

Availability and Utilization of Information and Communication Technology Facilities for Service Delivery by Librarians in Academic Libraries in Adamawa State, Nigeria

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Abstract

The research investigated the availability and utilization of Information and Communication Technology (ICT) facilities for service delivery by librarians in academic libraries in Adamawa State, Nigeria. The study was guided by two objectives and two research questions: The kinds of ICT facilities available in academic libraries in Adamawa State and the types of service delivery in academic libraries in Adamawa State, Nigeria. A survey research design was adopted for the study. The population comprised 116 library staff from three selected academic libraries in Adamawa State. Out of these, 104 questionnaires were completed, returned, and found usable, resulting in an 89.7% response rate, while 12 questionnaires were invalid, representing a 10.3% non-response rate. The instruments used for data collection were a questionnaire and a checklist. Data were analyzed using availability (A), non-availability (NA), and descriptive statistics such as frequency counts and percentage scores. The findings revealed that various ICT facilities are available in academic libraries in Adamawa State for service delivery, including email, internet websites, CD-ROMs, e-journals, e-books, computers, free library online access, Wi-Fi connectivity for personal devices, audio-visual equipment, and printing, scanning, and photocopying services. The study indicated a high level of availability for all these services. However, it recommended that library management should provide ICT resources that are currently lacking, such as an online public access catalog (OPAC), e-dissertations, e-theses, e-newspapers, e-encyclopedias, and e-dictionaries. Additionally, there should be a greater emphasis on training and retraining of staff, particularly in reference services, circulation, interlibrary loans, and user education, to enhance effective service delivery.

Key words: ICT, Competence, Utilization, Librarians and Academic Libraries

Introduction

Information and communication technology can be described as all the electronic infrastructure and facilities such as hardware, software and communication links between them employed by librarians to improve and provide efficient information service delivery. The availability and

utilization of information and communication technology facilities provide the ultimate aim of information service delivery in libraries and information centers around the world and to ensure the information delivered is timely, accurate, precise and relevant. The ICT facilities performs the libraries essential routines at rapid speed which is greater than it would have been expected from a manual operation, this has positive effects on various units of the academic libraries in terms of operating automatic location of materials, retrieval, cataloguing of material, charging and discharging in the libraries. Omosor and Nelson (2017) defined ICT as computers and other technologies that are used in the acquisition, organization, storage and dissemination of information in libraries. Librarians have begun to adopt new designations to reflect their new roles as information scientists, system librarians, digital librarians and information managers (Ogunsola & Aboyade 2015). Uzohue and Yaya (2016) observed that the common theme behind ICT application in the libraries is to enhance library functions and make service delivery such as selection, acquisition, arrangement, storage, retrieval and dissemination of information relevant to users.

ICT is a catalyst for generating, processing, storing and disseminating information (Kwofie, Aigbavboa & Thwala, 2020). The library is the nerve centre of information activities; it is a depository of knowledge with varied and useful information in numerous formats. The core functions of all kinds of libraries are; acquisition, cataloguing, circulation, serials control, interlibrary loan, management and delivery of information in both electronic and traditional format. They assist in achieving the goals and objectives of their parent institutions through the provision of current and relevant information resources that are necessary for sustaining the learning, teaching, research, collaboration, other functions and activities within the institutions.

Library and Information service delivery therefore, can be said to include those activities that create, store and disseminate knowledge, skills and artifacts that define new technologies such as the Internet, E-mail, OPAC, database, MARC, etc. According to Jessica and Charles (2021) who stressed that the service delivery performance and effectiveness of any library depends not only on how the individual service performs in isolation, but also on how they interact with each other as elements of a collective system of knowledge and information dissemination and use and their interplay with other information resource bases. This research considers library and information service delivery as a synergy of library activities whose interplay enhances effective and efficient library and information service delivery consequently enhancing the researcher's scholarly communication output and the productivity of library users. The study conceptualizes library and information services as Current Awareness Services (CAS), Inter-Library Loan Services (ILLS), Reference Services (RS), Selective Dissemination of Information (SDI), Internet Services (IS) and Circulation Services (CS).

