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AVAILABILITY AND ACCESSIBILITY OF ICT FACILITIES FOR UTILIZATION OF INFORMATION IN ACADEMIC LIBRARIES IN YOBE STATE, NIGERIA.

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Abstract

This study investigated availability and accessibility of Information and Communication Technology (ICT) facilities for effective service delivery in academic libraries in Yobe State, Nigeria. The study targeted six tertiary institutions in Yobe State, with a population of 1885 registered library users. A sample size of 303 students was considered for data collection. The research adopted survey research design to gather information on key ICT resources such as computers, printers, and internet connectivity, and their roles in facilitating access to digital and printed academic materials. Findings revealed that the availability of ICT facilities significantly enhances the utilization of information resources, with high percentages of students reporting positive impacts from computers, internet connectivity, and e-journals. Conversely, underutilization of resources like Local Area Network and certain digital repositories suggests a need for better integration into academic practices. Addressing these challenges is crucial for enhancing student access to ICT facilities. Student perceptions of ICT effectiveness reveal high ratings for online academic resources, digital libraries, collaborative research tools, educational software, and support services. These facilities were viewed as significantly enhancing academic research and study activities, though continuous improvement is necessary to maintain and increase their effectiveness. The study highlights the crucial role of ICT facilities in academic libraries, providing actionable insights to improve their accessibility and effective utilization in Yobe State institutions of higher learning.

Keywords*:* Availability, Accessibility, ICT Facilities, Information resources, Service Delivery, Academic Libraries*.*

Introduction

The significance of Information and Communication Technology (ICT) has created revolutionary changes the world over and libraries are no exception to these revolutionary changes because they play a vital role in making information available and accessible to users. Any library that is automated has the potential to satisfy the information needs of the community it serves beyond the capabilities of manual system. Information and communication technology stressed the application of computer and other technologies to process and transfer data with ease. Emphasizing on the benefits of ICTs, Das (2024) stated that ICT enables libraries to adopt user-centered approaches, thereby personalizing services to meet the diverse needs of users.

Mesagan, Anyim, Ubogu and Echezona (2022) stated that ICT has transformed most of the services provided by a library and it is heavily utilized in the storage, processing and dissemination of information. They added that ICT has made the organization of information very efficient, delivery of basic information services more effective and dissemination of information to users easier. In spite of the numerous benefits ICT brings to information services delivery, there seem to be a nonchalant attitude to the provision of ICT facilities in academic libraries in Nigeria. Okiy (2010) stressed that due to the challenges of the provision of ICTs in libraries, numerous academic libraries have resorted to the use of funds from the Education Trust Fund to make available ICT facilities to their respective libraries. Academic libraries are established to cater for the teaching, learning and research activities of the academic community. Hence these libraries are expected to provide information resources in the most easiest, comprehensive, fastest and convenient way possible.

Since the application of ICT facilities in the provision of and access to information resources and services in on the rise globally, it is against this background that this study sets out to investigate the availability and accessibility of the resources in academic libraries in academic libraries in Yobe state with a view to facilitating effective use of information resources.

Statement of the Problem

In an ideal educational environment, institutions of higher learning should provide adequate I.C.T facilities in their libraries to support the academic and research needs of students. These facilities should include reliable internet access, up-to-date computer hardware and software, and sufficient technical support. With these resources readily available, students can efficiently access, utilize, and benefit from a wide range of information resources, thereby enhancing their academic performance and research output.

However, the reality in institutions of higher learning in Yobe State, Nigeria, often falls short of this ideal. Many libraries in these institutions lack sufficient ICT facilities, with limited access to computers, outdated software, and unreliable internet connectivity. Additionally, there is often a lack of technical support to assist students in utilizing these resources

effectively. These deficiencies hinder students' ability to access and use information resources, which are critical for their academic and research activities. This situation not only affects their academic performance but also diminishes their overall educational experience. Moreover, lack of adequate ICT facilities may place these students at a competitive disadvantage compared to their peers in other regions with better access to technology, potentially impacting their future career prospects and contributions to the knowledge economy.

In view of this, this study was carried out to assess availability and utilization of ICT facilities for information service delivery in institutions of higher learning in Yobe State Nigeria.

