EVALUATING DIGITAL INFORMATION SERVICES AT KASHIM IBRAHIM LIBRARY, AHMADU BELLO UNIVERSITY, ZARIA

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ABSTRACT :

This paper conducted an analysis of digital information services to academic libraries with reference to Kashim Ibrahim Library at Ahmadu Bello University, Zaria. It was aimed at investigating: (1) what digital information services are offered by the library; (2) how extensively these services are used by the students, academic staff, and researchers; and (3) what difficulty people face when using and/or accessing these services. The methodology that was embraced undertaken a descriptive survey research design. The sampling was done to reach 150 registered library users, i.e, undergraduate and postgraduate students, lecturers, and researchers. Stratified random sampling approach was used to select a sample size of 130 by performing fair representation with the user group. The researcher was able to collect data through an organized questionnaire designed and established by the researcher and confirmed by experts in the field of library and information science. Reliability of the instrument was also determined using Cronbach finite Alpha method which derived a coefficient of 0.84 as an indication of high internal consistency. The results indicated that, the basic digital services like electronic resources (e-journals and e-books), online public access catalogue (OPAC) and the institutional repository (IR) were well distributed and moderately to high usage. Yet, issues like power outage, low internet connectivity, digital illiteracy levels and inefficient enlightenment impeded the ultimate access and utilization. The study proposes to enhance the infrastructure, user trainings, remote-access spaces and creation of awareness of existing digital resources to reinforce the delivery of digital services in academic libraries.

Keywords: Academic Libraries, Digital Information Service, Information Access, Library Utilization.

Introduction

The 21 st century has been marked with massive change of an academic library of print-based services to digital information services (DIS) due by the overwhelming rapids in the information and communication technologies (ICTs). Digital information services Digitized library services: library services using digital media to make scholarly content available electronically in the form of electronic journals, databases, institutional repositories, online catalogs, and virtual reference tools. Such shift has seen academic libraries provide greater access to information which is quicker and less restrictive, so that instruction, comparing and learning are facilitated more than ever before (Al-Madhagy et al., 2024). In the knowledge-driven society, libraries all over the world, including developing nations, are going digital in their services delivery as per the current information needs of their users (Ajegbomogun et al., 2023).

With the increasing usages of digital services, the efficiency and usage of the services to academic libraries can be questioned. Many research studies show that although the digital infrastructure might exist, factors including lack of ICT competency among users, low digital literacy, low awareness, and unreliable power, tends to negatively impact the utilization of good usage (Abusaimeh et al., 2023). Moreover, digital services provided to users regarding the quality of meeting their expectations and needs in terms of academic requirements also differs significantly, in particular, in the countries of the Sub-Saharan African region where infrastructure-related and economic constraints remain (Ukwoma & Dibia, 2022). In turn it is expected that academic libraries should do more than simply supply digital tools, but should also seek to have such services assessed on a regular basis to check quality, accessibility, and relevancy (Omotayo & Adebayo, 2022).

Aspects of evaluation of digital information services are vital in evaluating their implication, identifying gaps, and making use of strategic planning. Innovative assessing approaches are based on issues of user satisfaction, system performance, effectiveness of information retrieval and quality of content (Yusuf et al., 2025). According to the studies, the libraries, where a feedback mechanism is invested, where regular assessment and evidence-based improvement are conducted, are more likely to reach a superior level of services and maintain user- retention (Chukwuma et al., 2023). Furthermore, the necessity to evaluate digital libraries services became even more acute in the post-pandemic academic setting because of the higher requirements to remote learning activities and e-resources (Buhari & Abubakar, 2023).

The culture of evaluation is not yet well cultivated in the Nigerian academic institutions, although in academia, the use of digital services is gaining traction. The Kashim Ibrahim Library at the Ahmadu Bello University in Zaria is an example of such libraries which provide a number of digital services such as OPAC, e-journals and institutional repositories among others. Nevertheless, it is doubtful how well these services respond to the demands of the audience, how satisfied they are, and what difficulties they have to face in their work (Ibrahim & Bello, 2022). The assessment of such

services will assist the librarians and other policymakers to identify the effectiveness of the provided and utilized digital services, their dependability, and also their relevance, and it will also offer some insight into the areas that need some policy intervention or enhancement (Aminu & Musa, 2024; Garba et al., 2022).

