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UTILIZATION OF INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) FACILITIES BY POSTGRADUATE STUDENTS IN FRANCIS SULEMANU IDACHABA LIBRARY UNIVERSITY OF AGRICULTURE, MAKURDI

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**UTILIZATION OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
(ICT) FACILITIES BY POSTGRADUATE STUDENTS IN FRANCIS SULEMANU
IDACHABA LIBRARY UNIVERSITY OF AGRICULTURE, MAKURDI**

BY

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ABSTRACT

The study investigated utilization of Information and Communication Technology (ICT) Facilities by Postgraduate Students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi-Benue State, Nigeria. The study looked at the ICT facilities available for utilization by Postgraduate Students, extent of utilization of ICT facilities by Postgraduates Students, purpose of utilization of ICT facilities and factors militating against effective utilization of ICT facilities by Postgraduate Students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. The study adopted descriptive survey research design. The population of the study was 3651 Postgraduate Students registered with Francis Sulemanu Idachaba Library. The sample size for the study was 361 Postgraduate Students who were composed using Yaro Yamene's formula for sample size determination and simple random sampling technique. The instrument for data collection was an observation checklist titled "Checklist on Availability of ICT Facilities by Postgraduate Students (CAIFPS) and self-structured questionnaire titled "Questionnaire on Utilization of ICT Facilities by Postgraduate Students (QUIFPS) which was validated by experts. The reliability of the instrument was established using Cronbach Alpha method and a reliability coefficient of 0.83 was obtained. Data was collected and analyzed using frequency counts, simple percentages and mean scores to answer the research questions. Findings of the study revealed that, information and communication technology facilities such as computer hardware and software, OPAC, electronic databases, internet connectivity, photocopiers, Laminating/Scanning machines, virtual library (e-library), printers, CD-ROM, projectors, audiovisuals, flash memory discs, and television are available for utilization by Postgraduate Students. Postgraduate Students as revealed by the findings utilized the available ICT facilities to a great extent. Findings of the study further revealed that, Postgraduate Students utilized the ICT facilities available for various purposes such as for in depth research work, to prepare for examination, to update subject knowledge, consultation of reference materials to complete thesis and dissertation, among others. The study also revealed that, the factors militating against effective utilization of ICT facilities by Postgraduate Students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi includes internet connectivity always off, electricity failure, lack of awareness on existence of ICT facilities, inadequate assistance from library staff among others. The study concluded that, ICT facilities are available for utilization by Postgraduate Students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. Recommendations were made that, there should be inclusion of ICT literacy course into Postgraduate programme of the university to enhance students' knowledge of ICT usage in the university library, university library should provide proper guidance for Postgraduate students to use ICT resources and facilities effectively, among others.

KEYWORDS: Utilization, Information and Communication Technology, Postgraduate students.

1.1 Introduction:

A library plays an important role in the academic institution providing access to world-class information resources and services and stimulates academic research in the country. Hence, the success of any educational institution depends upon its library, as library services are fundamental, which affect the whole educational system. National Knowledge Commission report mentions that libraries play a pivotal role in the dissemination of knowledge. They are an extremely important element of the foundation of a knowledge economy. Higher educational libraries are experiencing a massive change in the way they function (National Knowledge Commission Report, 2006-2009). University libraries like the Francis Sulemanu Idachaba library being part of higher education are no exception. Francis Sulemanu Idachaba library support learning, teaching, research and other educational functions appropriate to their parent institutions. The special collections cater to the needs, not only for teaching and learning but also for research, publication, conservation of ideas and knowledge.