Academic libraries exist in many countries across the world including Nigeria and are often considered essential part of an educated and literate populace. Services delivery by employees in libraries is fundamental to the quality of education. Since academic libraries are saddled with the responsibility of providing free access to a wide range of resources, including books, magazines, newspapers and electronic resources such as e-books, audiobooks, and online databases. This allows people to learn about a variety of subjects and keep up with current happenings around them (Vincent, Ikonke & Ohwofasa, 2023). Accordingly, Mbofung and Popoola (2014) described library service delivery as that which involves individuals, who have expectations of the library and information science professionals in such ways as how they relate and behave towards the users, colleagues, their organizations and the entire society.

Statement of the Problem

Availability and utilization of information and Communication Technology (ICT) facilities for services delivery by librarians usually lead to effective information service delivery. However, preliminary observation by the researcher showed that some of the ICT facilities in academic libraries in Adamawa State, Nigeria are available which includes; computers, Wi-Fi connectivity for personal devices, free library online access, scanning, photocopying and printing services but seem not to be utilized and covered with dust showing sign of abandonment. However, some of the major challenges discovered against efficient service delivery in academic libraries in Adamawa State, Nigeria are; inadequate qualified numbers of staff (Librarians) to manage the available ICT facilities, erratic power supply and lack of funds among many others. It might be possible that these factors may not be effective on their own without good ICT skills. Therefore, ICT skills could however be significant factors that may influence service delivery in academic library in Adamawa State, Nigeria. This has further been attested by the study conducted by Abbas (2014) who uncovered that librarians lack the requisite expertise to maneuver the ICT facilities and navigate into the wealth of information resources available on the web and many general and specialized databases were never utilized by the librarians to deliver, provide and disseminate information to their clientele.

Objectives of the Study

The objectives of the study determined:

- i. The kinds of ICT facilities available in academic libraries in Adamawa State, Nigeria
- ii. The types of service delivery in academic libraries in Adamawa State, Nigeria

Research Questions

The research questions are:

- i. What kinds of ICT facilities are available in academic libraries in Adamawa State, Nigeria?
- ii. What are the types of service delivery in academic libraries in Adamawa State?

Review of Related Literature

Accordingly, with the presence of smart technologies and other innovative IT gadgets, today's library patron is very techno-savvy and most prefer to interact via email, instant messaging services, streaming news and media outlets, with each competing with each other and the library institutions for attention of the users (Gisolfi, 2015). With a laptop, tablet, or smart phone, access to information has become much more readily available and the library building is now seen as very far. Eze (2017) define information services as consisting of arrays of activities and facilities targeted at providing information in various formats so as to satisfy the broad and varying information needs of library patrons within a community or society. Issa, et al (2013) also supported that information services are library services that are aimed towards providing users with the right information needed to answer their queries and to help them accomplish the task for decision making. Information services are of various types ranging from reference and information service, document delivery services, online reservation of books, current awareness service, Selective Dissemination of Information (SDI) services, inter library loan service, online database services, resource sharing, information repackaging, email alerts, instant messaging, etc.

Golden (2012) cited in Alabi, (2018) pointed out that library services are embedded in the cloud computing technology. The deployment of this technology in its full capacity is to enhance the provision of unlimited access to information. Hence, most library operations and services have

been redefined and redesigned thus; libraries can now operate round the clock providing services. Shonhe (2017) suggests that libraries can use various information dissemination techniques such as personalized collections, SMS/text notifications, online reference services, social networks, websites, mailing lists and OPACs. Furthermore, Sahu (2015) opined that cloud computing can transform the way systems are built and services delivered, providing libraries with an opportunity to extend their impact. Thus, the importance of cloud computing to 21st century service delivery cannot be over emphasized. Libraries should therefore in essence. Furthermore, the services delivery in academic libraries is the lighthouses of information dissemination in every institution and hub of learning activities where students, researcher's University communities have access with information services. ICTs have made it possible for libraries to access a wealth of up-to-date resources worldwide, give quicker access to specialist in a number of disciplines and allow librarians to reach each other and users with messages and documents through the internet (Onwith, 2017).

