



## STATUS OF AVAILABILITY AND UTILIZATION OF ICT FACILITIES IN ACADEMIC LIBRARIES OF PRIVATE UNIVERSITIES IN ENUGU STATE NIGERIA

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### Abstract

*The utilization of ICT facilities in the process of learning is of utmost importance and plays a vital role in the educational advancement of any given society. In this particular research, the current state of ICT facilities in academic libraries of privately-owned universities within Enugu state, Nigeria, was investigated. The research methodology employed was that of a descriptive survey design. The study's population consisted of the four private university libraries located in Enugu State. Data collection was carried out using a self-structured questionnaire and an observation checklist, which were administered to respondents in the four private universities. The information obtained from the questionnaires was then analyzed. The findings of the research indicate that ICT facilities such as computers, email, e-books, laptops/palmtops, internet, Wi-Fi, e-journals, social media, cellular phones, CD-ROMs, wikis, digital TV, tape records, scanners, and routers are available in the academic libraries of private universities in Enugu state. The utilization of these ICT facilities in the academic libraries of private universities in Enugu State is determined to be at a moderate level. The main challenges encountered in the utilization of ICT facilities in these academic libraries include irregular power supply, limited financial resources, inconsistent internet connectivity, inadequate number of ICT facilities, and negative attitudes of students or lack of interest in ICT. The study recommends that measures such as consistent power supply, sufficient financial support from both the parent institution and the government, reliable internet connectivity, provision of an adequate number of ICT facilities, helpful assistance from library staff, and the promotion of self-empowerment and computer literacy among students be undertaken. Furthermore, it is suggested that academic libraries in private universities in Enugu State should make a wider range of ICT resources available to students, organize regular educational events focused on ICT utilization, and internet connectivity, as well as actively seek collaborations and funding opportunities with external organizations.*

**Keywords:** *ICT, ICT facilities, Academic Libraries, Private Universities.*

## Introduction

ICT is an acronym that stands for Information and Communication Technology. According to Rahman (2004), ICT is a broader term for IT (Information Technology), which refers to all communication technologies, including the internet, wireless networks, cell phones, computers, software, middleware, video-conferencing, social networking, and other media applications and services enabling users to access, retrieve, store, transmit, and manipulate information in a digital form. Information and communication technology (ICT) include all internet-enabled infrastructures that are widely used today for all kinds of knowledge acquisition and networking. It includes all communication devices or applications like computer hardware and software, phones, television, projector, radio, satellite systems and all services and applications associated with distance learning, video conferencing, etc (Otubelu, 2010). IT is an essential ingredient needed for any form of integration for development, good practices that are technologically driven for economic, social, political, health, cultural, educational and information worldwide (Ogbomo, 2010, Ajala et' al, 2010). Hence, the impact of ICT can transform any society and accelerate sustainable development. Academic library, as an integral part of universities and other institutions of higher learning, may not meet up to the demands of its patrons without being adequately equipped with modern ICT facilities. ICT facilities facilitate the process of identification, collection, storing, processing and dissemination of information. Instant access to digital information is the most distinguishing attribute of the information age (Rahman et'al 2004). The real notion of ICT in the library is to ensure free and equal access to information that allows learning and knowledge transfer to flourish.

Okojie (2011) in Adizetu et'al (2019) opined that different ICTs do make some valuable contributions to various parts of educational development and effective learning through expanding access, promoting efficiency, improving the quality of learning, enhancing the quality of teaching and improving management systems. Quality education is characterized by effective library which is the reason National Universities Commission (NUC) and other regulating bodies emphasized its standard

and efficient operations. The Federal Government of Nigeria (2013) also maintains that education is tool par excellence for the actualization of national ideals. Thus, when students make effective use of ICT facilities in the libraries, learning is facilitated for knowledge development and personal enhancement. In spite of the dire need for ICT facilities in University libraries, status of the availability and utilization of ICT facilities in the academic libraries of private universities in Enugu State has not been ascertained through a research process. This study is, therefore, intended to find out the status of the availability and utilization of ICT facilities in the academic libraries of private universities in Enugu State.

### **Purpose of the study**

The purpose of this research is to assess the status of the availability and utilization of ICT facilities in the academic libraries of private universities in Enugu State, Nigeria. Specifically, this study aims to:

1. Identify the ICT facilities available for students' use in academic libraries of private universities in Enugu State.
2. Examine the extent of utilization of ICT facilities by students in the private universities in Enugu State.
3. Find out the challenges facing the utilization of ICT facilities in the private universities in Enugu State.
4. Find out the solutions to the challenges facing the utilization of ICT facilities in academic libraries of private universities in Enugu State.