University libraries in Nigeria as integral academic parts of the universities that supports teaching, learning, research and personal development, generally started with the establishment of the first educational institution (university of Ibadan and its library) in 1948 (Odionye, 2016). Subsequently, there are as many university libraries as there are universities example is the Francis Sulemanu Idachaba Library University of Agriculture, Makurdi with departmental libraries across the campus. The crucial function of library is to provide unlimited access to information with the increasing reliance on Information and Communication Technology. Libraries are now playing a significant role in implementing and moderating a country's information society programmes. University library is the hub of learning and research activities in academic institutions based on its information acquisition, organization, storage, and retrieval as well as dissemination functions to the community. According to Ugwuanyi (2011) the achievement of the goals of the university is paramount to the establishment of the university library. Librarians are at the threshold of these activities and are now faced with the emergence of information technology in the scene of information exchange. This brought new tools and techniques of acquiring and handling information. Hence, Nigeria government has recognized the need for the development and expansion of the education sector and ICTs has become the norm following the worldwide integration among countries. According to Aina (2010), ICT became a norm in the final two decades of the last century and its emergence could be attributed to some inter-related factors such as social, economic and technological changes of the past decades which are now providing more education and training for all than before.

University libraries invest considerable sums of money for providing students with ICT facilities and resources they need for their research work, with the consideration that getting better on the use of ICT resources among postgraduate students will guide to increase in scholarly productivity. Moreover, there appears to be a sweeping change in university library's collections from the print to the ICT based resources that provide easier access and improve students' ability to retrieve their needed information and perhaps stir new ideas and finally improve the quality of their research work (Vakkari cited in Abubakar, Gupiyem & Banwar, 2017).

The phrase ICT had been used by academic researchers since the 1950s, information and communication technology has induced traditional libraries to transform into digital libraries. The libraries have transformed from close-access libraries of earlier times to the present day hybrid, digital, and virtual libraries (Sivakami & Rajendran, 2016). Librarians have been changed from mere storekeepers who were concerned with the protection of books against theft, mutilation, and pilferage, to that of information officers, navigators, and cybrarians who encourages use in the vast ocean of reading or information material. They are busy satisfying their clients who want information anytime, any format and anywhere. University libraries provide quicker and user-oriented services with the use of Information and Communications Technology facilities and resources.

Information and communication technology (ICT) is defined as a diverse set of technological tools and resources used to communicate, create, disseminate, store, manage information and promote human activities (Awotona, 2019). These technologies include; computers, internet, printer, scanner, photocopy machine, binding machine, laminating machine, broadcasting technologies (radio, public address speaker and television), projector and telephony among others, and are widely used in today's education field most especially academic libraries. Agboola and Shaibu (2019) defines information and communication technology as the application of computers and other technologies to the acquisition, organization, storage, retrieval and dissemination of information. Information communication technology are described as the technologies that enable society to create, collect, consolidates, communicate, manage and process information in multimedia and various digital formats for different purpose i.e., computing and telecommunication technologies like the personal computer, CDRom, cable TV, cellular phones and the internet. Khan (2016) in his own terms posited that ICT deals with the use of electronic computer and software to convert, store, process, transmit and retrieve information. It is a generic term that covers the acquisition, processing, storage and dissemination of information. It involves the application of computers and communication technology in the task of information handling and information flow from the generation to the utilization levels. Therefore ICT are those tools and technologies that facilitates the easy creation and use of information, knowledge and ideas in all spheres of human endeavour.

ICT is often perceived as a catalyst for change, change in teaching styles, and change in learning approaches and in access to information. It refers to technologies that provide access to information through telecommunications. Use of ICT has changed our conventional ways of learning and proposes the need to rethink education in terms of a more current context. ICT capability is fundamental to participation and engagement in modern information society. ICT can be used to find, develop, analyse and present information, as well as to model situations and solve problems. ICT enables rapid access to ideas and experiences from a wide range of people, communities and cultures, and allows pupils to collaborate and exchange information on a wide scale (Khan, Bhatti & Khan, 2011). Education is the first and best key area for ICT applications. ICTs can help by providing alternative possibilities for education (Casal, 2007). The purpose of ICT in education is generally to familiarize students with the use and workings of computers, and related social and ethical issues. ICT has also enabled learning through multiple intelligence as ICT has introduced learning through simulation games; this enables active learning through all senses. Use of different information communication technologies

has become inevitable for postgraduate students in learning. By using modern information communication technologies, postgraduate students can retrieve their required information within a short time. They can access and disseminate electronic information like e-books, e-journals and can improve their learning by using different modern ICTs in form of wireless networks, internet, search engines, databases, websites and web 2.0 technologies (Khan, Bhatti & Khan, 2011).

