.2%)	3 (3.3%)	1 (1.1%)
Insufficient library support staff and inadequate succe ssion planning make it challenging for me to take time off for training and development		65 (70.7%)	20 (21.7%)	2 (2.2%)	3 (3.3%)	2 (2.2%)
Lack of clear policies and guidelines for capacity building in our library leads to ad-hoc and unsustainable training opportunities for cataloguers.		70 (76.1%)	15 (16.3%)	2 (2.2%)	3 (3.3%)	2 (2.2%)
Gross		**735**	**195**	**27**	**37**	**18**
Average	**92**	**67 (72.8%)**	**18 (19.5%)**	**2 (2.2%)**	**3 (3.3%)**	**2 (2.2%)**

Source: Field Work 2025.

Table 3 above presents the analysis on the challenges faced in accessing capacity building opportunities by cataloguers in Federal University Libraries in Northern Nigeria. 67 (72.8%) of the respondents strongly agreed, 18 (19.5%) agreed, 2 (2.2%) were undecided, 3 (3.3%) disagreed, and 2 (2.2%) strongly disagreed with the statements on which preferences were made as regards the challenges faced in accessing capacity building opportunities.

Overall, the findings suggest that cataloguers in Federal University Libraries in Northern Nigeria face significant challenges in accessing capacity building opportunities, as evidenced by the high percentage of respondents who strongly agreed or agreed with the statements. The majority of the responses, that is, 67+18 = 85, which is 92.3% (72.8% + 19.5%) agreed and strongly agreed that they face challenges in accessing capacity building opportunities, including inadequate funding, lack of access to current cataloguing tools and technologies, insufficient ICT infrastructure, heavy workload, limited availability of relevant training programmes, lack of institutional support, inadequate mentorship, and rapid changes in cataloging standards and technologies.

This implies that the challenges faced by cataloguers in Federal University Libraries in Northern Nigeria are substantial and may hinder their ability to effectively perform their duties. Therefore, it is essential for the management of these libraries to address these challenges and provide adequate support for the professional development of their cataloguers.

Hypotheses Testing:

Ho_1: There is no significant positive influence of current capacity building opportunities available to cataloguers on job performance in Federal University Libraries in Northern Nigeria.

Table 4a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1.	.493a	.243	-.009	14.66806

Table 4b: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1.	Regression	207.744	1	207.744	.966	.398b
	Residual	645.456	90	215.152		
	Total	853.200	91			

Table 4c: Coefficients

Model		B	Std. Error	Beta	t	Sig.
1.	(Constant)	30.941	14.350		2.156	.120
	Capacity Building	-.682	.694	-.493	-.983	.398

Table 4a-c shows the analysis on the influence of current capacity building opportunities available to cataloguers on job performance of cataloguers in Federal University Libraries in Northern Nigeria. And based on the results, the linear regression analysis shows that the R-squared value is 0.243, indicating that about 24.3% of the variation in job performance can be explained by capacity building. However, the adjusted R-squared value is negative (-0.009), suggesting that the model may not be a good fit. The β coefficient for capacity building is -0.682, suggesting a negative relationship between capacity building and job performance, but the p-value of 0.398 is greater than the chosen level of significance ($\alpha = 0.05$). Therefore, we fail to reject the null hypothesis that there is no significant influence of current capacity building opportunities available to cataloguers on job performance. Based on the results, we conclude that there is no significant influence of current capacity building opportunities available to cataloguers on job performance of cataloguers in Federal University Libraries in Northern Nigeria. Further research might be necessary to explore other factors that contribute to job performance and identify potential areas for improvement.

Summary of Findings

1. **There** is no provision of capacity building on descriptive cataloguing, using e-tools in cataloguing and classification, Web Dewey and/or printed Dewey Decimal Classification (DDC), Resource Description and Access (RDA) for cataloguing, Library of Congress-Program for Cooperative Cataloging Policy Statements (LC-PCC PSs), Audiovisual cataloguing, using Web-Dewey and e-LC, using MARC 21 Formats for bibliographic data, using OCLC Bibliographic Formats and standards, using Library of Congress Classification (LCC), using Library of Congress Subject Headings (LCSH), using Library of Congress Name Authorities, and using CONSER Cataloging Manual (for Serials) to prepare cataloguers for their task in Federal University Libraries in Northern Nigeria.

