

**PROVISION OF ICT-BASED LIBRARY SERVICES FOR ENHANCED
INFORMATION ACCESS AMONG STUDENTS OF PUBLIC UNIVERSITIES IN IMO
AND ABIA STATES
BY**

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ABSTRACT

The study focused on provision of ICT-based library services for enhanced information access among students of public universities in Imo and Abia States. It was guided by four objectives and four research questions. The study adopted survey research design. The population of the study is 167 librarians from the university libraries studied. A self-developed questionnaire titled Provision of ICT-based Library Services to Students (PICTLSS) was used for data collection. Data collected were analysed using mean ($\bar{x}$). The findings of the study revealed among others that; the ICT facilities used in providing library services for enhanced information access are computers, mobile phones, internet facilities, printers, CD-ROM, slide projectors, library oriented software, flash drive and scanners in the university studied and electronic delivery services, online user education, institutional repositories services, provision of web access to OPAC, document scanning services, online readers advisory services, Selective Dissemination of Information services, document retrieval services and reprographic services are ICT-based services provided for enhanced information access among students of the university studied. Based on the findings of the study, the researcher recommends among others that government and university management should allocate adequate funds in their budget for university libraries to ensure continuous procurement, installation and maintenance of ICT facilities.

Keywords: Provision, ICT, Library Services, University Libraries

Introduction

The accelerated rate of growth and improvement in ICT has led to the integration of technology in various fields of human endeavour. Widespread improvements in technology as well as information have modernized some aspects of library services. The emerging technology has changed and innovated the way libraries access, organize, store, retrieve and disseminate information. Today's process of library services can never be complete without the involvement of ICT. Hussaini, Haruna and Muhammad (2021) assert that libraries have grown to the level that exceed its four walls, to the extent that information services can reach the library users

wherever they are in the world as a result of the application and use of Information and Communication Technology (ICT).

Information and Communication Technology (ICT) involves the use of computer and other electronic devices for information processing, storage, retrieval and dissemination. It has transformed the way library services are delivered to users of the library. It enables librarians to render library services to users irrespective of their location. The importance of ICT in libraries cannot be overemphasized. Hussain, Idrees, Faqir and Haider (2021) citing Dabas maintain that using ICT in libraries enhances creativity and innovation, facilitates access to information, provides access to a wide range of information at a time, makes it cost-effective, satisfies users, improves and accelerates the retrieval of information and facilitates the search for information. The advent of ICT in libraries have tremendously changed the way library services are rendered to users of the library. Library services such as circulation services, Current Awareness Services (CAS), referral services, orientation services, reprographic services, document delivery services, reference services, user education, Selective Dissemination of Information (SDI), bibliographic services among others are being facilitated using ICT. Also, with advancement in ICT, electronic information resources are fast replacing the traditional information resources of libraries. It is evident that there is a lot of transformation in libraries through the application and use of ICT. To this end, Amao (2020) asserts that ICT is a game changer in the library and information environment and it calls for librarians to reassess and redefine their roles and approaches to information service delivery to meet the users' information demands at anytime, anyplace and anywhere. It is therefore necessary for librarians to have the knowledge and ability to use ICT facilities for effective service delivery to satisfy the varying information needs of users of the university libraries.

ICT facilities are a combination of hardware, software and multimedia equipment used in processing storing, retrieving and disseminating information aimed at enhancing effective library services delivery to students and other users of the library. ICT facilities include but are not limited to computers, laptops, networking technologies, scanners, mobile phones, storage technology, internet, RFID technology, library-oriented software, reprographic technology, projectors among others. These ICT facilities are used in libraries to provide ICT-based services to satisfy the information needs of library users. According to Nkanu (2017) computers,