In recent years, Internet and e-resources has emerged as a powerful educational information tools that has been spread technological literacy and given people all over the world fast access to vast resources (Islam and Umme, 2015). Internet has helped for easy accessibility and dissemination of information. According to Uloaku (2017) the role of the Internet is to provide a way for researchers to have access to each other and to serve as a tool that facilitate their research. With the use of the Internet services like discussion groups and e-mail, it is possible to post message which include request for information: seeking book titles or reference materials, asking for names and addresses of people who have expert knowledge in particular areas. Uloaku (2017) opined that, the Internet offers a wide range of services in academic libraries. These services according to the author include: electronic mail, bulletin board, file transfer, remote login, index programme, news group, electronic surfing, and video conferencing. Oso and Adesua (2017) examined the availability and utilization of internet facilities among undergraduate students of the Colleges of Education, Ikere Ekiti State and reported that internet facilities were not adequately available hence their low application.

Study conducted by Olushola, Nwalo and Yusuf (2020) on Application of Information and Communication Technology in Academic Libraries in Kwara State, Nigeria. The descriptive survey design was adopted for the study and population comprised of seven (7) academic libraries in Kwara State. The study adopted purposive sampling technique to collect data required from the selected academic library staff in Kwara State. The total number of academic librarians in the selected academic libraries was 83. A census approach was used to cover all academic librarians. A self-developed questionnaire titled survey questionnaire on the application of information and communication technology on academic library services (SQAICTSAL) was used to collect data. Data were analyzed using percentage and frequency count to answer the research questions. Result from the study shows that most academic libraries in Kwara State are in developed stage in terms of provision of ICT facilities. Despite this fact, the study reveal that majority of the surveyed academic libraries were lack computerized security door with 0.0% and smart board with 9.6% while the availability of all other ICT facilities is rated high especially computer system, CD/DVD, internet connectivity and slide projector with 100%, CCTV camera with 95.2%, electronic database with 92.8%, library automation software with 91.5% and barcode sensor reader with 73.5%. The study concluded that provision of adequate ICT facilities in academic libraries will revolutionized effective information service delivery and the advancement in the use of ICT in day-to-day operations in academic libraries will dramatically enhanced information provision to the library users. Therefore, the concerned library authorities should provide proper support to the

library professionals in the application of ICT and also provide opportunities for staff development on the use ICT through attendance to seminars, workshops and short courses to enhance their technical skills for proper implementation and provision of effective and efficient services to the library users.

Hamidu and Abdullahim (2015) conducted a study titled “Availability and Utilization of Internet Facilities by Users in Federal Colleges of Education Libraries in North Eastern, Nigeria. The study found that internet services applied were inadequate in meeting user’s information needs. Uloaku (2017) sees Internet as a veritable tool for global online services. It is a mechanism for information dissemination and a medium for collaborative interaction between individuals and their computers. The Internet as a component of information and communication technologies provides a golden opportunity for the provision of value-added services by libraries. It is suffice to state that the Internet is changing the traditional library functions. It has become a vital component in the overall services and operations of library and information centers. Internet has become a basic ingredient of information accessibility and dissemination. According Ogunsola and Aboyade (2015) librarians have begun to adopt new designations to reflect their new roles, i.e, information scientists, system librarians, digital librarians and information managers etc. Uzohue and Yaya (2016) observed that the common theme behind ICT application in the library is to enhance library functions and make service delivery such as selection, acquisition, arrangement, storage, retrieval, dissemination of information relevant to users. The library is the nerve centre of information activities; it is a depository of knowledge with varied and useful information in numerous formats. The core functions of all kinds of libraries are; acquisition, cataloguing, circulation, serials control, interlibrary loan, management and delivery of information in both electronic and traditional format. They assist in achieving the goals and objectives of their parent institutions through the provision of current and relevant information resources that are necessary for sustaining the learning, teaching, research, other functions and activities within the institutions.