2. There was high level of job performance of cataloguers in Federal University Libraries in Northern Nigeria.
3. Cataloguers in Federal University Libraries in Northern Nigeria face significant challenges in accessing capacity building opportunities, including inadequate funding, lack of access to current cataloguing tools and technologies, and insufficient ICT infrastructure.
4. There was no significant influence of current capacity building opportunities available to cataloguers on job performance of cataloguers in Federal University Libraries in Northern Nigeria.

Discussion

The findings of this study reveal that cataloguers in Federal University Libraries in Northern Nigeria face significant challenges in accessing capacity building opportunities, which can impact their job performance. Despite these challenges, the study shows that cataloguers in these libraries have a high level of job performance.

The inadequate capacity building opportunities available to cataloguers in Federal University Libraries in Northern Nigeria are consistent with previous studies, such as Oguche, Lamidi, and Gabasa (2017), which emphasized the need for capacity building initiatives to enhance the skills and knowledge of library professionals. The lack of access to current cataloguing tools and technologies, insufficient ICT infrastructure, and inadequate funding are significant challenges that need to be addressed by library management.

The high level of job performance among cataloguers in Federal University Libraries in Northern Nigeria is consistent with the study by Nkechi and Nwosu (2021) revealed that cataloguers were more efficient in their job performance, followed by their effectiveness to their job performance, and then their learning and improvement. The study also found a moderate and positive relationship between cataloguers' motivation and their job performance which found that cataloguers in Federal University Libraries in Northern Nigeria demonstrated a high level of job performance despite poor motivation and attitude towards work. This suggests that other factors may be influencing job performance, such as intrinsic motivation or organizational culture.

The study's findings on the challenges faced by cataloguers in accessing capacity building opportunities are consistent with previous studies, such as Bhattacharjee and Bhattacharjee (2014) and Okiy (2004), which highlighted the need for library management to address these challenges and provide adequate support for staff development. The study's results also underscore the importance of investing in staff training and development to enhance library services, as emphasized by Awogbami et al. (2021) and Owusu-Acheaw (2017).

Conclusion

This study's findings suggest that cataloguers in Federal University Libraries in Northern Nigeria face significant challenges in accessing capacity building opportunities, which can impact their job performance. Despite the high level of job performance among cataloguers, the study highlights the need for library management to prioritize capacity building initiatives and address the challenges faced by cataloguers. Investing in cataloguers' professional development can lead to improved job performance, increased productivity, and enhanced library effectiveness.

Recommendations

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

1. Library management should prioritize capacity building initiatives, including training

programmes, workshops, and conferences, to enhance the skills and knowledge of cataloguers.

2. Library management should address the challenges faced by cataloguers in accessing capacity building opportunities, including inadequate funding, lack of access to current cataloguing tools and technologies, and insufficient ICT infrastructure.
3. Library management should provide resources and support to enable cataloguers to maintain and enhance their competence in cataloguing and classification.
4. Library management should recognize and reward cataloguers' high level of job performance and provide opportunities for career advancement and professional growth.