microfilms, microfiche, CD-ROM database, video tapes and audiotapes are used in libraries for storing and providing information services to users. The extent to which ICT-based library services are rendered effectively depends on the ICT facilities available. Hence, there is need for libraries to acquire these facilities for effective service delivery. It is pertinent to note that with ICT-based library services, users can access information from sites hundreds or thousands of miles away. Ogor and Dustu (2018) noted that users can now have access to libraries' information resources remotely from anywhere in the world. They further added that library users can make reservations for their favourite library items online by using Online Public Access Catalogue (OPAC). The libraries found in universities in Imo and Abia States like the Federal University of Technology, Owerri; Imo State University, Owerri; Kingsley Ozumba Mbadiwe University, Ideato; University of Agriculture and Environmental Sciences, Umuagwo; Abia State University, Uturu and Michael Okpara University of Agriculture Umudike are university libraries. These university libraries are repositories of knowledge where ICT-based library services such as electronic document delivery services, institutional repository services, Current Awareness Services (CAS), document scanning services, internet services, user online education, reprographic and micrographic services, web-based Online Public Access Catalogues, among others are provided to offer value-added information services and access to diversity of digital-based information resources to their users. Thus, the ICT-based library services have brought extraordinary transformation and change to library and information services in these universities.

Despite the benefits of ICT-based services in libraries and the ease it has brought upon the provision of enhanced information access to students in university libraries, a lot of factors still hinder effective provision of ICT-based library services in Nigerian university libraries. Inadequate funding is a major challenge because it has negatively affected provision of ICT-based library services in Nigerian libraries (Adebayo, Ahmed & Adeniran, 2018). However, a lot of effort need to be put in place for its proper integration in Nigerian university libraries. On this premise, there is need to ascertain the extent of provision of ICT-based library services for enhanced information access among students of public universities in Imo and Abia States.

Statement of the Problem

It is crystal clear that every university library is expected to provide ICT-based library services for enhanced information access among students. Unfortunately, this is not so as previous observations and research have shown that provision of ICT-based library services in some Nigerian university libraries appears to be very low despite the potential they hold for enhanced information access. Previous studies by Yemi-Peters, Sokari, Olayemi, Haliru, and Gama (2019) pointed out that ICT application in most libraries in Nigerian tertiary institutions is very slow thereby rendering ICT-based service delivery of such libraries ineffective. Could this be associated with inadequate ICT facilities, low level of ICT skills on the part of librarians, non interest of students, unreliable internet network, erratic power supply, insufficient space to house the facilities or librarians' inherent attitude to work? While this remains a probable speculation, however, the extent of this assertion has not been determined. Hence this study on provision of ICT-based library services for enhanced information access among students of the public universities in Imo and Abia States.

Objectives of the Study

The study examined provision of ICT-based library services for enhanced information access among students of the public universities in Imo and Abia States. Specifically, the study sought to:

1. identify the ICT facilities used in providing library services for enhanced information access in the public universities in Imo and Abia States;
2. ascertain the ICT-based library services provided for enhanced information access among students of the public universities in Imo and Abia States;
3. determine the extent ICT-based library services are provided for enhanced information access among students of the public universities in Imo and Abia States;
4. identify the factors militating against provision of ICT-based library services for enhanced information access in the public universities in Imo and Abia States.

Research Questions

The following research questions were posed to guide the study;

1. What are the ICT facilities used in providing library services for enhanced information access in the public universities in Imo and Abia States?

2. What are the ICT-based library services provided for enhanced information access among students of the public universities in Imo and Abia States?
3. To what extent are ICT-based library services provided for enhanced information access among students of the public universities in Imo and Abia States?
4. What are the factors militating against provision of ICT-based library services for enhanced information access in the public universities in Imo and Abia States?

Literature Review

The basic objective of any university library is to provide resources and services to support teaching, learning and research activities of the parent institution. Effective high-quality library services successfully support the programmes of the institution (Enyinnah & Aghadiuno, 2019). Presently, libraries are facing new generation of users who are passionate with ICT facilities. With this type of users cropping up, adequacy and availability of ICT facilities will soon be a criterion for patronizing a particular library. The full application and use of ICT facilities for provision of library services will as well boost the service efficiency and effectiveness of the library (Yemi-Peters, Sokari, Olayemi, Haliru and Gaama, 2019). Perhaps, it is pertinent to note that availability, application and use of ICT facilities for provision of library services is very crucial as key strategic tool for effective service delivery and achievement of the library's objectives. ICT facilities are very fundamental to the provision of library services in the library. Its application in libraries has transformed the way library services are rendered to library users. In trying to actualize the objectives of university libraries, various types of library services are provided to library users using ICT facilities. Different studies have revealed that there are different ICT facilities available in the library for providing library services. According to Onah, Ugwuanyi, Oni and Eseni (2020), computers, mobile phones, television, Internet, Library oriented software, CD-ROMs, flash drive, digital camera, among others are available in the library for enhanced library services. Also, Adeniran, Nwalo and Ajani (2020) revealed that computer system, CD/DVD, internet facilities, electronic database, barcode reader, slide projector, CCTV camera, flat screen TV and library automation software were highly available in the selected academic libraries studied. The study by Ubogu (2019) discovered that ICT facilities that are mostly used for library services include computers, telephone, printers and CD-ROMs. The availability of these ICT facilities in the library has not only improved timely access