### **Research Questions:**

The study was guided by the following research questions:

1. What are the current ICT facilities available for students' learning in Academic Libraries of private universities in Enugu State?
2. To what extent are the ICT facilities being utilized by the students in the private universities in Enugu State?
3. What are the challenges facing the utilization of ICT facilities in the private universities in Enugu State?

4. What are the solutions to the challenges facing the utilization of ICT facilities in academic libraries of private universities in Enugu State?

### **Literature Review**

The ICT section of academic libraries support and enable excellence in teaching, research and learning (Osuchukwu & Ayeni, 2017). Hence, the academic libraries assemble ICT devices of hardware and software, internet, e-mail; teleconferencing, tele-facsimile, CD-ROMs among others and make them available for utilization (Adebisi, 2009, Aliyu, 2011). These facilities are critical as they promote information flow for learning and research. The availability of ICT facilities and resources, if widely utilized in everyday life as well as in work places, will enhance social development. The effective utilization of ICT facilities can make the students participate actively in learning and research. According to Edinyang, Odey and Gimba (2015), ICT facilities enables access and utilization of information for research, learning, and education generally. Modern libraries are expected to ensure the provision of the latest and updated ICT facilities for greater and speedy access to information (Quadri, 2012). Libraries must ensure that resources and ICT facilities are constantly updated for effective interplay. Thus, there is need to acquire technologies for library services that develop in the students the capacity to transfer information and apply it in a dynamic cross-cultural context.

Conversely, studies have enunciated the challenges of effective ICT availability and usage (Ogbomo, 2010; Aliyu, 2011 and Eguavon & Adeyemi, 2012). The studies reported the lack of funds to acquisition, maintenance and training/ retraining of ICT staff of university libraries as the most fundamental challenges confronting the African universities. Similarly, Butcher (2011) stated that policy development challenges, lack of strong government support in advancing ICT facilities availability and usage in education as a broad social and economic development enterprise and prioritization of ICT investments as a means for development pose serious challenges to effective ICT use. This is indeed a pronounced problem in academic libraries (Otubelu, 2010 and Samuel & Abba, 2009). Uwaifo (2010) asserted that except the users are trained, they cannot be relevant in the use of ICT facilities. Omoniyi &

Akinboro (2009) mentioned that there is need for acquisition of skills and competence in the use of ICT facilities by both library staff and clientele for quality and efficient information service delivery. Competence is critical in ICT facilities utilization for achievement of goals because lack of ICT skills by users is part of the causes of negative attitude towards the use of ICT facilities in academic libraries.

Adizetu et'al (2019) investigated 'Availability and Utilization of ICT facilities for Teaching and Learning of Library and Information Science (LIS) Undergraduate Programme in Universities in South- South, Nigeria'. Also, Eze, et'al (2018) examined the adoption and utilization of e-learning facilities in education. Some of their findings include that ICT facilities required for teaching and learning such as internet connectivity, scanners, computers, photocopiers, printers, digital camera, public address system, television / video, mobile phones, LAN (Local Area Network), WAN (Wide Area Network), UPS (Uninterrupted Power Supply), stand-by generator, etc were available to a certain degree and proportion. The problems identified by the study include lack of proper awareness on the role of ICT in instructional delivery among lecturers and students of LIS undergraduate degree programme and imbalance in the provision of ICT facilities. The study revealed that adequate enhancement could also be achieved through training of lecturers in LIS education programme such as ICT workshops or in- service training, provision of funds for ICT development in tertiary institutions will remedy the challenges.

### **Research Methodology**

Descriptive survey research design was used for the study. The population of the study was made up of the four (4) ICT librarians representing the four academic libraries of the four private universities in Enugu state. The four private universities in Enugu State that were selected for this study were; Coal City University, Caritas University, Godfrey Okoye University, and Renaissance University. The ICT Librarians were selected because they are in the position to provide the correct information on ICT facilities of their universities. Self-structured questionnaire and observation checklist were used for data collection. A copy of the questionnaire was given to each ICT Librarian in each of the four private universities in Enugu State. The

responses were structured on a 4-point Likert scale of measurement labelled: VHE- Very High Extent, HE- High Extent, LE- Low Extent, VLE- Very Low Extent and Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). A total of four (4) copies of questionnaires were distributed, filled and returned for the study. Data collected through the questionnaire were analysed and presented by the use of descriptive statistics.