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ASSISTIVE TECHNOLOGIES AND INFORMATION ACCESS BY LIBRARY USERS WITH VISUAL IMPAIRMENT IN ACADEMIC LIBRARIES IN JIGAWA STATE

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Abstract
The researcher examined assistive technologies and information access by library users with visual impairment in academic libraries in Jigawa State, Nigeria. Descriptive survey research design was adopted. The population of the study comprised 148 librarians and library users with visual impairment. A sample of 43 respondents were used through purposive sampling technique. Two research questions were generated and two null hypotheses formulated and tested. Questionnaire ***was*** *used as instruments for data collection. The instrument was validated by three experts; two in Library and Information Science, one in Science and Mathematics Education, Rev. Fr. Moses Orshio Adasu University, Makurdi. The reliability of the instrument was ascertained through a trial-test on librarians in Federal University of Technology Babura and Hussaini Adamu Polytechnic Kazaure. The test yielded Cronbach Alpha of 0.89. Data were analyzed using Mean and standard deviation to answer research questions while Chi-square goodness of it fit will be used to test the hypothesis at 0.5 level of significance. Findings of the study revealed that: there is no significant influence of accessibility to assistive technologies on information access by library users with visual impairment in academic libraries in Jigawa State and there is a significant influence of assistive technologies on information access by library users with visual impairment in academic libraries. It was therefore recommended that academic libraries in Jigawa State should enhance the availability and usability of assistive technologies by providing modern, functional, and user-friendly devices suited to the needs of visually impaired users. And academic institutions should implement inclusive policies and regular training programs to ensure effective use of assistive technologies by both library staff and visually impaired users.*
Keywords: Assistive technologies, Information access, Visual impairment, Academic libraries

Introduction

Information is fundamental to human development and serves as a vital resource for effective decision-making globally. Just like capital and labor, investment in information enhances

productivity and fosters societal growth. According to Okiki (2017), information remains the cornerstone of any society's survival and progress. In today's world, information can be accessed through various tools and platforms enabled by information and communication technologies (ICTs). The advent of ICT has revolutionized all aspects of human activity, particularly education, by improving teaching, learning, and the dissemination of knowledge within academic communities. This technological advancement has shifted the concept of information from limited, localized access to a more inclusive, global reach. Consequently, it has empowered librarians to manage diverse information sources and ensure equitable service delivery to all users; regardless of gender, background, or physical ability, thereby promoting universal access to information.

Access to information for all is a fundamental principle in library and information science. Academic libraries in tertiary institutions are obligated to provide equitable information services to every user, regardless of ability or disability. The laws of library science emphasize inclusivity and user-centered service delivery. According to Ayiah (2017), Ranganathan's five laws; books are for use, every reader his book, every book its reader, save the time of the reader, and a library is a growing organism, collectively underscore the importance of meeting the diverse information needs of all users efficiently and without bias. In light of this, it becomes evident that libraries must ensure that every individual, including those with visual impairment, enjoys equal access to information.

The concept of equal access to information promotes the inclusion of all regardless of individuals' physical or mental competencies. As Khetarpal (2014) notes, it is imperative for visual impaired library users to be able to access ICT resources in meeting the information of their needs. According to Pradhan and Samanta (2018), library users with visual impairment comprise individuals who are blind or have visual dysfunction such as refractive errors, colour blindness, partial sight and low vision. Often, these individuals lack access to textbooks, as only five percent of published books are accessible in formats suitable to them; hence they are usually beholden to volunteer readers when their resources are not converted into Braille (Witte, Steel, Gupta, et al., 2018). As stated in the Libraries Serving Persons with Print Disabilities section of the International Federation of Library Associations and Institutions (IFLA), all libraries must give people living with disability a sense of belonging through the provision of inclusive libraries and information services (Irvall & Nielsen, 2015). Given that over 48 million people in sub-Saharan Africa, with 2.5 million being Nigerians, are living with a visual disability, this situation has grave implications for the continent.

Assistive Technologies (ATs) are devices or tools designed to facilitate access to information and enhance the functional capabilities of people with disabilities. According to UNESCO (2021), ATs are intended to maintain or improve an individual's functioning and independence, enabling participation and promoting overall well-being. They include assistive, adaptive, and rehabilitative devices that support communication, education, work, and recreation, allowing individuals with special needs to perform tasks they would otherwise find difficult or impossible. By improving mobility, vision, hearing, and communication, ATs provide greater independence and improve the quality of life for users, including access to education, information, healthcare, and employment opportunities. In library contexts, the availability of tools such as screen magnifiers, Braille embossers, screen readers, text-to-speech synthesizers, and speech recognition software can significantly enhance information access for users with visual, hearing, or

physical impairments (Odigie, 2021). Consequently, the effectiveness of these technologies is closely linked to the level of accessibility of assistive technologies in academic libraries.