Utilization of information and Communication Technology (ICT) in this study means the extent to which the library users (postgraduate students) are able to exploit and benefit from the ICT facilities, resources and services to satisfy their needs. Effective utilization of ICT by students enhances knowledge and academic performance. Mucai (2013) views utilization as taking advantage of an item and benefiting from it and emphasizing that utilization of appropriate resources plays an important role in the academic achievement of educational goals. Utilization as used in this study implies that making effective use of the ICT facilities available in the library.

The availability of the right information at the right time and in the right form is of utmost importance to users for their knowledge and developmental activities. Developments in information and communication technology-ICT have greatly changed the methods of information handling. ICT may be any combination of tools and procedures that facilitate the generation, acquisition, storage, organization, retrieval, searching, viewing, updating and transmission of information using electronic means. The tools used in ICT include computer programs, databases, communication networks, analysis and design methods, programming languages, artificial intelligence, knowledge bases, etc. ICT has long-standing influence in almost all areas of human activity. Over the past two decades, libraries have become increasingly aware of the revolutionary impact of developments in information and communication technology on their key functions. The application of ICT facilitates easy and instantaneous access to information. It provides opportunities for libraries and information centres to widen the scope of their resources and services and to increase their significance within the organization they serve. The increasing availability of information in machine-readable form allows much information needs to be satisfied with the decreased involvement of library and librarians.

In this study, a postgraduate student is a student who has successfully completed an undergraduate degree level course at a college or university and is undertaking further study at a more advanced level. A postgraduate student is also defined as one who has completed a baccalaureate degree program and is continuing coursework toward additional degrees, diplomas or certification (Wikipedia, 2019). In essence, a student who has obtained a degree from a university, etc., and is pursuing studies for a more advanced qualification is known as a postgraduate student. Postgraduate degrees were intended to equip the degree holder to teach a particular subject. The two main credentials that postgraduate students seek are master's degrees and doctoral degrees (Ozowa, 2017).

The Federal University of Agriculture Makurdi (FUAM) established on 1st of January, 1988 had evolved from the defunct Federal University of Technology which was established in 1980 and later became the Makurdi campus of the University of Jos (UniJos) in October, 1980. The

underlying philosophy is that the average Nigerian farmer should have easy access to the fruits of scientific agriculture (FUAM, 2019). This means that the university scientific community must work on practical problems of village farmers. Also, the students to become useful and effective extension agents they must be for adequately exposed to the discipline of practical farm planning, production and marketing and a period of supervised farming internship at the village level. The basic philosophy then is the democratization and liberation of the scientific transformation of Nigerian agriculture with small scale farmers in the vanguard. FUAM is to become a major institutional player in the process of National and global human resource capacity building in agriculture, science, engineering and technology (ASET) for rapid economic growth. FUAM is to develop the human mind to be creative, innovative, research oriented, competent in areas of specialization, knowledgeable in entrepreneurship and dedicated to service hence the UAM logo “Innovation and Service”. The underlying philosophy is that the average Nigerian farmer should have easy access to the fruits of scientific agriculture. This means that the University scientific community must work on the key practical problems of village farmers. Also, the students, to become useful and effective extension agents must be adequately exposed to the discipline of practical farm planning, production and marketing and a period of supervised farming internship at the village level. The basic philosophy then is the democratization and liberalization of the scientific transformation of Nigerian agriculture, with small-scale farmers in the vanguard (FUAM, 2019).