## Results and Discussion

### Research Question 1: What are the current ICT facilities available in academic libraries of private universities in Enugu State?

The result of the availability of ICT facilities in the academic libraries of private universities in Enugu State is presented in Table 1.

**Table 1: Availability of ICT facilities in the academic libraries of private universities in Enugu State**

| S/N | ICT Facilities    | Yes       |            | No        |            |
|-----|-------------------|-----------|------------|-----------|------------|
|     |                   | Frequency | Percentage | Frequency | Percentage |
| 1   | Computer          | 4         | 100.0      | -         | -          |
| 2   | E-mail            | 4         | 100.0      | -         | -          |
| 3   | E-Books           | 4         | 100.0      | -         | -          |
| 4   | Laptops/ Palmtops | 4         | 100.0      | -         | -          |
| 5   | Internet          | 4         | 100.0      | -         | -          |
| 6   | Wi-Fi             | 4         | 100.0      | -         | -          |
| 7   | E-journals        | 4         | 100.0      | -         | -          |
| 8   | CD-ROMS           | 1         | 25.0       | 3         | 75.0       |
| 9   | Wikis             | 1         | 25.0       | 3         | 75.0       |
| 10  | Social Media      | 3         | 75.0       | 1         | 25.0       |
| 11  | Digital TV        | 1         | 25.0       | 3         | 75.0       |
| 12  | Cellular Phones   | 3         | 75.0       | 1         | 25.0       |
| 13  | Tape Records      | 1         | 25.0       | 3         | 75.0       |
| 14  | Scanners          | 1         | 25.0       | 3         | 75.0       |
| 15  | Router            | 1         | 25.0       | 3         | 75.0       |

Source: Field survey data, 2023

The findings presented in Table 1 indicate that all of the respondents (100%) acknowledged the presence of ICT facilities such as computers, E-mail, E-books, Laptops/Palmtops, Internet, Wi-Fi, and E-journals in the academic libraries of private universities in Enugu State. Additionally, 75% of the respondents confirmed the availability of social media and cellular phones as ICT facilities in these libraries. However, a smaller proportion (25%) of the respondents agreed that ICT facilities like CD-ROMS, Wikis, Digital TV, Tape records, scanners, and routers were accessible in the academic libraries. This indicates that not all of the sampled ICT facilities are accessible within the academic libraries of private universities in Enugu State. The absence of essential ICT facilities in the academic libraries of private universities in Enugu State has various implications for library users. Primarily, it obstructs access to digital resources and online materials, thus limiting the availability of information for research and educational purposes. Secondly, it restricts the ability of library users to engage in online learning and blended modes of teaching, particularly in situations like the COVID-19 pandemic where face-to-face interactions are limited. Additionally, the lack of ICT facilities may result in inadequate library services and facilities, consequently impacting the overall learning experience of students and academics. Moreover, the dearth of necessary ICT resources can lead to challenges in communication and collaboration between library staff and faculty, impeding the effective delivery of library services. Consequently, the unavailability of ICT facilities in the academic libraries of private universities has a negative impact on users' access to information, learning opportunities, and the quality of library services. This finding is supported by the research conducted by Ilesanmi (2023), Lee et al. (2020), Bernard, Obiano, and Osuji (2022), and Osuchukwu, Obuezie, and Ogwuche (2018), who have all noted that the inadequate availability of ICT facilities in academic libraries hampers users' access to information and learning opportunities.

**Research Question 2: To what extent are the ICT facilities being utilized in the academic libraries of private universities in Enugu State?**

The findings regarding the degree to which information and communication technology (ICT) facilities are being employed in the academic libraries of private universities in Enugu State are displayed in Table 2.