Research Methodology

Survey research design was adopted for this study and the researcher used self-designed questionnaire and checklist to collect the data from librarians and para-professional librarians in the three selected academic libraries in Adamawa State, Nigeria namely; Federal Polytechnic Mubi Library, Adamawa State College of Education Hong Library and Adamawa State University Mubi Library. The population of the study is one hundred and sixteen (116) as presented in the table

Table 1: Population of the Respondents

Name of Library	Library staff	Population
Federal Polytechnic Mubi Library	Librarians	12
	Para-professionals	42
Adamawa State College of Education Hong Library	Librarians	10
	Para-professionals	8
Adamawa State University Mubi Library	Librarians	8
	Para-professionals	36
Total	Librarians	116

Source: Staff list of libraries (2024)

Due to the fact that the population (116) is manageable, the researcher used all the population for the study and therefore no sampling technique is required and this is because the total number of librarians available to survey is limited which is also the reason why the study sample was extended to include para-professional librarians. The idea behind the selection of 116 respondents instead of just 1 from each library is to be able to present results which can be generalized to the entire academic libraries in the state. Busha and Harter (1980) stated that a population can be very small or very large, depending upon the size of the group of subjects or objects about which the researcher plans to make inference. The data collected were analyzed using descriptive statistics of frequency counts and percentage scores for the research questions.

Results, Data Analysis and Interpretation

A total of 116 copies of questionnaire were administered to respondents in the three Academic libraries in Adamawa state, Nigeria. Out of these numbers one hundred and four (104) were completed, returned and found usable, giving 89.7% valid rate, while, twelve 12 copies of the questionnaire were invalid representing 10.3% as non-response rate, and the analysis was based on the 104 (89%) of the respondents.

Research Question One: What Kinds of ICT facilities available in academic libraries?

Table 2: Kinds of ICT Facilities Available in Academic Libraries in Adamawa State

S/N	Kinds of ICT Facilities Available	FPL Mubi	ASCE Hong	ASU Mubi
1	E-mail	A	A	A
2	Internet Website	A	A	A
3	CD-ROM	A	A	A
4	E-encyclopedia	NA	NA	NA
5	E-dictionaries	NA	NA	NA
6	E-journals	A	A	A
7	E-books	A	A	A
8	Computers	A	A	A
9	E-dissertations	NA	NA	NA
10	E-thesis	NA	NA	NA
11	E-newspapers	NA	NA	NA
12	Free library online	A	A	A
13	Online public Access catalogue	NA	NA	NA
14	Wi-Fi connectivity for personal devise	A	A	A
15	Audio-visual equipment	A	A	A
16	Printing, scanning and photocopying services	A	A	A

Key: Available (A), Not Available (NA)

Table 2 Show kinds information and communication technology available in academic libraries in Adamawa State, Nigeria as; E-mail, Internet Websit, CD-ROM, E-journals, E-books, Computers, Free library online, Wi-Fi connectivity for personal devise, audio-visual equipment and printing, scanning and photocopying services. The items indicated are available in the libraries under study. The results also indicated the items that are not available such as online public Access catalogue, E-dissertations, E-thesis, E-newspapers, E-encyclopedia, and E-dictionaries. This implies that, the electronic resources above are not available in the libraries under studies. In summary, the table provides an overview of the availability of specific kinds of information and communication

technology facilities available in the academic libraries and this information can be valuable for assessing the digital resources available to library patrons and planning for potential resources expansion in the future.

Research Question Two: What are the types of service delivery by librarians in academic libraries?