Historically, the main library arm of the Federal University of Agriculture was established on 1st January, 1988. It later metamorphosed into the University of Agriculture library, Makurdi, from the University of Jos Makurdi Campus and later renamed after the first Vice-Chancellor of the University; Francis Sulemanu Idachaba (FUAM, 2019). The library is housed in its ultra-modern building located around the ring road in the North Core of the University. It has a usable floor area for 1,250 readers. The University library has a centralized organizational structure. The library which was planned to be built in three phases had only the first phase constructed and completed and is now fully occupied and utilized. It is located at the North-Core of the University with a total sitting capacity for 1,200 readers. Currently, the library can seat more than 600 users planned to be accommodated in the first phase of the building. As the heartbeat of the university, the library serves as the educational life-wire of every serious user. In March, 2005, library services was brought to the doorstep of its users through establishment of eight (8) college libraries namely Science, Food Science and Technology, Engineering, Forestry, Management Science and Veterinary Teaching Hospital, Animals Science, Agronomy. However, Colleges of Agriculture Economics and Extension, Agronomy and Agriculture and Science Education are yet to have college libraries (FUAM, 2019). Presently, the university library has about 40,826 volumes of books and 2,542 journals titles. Technical Support for Electronic Sources in Francis Sulemanu Idachaba Library Francis Idachaba Library has ICT unit with three centres namely: undergraduate electronic unit, postgraduate/staff electronic unit and electronic centre. The library has its own server and battery Inverters. Hence, library collections can be accessed even when there is no electricity. The university library has an e-library for students donated by National Rural Information Technology Development Agency (NITDA). It was established with Internet facility for E-learning and library automation. The electronic library is a form of cyber café within the library where students can access the

Internet and search for library materials. The university library subscribed to several databases such as AGORA, HINARI, OARE, AJOL, EBSCOhost, JSTOR, Encyclopaedia Britannica, EBSCOhost Professional Development, EMERALD; ACCESS, Science by McGraw Hill, GALE SCIENCE in context and Nigerian Virtual Library. The university library has a website, which linked (7) universities and organizations abroad, namely: Cape Town University, South Africa, Arizona State University, USA, Capilano University, Canada, Higher Education Academy, UK, Yale University, USA, New Jersey Institute Of Technology, USA John Hopkins Bloomberg School Of Public Health, USA Offline Virtual Resources Recently added to the rich resources in the university library is TEEAL. This contains one terabyte (1TB) of information across Agricultural and related fields that are placed on a web server. The LAN is used to access these resources in the e-Library centre within the university library with 45 computer systems. Other downloaded offline resources of about one terabyte covering all educational fields are also available in the same network location.

ICT has become an indispensable educational tool in Nigerian university libraries for teaching, learning and personal development of users, both staff and students. It therefore behoves the university librarians to ensure that the method with which library users are taught to use library ICTs are firmly rooted within the relevant subject for academic purposes. They should be able to assist library users to search for and find high-quality information in a fast and effective manner. The capacity of users to exploit the ICT depends on the level of literacy, education and mastery of the technologies convened. Ugwuanyi (2011) citing Memuo (2002) notes that people should be sensitized to be able to use stand alone computers, use computer networks, primarily the internet, use basic applications such as word processing, spreadsheet, and electronic mail and possibly more advanced ones such as presentations, production of web pages, construction of websites, use of digital multimedia equipment and programs. It has been observed that most universities including Francis Sulemau Idachaba library University of Agriculture, Makurdi and other research libraries have been registered with databases such as AGORA, HINARI, ARDI, OARE, CAB, AGRIS, BLACKWELL, ELSEVIERE etc. As such, a researcher like the postgraduate students in any of these libraries can access relevant research information from these databases. Because of the existing cooperation among the AGORA publishers and other database providers, it is possible for researchers to have access to these databases through AGORA from any of the registered libraries. Furthermore, Nigerian academics and researchers now have access to academic resources in the National Virtual Library operated by the National Universities Commission (NUC). It is believed that when other virtual libraries effectively evolved in Nigerian universities, there will be more global interaction among them in order to best serve their users.