Research Questions

The following research questions guided the study

1. What types of ICT facilities are available in institutions of higher learning in Yobe State Nigeria?
2. To what extent are ICT facilities accessed by the students in the institutions studied?
3. What challenges are associated with access to and Utilization of ICT facilities in the institutions studied?

Review of Related Literature

Information and Communication Technologies (ICTs) refers to the technologies used to manage process and disseminate information. It encompasses a broad range of technologies which include: computer facilities such as computers, scanners, printers, UPS and power point, projectors; computer software resources such as online databases, CD-ROMs, library application software; Internet and storage media such as audio-visual media/equipment, satellite connection, digital cameras, video compact disk (VCD), digital video disk (DVD) radio, television, audio tapes, video tapes and photocopiers; and communication media such as telephone-intercom and global system of mobile communication (GSM). The significance of ICT can be seen in various aspect of modern life. It provides access to information and enable users to retrieve, process as well as disseminate knowledge in fast and efficient manner. According to Abubakar (2011), the provision of ICT is generally perceived as a crucial development that will place library service at the heart of the world's emerging "information society". Services provided by academic libraries such as reference services, lending service, current awareness service, reprographic service etc. could be enhanced with the use of ICT facilities. The quality of library services in Nigerian academic libraries will equally be enhanced when ICT usage is intensified in library operations and services.

Thus, as information scientists, there is a greater need to identify the appropriate ICT facilities relevant to their designed operation, i.e. facilities that will enhance access to ICT facilities for effective services delivery to satisfy the information needs of the library users.

Types of ICT facilities in academic libraries are varied and essential for proving relevant information resources to users some of these facilities include: computer system, the Internet, fax machines, Online Public Access Catalogue (OPAC), e-mail, scanners, printers, mobile phones with wireless Application Protocol (WAP) and reprographic machines.

Aghauche (2020) conducted a study on types and use of ICT facilities in Kenneth Dike State central E-library, Awka, Anambra State, Nigeria. The study adopted descriptive survey design, with a population of 500 registered users. A sample size of 90 respondents were selected using accidental sampling technique. Date were collected using structured questionnaire and analyzed using frequency counts and percentages. Findings revealed that the available ICT facilities included monitors, cable/Internet connections, printers, photocopiers and scanners. The study further revealed that users demonstrated a high level of competences in using ICT facilities for tasks such as sending e-mails and scanning images to computers. The study recommended that library management should make concerted efforts to provide a wider range of ICT facilities and enhance the quality of services offered through these technologies.

Anyim (2021) conducted a study on perception of library users on the types of ICT facilities in Abia state polytechnic library Nigeria. The study adopted a survey research design. The target population was 4857 registered users. Convenience sampling technique was used to select 200 respondents. A structured questionnaire was used as instrument for data collection. The data were analyzed using descriptive statistics. Findings revealed that users were dissatisfied with the adequacy of computers, Internet access and databases facilities in the library. Findings also revealed that there was lack of interest in providing adequate facilities, poor mastery of ICT tools, inadequate knowledge of appropriate technologies among others. The findings further indicated that library users require basic ICT facilities for research, lecture/examinations preparations, knowledge updating and for practical tasks such as printing, photocopying and scanning documents. Findings recommended adequate financial provision to acquire the necessary ICT facilities for the library.

Many students can gain experience of communication through e-mail and electronic conferencing system that runs over the telephone network. They should be using the internet both to access materials, people and information resources and to display their own web pages created by users. The Internet and other (ICTs) provide a golden opportunity for provision of value added services to parent organizations. These developments are not only giving learners access to vast libraries and multimedia resources, but also give access to tutors and natural phenomena through the world. Also, CD-ROM technology which is one of the latest trends in information technology provides dial-up access to Compact Disks and other database in various subject fields of learning. Access to ICT facilities for information resources was stressed by Omotayo (2017), who noted that remote access to the information resources using computer, modems and network has made the library more accessible. This development has potentially attracted a new population of users who have

the capability to use libraries without physically entering it, and perhaps more importantly, remote seekers of information can now get direct access to what have traditionally been classified as library information resources without depending on the library's intermediary role. Information and Communication Technologies consisted of both hard and software used to gain access to global information resources and at the same time used for strong information.