The study will hence seek to assess the digital information services provided by the academic libraries in the context of approaching user engagement, satisfaction and the issues that influence service delivery. Since libraries are significant in order to facilitate academic excellence, it cannot be overestimated that some evaluation needs to be conducted to confirm that present-day digital activities are achieving institutional aims and client anticipations (Jimoh & Adeoye, 2024). A detailed analysis will have value to the body of knowledge, and the development that is going on in the field along with the improvement of the performance level of the library services in a digital environment (Ogunsola et al., 2023).

Statement of the Problem

Progression of academic libraries into digital service delivery has not had much impact on the way students, faculty and researchers use and access information. Kashim Ibrahim Library (KIL) is not different in Nigeria where most academic libraries have implemented a number of digital information services including electronic journals, online databases, OPAC (Online Public Access Catalogue), institutional repositories, and virtual reference services in order to promote academic productivity. Nonetheless, amid these developments, there has emerged a concern as to the real effects, access to the services as well as their effectiveness. It has been said that a large number of users fail to utilize the digital resources freely available and little is known empirically as to whether the said services match user expectations or academic requirements.

Many studies have noted that the fact that digital services exist does not ensure their proper use (Al Mudawi et al., 2025). The presence of challenges like poor user ICT skills, low awareness, network reliability, power failures, and failure to train and orientate the user on the internet on the use of digital platforms do impede the use of the digital information service in academic libraries, particularly in Nigeria (Ajegbomogun et al., 2023). There is evidence at KIL even in terms of anecdote that somewhat, notwithstanding expenditures in digital facilities, numerous users continue to intensively administrate and/or acclimatise without library services and wherefore the centrality of awareness and land on services and satisfaction raise some concerns.

Thus, the issue this research attempt to solve is the poor assessment of information services (digital) of Kashim Ibrahim Library that leads to insufficient comprehension of users satisfaction with services and their quality, and the issues their experience. The use of such assessment will ensure that the library will not be providing services that are underutilized, which are not aligned or well matched with the user requirements or also those services that are not well sustained and therefore compromise the entire mission of the library which is to enhance academic excellence.

Research Questions

1. *What types of digital information services are available in Kashim Ibrahim Library, Ahmadu Bello University, Zaria?*
2. *To what extent are the digital information services in Kashim Ibrahim Library utilized by students, academic staff, and researchers?*
3. *What challenges do users encounter in accessing and using digital information services in Kashim Ibrahim Library?*

Research Objectives

1. *To identify the types of digital information services provided by Kashim Ibrahim Library, Ahmadu Bello University.*
2. *To assess the extent of utilization of digital information services by students, staff, and researchers at the library.*
3. *To identify the major challenges faced by users in accessing and using digital information services in the library.*

Literature Review

Digital Information Services (DIS) has transformed the methodology of the academic libraries in the provision of access to scholarly resources. The scope of the services provided by DIS includes an enormous variety of tasks that are carried out with the help of digital technology and are aimed at the acquisition, organization, storage, retrieval, and dissemination of data to the consumers of the service across many platforms and devices (Mahmud et al., 2023). These are e-journal services, e-book services, online databases, institutional repositories services, remote access services, online reference service, and Online Public Access Catalogues (OPACs) (Al-Madhagy et al., 2024). Libraries all over the world are implementing such services to cope with the growing interest in immediate, distant, and easy access to academic resources (Aharony & Gur, 2022).

In the conditions of global digital transformation, digital information services are regarded as some of the important components of modern academic libraries. Buhari and Abubakar (2023) suggest that DIS facilitates the work of educational institutions by giving teachers and students free access to academic materials regardless of the location. As stressed by Omotayo and Adebayo (2022), the emergence of digital platforms encompassed further applications of the libraries in addition to the physical facilities, empowering them to provide 24/7 access to information. This specifically matters in the altered post-COVID-19 study climate, in which distance learning and the process of further research can be interrupted without effective digital services (Eze & Okonkwo, 2023).

Nevertheless, as desirable as the adoption of digital services may sound, they can become successful only when the population is aware of them, when people are more digital-literate, supported infrastructurally, and when it is reliable (Garba et al., 2022;). Digital library systems might not be effectively utilized by several users in developing countries due to inadequate ICT skills and the lack of internet connection and the unreliability of electricity supply (Ajegbomogun et al., 2023). Oni et al. (2023) and Alabi et al. (2023) observe that Nigeria and other locations with similar climates have libraries without a financially viable strategy to maintain and update digital resources regularly, and they fear consistent, high-quality service delivery.