Despite the numerous benefits of ICT to students in terms of teaching, learning, and research, it has been observed that postgraduate students do not make adequate use of ICT facilities available in Francis Sulemanu Idachaba library, University of Agriculture, Makurdi. This is the issue that this research is being conducted to address.

1.2 Statement of the Problem:

Information and communication technologies (ICT) are electronic technologies used for information storage and retrieval. Information and communication technology (ICT) refers to information-handling tools used to generate, store, process, spread and share information. The integration of information and communication technology (ICT) in education, to some extent, has become one of the tools in improving the quality of educational systems. There are many pieces of evidence that shows the use of ICT in education provides useful pedagogical, social and economic benefits to students. Advances in the application information and communication technologies (ICTs) have changed the perception, management, and dissemination of information. ICT has the potential to improve the quality of life by providing new tools for access to information and knowledge management. The widespread availability and convergence of ICTs have led to an unprecedented capacity for dissemination of knowledge and information. The impact is felt in many fields and environments worldwide. ICTs are changing the ways in which academics seek information, communicate with each other, conduct research and distribute research results. All these point to the fact that information and communication technologies are very important for effective teaching, learning, and research activities in an academic environment. The use of information communication technologies has helped academicians, students, educationists and researchers as well as other groups to gather not only information which is normally not available but has also made the impact in helping students to surf for the information which is normally not available to them.

Despite the tremendous benefits of ICT to postgraduate students in terms of learning, teaching, and research, it has been observed that majority of the postgraduate students in university of Agriculture, Makurdi do not make adequate use of the ICT resources, services and facilities in Francis Sulemanu Idachaba library. Could it be that the postgraduate students are not aware of the availability of the ICT facilities within the university library? Could it be that the students lack the necessary skills to make effective use of the available ICT facilities? Or could it that the ICT facilities are available in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi, but the postgraduate students are faced with challenges why utilizing them for academic purposes? These are the gaps that this research is intended to fill. Hence the need for this study which is designed to investigate the utilization of ICT by postgraduate students in Francis Sulemanu Idachaba Library, University of Agriculture, Makurdi.

1.3 Objectives of the study:

The main purpose of this study is to investigate the utilization of Information and Communication Technology (ICT) facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. Specifically, the study seeks to:

1. Find out the ICT facilities available for utilization by postgraduate students in Francis Sulemanu Idachaba library University of Agriculture, Makurdi.
2. Ascertain the extent of utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi.
3. Find out the purpose of utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi.

4. Find out the factors militating against effective utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi.

1.4 Research Questions:

The following research questions were structured to guide the study:

1. What are the ICT facilities available for utilization by postgraduate students in Francis Sulemanu Idachaba library University of Agriculture, Makurdi?
2. To what extent are ICT facilities utilized by postgraduate students in Francis Sulemanu Idachaba library University of Agriculture, Makurdi?
3. What are the purpose of utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba library University of Agriculture, Makurdi?
4. What are the factors militating against effective utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba library University of Agriculture, Makurdi?

2.1 REVIEW OF RELATED LITERATURE

Awotona (2019) carried out a study on use of Information and Communication Technology by Post Basic Midwifery Students: A case study of Oyo State College of Nursing and Midwifery, Eleyele, Ibadan. The study revealed that most of the respondents used of the internet frequently and daily, the used internet for literature searches and reading recommended coursework respectively; majority of the respondents were confident about handling mouse, using keyboard, proficient in the use of Microsoft word and other word processing applications, majority do not know how to use Microsoft excel and spreadsheet package, power-point presentation packages effectively. A slight number above average were confident about surfing the internet, accessing e-mails, social media while majority do not know how to use medline and data management. The study further recommended that, there is need to intensive training in area of using Microsoft excel and spreadsheet package, power-point presentation package, medline and data management; there is also the need to provide and make available computer in the college by providing a computer laboratory stocked with adequate number of system where the students can go in to access the computer and trained themselves in the area that they needed to improve on and creating an enabling environment for the student to interacts with IT staff more and providing necessary infrastructure such as creating on campus computer network for ease of access to computer and information resources; on e-resources, the students needed to get use of the library more effectively as there are numerous electronic resources from credible sources within the library; they also needed to ask the librarian and other library staff for support when they needed it; the students has to deployed ICT and its tools to learning resources more than just scanning the internet reading e-mails and chatting with friends online. There is need to teach them searching techniques and databases that can be beneficial to their courses.