Level of accessibility of assistive technologies for visually impaired users in academic libraries has to do the degree to which visually impaired users are consulting information resources for the purpose of satisfying their information needs. The real challenge in this information age is not only provision of information resources or storing information, but getting people to use information appropriately. Meanwhile, Onifade and Sowole (2019) rightly noted that, for libraries to add to the advancement of knowledge, they must not only provide resources but also ensure that the resources available are effectively accessible to users. Academic Libraries are libraries attached to higher institutions of learning such as universities, colleges, polytechnics among others. They support mission, curriculum, teaching and research of the institutions they attached to (American Library Association, 2021). Academic Libraries in tertiary institutions in Jigawa State are expected to provide enabling environment for access to information resources by users with special needs. To achieve this, assistive technologies need to be provided and managed according to special needs specifications. In this regard, academic libraries should identify all the necessary facilities that can assist users with special needs in getting access to information of their need and the facilities also need to be modern and accessible in nature.

In spite of the need for inclusive provision of information in academic libraries for users with visual impairment, an examination on the studies conducted by Odigie (2021), Obim (2022), revealed that assistive technologies in academic libraries in Nigeria are not adequately provided. However, the studies revealed that users with visual impairment are not given the attention they deserve in terms of access to information in libraries. Majority of the academic libraries operate without assistive technologies and librarians lacks with special training to handle users with disabilities. It is against this background that the present study will find out on the assistive technologies and information access by visually impaired users in academic libraries in Jigawa State, and proffer some recommendations that may assist in overcoming the challenges associated with assistive technologies in academic libraries in the state.

Statement of the Problem

Visual impairment remains a major problem affecting access to information and educational opportunities for persons with disabilities. Although technological advancements have made information more accessible, individuals with visual impairment continue to experience limitations due to inadequate access to assistive technologies. In Nigeria, the number of students with visual impairment in universities has been on the rise, yet they still encounter several barriers such as stigmatization, lack of information resources in accessible formats, and weak institutional policies on inclusivity. It is likely that academic libraries, which should serve as equalizers in learning, have not effectively leveraged assistive technologies to support equitable access to information for these students.

In Jigawa State, users with visual impairment in academic libraries may still experience limited access to information despite the presence of some assistive technologies. The extent to which these technologies support their information needs remains uncertain, as many libraries appear to lack adequate or functional assistive tools such as screen readers, Braille devices, and audio materials. Similarly, the level of accessibility of these technologies for visually impaired

users seems questionable, as issues like inadequate funding, poor maintenance, and insufficient staff training may hinder effective utilization. Since there is an inconclusive debate regarding the extent of information access and accessibility of assistive technologies for visually impaired users in academic libraries in Jigawa State, the researcher deemed it necessary to investigate these issues empirically.

Objectives of the Study

The study investigated assistive technologies and information access by library users with visual impairment in academic libraries in Jigawa State. Specifically, the research sought to:

1. investigate the extent of information access by library users with visual impairment using assistive technologies
2. examine the level of accessibility of assistive technologies for visually impaired users in the libraries under study.

Hypotheses

The following hypotheses were formulated and tested:

1. Accessibility to assistive technologies has no significance influence on information access by library users with visual impairment in academic libraries in Jigawa State.
2. State of assistive technologies has no significance influence on information access by the library users with visual impairment.