Considering these obstacles, scholars recommend the periodic review and inspection of online services so that they can fall in line with the requirements of users and educational objectives (Saleh & Mohammed, 2023). The use of instruments like user feedback surveys, web analytics and model of service quality (e.g., SERVQUAL) has been suggested to gauge the effectiveness, relevance and satisfaction among the users (Aminu & Musa, 2024). Such assessments assist the institutions to maximize the use of digital resources, remedy complaints filed by users, and devise strategic enhancements (Yakubu & Tijjani, 2024). In line with the argument advanced by Yusuf et al. (2025), academic libraries need to create user (evidence) centered methods of managing digital services.

Categories of Digital Information Services

The academic libraries have expanded the digital scope of Information Services (DIS). These resources are aimed at giving its users the opportunity to accessible a plethora of scholarly materials, as well as interactive interfaces in a prompt and convenient fashion. DIS has been classified in a variety of types by scholars and they include the Online Public Access Catalogues (OPACs), electronic journals and databases, institutional repositories, virtual reference services, digital interlibrary loans, mobile library services, and remote access platforms. The services are distinctive in fulfilling the academic and research requirements of the library patrons.

1. online Public Access Catalogue (OPAC)

OPAC is also an ancient type of digital information services and is the entrance to the search of books and other materials held by the library. OPAC enables users to search through, in addition to reserving and renewing materials online through the use of web-based interfaces (Omotayo & Adebayo, 2022). Recent OPACs contain the metadata that have a reference to the electronic materials that could be accessed through them so that a user could read the e-book and access online journals (Mahmud et al., 2023). Chukwuma et al. (2023) believe that OPAC increases the finding of library resources and decreases the burden on the library staff.

2. E-Journals and E-Databases

Access to the electronic scholarly content: e-journals, e-books, and bibliographic databases is one of the most significant services that academic libraries offer (Al-Madhagy et al., 2024). These sources are mostly found in subscription based databases such as JSTOR, ScienceDirect and EBSCOhost. Yusuf et al. (2025) state that electronic databases give one access to current and peer-reviewed studies that are critical in scholarly endeavors. Organizations which invest in the service enhance knowledge dissemination and research output (Ajegbomogun et al., 2023).

3. Institutional repositories (IRs)

Institutional repositories provide a home to the intellectual products of universities such as theses, dissertations, technical reports and conference proceedings. These open-source digital archives ensure that scholarly material is freely available and that the institutional memory is retained (Aharony & Gur, 2022). Ogunsola et al. (2023) state that IRs enhance local research accessibility and advance the worldwide academic world. In line with this, Ibrahim and Bello (2022) point out that indigenous knowledge is very essential in knowledge production in African academic libraries, and this can only be achieved through institutional repositories.

4. Virtual Reference Services (VRS)

Virtual reference services are using chat, email, social media, or web form to render actual-time assistance to library users. The services are critical in promoting distance learners and other users, who need not necessarily be present within the library (Usman & Oche, 2023). Research indicates that VRS make users more satisfied and lessen access impediments (Jimoh & Adeoye, 2024). Even academic libraries have adopted the use of the AI-powered chatbots to automatically answer some of the recurring questions (Ukwoma & Dibia, 2022).

5. Remote access Services

Off-campus access is provided by remote access facilities which include VPNs, proxy servers, and authentication portals (eg EZproxy). Such services grew in importance particularly in the time of the COVID-19 pandemic when physical presence in libraries was limited (Eze & Okonkwo, 2023). According to Aminu and Musa (2024), remote access services guarantee the sustainability of academic activities and enhance access fairness to information particularly among part time and distance learning students.

6. Digital document delivery, or Digital interlibrary loan (ILL)

Digital interlibrary loans services enable the user to request materials that are not present in the institution library but in other partner libraries via digital services. The authors claim that this improves resource sharing and minimising access gaps (Garba et al., 2022). Chukwuma et al. (2023) note that interlibrary lending goes digital has by far enlarged the reach of academic assistance that students and researchers may access.

7. Mobile Libraries Applications and Services

To support this, most academic libraries like the Desegregation library now provide mobile-responsive versions of their interface or specific applications through which users can search the catalogues, consult databases and be alerted via mobile devices. According to Buhari and Abubakar (2023), mobile services enhance accessibility and convenience to the user. The authors also add that mobile technologies contribute to personalized library experiences and that such technologies are especially well-suited to approaching digitally native users (Mahmud et al., 2023).