to current and relevant information resources but has also enhanced provision of library services to users.

Some of the ICT-based services that are provided by libraries as identified by Chisenga in Amao (2020) are provision of web access to OPAC, electronic document delivery, online user education, online readers' advisory services, networked information resources, library retrieval system, institutional repositories and document scanning services. Similarly, Husani, Haruna and Muhammad (2021) identified document scanning services, electronic document delivery services, institutional repository services, Current Awareness Services (CAS), user online education, reader advisory and e-reference services, web-based Online Public Access Catalogues, reprographic and micrographic services among others as ICT-based library services. Furthermore, Yusuf and Iwu-James as cited in Nnadieto and Obiano (2022) pointed out that provision of web access to OPAC, electronic document delivery services, online instruction/user education, online readers advisory services, networked information resources and reprographic services are some of the ICT-based services provided by academic libraries. There is no doubt that library services such as document scanning services, institutional repository services, electronic document delivery services, Current Awareness Services, Selective Dissemination of Information, interlibrary loan services, electronic reference services, web access to OPAC, online user education among others can be provided effectively using ICT facilities.

The benefit of ICT-based services in libraries cannot be overemphasized. ICT-based services have gone a long way in transforming the traditional methods of library services provided by university libraries. This is why Hoque (2023) is of the opinion that libraries nowadays are no longer just about books and other printed materials; they have become digital hubs that provide a wide range of value-added services to their users. With the application of ICT in library services, librarians render their services more effectively with relative ease. Husani, Haruna and Muhammad (2021) noted that libraries use ICT-based inter-library loan to distribute copies of journal papers and other multimedia materials such as Portable Paper Format (PDF) to the desktop of the users. ICT-based services have redesigned the way libraries access, store, control and disseminate information to users. One very important, impressive and effective impact of ICT-based services in libraries is the enhancement in the speed and span of information production, sharing and recycling (Wawu, 2019). He further stated that with ICT-

based library services, the library is accessible to users through terminals in their own homes or offices. Thompson and Wadura (2014) pointed out that with ICT-based library services, library users can search to determine the status of a library book before he or she comes to the library to borrow. They further added that one can make reservations through this service. Thus, through ICT-based services, libraries can provide access to information around the globe without geographical boundaries.

However, it has been observed that despite the benefits of ICT-based services the extent of its provision is low in most Nigerian academic libraries. Adeniran, Nwalo and Ajani (2020) in their study concluded that despite huge benefits provided by ICT, some academic libraries are yet to be fully equipped and where they are fully equipped, the extent of use is low. Similarly, Ogunsola (2014) noted that majority of higher institutions in Nigeria; even those with good Internet connectivity are still at a low level of integration of ICT in teaching, learning, research, library services, information and managerial services. Iya (2016) submitted that in most libraries, observation has shown that only one or two of librarians are formally trained to initiate, develop, implement and maintain computerized applications in the entire library system. From the foregoing, it is obvious that the advancement in the provision of ICT-based library services in most Nigerian academic libraries has been making slow progress due to some identified challenges.