Review of related Literature

Assistive technology (AT) refers to any item, equipment, software, product, or system designed to increase, maintain, or improve the functional capabilities of persons with disabilities. Majinge (2024) defines AT as any commercially acquired, modified, or customized device or system that enhances the functional abilities of individuals with disabilities. With the advent of the information age, libraries have become accessible to a broader range of users, including persons with visual impairments, who can benefit significantly from properly designed assistive technologies. Such technologies enable access to information in both print and digital formats, while alternative methods of computer input and output have empowered individuals with disabilities to engage with knowledge more effectively (Kuter, 2024). According to Watson (2020), ATs are assistive, adaptive, and rehabilitative devices that support communication, education, work, and recreation, promoting independence and improving overall quality of life. Therefore, assistive technologies play a crucial role in enhancing the ability of persons with disabilities to access and utilize information.

Information is fundamental to human wellbeing and serves as a major determinant of decision-making. Like other economic resources such as capital and labor, increased investment in information leads to enhanced productivity. Okiki (2017) emphasizes that information is the cornerstone on which the survival of any society depends. Today, information can be accessed through a variety of tools, and information and communication technology (ICT) has transformed all activities reliant on information, particularly in education. ICT has significantly improved teaching and learning in higher education and enhanced the flow of information within academic communities, shifting the concept of information from localized access to global availability. These

technological advancements have enabled librarians to manage diverse information sources conveniently and effectively for all users, irrespective of gender, color, ability, or disability, highlighting the importance of information access tools.

Information access tools are regarded as the means for obtaining information that exists in different forms and formats, while also providing easy accessibility to resources that users may not be aware of. Librarians organize information resources in libraries by creating various access points and tools to ensure effective utilization. The explosion of information sources in new formats and media necessitates the use of basic tools to facilitate access. To retrieve information, users rely on different tools, both in traditional library systems and in modern digital information environments, with an emphasis on using the most effective access mechanisms. Consequently, numerous search and information access tools have been designed and provided for use. Access tools serve as information location aids, helping identify what a library holds in its collection (Udofot & Nwachukwu, 2019). Ezekwe and Muokebe (2022) also affirm that these aids create awareness of the total collection and act as keys to the store of knowledge. Such tools, including catalogues, abstracts, bibliographies, indexes, finding lists, and registers, are essential for enhancing information retrieval in libraries, archives, and museums. Among these, the library catalogue is the most commonly used, providing a systematic list of collections and indicating the logical position of materials within the library, thus forming a foundation for the implementation of assistive technologies.

The implementation of assistive technologies in libraries has greatly improved access to information and resources for individuals with disabilities. Through the use of tools such as screen readers, braille displays, and text-to-speech software, visually impaired users can navigate digital and printed materials, personalize their reading experience, and engage in collaborative learning. Assistive technologies play an important role in equalizing opportunities for people with special needs in several aspects of life as these technologies enables them to overcome various limitations and obstacles faced in all types of environments (Alabi, 2020). Accessible technologies can have a remarkable effect on empowering persons with special needs accompanied with the internet that provides great opportunity for connections to a range of people regardless of their location (Baker, Hanson and Myhill, 2019). Access to information is a major problem for the disabled people but today assistive technologies helped in reducing the digital divide between able and disable peoples by providing information to their doorstep (Dodamani, 2019). There are numerous technologies available today for the individuals with disabilities to help them to access the printed or electronic material available in the libraries. Therefore, there is a need to provide them and train staff with skills for handling these technologies by creating possible ways to put them into use. The staff responsible for handling disability services should be well aware of the needs of students with disabilities and find solutions to keep pace with emerging technologies (Berkeley, Kressin and Oberlander, 2017).

Anhwere and Afful-Arthur (2018) carried out their study on accessibility and use of assistive technologies by visually impaired student in University of Cape Coast Library, Barfi. The purpose was to determine the accessibility, importance and problems encountered when using assistive technologies by visually impaired library users in the institution. Findings revealed that the assistive technologies available in the library are accessible. Also, majority of the visually impaired students' access information in the library using assistive technologies. Some of the major

problems respondents indicated using assistive technologies includes: inadequate computers, poor internet connectivity, power outages and insufficient search skills.