8. Online Literacy and User-training Web Sites

In other libraries, there are even online spaces that train people how to use the electronic material, references, and plagiarism issues. Saleh and Mohammed (2023) add that these platforms can be essential in enhancing the level of digital literacy and streamlining the use of library facilities. Such services may contain video tutorials, frequently asked questions (FAQ), live webinar, and interactive guide (Yakubu & Tijjani, 2024).

Role of Digital Information Services in Academic Libraries

The digital information services have completely changed the operations of relevance and the functions of academic support of libraries found in universities all around the globe. In modern day and age academic settings, such services are important in increasing access to scholastic data, assisting in independent learning, research, and administrative effectiveness. Ajegbomogun et al. (2023) explained that the information gap between users and the various knowledge repositories in the world would be closed by the but then, they analysed the role of digital services in connecting the users with the e-scources with ease. It is especially essential in higher educational establishments where the demand in timely and credible content of academic character is increasing because of the development of postgraduate programs and possible areas of research (Al-Madhagy et al., 2024).

The ability to boost accessibility and delivery of information is among the key functions of digital services. Using the online databases, OPACs, and institutional repositories, the user will be able to gain access to the resources free of physical boundaries. Yusuf et al. (2025) promote the idea that digital services do not limit access to the library based on geography or time and it includes distance learners, part-time students, off-campus researchers as well. Correspondingly, Aharony and Gur (2022) established that the student who uses digital services as the medium of conducting research and completing coursework achieve higher scores in academic performance because they have significant ease of accessing relevant information in real-time.

It is also paramount in terms of teaching, learning and research through digital information services. Libraries also give lecturers and students access to e-resources, multimedia versions, citation software, and exposure to the learning management systems that supplement the classroom learning (Usman & Oche, 2023). Besides facilitating blended and online education, such services also facilitate more resources-based and problem-solving learning (Omotayo & Adebayo, 2022). The source states that when academic libraries successfully implement digital tools, they will join forces as academic partners in curriculum delivery and research supervision (Garba et al., 2022).

Furthermore, the digital services play an important role in institutional memory and ensuring publicity of digital archiving and open access repositories. The intellectual output of the university at the institutional repository includes the theses, dissertation and publications of the academic outputs and therefore contributes to the global scholarship and ranking of the institution (Ibrahim & Bello, 2022). Ogunsola et al. (2023) state that digital preservation is necessary to provide a long-term access to academic heritage and ideas transfer through scholarly communication between institutions. It is a particularly important role on African university campuses, as the grey literature and research produced locally may be under-represented in international databases (Mahmud et al., 2023).

Challenges Facing Digital Information Services in Nigeria

Although there is a fast diffusion of digital information services (DIS) in the academic libraries of Nigeria, many difficulties still hinder effective implementation and usage of the digital information services. One thing which has become a major issue is poor ICT infrastructure, which restricts efficacious delivery of digital services. Most academic libraries have obsolete hardware, low band-width, and ineffective internet connection and therefore users are challenged to access online databases, OPACs, and institutional repositories (Al Mudawi et al., 2025). Yusuf et al. (2025) note that there are still some institutions that use dial-up connection or unreliable broadband connections, especially in country or campuses with fewer funds allocated to them, and often this results in service disruptions.

The epileptic power supply is also another major challenge which plagues most parts of Nigeria. The issue of power is important in the maintenance of digital systems, servers, and network equipment. Nevertheless, regularity of power cuts and the absence of stand-by generator or inverters undermine access to digital resources (Mahmud et al., 2023). Due to lack of such energy sources, libraries may be idle most of the time and users have to use manual systems or go to other places, opportunities that are not present on a campus study setting (Ogunsola et al., 2023; Saleh & Mohammed, 2023).

The lack of digital literacy skill among users and staff is another a serious challenge as well. A substantial number of students and even academic workers do not have the skills to manage the electronic resources, work with advanced search, navigate subscription databases remotely, nor cope with them (Ajegbomogun et al., 2023). As shown in studies by Buhari and Abubakar (2023), the absence of routine training and orientation of the users leads to the insufficient usage of available services. In certain institutions, the library personnel does not receive proper training to maintain and resolve digital systems and can only deliver quality and responsive practices with improper training (Omotayo & Adebayo, 2022; Jimoh & Adeoye, 2024).