Several studies on the barriers to provision of ICT-based library services in Nigerian libraries have been conducted by concerned researchers. Among these researchers are Nwabueze and Urhiewhu (2015) who identified epileptic power supply, unavailability of online databases, inadequate or slow bandwidth, inadequate computers, network problems, lack of ICT skills, and lack of formal training in internet use, server slowness and frequent breakdown as the factors hindering the use of ICT in libraries. To Nitin (2015), inadequate funds, shortage of human resources, lack of training of staff, low bandwidth and irregular power supply are some challenges facing the use of ICT in libraries. The findings of Igwebuike and Agbo (2017) revealed that inadequate funding, software problems, management problems, unstable power supply, inadequate number of staff and high cost of maintenance of ICT facilities are factors affecting effective application of ICT in library operations. Oketunji as cited in Adeniran, Nwalo and Ajani (2020) noted that the library tasks have not been fully exploited because of its

numerous challenges such as power failure, inadequate funds, computer system failure, staff attitude towards use of ICT, lack of ICT policies and shortage of competent staff to manage the ICT facilities, which hinder the application of ICT in many Nigerian academic libraries. Another study by Adebayo, Ahmed and Adeniran (2018) identified limited financial resources, shortage of ICT facilities and ICT skills, lack of ICT policies, poor maintenance of ICT equipment, erratic power supply, insufficient bandwidth among others as the challenges of using ICT for provision of library services. Marke and Waziri (2023) discovered that the challenges faced by librarians in providing ICT-based library services include limited financial resources, shortage of ICT facilities, lack of ICT skills, poor maintenance of ICT equipment, lack of technical IT knowledge by library staff among others. The reviewed studies show that many libraries face different challenges in the process of integration and application of ICT to the provision of library services in Nigeria. Though it has been established that studies on provision of ICT-based library services abound, there is no study to the best of the researcher's knowledge on provision of ICT-based library services for enhanced information access among students of public universities in Imo and Abia States.

Research Methodology

This study adopted survey research design. The population of the study is 167 librarians from the universities studied. A census sampling technique was employed to cover all 167 librarians as sample for the study. A self-developed questionnaire titled Provision of ICT-based Library Services to Students (PICTLSS) was used as the instrument to elicit data for this study. Out of the 167 copies of instrument administered, 116 copies were returned showing 69.5% return rate. Mean was used to analyze the data collected. **Decision Rule:** Decision was based on 2.50 criterion mean. Thus, the benchmark for rating is; 4.00-3.50= Strongly Agree (SA)/Very High Extent (VHE), 3.49-2.50 = Agree (A)/High Extent (HE), 2.49-1.50 = Disagree (D)/Low Extent (LE) and 1.49-1.00 = Strongly Disagree (SD)/Very Low Extent (VLE).

Results and Discussion of Findings

Research Question 1: What are the ICT facilities used in providing library services for enhanced information access in the public universities in Imo and Abia States?

Table 1: ICT Facilities Used in Providing Library Services (n=116)

S/N	Item Statement	SA	A	D	SD	Mean	Decision
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1.	Computers	63	42	7	4	3.41	A
2.	Mobile Phones	37	55	13	11	3.02	A
3.	Internet Facilities	41	39	19	17	2.90	A
4.	Printers	28	62	21	5	2.97	A
5.	CD-ROM	24	59	17	16	2.78	A
6.	Slide Projectors	18	48	28	22	2.53	A
7.	Library Oriented Software	29	51	21	15	2.81	A
8.	Flash Drive	32	68	9	7	3.08	A
9.	Scanners	27	53	24	12	2.82	A
Grand Mean						2.92	A

Data analysed in Table 1 reveals the item- by- item mean scores of the ICT facilities used in providing library services for enhanced information access in the universities studied. The result of the analysis in the Table shows that the respondents agree that the ICT facilities used in providing library services for enhanced information access are computers mobile phones, internet facilities, printers, CD-ROM, slide projectors, library oriented software, flash drive and scanners with mean scores of 3.41, 3.02, 2.90, 2.97, 2.78, 2.53, 2.81, 3.08 and 2.82 respectively. Generally, the respondents agree that ICT facilities are used in providing library services for enhanced information access in the universities studied as shown in the grand mean which is 2.92.

The finding is in agreement with the finding of Onah, Ugwuanyi, Oni, and Eseni, (2020) that computers, mobile phones, television, Internet, Library oriented software, CD-ROMs, flash drive, digital camera, among others are available in the library studied. It also agrees with the finding of Adeniran, Nwalofofor and Ajani (2020) that computer system, CD/DVD, internet facilities, electronic database, barcode reader, slide projector, CCTV camera, Flat screen TV and library automation software were highly available in the selected academic libraries studied.