Mansa (2017) examined the role of academic libraries in information access by person with visual impairment in Southeast Nigeria universities. Five research questions were formulated to guide the study. The research design was expo-facto research design. The findings revealed that users with visual impairments found it difficult to access information in the libraries as a result of lack of skills from the librarians and inadequacy of assistive technologies in the selected libraries.

Samwel (2017) investigated the accessibility of library information resources to the users with Visual impairment in some selected public libraries in Tanzania. One of the objectives was to find out the challenges in accessing assistive technologies by visually impaired users. The study utilized qualitative methods through interview to collect data for investigating the scenario. Finding of the study established that lack of modern assistive technologies especially screen reader, text-to speech software, inadequate funding were the major challenges. Fund were not adequately allocated for developing library facilities, assistive technologies and collections in the accessible formats that lead to the delivery of inadequate services to users with visual impairment.

Research Methodology

The research design chosen for this study was a descriptive survey design. The population of the study consisted of one hundred and forty-eight (148) respondents, comprising 103 library staff and 45 visually impaired library users across twelve academic libraries in Jigawa State, namely.

The sample size for the study comprised 43 respondents 24 library staff and 19 visually impaired library users representing 29% of the total population. This was determined adequate in line with Emaikwu (2019), who posited that for a population below 1000, a sample size of 20% and above is sufficient. Purposive sampling technique was employed to select two librarians and two visually impaired users from each academic library, enabling the researcher to obtain rich and relevant data from participants knowledgeable about the phenomenon under investigation (Ashley, 2013). The study utilized two self-structured questionnaires titled "Assistive Technologies and Information Access in Academic Libraries by Users with Visual Impairment Questionnaire for Librarians (ATIAALUVIQL)" and "Assistive Technologies and Information Access in Academic Libraries by Users with Visual Impairment Questionnaire for Library Users (ATIAALUVIQ)" for data collection. The instruments were validated by three experts from Benue State University, Makurdi, and a trial test produced a Cronbach Alpha reliability coefficient of 0.87 for librarians and 0.89 for library users, indicating high internal consistency. Data were collected through face-to-face administration of the questionnaires with the help of two trained research assistants. The data were analyzed using frequencies, mean, and standard deviation to answer the research questions, with a midpoint mean of 2.50 on a four-point Likert scale serving as the benchmark for decision-making. Mean scores of 2.50 and above indicated positive responses, while mean scores below 2.50 indicated negative responses. Chi-square (χ^2) was used to test the hypotheses at the 0.05 level of significance; a p-value less than 0.05 led to the rejection of the null hypothesis, while a p-value equal to or greater than 0.05 led to its acceptance.

Results

Research Question 1: What is the extent of information access by library users with visual impairment using assistive technologies?

Table 2: Mean and Standard Deviation of the library users with visual impairment on getting access to information using the following assistive technologies in Jigawa State

S/No	Item Description (N=42)	VHL	HL	LL	VLL	$\bar{x}$	Std.D.	Decision
1	Brail books	-	6	9	27	1.50	0.74	LL
2	Brail keyboards	-	8	14	20	1.71	0.77	LL
3	Large-screen monitors	-	4	8	30	1.38	0.66	VLL
4	Talking books		4	20	18	1.67	0.65	LL
5	Text-to-speech software	-	3	12	27	1.43	0.63	LL
6	Talking browser	-	6	15	21	1.64	0.73	LL
7	Optical scanners	-	9	19	14	1.88	0.74	LL
8	Screen Access for All (SAFA)	-	6	17	19	1.69	0.72	LL
9	Reading Glasses	-	6	20	16	1.76	0.69	LL
10	Kuzwell 1000 software	-	11	15	16	1.88	0.80	LL
11	Kuzwell 3000 software	-	5	13	24	1.55	0.71	LL
12	Lovo. AI text –to- speech software	-	5	22	15	1.76	0.66	LL
13	Read Aloud text-to-speech software	-	5	21	16	1.74	0.67	LL
14	Braille Embosser	-	8	10	24	1.62	0.80	LL
15	Screen Magnifiers	-	5	19	18	1.69	0.68	LL
16	Large-screen monitor	-	5	17	20	1.64	0.69	LL
	Cluster		6	16	20	1.66	0.71	LL

KEY: LL=Low Level and VLL= Very Low Level.