The internet and its numerous information resources have over the past few decades became indispensable technological tools for information access, production and dissemination worldwide (Ayala, 2010). Agede's (2020) study investigated availability, accessibility and utilization of ICT facilities for instructional delivery in business education in tertiary institutions in cross river state, Nigeria. Descriptive survey research design was adopted for the study. The population of the study consisted of 65 business educators who equally formed the sample. Two instruments were used for data collection; a checklist and a structured questionnaire. Data were analyzed using frequency and simple percentages. Findings revealed that ICT facilities are slightly available in the institutions studied and lecturers have access to ICT facilities very often.

Users in academic institutions rely heavily on ICT facilities to support their academic pursuits. However, several challenges hinder users access to these facilities. For example, Ilaonisi and Osuagwu (2010) found paucity of of ICT infrastructure and lack of access, high enrollments, inadequate funding and absence of funding allocation to technology, high cost of ownership and cost to the consumer as well as policy implications of mismatch between the advertised capabilities of ICT technology and the aims of individual educational institutions. Other challenges associated with access to ICT facilities identified by Ogbomo (2011) include infrastructure related challenges. These according to him would involve a deliberate effort by policy makers and planners to consider the building, electrical wiring, heating, cooling and ventilation etc to provide conducive environment for access to ICT facilities operations. Osuagwu (2018) stated that many libraries struggle with insufficient budgets, limiting their ability to maintain and upgrade ICT facilities. This financial constraints often results in outdated equipment and software; reducing the efficiency and reliability of ICT resources. Addressing these budgetary limitations is essential to sure that libraries can provide the necessary technological tools to support users' academic needs.

Nwafor and Okeke (2019) found in their study that frequent power outages and slow Internet speed significantly disrupt students' access to digital resources, limiting their ability to conduct research and complete their assignments. These issues could create significant challenges to effective ICT accessibility, preventing users from fully benefiting from the available resources, which could bring about serious negative effects on the quality of education achieved by the institutions. When basic facilities are not accessible, effective research for the purpose of solving human challenges may be limited.

Research Methodology

This study adopted quantitative research methodology. The population of the study was 1885 registered library users in the academic libraries of institutions of higher learning in Yobe State. Asample size of 303 was considered. The sample size was determined using the Louis, Lawrence and Keith (2007) table distributed proportionately among the institutions, representing 16% of the total population. The research instrument used for collecting data was the questionnaire, which was self-developed. The data were analyzed using descriptive statistics.

Findings

1. Types of ICT facilities available in higher institutions of learning in Yobe State.

The respondents were asked to indicate the types of ICT facilities available in their respective institutions. Table 1 presents the results.

Table 1: Types of ICT facilities available in higher institutions of learning in Yobe State.

S/N	ICT Facilities	Available (Freq)	(%)	Not Available (Freq)	(%)
1	Television set	212	69.97%	91	30.03%
2	Radio	208	68.65%	95	31.35%
3	Computers	223	73.60%	80	26.40%
4	Printers	204	67.33%	99	32.67%
5	Overhead projector	215	70.96%	88	29.04%
6	Scanners	219	72.28%	84	27.72%
7	Intercom	207	68.32%	96	31.68%
8	E-mail	222	73.27%	81	26.73%
9	Flash drive	208	68.65%	95	31.35%
10	Local Area Network (LAN)	200	66.01%	103	33.99%
11	Wireless Application Protocol (WAP)	221	72.94%	82	27.06%
12	Reprographic machine	213	70.30%	90	29.70%
13	Online Public According ess Catalogue (OPAC)	216	71.29%	87	28.71%
14	Internet connectivity	226	74.59%	77	25.41%

Table 1 clearly showed the frequency and percentage of availability and non-availability of ICT facilities in the surveyed institutions. The findings presented revealed the various ICT facilities available in higher institutions of learning in Yobe State. The most available ICT facility is internet connectivity, with 226 respondents (74.59%) confirming its availability. This indicates that a majority of institutions have Internet, which is crucial for research, learning and communication. Other widely available facilities include computers (73.60%),

email services (73.27%), wireless application protocol (WAP) (72.94%), and scanners (72.28%). The high availability of these resources suggests that institutions prioritize digital communication and document processing.