Research Question 2: What are the ICT-based library services provided for enhanced information access among students of the public universities in Imo and Abia States?

Table 2: ICT-based Library Services Provided for Enhanced Information Access (n=116)

S/N	Item Statement	SA	A	D	SD	Mean	Decision
1.	Electronic document delivery services	29	51	21	15	2.81	A

2.	Online user education	21	45	28	22	2.56	A
3.	Institutional repositories services	30	62	14	10	2.97	A
4.	Provision of web access to OPAC	34	59	15	8	3.03	A
5.	Document scanning services	31	68	11	6	3.07	A
6.	Online readers advisory services	24	52	19	21	2.68	A
7.	Selective Dissemination of Information Services	41	49	18	8	3.06	A
8.	Document retrieval services	35	60	17	4	3.09	A
9.	Reprographic services	27	57	22	10	2.87	A
Grand Mean						3.90	A

Table 2 presented the item- by- item mean scores of the ICT-based library services provided for enhanced information access among students of the universities studied. From the Table, the result shows that librarians agree that electronic delivery services, online user education, institutional repositories services, provision of web access to OPAC, document scanning services, online readers advisory services, Selective Dissemination of Information services, document retrieval services and reprographic services are ICT-based library services provided for enhanced information access among students of the universities studied with mean scores above the criterion mean of 2.50. The grand mean of 3.90 indicates that the librarians agree that ICT-based library services are provided for enhanced information access among students of the universities studied.

This finding is in line with the idea of Chisenga as cited in Amao (2020) that provision of web access to OPAC, electronic document delivery, online user education, online readers' advisory services, networked information resources, library retrieval system, institutional repositories and document scanning services are some of the ICT-based services that are provided by libraries. This finding is also in consonance with the assertion of Husani, Haruna and Muhammad (2021) that document scanning services, electronic document delivery services, institutional repository services, Current Awareness Services (CAS), user online education, reader advisory and e-reference services, web-based Online Public Access Catalogues, reprographic and micrographic services among others are ICT-based library services.

Research Question 3: To what extent are ICT-based library services provided for enhanced information access among students of the public universities in Imo and Abia States?

Table 3: Extent ICT-Based Library Services are Provided to Students (n=116)

S/N	Item Statement	VHE	HE	LE	VLE	Mean	Decision
1.	Electronic document delivery services	20	57	29	10	2.75	HE
2.	Online user education	11	42	36	27	2.32	LE
3.	Institutional repositories services	17	39	42	18	2.50	HE
4.	Provision of web access to OPAC	14	30	47	25	2.28	LE
5.	Document scanning services	15	32	48	21	2.35	LE
6.	Online readers advisory services	18	29	52	17	2.41	LE
7.	Selective Dissemination of Information Services	19	28	39	30	2.31	LE
8.	Document retrieval services	22	35	44	15	2.55	HE
9.	Reprographic services	13	31	60	12	2.39	LE
Grand Mean						2.43	LE

Presented in Table 3 are the item-by-item mean scores on the extent ICT-based library services are provided for enhanced information access among students of the universities studied. From the Table, the result shows that Electronic document delivery services (2.75), Institutional repositories services (2.50) and Document retrieval services (2.55) are provided to a high extent while Online user education (2.32), Provision of web access to OPAC (2.28), Document scanning services (2.35), Online readers advisory services (2.41), Selective Dissemination of Information Services (2.31) and Reprographic services (2.39) are provided to a low extent in the university studied. Generally, ICT-based library services are provided to students to a low extent in the universities studied as shown in the grand mean which is 2.43.

Corroborating this finding, Adeniran, Nwalo and Ajani (2020) found that despite huge benefits provided by ICT, some academic libraries are yet to be fully equipped and where they are fully equipped, the extent of use is low. Similarly, the finding is in line with the opinion of Ogunsola (2014) that majority of higher institutions in Nigeria; even those with good Internet

connectivity are still at a low level of integration of ICT in teaching, learning, research, library services, information and managerial services.

Research Question 4: What are the factors militating against provision of ICT-based library services for enhanced information access in the public universities in Imo and Abia States?