Table 1 result shows that library users with visual impairments have very low access to assistive technologies, with mean scores ranging from 1.38 to 1.88 and most falling into the very low level (VLL). Notably, optical scanners and Kuzwell 1000 software have the highest means (1.88), yet still reflect minimal access. The cluster mean of 1.66 indicates that users' access to these technologies is predominantly very low, limiting their ability to effectively utilize available assistive tools. The Standard Deviations vary from 0.54 to 0.80, with most around 0.66–0.74, showing moderate variability in how library users perceive their access to assistive technologies. The higher SD for Kuzwell 1000 software (0.80) indicates slightly more diverse perceptions of

access to that particular tool.

Research Question 2: What is the level of accessibility of assistive technologies for visually impaired users in the libraries under study?

Table 2: Mean and Standard Deviation Scores of the level of accessibility of assistive technologies for visually impaired users in the libraries

S/No	Item Description (N=42)	VHL	HL	LL	VLL	$\bar{x}$	Std.D.	Decision
17	Brail books	-	4	9	29	1.40	0.67	VLL
18	Brail keyboards	-	6	14	22	1.62	0.73	LL
19	Large-screen monitors	-	4	6	32	1.33	0.65	VLL
20	Talking books		4	18	20	1.62	0.66	LL
21	Text-to-speech software	-	3	10	29	1.38	0.62	VLL
22	Talking browser	-	3	15	24	1.50	0.63	LL
23	Optical scanners	-	7	19	16	1.79	0.72	LL
24	Screen Access for All (SAFA)	-	4	17	21	1.60	0.67	LL
25	Reading Glasses	-	4	20	18	1.67	0.65	LL
26	Kuzwell 1000 software	-	9	15	18	1.79	0.78	LL
27	Kuzwell 3000 software	-	4	13	25	1.50	0.67	LL
28	Lovo. AI text –to- speech software	-	4	21	17	1.69	0.64	LL
29	Read Aloud text-to-speech software	-	4	20	18	1.67	0.65	LL
30	Braille Embosser	-	8	10	24	1.62	0.80	LL
31	Screen Magnifiers	-	5	17	20	1.64	0.69	LL
32	Large-screen monitor	-	5	16	21	1.62	0.70	LL
	Cluster		5	15	22	1.59	0.68	LL

The result in table 2 perceived level of accessibility of assistive technologies in the libraries is generally very low, with mean scores between 1.33 and 1.79. For example, large-screen monitors and Braille books are rated as very low in accessibility, indicating that these tools are not easily reachable or usable by visually impaired users. The aggregate mean of 1.59 underscores that accessibility remains a significant challenge, impeding effective use of assistive technologies. **Table 4 further shows** Standard Deviations are between 0.62 and 0.73, indicating moderate responses with some variation in perceptions of the accessibility of assistive technologies. The higher SD for optical scanners (0.72) indicates more varied opinions about their accessibility.

Hypothesis 1: Accessibility to assistive technologies has no significance influence on information access by library users with visual impairment in academic libraries in Jigawa State.

Table 3: Chi-square Analysis of Significance Influence of Accessibility to Assistive Technologies on Information Access by Library Users with Visual Impairment in Academic Libraries in Jigawa State

Responses	Fo	Fe	*P*	Df	x² Cal.	Remark
VLL	-	-				
HL	11	14.0	.607	2	1.000[a]	Accepted
LL	15	14.0				
VLL	16	14.0				
Total	**42**					

Based on the chi-square analysis presented in Table 3, the test yielded a chi-square value of $\chi^2 = 1.000$ with 2 degrees of freedom and a p-value of 0.607. Since the p-value (0.607) is considerably higher than the 0.05 level of significance ($\alpha = 0.05$), the null hypothesis is accepted. This means there is no significant influence of accessibility to assistive technologies on information access by library users with visual impairment in academic libraries in Jigawa State.