**Table 2: The extent of utilization of the ICT facilities in academic libraries of private universities in Enugu State**

| S/N | ICT Facilities     | VHE | HE | LE | VLE | N | Mean | Decision |
|-----|--------------------|-----|----|----|-----|---|------|----------|
| 1   | Computer           | 3   | 1  | -  | -   | 4 | 3.75 | HU       |
| 2   | E-mail             | 2   | 1  | 1  | -   | 4 | 3.25 | HU       |
| 3   | E-Books            | 1   | 3  | -  | -   | 4 | 3.25 | HU       |
| 4   | Laptops / Palmtops | 3   | 1  | -  | -   | 4 | 3.75 | HU       |
| 5   | Internet           | 2   | 1  | 1  | -   | 4 | 3.25 | HU       |
| 6   | Wi-Fi              | 1   | 3  | -  | -   | 4 | 3.25 | HU       |
| 7   | E-journals         | 1   | 2  | 1  | -   | 4 | 3.00 | MU       |
| 8   | CD-ROMS            | -   | 1  | 1  | 2   | 4 | 1.75 | LU       |
| 9   | Wikis              | 1   | -  | 2  | 1   | 4 | 2.25 | LU       |
| 10  | Social Media       | -   | -  | 2  | 2   | 4 | 1.50 | LU       |
| 11  | Digital TV         | -   | -  | 2  | 2   | 4 | 1.50 | LU       |
| 12  | Cellular Phones    | 2   | 1  | -  | 1   | 4 | 3.00 | MU       |
| 13  | Tape Records       | 1   | -  | 1  | 2   | 4 | 2.00 | LU       |
| 14  | Scanners           | 1   | 1  | 1  | 1   | 4 | 2.50 | MU       |
| 15  | Router             | -   | 1  | -  | 3   | 4 | 1.50 | LU       |
|     | Grand mean         |     |    |    |     |   | 2.63 | MU       |

Source: Field survey data, 2023

Criterion Mean = 2.5

Note: VHE = Very High Extent; HE = High Extent; LE = Low Extent; VLE = Very Low Extent. HU = Highly Utilized; MU = Moderately Utilized; and LU = Low Utilization.

The findings presented in Table 2 demonstrate that the average responses of the participants regarding the extent to which ICT facilities are utilized in academic libraries of private universities in Enugu State is 2.67. This mean score surpasses the criterion mean score of 2.50, suggesting that, on average, the extent of utilization of ICT facilities in academic libraries of private universities in Enugu State is moderate.

Specifically, the results indicate that ICT facilities such as computers (mean = 3.75), e-mail (mean = 3.25), e-books (mean = 3.25), laptops/palmtops (mean = 3.75), internet (mean = 3.25), and Wi-Fi (mean = 3.25) are highly utilized in academic libraries of private universities in Enugu State. On the other hand, ICT facilities such as e-journals (mean = 3.00), cellular phones (mean = 3.00), and scanners (mean = 2.50) are moderately utilized in academic libraries of private universities in Enugu State. However, there is a low level of utilization of ICT facilities such as CD-ROMs (mean = 1.75), wikis (mean = 2.25), social media (mean = 1.50), digital TV (mean = 1.50), tape records (mean = 2.00), and routers (mean = 1.50) in academic libraries of private universities in Enugu State. This indicates that while many ICT facilities are effectively utilized in academic libraries of private universities in Enugu State, not all available ICT facilities in these institutions are fully utilized. The moderate utilization of ICT facilities in academic libraries of private universities by users carries several implications. Firstly, the moderate utilization of available ICT facilities limits users from fully benefiting from these facilities, which has resulted in the transformation of library spaces from being book-centered to technology-supported and learning-centered environments. Secondly, the use of ICTs has enabled libraries to offer faster and more efficient services, such as online public access catalogues, wireless networks, library marketing, and online reference services. However, the moderate utilization of these ICT facilities may hinder the maximum enjoyment of these services and the enhancement of learning opportunities for users. Moreover, libraries should develop and implement an ICT strategy that ensures adequate funding and effective training programs to ensure sustainability and relevance, thereby allowing library users to fully enjoy the benefits of using ICT facilities in academic libraries of private universities in Enugu State. This finding is consistent with the findings of previous studies conducted by Nitesh (2023), Ilesanmi (2023), and Osuchukwu, Obuezie, and Ogwuche (2018), who observed that increased utilization of ICT facilities in academic libraries for academic purposes alleviates the limitations associated with book-centered learning approaches.

**Research Question 3: What are the Challenges facing the utilization of ICT facilities in the academic libraries of private universities in Enugu State?**

The result of the mean response of the respondents on the challenges facing the utilization of ICT facilities in the academic libraries of private universities in Enugu State is presented in Table 3 below.