Several ICT facilities fall within the 70%–71% availability range, including online public access catalogues (71.29%), reprographic machines (70.30%), overhead projectors (70.96%), and television sets (69.97%). The presence of OPAC in many institutions suggests an effort to modernize library services and improve access to information resources.

The least available ICT facilities include local area networks (LAN) (66.01%), printers (67.33%), and intercom systems (68.32%). The relatively lower availability of LAN indicates potential challenges in networking infrastructure within institutions. The lower availability of printers may also suggest limited access to printing resources for students.

2. Extent to which students have access to ICT facilities in institutions studied.

The respondents were asked to rate the extent to which they have access to ICT facilities. Table 2 presents the results.

Table 2: Extent of Access to ICT Facilities

S/N	ICT Facilities	Very Easy (Freq)	(%)	Somewhat Easy (Freq)	(%)	Neutral (Freq)	(%)	Very Difficult (Freq)	(%)
1	Television set	105	34.65%	98	32.34%	54	17.82%	46	15.19%
2	Radio	102	33.66%	95	31.35%	56	18.48%	50	16.51%
3	Computers	95	31.35%	110	36.30%	60	19.80%	38	12.55%
4	Printers	90	29.70%	106	34.98%	65	21.45%	42	13.86%
5	Overhead projector	88	29.04%	104	34.32%	67	22.11%	44	14.52%
6	Scanners	97	32.01%	101	33.33%	63	20.79%	42	13.86%
7	Intercom	85	28.05%	99	32.67%	70	23.10%	49	16.18%
8	E-mail	120	39.60%	95	31.35%	50	16.50%	38	12.55%
9	Flash drive	112	36.96%	99	32.67%	53	17.49%	39	12.88%
10	Local Area Network (LAN)	78	25.74%	95	31.35%	80	26.40%	50	16.51%
11	Wireless Application Protocol (WAP)	104	34.32%	101	33.33%	60	19.80%	38	12.55%
12	Reprographic Machine	94	31.02%	100	33.00%	66	21.78%	43	14.19%
13	Online Public Access Catalogue	101	33.33%	98	32.34%	64	21.12%	40	13.21%

S/N	ICT Facilities	Very Easy (Freq)	(%)	Somewhat Easy (Freq)	(%)	Neutral (Freq)	(%)	Very Difficult (Freq)	(%)
	(OPAC)								
14	Internet connectivity	130	42.90%	88	29.04%	45	14.85%	40	13.21%

The analysis on Table 2, which examines the extent of students' access to ICT facilities in institutions of higher learning in Yobe State, revealed notable trends. Internet connectivity is the most accessible facility, with 42.90% of respondents indicating that access is "Very Easy" and 29.04% reporting it as "Somewhat Easy," highlighting the priority given to internet services. Similarly, email services (39.60% very easy, 31.35% somewhat easy) and flash drives (36.96% very easy, 32.67% somewhat easy) are also widely accessible, indicating that digital communication and storage solutions are well-integrated into institutional ICT infrastructures. Conversely, access to Local Area Networks (LAN) appears to be more challenging, with only 25.74% of respondents finding it "Very Easy," while 26.40% remain neutral and 16.51% find it "Very Difficult." This suggests possible connectivity or infrastructure limitations. Intercom systems, printers, and reprographic machines also show relatively lower accessibility, with between 28.05% and 31.02% rating them as "Very Easy," while a considerable proportion of students (13.86% to 16.51%) find access to these facilities "Very Difficult." Computers, a fundamental tool for academic activities, have mixed accessibility, with 31.35% finding access "Very Easy" and 36.30% rating it as "Somewhat Easy." However, 19.80% remain neutral, and 12.55% struggle to access them, suggesting room for improvement in computer availability and distribution. Similarly, access to the Online Public Access Catalogue (OPAC) and Wireless Application Protocol (WAP) services, while moderate, could be improved to enhance students' research and digital engagement.

3. Challenges associated with access to ICT facilities in the institutions studied.

The respondents were asked to identify the challenges associated with access to ICT facilities. The results are presented in Table 3.