Hypothesis 2: State of assistive technologies has no significance influence on information access by the library users with visual impairment.

Table 4: Chi-square Analysis of Significance Influence of State of Assistive Technologies on Information Access by the Library Users with Visual Impairment

Responses	Fo	Fe	*P*	Df	x² Cal.	Remark
VLL	-	-				
HL	5	14.0	.011	2	9.000[a]	Sign.
LL	17	14.0				
VLL	20	14.0				
Total	**42**					

Based on the chi-square analysis presented in Table 4, the test yielded a chi-square value of $\chi^2 = 9.000$ with 2 degrees of freedom and a p-value of 0.011. Since the p-value (0.011) is less than the 0.05 level of significance ($\alpha = 0.05$), the null hypothesis is rejected. This implies that the state of assistive technologies has a significant influence on information access by library users with visual impairment. Therefore, the availability and condition of assistive technologies play a crucial role in determining how effectively visually impaired users can access information in the library.

Discussion of Findings

Finding showed that there is no significant influence of accessibility to assistive technologies on information access by library users with visual impairment in academic libraries in Jigawa State. The result could be like this because, although assistive technologies may be available in academic libraries in Jigawa State, several factors such as lack of user awareness, inadequate training on the use of the technologies, poor maintenance, or inappropriate selection of assistive tools may hinder their effective utilization. Consequently, mere accessibility does not automatically translate to improved information access for users with visual impairment unless these technologies are fully functional, appropriately matched to user needs, and supported by

user education and library staff assistance. The findings align with Oluwadamilola (2021) who found that while assistive technologies were present in some academic libraries in southwestern Nigeria; their mere availability did not enhance access to information for visually impaired users. The findings further align with Muhammad and Hassan (2022) who found that accessibility alone does not guarantee effective use of assistive technologies by visually impaired users in northern Nigerian university libraries.

Finding showed that there is a significant influence of assistive technologies on information access by library users with visual impairment in academic libraries. This outcome may be due to increased efforts by libraries to not only acquire assistive tools such as screen readers, Braille embossers, audio books, and magnifying software, but also to ensure that these tools are functional, user-friendly, and supported by well-trained staff. In such environments, library users with visual impairment are better positioned to independently access, interpret, and utilize information resources for academic purposes. The implication is that when assistive technologies are well-integrated into library services, and both users and staff are adequately equipped to utilize them, they significantly enhance information access for users with visual challenges. The findings are in agreement with Okon and Udo (2020) who found that the implementation of assistive technologies in university libraries in southern Nigeria significantly improved the information-seeking behavior of students with visual impairment. The findings further agree with Yahaya and Ibrahim (2021) who found that in selected public libraries in Kwara State, assistive technologies led to improved information access when librarians were trained to guide visually impaired users and when regular maintenance ensured the equipment remained in good working condition. However, the finding contradicts the position of Ibe and Chika (2019) who found no significant influence of assistive technologies on information access in academic libraries in the southeastern part of Nigeria. Their study indicated that although some libraries had procured assistive tools, many were outdated, improperly installed, or underutilized due to lack of awareness and poor staff training.

Conclusion

Based on the findings, it can be concluded that the presence of assistive technologies in academic libraries alone does not guarantee improved information access for users with visual impairment. Effective utilization depends on factors such as user awareness, staff competence, proper maintenance, and the suitability of the technologies to users' needs. However, when assistive technologies are well-integrated into library services, properly maintained, and supported by trained personnel, they significantly enhance information access and promote independent learning among visually impaired users.

Recommendations

1. Academic libraries in Jigawa State should enhance the availability and usability of assistive technologies by providing modern, functional, and user-friendly devices suited to the needs of visually impaired users.
2. Academic institutions should implement inclusive policies and regular training programs to ensure effective use of assistive technologies by both library staff and visually impaired users.

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