**Table 3: Challenges facing the utilization of ICT facilities in academic libraries in private universities in Enugu state**

| S/N | Challenges                                      | SA | A | D | SD | N | Mean | Decision |
|-----|-------------------------------------------------|----|---|---|----|---|------|----------|
| 1   | Epileptic power supply                          | 1  | 3 | 1 | -  | 4 | 3.75 | Accept   |
| 2   | Limited financial resources                     | 2  | 1 | - | 1  | 4 | 3.00 | Accept   |
| 3   | Irregular internet connectivity                 | 1  | 2 | 1 | -  | 4 | 3.00 | Accept   |
| 4   | Insufficient number of ICT facilities           | -  | 2 | 2 | -  | 4 | 2.50 | Accept   |
| 5   | Inadequate assistance from library staff        | -  | - | 3 | 1  | 4 | 1.75 | Reject   |
| 6   | Attitudes of students / lack of interest in ICT | -  | 3 | 1 | -  | 4 | 2.75 | Accept   |
|     | Grand mean                                      |    |   |   |    |   | 2.79 | Accept   |

Source: Field survey data, 2023

Criterion Mean = 2.5

Note: SA= Strongly Agree; A= Agree; D= Disagree; SD= Strongly Disagree.

The result in Table 3 revealed that the mean responses of the participants regarding the challenges facing the utilisation of ICT facilities in the academic libraries of private universities in Enugu State are 2.79. This mean score surpasses the criterion mean score of 2.50, suggesting that, on average, the listed items bordering on challenges facing the utilisation of ICT facilities in the academic libraries of private universities in Enugu State actually affected the utilisation of ICT facilities in the academic libraries of private universities in Enugu State. Specifically, the results indicate that epileptic power supply, limited financial resources, irregular internet connectivity, insufficient number of ICT facilities, and attitudes of students or lack of interest in ICT were accepted as the main challenges facing the utilisation of ICT

facilities in the academic libraries of private universities in Enugu State. This implies that epileptic power supply, limited financial resources, irregular internet connectivity, an insufficient number of ICT facilities, and the attitudes of students or lack of interest in ICT hindered the extent of utilising ICT facilities for academic purposes in the academic libraries of private universities in Enugu State. The implications of epileptic power supply, limited financial resources, irregular internet connectivity, an insufficient number of ICT facilities, and the attitudes of students or lack of interest in ICT on the utilisation of ICT facilities in private universities in Nigeria are significant. These challenges hinder the effective use of ICT tools and resources. Epileptic power supply and irregular internet connectivity make it difficult for students to access and utilise ICT facilities (Bernard et al., 2022). Limited financial resources may prevent students from acquiring personal laptops or computer systems, which are essential for utilising ICT for learning (Folasade and Kolawole, 2023). Insufficient numbers of ICT facilities in private universities may limit students' access to these resources (Tolulope, George, and Oluwatobi, 2022). Additionally, the attitudes of students and their lack of interest in ICT may result in under-utilization of available ICT facilities (Jacob, 2020). These challenges highlight the need for improved infrastructure, increased funding for ICT facilities, and efforts to enhance students' interest and skills in ICT in private universities in Enugu State.

**Research Question 4:** What are the solutions to the challenges facing the utilization of ICT facilities in academic libraries in private universities in Enugu State?

The mean responses of the respondents on the solutions to the challenges facing the utilization of ICT facilities in academic libraries of private universities in Enugu State is presented in Table 4 below.

**Table 4: Solutions to the challenges facing the utilization of ICT facilities in academic libraries of private universities in Enugu State**

| S/N | Solutions                                                                              | SA | A | D | SD | N | Mean | Decision |
|-----|----------------------------------------------------------------------------------------|----|---|---|----|---|------|----------|
| 1   | Regular power supply                                                                   | 3  | 1 | - | -  | 4 | 3.75 | Accept   |
| 2   | Adequate financial support to libraries from the parent institution and the government | 4  | - | - | -  | 4 | 4.00 | Accept   |
| 3   | Provision of regular internet connectivity                                             | 3  | 1 | - | -  | 4 | 3.75 | Accept   |
| 4   | Adequate provision of ICT facilities                                                   | 2  | 2 | - | -  | 4 | 3.50 | Accept   |
| 5   | Adequate assistance from library staff                                                 | 1  | 2 | 1 | -  | 4 | 3.00 | Accept   |
| 6   | Encouraging self-empowerment and computer literacy of students                         | 2  | 1 | 1 | -  | 4 | 3.25 | Accept   |
|     | Grand mean                                                                             |    |   |   |    |   | 3.54 | Accept   |

Source: Field survey data, 2023

Criterion Mean = 2.5

Note: SA= Strongly Agree; A= Agree; D= Disagree; SD= Strongly Disagree.