Table 3: Challenges Associated with Access to ICT Facilities in the Institutions Studied

S/N	Option	Yes	No	Yes (%)	No (%)
A	Limited available	180	123	59.41%	40.59%
B	Insufficient accessibility	220	83	72.61%	27.39%
C	Technical issue	150	153	49.50%	50.50%
D	Lack of training	200	103	66.01%	33.99%
E	Lack of knowledge where ICT facilities are located	170	133	56.11%	43.89%
F	Inadequate awareness	190	113	62.71%	37.29%
G	Long waiting	210	93	69.31%	30.69%

S/N	Option	Yes	No	Yes (%)	No (%)
H	Not user friendly	160	143	52.81%	47.19%
I	Lack of regular cleaning and dusting	140	163	46.20%	53.80%

In Table 3, the challenges related to access revealed that the most common issue is insufficient accessibility, with 72.61% of respondents indicating this challenge. This was followed by long waiting times (69.31%) and a lack of training (66.01%). Other issues such as limited availability (59.41%) and inadequate awareness (62.71%) are also prevalent but to a lesser extent. On the other hand, challenges like lack of regular cleaning and dusting (53.80%) and technical issues (50.50%) show relatively lower impact, with more respondents reporting no challenges. Addressing these barriers is crucial for improving the overall ICT experience in these institutions.

Discussion of the findings

Findings with regards to the first objective indicates that most institutions in Yobe State have essential ICT facilities such as internet connectivity, computers, email, and OPAC. However, networking infrastructure (LAN), intercom systems, and printers are relatively less available. Findings of this study did not corroborate with the findings of Anyim (2021) which revealed that users were dissatisfied with the adequacy of computers, Internet access and databases facilities in the library. The identification of Internet connectivity and computers as the common ICT facilities indicates significant emphasis on digital communication and academic research. While e-mail services, WAP and scanners are also widely available, the lower availability of LANs and intercom system signals areas where institutions could improve their ICT infrastructure. Given the reliance on stable networking systems for collaborative and online learning, institutions should prioritize these areas to ensure equitable access to all students.

Findings with regards to the second objective on students' access to ICT facilities indicate that while internet connectivity, email services, flash drives and digital storage are relatively accessible, reflecting the central role of these tools in academic communication and research, institutions need to improve access to networking infrastructure, computing devices, and printing or scanning facilities to enhance ICT utilization. Findings of this study did not corroborate with the findings of Agede (2020) where it found that ICT facilities are slightly available in the institutions studied and lecturers have access to ICT facilities very often. The results highlight the need for strategic interventions, including increased investment in ICT infrastructure, maintenance, and awareness programs to ensure equitable and effective access to these essential facilities. The findings of this study The question remains whether the academic libraries could afford to increase the number of networked, computers and other ICT facilities to match the ever increasing number of users in their libraries. Lack of deliberate increase in ICT facilities, low internet speed can hinder user's ability to access online resources, conduct research, and submit assignments. Most likely,

only very few users could likely afford access to needed ICT facilities without the academic libraries support. This will certainly have dual implications on both the users and the libraries. On the users' part, necessary ICT facilities to make e-resources accessible for their research work would be lacking. This would slow their research work and eventually set in frustration.

Findings with regards to the third objective on challenges associated with access to ICT facilities highlighted several barriers to accessing ICT facilities; including insufficient accessibility, long waiting times and lack of training, which corroborated with the studies of Ilaonisi and Osuagwu (2010); Ogbomo (2011); Osuagwu (2018); Nwafor and Okeke (2019), where they found paucity of ICT infrastructure and lack of accessibility, inadequate funding and absence of funding allocation to technology. These barriers reflect structural challenges that can hinder students' engagement with ICT resources. This underscores the need for the institutions to address both infrastructure and support systems. The importance of overcoming these challenges cannot be over stated, as they can significantly affect students' ability to make the most of the ICT resources available to them.

Conclusion

The findings from the study indicate that availability, access to as well as the diversity of ICT facilities play significant roles in students' utilization of these resources. The study concludes that a strategic focus on improving ICT infrastructure, providing adequate training, and expanding resource availability will create a more effective learning environment for students. By doing so, institutions will be better equipped to support students in their academic pursuits and promote greater engagement with digital learning tools.