Table 3: Types of Service Delivery in Academic Libraries

S/N	Types of Service Delivery	A	NA	Remark
1	Reference services	71 (68%)	33 (32%)	Available
2	Current awareness services	84 (81%)	20 (19%)	Available
3	Charging and discharging of library materials	56 (54%)	48 (46%)	Available
4	Inter library loan	81 (78%)	23 (22%)	Available
5	User education.	79 (76%)	25 (24%)	Available
Total Average		371/5	149/5	
		74.2 (71.3%)	29.8 (28.7%)	Available

Key: Available (A), Not Available (NA)

Table 3 Present the availability or otherwise of the listed services in academic libraries under study where 71 (68%) of the respondents indicated that reference service is available, as against 33 (32%) of the respondents who indicated that reference service is not available. Responses on the current awareness services where 84 (81%) of the respondents agreed that current awareness services were available, while 20 (19%) disagreed with the statement. This implies that majority of the respondents were aware of the current awareness services in the libraries under studies. The table analysis further showed that 56 (54%) of respondents agreed that charging and discharging of library materials were available at the academic libraries under studies while 48 (46%) of the responses indicated their disagreement. Item four is on inter library loan where 81 (78%) of the respondents were of the view that inter library loan was available, while 23 (22%) of the respondents disagreed with the statement. Finally, on the table the item on user education shows that 79 (76%) of the respondents agreed that there is user education available while 25 (24%) of the respondents show their disagreement. This implies that majority of respondents agreed that various types of service delivery in academic libraries were available.

Discussion of the Findings

Finding on kinds of information and communication technology available in academic libraries in Adamawa State, Nigeria for library services delivery are; E-mail, Internet Websit, CD-ROM, E-journals, E-books, Computers, Free library online, Wi-Fi connectivity for personal devise, printing, scanning and photocopying services and audio-visual equipment. This result is in agreement with the view of Johnson, (2012) who stated that e-resources are the electronic format accessible information that can be accessed through various electronic devices including computers, laptops, mobile devices and tablets and can also be accessed globally via the internet, or locally. Issa, et al (2013) also supported that information services are library services that are aimed towards providing users with the right information needed to answer their queries and to help them accomplish the task for decision making or reduction of the level of uncertainty.

Information services are of various types ranging from reference and information service, document delivery services, online reservation of books, current awareness service, Selective Dissemination of Information (SDI) services, inter library loan service, online database services, resource sharing, information repackaging, email alerts, instant messaging, etc.

Finding on various types of service delivery in academic libraries indicated that high level of availability of all the services are found at academic libraries under studies. This is in line with the opinion of Uloaku (2017) who stated that, the Internet offers a wide range of services in academic libraries. These services according to the author include: electronic mail, bulletin board, file transfer, remote login, index programme, news group, electronic surfing, and video conferencing. Oso and Adesua (2017) examined the availability and utilization of internet facilities among undergraduate students of the Colleges of Education, Ikere Ekiti State and reported that internet facilities were not adequately available hence their low application. Furthermore, it has been observed that different factors could be the reason for the steady decline (in quality and quantity) of the services delivered in university libraries. Furthermore, Akanya (2016) stated that abstracting and indexing services is also another service delivered in university libraries. He further asserted that indexing enable users to locate the books that are available in the subject areas they need, while abstracting services produce the summaries of the contents of reading materials in the library thereby serving as time savers for the library users. Jack (2015) revealed that another facility for services delivery in university libraries include copying by means of photographic or photocopying equipment.

Conclusion

Based on the findings of the study, information and communication technology facilities available for utilization in academic libraries in Adamawa State, Nigeria for library services delivery are; E-mail, Internet websit, CD-ROM, E-journals, E-books, Computers, Free library online, Wi-Fi connectivity for personal devise, audio-visual equipment, printing, scanning and photocopying services and these various types of facilities indicated high level of availability for services delivery in the libraries under study.

Recommendations

Based on the findings from this study, the following recommendations were done:

1. The library management of academic libraries in Adamawa State should provide more IICT facilities and services that are not available in the library such as online public Access catalogue, E-dissertations, E-thesis, E-newspapers, E-encyclopedia, and E-dictionaries for better service delivery.
2. The librarians, administrators, and policymakers should also put more emphasis on training and retraining of academic libraries staff most especially on recent ICT gadgets in order to effectively and efficiently provide other services on the following units; reference services, charging and discharging of library materials, inter library loan and user education for effective service delivery.

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