The results presented in Table 4 indicate that the participants accepted all six items related to the solutions for addressing the challenges in utilizing ICT facilities in academic libraries of private universities in Enugu State. The average score for these items was 3.54, suggesting that respondents recognized the importance of regular power supply, sufficient financial support from both the parent institution and the government, consistent internet connectivity, adequate provision of ICT facilities, helpful assistance from library staff, and the promotion of self-empowerment and computer literacy among students. These solutions are essential for overcoming the obstacles faced in utilizing ICT facilities in academic libraries of private universities in Enugu State, including unreliable power supply, limited financial resources, inconsistent internet connectivity, insufficient availability of ICT facilities, and students' attitudes or lack of interest in ICT. By ensuring regular power supply, libraries can overcome the challenge of unreliable electricity. Sufficient financial support will enable the acquisition of up-to-date and relevant ICT facilities. Consistent internet connectivity will enhance access to ICT tools. Moreover, the provision of

adequate ICT facilities and assistance from staff will equip library personnel to effectively utilize technology and provide effective guidance to users of academic libraries in private universities in Enugu State. Encouraging self-empowerment and computer literacy among students will further enhance their utilization of ICT facilities in libraries. This finding is consistent with previous studies conducted by Ajani et al. (2022), Sahabi and Otobo (2022), and Osuchukwu et al. (2018), which emphasized the importance of adequate funding for ICT programs, provision of ICT facilities, subsidized access to ICT facilities for schools, implementation of ICT policies, capacity development for lecturers, and the provision of reliable electricity and internet services in overcoming challenges related to the use of ICT facilities to enhance learning in higher education institutions in Nigeria.

### **Conclusion and Recommendations**

The ICT sections of academic libraries function as highly effective resource centers that are crucial for learning and research. These sections play a pivotal role in the production of individuals who possess a wealth of knowledge and are equipped to make valuable contributions to society. It is important to note that these resources are specifically designed for students to utilize at any given time, ensuring that they have constant access to the tools and information required for their educational and research endeavors. Based on the comprehensive findings obtained from this study, several recommendations can be made to further enhance the utilization and availability of ICT facilities in the academic libraries of private universities in Enugu State. Firstly, the academic library should strive to make a wider range of ICT facilities readily available and easily accessible to the students. This increased accessibility will undoubtedly make the learning process more dynamic and exciting, providing students with numerous opportunities to engage in developmental research that will ultimately contribute to the betterment of society as a whole. Furthermore, it is crucial for the library and the school management to regularly organize updates, seminars, workshops, and conferences focused on the utilization of ICT facilities. These educational events will serve as a means to continuously enhance the knowledge and

skills of both students and staff members. By actively participating in such activities, students and staff will be able to maximize their productivity and effectively utilize the available ICT resources. In addition to the aforementioned recommendations, it is imperative to address the issue of power supply and internet connectivity within the academic libraries. The improvement of these essential aspects will undoubtedly contribute to the sustainability of the ICT facilities' durability and utilization. A reliable power supply and strong internet connectivity are vital for ensuring that the ICT facilities can be utilized to their full potential, ultimately leading to maximum satisfaction for the users. Moreover, university libraries should actively engage in the process of writing proposals, seeking funds, and collaborating with other organizations to facilitate the development of ICT infrastructure, staff development, and resource sharing. By adopting such proactive measures, university libraries can ensure the long-term sustainability and effective impact of their ICT resource centers. Collaborative efforts with external organizations will not only provide financial support but also foster a culture of innovation and continuous improvement within the academic libraries. By implementing these recommendations, academic libraries can ensure the sustainability and effectiveness of their ICT resource centers, ultimately contributing to the development of well-informed individuals who will make valuable contributions to society.

## References

- Adebisi, O. L. (2009). IT availability, accessibility and resource sharing in the Federal Polytechnic Libraries in South-West Nigeria. *International Journal of Information and Communication Technology*. Vol. 6 (2):169-176.
- Adizetu, A.A, Nwafor, M. C. & Onoh, C. (2019). Availability and Utilization of ICT facilities for Teaching and Learning of Library and Information Science (LIS) Undergraduate Programme in Universities in South- South, Nigeria. *Journal of Applied Information Science and Technology* 12 (2): 26-35.
- Abarony, N. & Shonfield, M. (2015). IT use: Educational technology and Library and information science. *The Information Technologist* Vol. 5 (2):62-69.