Table 4: Factors Militating Against the Provision of ICT-Based Library Services (n=116)

S/N	Item Statement	SA	A	D	SD	Mean	Decision
1.	Inadequate funds	47	51	11	7	3.19	A
2.	Slow bandwidth	28	62	16	10	2.93	A
3.	Irregular power supply	32	48	22	14	2.84	A
4.	Inadequate ICT facilities	39	54	18	5	3.09	A
5.	High cost of maintenance of ICT facilities	40	49	19	8	3.04	A
6.	Inadequate competent staff	25	32	50	9	2.63	A
7.	Staff attitude towards use of ICT	21	50	30	15	2.66	A
8.	Lack of ICT policies	18	59	26	13	2.71	A
Grand Mean						2.89	A

Table 4 reveals the item- by- item mean scores on the factors militating against the provision of ICT-based library services for enhanced information access in the universities studied. The result of the analysis in the Table shows that the respondents agree that inadequate funds (3.19), slow bandwidth (2.93), irregular power supply (2.84), inadequate ICT facilities (3.09), high cost of maintenance (3.04), inadequate competent staff (2.63), staff attitude towards use of ICT (2.66) and lack of ICT policies (2.71) are the factors militating against the provision of ICT-based library services for enhanced information access in the universities studied with a grand mean of 2.89.

The finding confirms with the finding of Adebayo, Ahmed and Adeniran (2018) that limited financial resources, shortage of ICT facilities and ICT skills, lack of ICT policies, poor maintenance of ICT equipment, erratic power supply, insufficient bandwidth among others as the challenges of using ICT for provision of library services. Similarly, the finding corroborates the assertion of Oketunji as cited in Adeniran, Nwalo and Ajani (2020) that the library tasks have not been fully exploited because of its numerous challenges such as power failure, inadequate funds,

computer system failure, staff attitude towards use of ICT, lack of ICT policies and shortage of competent staff to manage the ICT facilities, which hinder the application of ICT in many Nigerian academic libraries. It also agrees with the finding of Marke and Waziri (2023) that the challenges faced by librarians in providing ICT- based library services include limited financial resources, shortage of ICT facilities, lack of ICT skills, poor maintenance of ICT equipment, lack of technical IT knowledge by library staff among others.

Conclusion

The drastic role of ICT in the provision of library services cannot be over emphasized as it enables faster, timely and round the clock library services to users of the library. Based on the findings of the study, computers, mobile phones, internet facilities, printers, CD-ROM, slide projectors, library-oriented software, flash drive and scanners are ICT facilities used by librarians to provide library services for enhanced information access among students. Consequently, there is need for university library management to integrate other ICT facilities in the library for effective service delivery. Electronic delivery services, online user education, institutional repositories services, provision of web access to OPAC, document scanning services, online readers advisory services, Selective Dissemination of Information services, document retrieval services and reprographic services are ICT-based library services provided for enhanced information access among students. This therefore implies that ICT has paved way for librarians to carry out library services in a more effective and convenient manner. However, irrespective of the benefits of ICT-based library services, there are problems affecting provision of these library services by librarians for enhanced information access in the library. These problems hinder librarians from rendering ICT-based library services with relative ease and in cost effective manner.

Recommendations

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

1. Government and university management should allocate adequate funds in their budget for university libraries to ensure continuous procurement, installation and maintenance of ICT facilities and also to intensify the subscription of electronic information resources in university libraries.

2. Government and university library management should recruit librarians with ICT skills in line with the global trends in order to provide effective ICT-based library services to students.
3. Efforts should be made by the university management and university library management to provide opportunities for continuous training and retraining of librarians on the use ICT to enhance their ICT skills for effective and efficient ICT-based library services to students.
4. University management and university library management should ensure constant power supply in university libraries to enhance effective service delivery. Also, uninterrupted internet services should be provided by university management to boost the efficiency of librarians in providing ICT-based services to students.