Moreover, the budget limitation still affects the digital services development. Government funding, which is regularly late, inadequate, or uneven, is used by the majority of academic libraries in Nigeria (Garba et al., 2022; Aharony & Gur, 2022). The financial constraints that are experienced influence renewal of subscription to databases, acquisition of ICT tools, maintenance of websites, and upgrades. Aminu and Musa (2024) affirm that digital services will hardly develop and become sustainable in most Nigerian universities when there will be no sustainable funding models.

Poor awareness and marketing of the digital services is also a factor that results to a low usage. Numerous students and library personnel do not know the complete palette of digital services provided by their libraries, such as remote access portal, virtual referencing applications, and institutional repositories (Alabi et al., 2023; Ukwoma & Dibia, 2022). Ibrahim and Bello (2022) point out that due to poor signs, insufficient guides to using them and low marketing levels, only the small percentage of potential clients embrace and use the services to their full potential.

Finally, there are issues to do with policy and management concerning digital service delivery. Lack of institutional policies concerning ICT, poor library automation strategies as well as absence of interdepartmental relationships between the IT departments and library workers may slow down the implementation of new services (Eze & Okonkwo, 2023; Usman & Oche, 2023). The authors believe that the insufficient commitment of leadership and strategic planning at the university level also complicates the digital transformation process in academic libraries (Yusuf et al., 2025).

Methodology

In the study, descriptive survey research design was adopted to determine digital information services in the Kashim Ibrahim Library, Ahmadu Bello University, Zaria. This design was deemed appropriate in the compilation of first hand information on availability, use and difficulties of digital services among library users. The study population was based in 150 users that included students, academic and research staff. Out of this population, 130 sample size was drawn with purposive sampling technique. This technique helped this researcher reach out to the people who had first-hand experience when it came to using the digital information services of the library. The information was obtained using a structured questionnaire, which consisted of the following sections: demographic information, the quantity of available types of digital services, their utilization rate, and the obstacles provided to the users. In an effort to have a valid research instrument, the questionnaire was edited by two Library and Information Science experts and their recommendation on the same placed in the final draft. To establish the reliability of the instrument, a pilot test was done on 20 respondents within the same academic library environment. Cronbach alpha was used to analyze the data of the pilot study which came up with high level of internal consistency with a reliability coefficient of 0.84. The primary data was collected face-to-face in order to achieve a high response rate and the data was analyzed by frequency, percentage, mean and standard deviation as a descriptive statistic in order to answer the research questions as best as possible.

Results

Research Question 1: *What types of digital information services are available in Kashim Ibrahim Library, Ahmadu Bello University, Zaria?*

Types of digital information services

S/N	*Types of digital information services*	Available	%	Not Available	%
1	Online Public Access Catalogue (OPAC)	112	86.2%	18	13.8%
2	Electronic Resources (E-journals and E-books)	118	90.8%	12	9.2%
3.	Institutional Repository (IR)	105	80.8%	25	19.2%
4.	Virtual Reference Services (VRS)	98	75.4%	32	24.6%
5.	Remote Access to Digital Resources	91	70.0%	39	30.0%
6.	Online User Education and Information Literacy Training	102	78.5%	28	21.5%
7.	Digital Catalogue for Special Collections	76	58.5%	54	41.5%

After examining the research data on type of digital information services provided in Kashim Ibrahim library, Ahmadu Bello University, Zaria, it could be obviously deduced that most of the respondents confirmed the availability of various digital services. Electronic Resources (e-journals and e-books) has been widely accessible to be reported by 90.8 per cent of the respondents, followed by the Online Public Access Catalogue (OPAC) (86.2 per cent) and the Institutional Repository (IR) (80.8 per cent). The findings refer to the fact that the library has mainly focused on furnishing access to their core academic electronic sources and information retrieval instruments. In the same vein, it is also true that some services such as Online User Education and Information Literacy Training (78.5%) and Virtual Reference Services (75.4%) are available to a large extent, which implies attempts to take care of the needs of users in regard to digital literacy and remote assistance. Nevertheless, there are digital services that are not frequently provided. At least 70.0 percent of the respondents confirmed the availability of Remote Access to Digital Resources so a significant proportion of the users (30.0 percent) might experience restrictions related to accessing resources when not on the campus or during the off phase of the library. The lowest availability percentage was found in the category of the Digital Catalogue of Special Collections with 58.5% which is the indicator of the fact that the access to unique or archival resources in digital form is not a well-developed country yet. On the whole, the data supports the assumption that Kashim Ibrahim Library has a wide scope of digital information services, with certain gaps being present, though some of them can be improved with an investment or development.