Recommendations

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

In order to improve ICT availability for enhanced service provision, institutions should prioritize user-friendly ICT facilities like user-friendly online public access catalogs (OPACs) computers, printers, scanner, etc. and accessible Internet, Wi-Fi, digital databases and online resource portal, as well as upgrading and expanding ICT facilities to meet growing demands in order to support collaborative learning and ensure equitable access to ICT resources.

Tertiary institutions should provide the speed of connecting to the internet and should be very fast. Internet owners should use or subscribe to rather fast servers to enhance efficient performance. This will also save time of the users and give adequate value to their money, and also provide more access to ICT facilities for students, such as computer laboratories, libraries and online platforms in the institutions libraries.

It is recommended that institutions should enhance technical support services to address the challenges in accessing the facilities, such as software compatibility, technical malfunctions, and improve overall usability, ensuring that ICT facilities and resources remain

accessible and functional. The charges for assessing the internet should be moderate in order not to scare people from using the internet. Needs assessment should be conducted in order to identify the specific needs and challenges of library users to inform ICT investments, monitor and evaluate ICT facilities regularly to identify areas for improvement.

References

Abubakar, B. M. (2011). Extent of utilization of types of ICT facilities in Academic Libraries in Nigeria in the 21st Century. *Library Philosophy and Practice* , 1-5.

Agede, U. A. (2020). Availability, Accessibility and Utilization of ICT facilities for instructional Delivery in BusinessEducation in Tertiary Institutions in Cross River State, Nigeria. *British Journal of Education and Social Sciences, 7(2).*

Ajala, I. O., Adegun, A. I. Adetunji, A. & Oyewumi, O. O. (2010). The Impact of Internet Use on Teaching and Research by Ladoke Akintola University of Technology Academic Staff. *International Journal of Information and Communication Technologies.* 7(2).

Anyim, W. O. (2021). Relevance of Electronic Resources and improvement of Access fir effective distance Learning and Continuing Education Programme. *International Journal of Asian Education,* 2(1), 52-63. https://doi.org/10.46966/ijae.v2il.83

Bappah, M.A. (2010). ICT in Nigerian higher education: A comprehensive review. *Journal of Educational Technology, 12*(3), 112-125.

Das, S. K. (2024). Harnessing Information Technology in Academic Libraries: An In-depth Analysis of Existing Tools. *International Journal of multi Disciplinary Studies, 73.*

Ilaonisi, N. O. & Osuagwu, C. C. (2010). An Evaluation of the Impact of ICT Diffusion in Nigeria's Higher Education System.

Louis, C. Lawrence, N, & Keith, M. (2007) Research Method in Education 6 edition. Rutledge New York.

Megasa, O., Anyim, O. W., Ubogu, J. O. And Echezona, N. P. (2022). Availability and Utilization of Information and Communication Technology Resources in Nigerian Academic Libraries. *Journal of Applied Information Sciences and Technology,* 15(1). Retrieved from: Jaistonline.org

Nwafor, O. C., & Agbo, J. I. (2019). The Impact of Infrastructure Limitation on ICT Access in Nigerian Universities. *International Journal of Information and Learning Technology,* 40(2), 134-145. https://doi.org/10.1108/IJILT-09-2022-0183

Ogbomo, E. F. (2011). Issues and Challenges in the Use of ICT in Education. *Information Impact: Journal of Information and Knowledge Management. 10(1).*

Okiy, R. B. (2010). Globalization and ICT in Academic Libraries in Nigeria: the way forward. *Libraries Philosophy and Practice (e-journal).* Paper 501. Retrieved from: https://digitalcommons.unl.edu/libphilprac/501

Omotayo, B.O. (2017) Access, Use and Attitude of Academic toward Electronic journal: A case study of Obafemi Awolawo University, Ile-Ife Library *Philosophy and Practices*

Osuagwu, J. U. (2018). Barriers to the Use of Information and Communication Technologies by Staff in Nigerian University Libraries. *Borno Library, Archival and Information Science,* 8(2).