References

- Adebayo, O. A., Ahmed, Y. O. & Adeniran, R. I. (2018). The role of ICT in provision of library services: A panacea for sustainable development in Nigeria. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/1951> on 20/12/2023.
- Adeniran, C. O., Nwalo, K. I. N. & Ajani, Y. A. (2020). Application of Information and Communication Technology in academic libraries in Kwara State, Nigeria: Progress and challenges. *MBJLIS- Middlebelt Journal of Library and Information Science*, 18, 70-88.
- Amao, M. A. (2020). Use of Information and Communication Technology in library services, impact and challenges. *African Scholars Journal of Contemporary Education Research*, 19(8), 283-292.
- Enyinnah, A. U. & Aghadiuno, P. C. C. (2019). Functions and services of university libraries. In C. O. Nnadozie, C. P. Uzuegbu, M. C. Nwosu, K. N. Igwe and J. O. Akidi (Eds.). *University libraries: Issues and perspectives in Nigeria*. (pp.81-88). Lagos: Zeh Communications.
- Hoque, A. M. (2023). Libraries in the digital age: Importance of ICT in enhancing value-added library services. *International Journal of Creative Research Thoughts*, 11(3), 815-819.

- Hussain, M., Idrees, H., Faqir, K. & Haider, M. S. (2021). Assessment of ICT facilities in the public libraries of Khyber Pakhtunkhwa: A descriptive study. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/5949> on 24/12/2023.
- Hussaini, S., Haruna, M. & Muhammad, A. (2021). Application and use of ICT in university library service: A panacea for conventional library services. *Journal of Information Technology and Services*, 7(1), 1-8.
- Igwebuike, E. U. & Agbo, A. D. (2017). Improving ICT application of library and information services in special libraries in Nigeria. *Journal of Applied Information Science and Technology*, 10(2), 102-110.
- Iya, J. A. (2016). Academic library service delivery: The challenges of the 21st century. In R. K. Okoye, C. U. Eze and M. U. Oluwole (Eds.). *Information and Communication Technology and education in Nigeria: Challenges and prospects*. (pp.353-366). Onitsha: Global Academic Group Online Academic Resources.
- Marke, D. M. & Waziri, R. A. (2023). Use of Information Communication Technology (ICT) in library operation and management in two polytechnic libraries in Adamawa State of Nigeria. *International Journal of Law, Politics and Humanities Research*, 27(6), 115-127.
- Nitin, B.B. (2015). Availability, use and barriers of ICT in the college libraries in Nashik - Malegaon town: A survey. *A Journal of Library and Information Science*, 9(3), 141- 146.
- Nkanu, W. O. (2017). Availability and utilization of Information and Communication Technology facilities in Nigerian university libraries. *The Information Technologist*, 4(2), 56-62.
- Nnadieto, C. G. & Obiano, D. C. (2022). The role of Information and Communication Technology (ICT) in marketing of library and information products and services of academic libraries. *Jewel Journal of Librarianship*, 17(3), 11-18.
- Nwabueze, A.U. & Urhiewhu, O.L. (2015). Availability and use of digital information resources by undergraduates of universities in Delta and Edo States, Nigeria. *International Journal of Digital Library Services*, 5(2). Available at www.ijodls.in.
- Ogor, C. E. & Dushu, T. Y. (2018). Transforming library and information services delivery using

- innovation technologies. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2036> on 24/05/2024.
- Ogunsola, L. (2014). Nigerian university libraries and the challenges of globalization: The way forward. *Electronic Journal of Academic and Special Librarianship*, 5(2-3), 44-52.
- Onah, J. C., Ugwuanyi, L. I., Oni, O. A. & Eseni, N. O. (2020). Assessment of the Information and Communication Technology (ICT) literacy of librarians in National Root Crop Research Institute, Library. *International Journal of Research and Review*, 7(7), 64-74.
- Thompson, E. S. & Pwadura, J. (2014). Library automation at the University for Development Studies: Challenges and prospects. *New Review of Academic Librarianship*, 20, 66-77.
- Ubogu, J. O. (2019). Impact of information technology in Nigerian university libraries. *Open Access Library Journal*, 6, 1-13.
- Wawu, I. A. (2019). Impact of ICT utilization on library services in academic libraries. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/3682> on 24/05/2024.
- Yemi-Peters, O. E., Sokari, V., Olayemi, K., Haliru, Z. A. & Gama, U. G. (2019). The application of ICT in the circulation services of the university library, Federal University, Lokoja, Kogi State, Nigeria. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2798> on 24/05/2024.