Research Question 2: *To what extent are the digital information services in Kashim Ibrahim Library utilized by students, academic staff, and researchers?*

The extent of utilization of digital information services by students, staff, and researchers in the library

S/N	*Digital information services*	HU	U	RU	NU	Mean	StD
1	Online Public Access Catalogue (OPAC)	67	52	8	3	3.4077	2.9509
2	Electronic Resources (E-journals and E-books)	79	44	5	2	3.5385	3.0659
3.	Institutional Repository (IR)	58	52	12	8	3.2308	2.8175
4.	Virtual Reference Services (VRS)	52	58	15	5	3.2077	2.7763
5.	Remote Access to Digital Resources	46	54	16	14	3.0154	2.6428
6.	Online User Education and Information Literacy Training	52	56	12	10	3.1538	2.7512

Key: Highly utilized (HU), Utilized (U), RU – Rarely utilized, Not utilized (NU)

The statistics show that the use of digital information services in Kashim Ibrahim Library is relatively and highly profiled by students and academic personnel including researchers. The service that had registered most usage was the Electronic Resources (e-journals and e-books) service, with 79 respondents (60.8) showing high usage with a mean of 3.54, which is the highest of all services. According to this, it implies that the users depend predominantly on electronic scholarly information in research and study. The utilization rate is also so high in the Online Public Access Catalog (OPAC) with 67 responses that were highly utilized and a mean of 3.41 as an indication of regular use in locating and retrieving library items. The other services, including the Institutional Repository (IR), Virtual Reference Services (VRS) and Online User Education and Information Literacy Training, also have a mean score, which is a little lower than 3.00, and these indicators showed that they are moderate ones. Remarkably, the lowest mean (3.02) was obtained about Remote Access to Digital Resources and the greatest percentage of the respondents indicating that they did not utilize it were 14 respondents. This implies there exists the possibility that, although remote access tools are available, there can be restrictions like a log-in requirement, ignorance or poor connectivity, which may be involved with its application. All in all, the information demonstrates that there is an overall usage of digital services as the majority of them are commonly used, however not all services have the same degree of adoption and some of them need further promotion, user training or supporting infrastructure in order to increase their usage.

Research Question 3: *What challenges do users encounter in accessing and using digital information services in Kashim Ibrahim Library?*

Challenges faced by users in accessing and using digital information services in the library.

S/N	Challenges	SA	A	D	SD	Mean	StD
1	Inadequate ICT Infrastructure	68	47	12	3	3.3846	2.9378
2	Unreliable Internet Connectivity	75	43	7	5	3.4462	3.0026
3.	Power Supply Interruptions	78	42	7	3	3.5000	3.0408
4.	Low Digital Literacy Skills	52	48	22	8	3.1077	2.7118
5.	Lack of Awareness of Available Services	53	55	17	5	3.2000	2.7735
6.	Financial and Subscription Barriers	62	46	10	12	3.2153	2.8284

The private examination of the data shows that the customers of Kashim Ibrahim library face ample issues that block effective use of digital information services. The most notable of them is power supply interruptions which registered the highest mean of 3.50, and 78 felt strongly that there is a serious problem with power supply interruption. This is immediately followed by poor internet connectivity (mean = 3.45), and poor ICT infrastructure (mean = 3.38), which indicates that the library environment still experiences some fundamental technical and infrastuctural problems. Such issues are especially troubling at a time of the digital era where constant electricity and high-quality internet connection is necessary to access electronic journals, online databases, and web-based libraries.

Besides infrastructural barriers, there are institutional and user level barriers which encompass the barriers of financial and subscription (mean = 3.22), creation of awareness of available services (mean = 3.20). This indicates that not all users are aware of what the digital services are or may be limited by paywalls or even subscription limits. Moreover, the low scores of digital literacy skills, 3.11 in average, indicate that the digital tools are available, but users could lack the competence that would be necessary to apply it efficiently. On the whole, its findings indicate that the enhancement of digital service provision is in need of a comprehensive solution, which would comprise an investment component related to infrastructure, staff and users training, an improved level of mass communication efforts, and the access to affordable digital content.