- Ajala, I. O.; Adegun, A. I.; Aderunji, A. & Oyewumi, O. O. (2010). The Impact of internet use on teaching and research by Ladokpe Akintola University of Technology (LAUTECH) academic staff. *International Journal of Information and Communication Technologies*. Vol.7 (2).
- Ajani, Y. A., Tella, A., Salawu, K. Y., & Abdullahi, F. (2022). Perspectives of Librarians on Awareness and Readiness of Academic Libraries to Integrate Artificial Intelligence for Library Operations and Services in Nigeria. *Internet Reference Services Quarterly*, 1 – 18. <https://doi.org/10.1080/10875301.2022.2086196>
- Aliyu, U. F. (2011). The challenges posed by information Communication technologies (IT) facilities to students of tertiary institutions in Bauchi State. *Information Impact: Journal of Information and Knowledge Management*. Vol. 2 (2):43-50
- , I. I., Obiano, D. C., & Osuji, C.E. (2022). Perceived Constraints to the Utilization of ICT Facilities in Selected University Libraries in Imo State, Nigeria. (2022). *International Journal of Library and Information Science Studies*, 8(1), 33–38. <https://doi.org/10.37745/ijliss.15/vol8no1pp.33-38>
- Butcher, N. (2011). *IT, education, development, and the knowledge society*. Thematic paper prepared for GeSCI African Leadership in IT program December 2011. Available at <http://creativecommons.org/licenses/by-nc-sa/3.0/>
- Edinyang, S. D.; Odey, C. O. & Gimba, J. (2015). IT and knowledge Integration for social development in Nigeria. *British Journal of Education*. Vol. 3 (10):13-21
- Edom, B. O. (2007). An assessment of the problems of the use of IT facilities information sourcing and retrieval by the academic staff in Nigerian University. *The Information Technologist*. Vol. 4 (2): 113-127.
- Eguavon, O. E. and Adeyemi, B. M. (2012). Use of IT in selected libraries in Ibadan, Oyo State, Nigeria. *Information Impact: Journal of Information and Knowledge Management*. Vol. 3 (1&2):67-76
- Eze, S.C., Chinwendu, V. & Bello, A.O. (2018). Adoption and Utilization of E-learning facilities in the educational delivery system of Nigeria: a study of M-University. *International Journal of Educational Technology in Higher Education* 15:34. Available at <https://doi.org/10.1186/s41239-018-0116-z>

- Federal government of Nigeria (2013). *National policy on education (revised edition)*. Abuja: NERDC Press
- Folasade B. O. & Kolawole A. A. (2023). Information and communication technology adoption and electronic information resource usage among university-owned senior secondary school students in southwestern Nigeria. *Journal of ICT Development Applications and Research*, 5(1), 1–21. <https://doi.org/10.47524/jictdar.v5i1.2>
- Haliso, Y. (2007). Internet availability and use in academic libraries in South West Nigeria. *Babcock Journal of Management and Social Science*, Vol. 5 (2): 246-261
- Ibrahim, H. & Abdullahi, Z. M. (2008). Use of information and communication technology (IT) for information service delivery In University Libraries in Adamawa State. *The Information Technologist* 5(2): 24-30
- Ilesanmi, T. C. (2023). Librarians' ICT skills and service delivery in private universities in Nigeria. *Information Impact: Journal of Information and Knowledge Management*, 14(1), 54–75. <https://doi.org/10.4314/ijikm.v14i1.4>
- , O. N. (2020). An Investigation into the Challenges Preventing Students of Educational Administration and Planning from Using ICT for Learning in Nigeria Higher Institutions. *International Journal of Advances in Data and Information Systems*, 1(2), 69–79. <https://doi.org/10.25008/ijadis.v1i2.188>
- Lee, W., Yatin, S. F. M., Supahan, S., Yuzli, U. H. S., Abdul Rahman, S., Ahmad, A. R., Mustafa, A., & Baharuddin, K. (2020). Academic Library Barriers: Case Study in Private University Library. *International Journal of Academic Research in Business and Social Sciences*, 10(11). <https://doi.org/10.6007/ijarbss/v10-i11/8117>
- Moran, B. B. & Leonard, E. (2009). *Encyclopedia of Library and Information Sciences* (Third Edition). Edited by Marcia J. Bates and Mary Niles Maack. CRC Press, P.-10. Available at <https://doi.org/10.1081/E-ELIS3-120044390>
- Nannin, F.A. (2018). Investigating the Availability and Utilization of ICT Teaching facilities in Abubakar Tafawa Balewa University, Bauchi. Master's Thesis in Computer Education. Available at [www.researchgate.net/profile/NanninFadip/publication/links](http://www.researchgate.net/profile/NanninFadip/publication/links)