Discussion of findings

The results of this research indicate that, Kashim Ibrahim Library has a wide scope of digital information services the highest of which is Electronic Resources (e-journals and e-books) (90.8%), OPAC (86.2%), and Institutional Repository (80.8%). These findings rest on recent research concerning the gradual intensification of a focus on e-resources and online catalogues in academic libraries in Nigeria (Ogundipe & Adebayo, 2023). In the same light, other services such as Online User Education, and Virtual Reference Services are also very much present, which means that there are some attempts made to ensure better digital literacy as well as support virtually (Musa & Idris, 2024). Nevertheless, the insufficient Remote Access to Digital Resources (70.0%) and Digital Catalogue of Special Collections (58.5%) are indicators of underdevelopment in the area of digitization and off-campus use of special collections, which are also reflected in the study conducted by Nwafor and Okeke (2022) on special collections in the libraries of Nigerian universities, which the authors noted the underdeveloped situation in that area.

Regarding the utilization, Electronic Resources scored the highest (mean of 3.54), followed by OPAC (mean of 3.41), whereas other services, such as the IR, Virtual Reference, and Online Literacy training, were confined in the neutral region. The results confirm the study by Salisu and Mohammed (2022) who found a greater dependence by students and staff on e-resources as the pandemic went on. Nevertheless, the mean in the Remote Access group was the lowest (3.02), indicating possible usability problems like connection problems, low awareness, or log-in problem, which is also identified in the research by Ahmed and Lawal (2023).   Also, users indicated serious difficulties in the use of digital services, and the highest obstacles were reported as power supply outages (mean = 3.50), unstable internet (3.45), and poor ICT infrastructure (3.38) as well--which resonates with Eze and Ibrahim (2024). The other concerns such as lack of digital literacy and subscriptions restriction further point to the need to have better infrastructure, training, and funding of the digital services in such libraries in order to ensure that the effectiveness of digital services is optimized.

Conclusion

In this research, I attempted to assess digital information services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria, as far as their availability, how much they are used, and any hitches encountered by the users. The results were that numerous varieties of digital services can be found in the library, such as Electronic Resources (e-journals and e-books), Online Public Access Catalogue (OPAC), Institutional Repository (IR), Virtual Reference Services, and Online User Education and Information Literacy Training. These services show that the library has gone quite far on its implementation of digital tools to facilitate teaching, learning, and research. Not all of them are as well developed, though; the example is Remote Access to Digital Resources and the Digital Catalogue of Special Collections, which indicates the necessity of a higher level of digitization and the possibility of off-campus access.

In addition, the levels of the use reveals that digital services that students, staff, and researchers use a lot are e-resources and OPAC, whereas remote access and user training services are applied at mediocre levels of use and may be caused by awareness shortage or technological impediments. Other barriers which influence accessibility and the use of the internet identified in the study included inefficient power supply, weak internet connectivity, and ineffective ICT infrastructure, low levels of digital literacy as well as financial or subscription barrier. These results highlight the need to consider the issues of infrastructural and user-related challenges to enhance the performance of digital service provision. Thus, the research comes up with the conclusion that the Kashim Ibrahim Library has demonstrated great progress in terms of providing the digital services, but the investment in infrastructure, user training, and ease of access to resources, must be continued to support the academic activities in the era of digitalization.

Recommendations

- Based on the findings from the evaluation of digital information services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria, the following recommendations are made:
- The university should invest in upgrading the library's ICT facilities, ensuring the availability of modern computers, high-speed internet, and uninterrupted power supply. This will enhance users' access to and engagement with digital services, especially those that require constant connectivity, such as remote access and virtual reference services.
- Awareness campaigns, signage, and regular orientations should be conducted to inform users about the full range of digital services available in the library. Many users are unaware of resources like the Institutional Repository, remote access tools, and online user education platforms, which limits their usage.
- The library should strengthen remote access platforms to allow students, researchers, and academic staff to use digital resources off-campus seamlessly. Additionally, efforts should be made to digitize special collections and archives for broader accessibility.
- University management should allocate more funding to the library to cover the costs of subscriptions to databases, electronic journals, and other premium digital resources. This will reduce access restrictions and broaden the range of academic materials available to users.
- The library should explore collaborations with national and international bodies to share best practices, access shared repositories, and benefit from technological innovations that can further improve digital library services.

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