- , V. C. (2023). Use of Information Communication Technology in Academic Library. *International Journal for Multidisciplinary Research*, 5(1). <https://doi.org/10.36948/ijfmr.2023.icmrs23.63>
- Ogbomo, E. F. (2010). Undergraduate students' information seeking behavior in an IT based environment: The case of library and Information science, Delta State University, Abraka, Nigeria. *Information Impact: Journal of Information and Knowledge Management*. Vol. 1 (3):72-80
- Omekwu, C. O. (2007). Information and communication technology imperatives for law Libraries. In C. O. Omekwu (Ed), *Law Libraries in Nigeria*. Abuja: Nigerian Association of Law Libraries p. 93-109
- Omoniye, J. O. & Akinboro, E. O. (2009). Re-positioning librarianship education and practice for IT challenges in Nigerian University Libraries. *The Information Technologists* Vol. 6 (1): 45-51.
- Osuchukwu, N. P. & Ayeni, P. O. (2017). The roles of libraries and librarians in integrating national development in South-East Nigeria. Paper presented at the 55<sup>th</sup> National Conference of Nigerian Library Association. Theme: Libraries in promotion of national integration for development at University of Lagos Multipurpose Halls, Akoka, Lagos State.
- Osuchukwu, N. P., Obuezie, A. C., & Ogwuche, G. O. (2018). Availability and utilization of information communication technology facilities in a private university library in Nigeria. *Information Impact: Journal of Information and Knowledge Management*, 8(3), 16. <https://doi.org/10.4314/ijikm.v8i3.2>
- Otubelu, N. J. (2010). Access to digital information in Nigerian academic libraries: The role of Education Trust Fund. *Information Impact: Journal of Information and Knowledge Management*. Vol. 1 (2):41-49
- Quadri, G. O. (2012). Impact of IT skills on the use of e-resources by information professional: A review of related literature. *Library Philosophy and Practice*.
- Rahman, A.; Uddin, H. & Akhter, R. (2004) Information and Communication Technologies, Libraries and the Role of library professionals in the 21<sup>st</sup> century: With special reference to Bangladesh.
- , M. K., & Otobo, E. E. (2022). Academic Library and Challenges of Service Delivery in Nigerian Universities in the Digital Era. *Information Impact: Journal of*

*Information and Knowledge Management*, 12(2), 51–61.  
<https://doi.org/10.4314/ijikm.v12i2.4>

Samuel, A. A. & Abba (2009). Factors inhibiting the implementation of information and communication technologies (IT) in Nigeria University Libraries. *The Information Technologist*. Vol. 6 (1):33-43

Tolulope, A. A., George, T. O., Oluwatobi, D. A. (2022). Electronic learning during the covid-19 pandemic lockdown and the challenge of usage among selected undergraduate students of private and public universities in Nigeria. [https://doi: 10.46529/socioint.202238](https://doi.org/10.46529/socioint.202238).

Uwaifo, S. O. (2010). Information and communication technologies and library services in society. In E. C. Madu & C. N. Ezeani (ed), *Modern Library & Information Science for Information Professional in Africa*. Ibadan: Textlinks Publishers p. 233-240

William, O. N. (2008). Utilization of information and communication Technology facilities in Nigeria University Libraries. *The Information Technologist*. Vol. 5 (2):1-5.

Womboh, Y. B & Abba, T. (2008). The State of Information and Communication Technology (ICT) in Nigerian Universities Libraries: The experience of Ibrahim Babangida Library, Federal University of Technology. *Sociology / Library Philosophy and Practice*. Available at [https://www.semanticscholar.org/paper/The-state-of-information-and-communication-\(ICT\)](https://www.semanticscholar.org/paper/The-state-of-information-and-communication-(ICT))