Also, Babayi, Abba and Aliyu (2019), attitude of students towards utilization of computerized library services in Nigerian libraries. The findings of the study revealed that, majority of the

respondents are aware of internet as computerized services available and offered in the library; also the study revealed that majority of the respondents acquire internet skills and have skills of using search engines such as google and yahoo as required to make use of the computerized library services. Furthermore, the findings of the study revealed that, majority of the respondents support automation of the entire library services. It also indicated that, they have positive attitude towards library services. Moreover, the findings of the study reveals with overwhelming majority that unsteady power supply is the most significant factor that hinders the use of the computerized services in the library. Finally, the result of the study also shows that majority of the respondents suggested the provision of backup plan for power supply.

Furthermore, Osuchukwu, Obuezie and Ogwuche (2017) conducted a study on availability and utilization of Information and Communication Technology facilities in a private university library in Nigeria. A case study of Madonna University, Nigeria. The findings of the study showed that the ICT section has resources and facilities that are available which students utilized to a certain extent. The available ICT facilities includes computers, internet, photocopier, flash drives, scanner, CD-ROMs, e-mail services, as well as institutional website. It also showed that students utilized the ICT facilities and resources available frequently and to a very great extent. Although, there are issues as some ICT facilities are not available, thereby not utilized by the students. Other challenges are inadequate assistance from staff, epileptic power supply, irregular internet connectivity, inadequate ICT equipment and infrastructure, inconvenient time of opening hours as well as no training on ICT utilization in the library. The study further recommended the provision of more ICT facilities, regular updates and trainings on use of ICT, among others.

Similarly, Odionye (2016) carried out an investigation on uses and application of ICT in Nigeria University Libraries: the case of UNN. Specifically, the objectives of the study: the availability of ICTs in University of Nigeria Nsukka Library; the ICT facilities used by the staff and students of the (UNN) library; the purpose for which they use the ICT resources as well as challenges encountered in using the ICT facilities in the library. Findings of the study revealed that, ICT facilities are available in UNN library but some are available than others. The facilities mostly used are OPAC, internet and virtual library, which are used to source for reference materials, complete project work, update knowledge and lecture notes. The major challenges encountered in the use of ICT facilities are revealed by the findings was, irregular power supply and irregular cooling environment. Upon these findings, the study recommended among others, the constant acquisition and provision of ICT facilities in the library by the government and university management, and the provision of constant power supply in UNN library which will enhance effective functioning and usage of the ICT facilities.

Also, Lawal-Solarin (n.d) carried out an investigation on the use of Information and Communication Technology (ICT) in academic libraries in Nigeria: A case study of Covenant University Library Ota, Ogun State, Nigeria. Findings of the study revealed that, the library provides internet services, electronic databases, Online Public Catalogue (OPAC), computers, photocopying services, laminating and scanning services, binding and printing services, audio and video services for staff and students are the available ICT resources in the library. The findings further revealed that, the purpose for using the ICT resources are: to prepare for

examination, browsing the web, to update knowledge, for in depth research work, updating of lecture notes, for communication, to complete project, to consult reference materials, as well as for leisure/recreation. The study also revealed that ICT resources are utilized frequently with 130 (56.5%) responses. Some of the problems encountered by staff and students in the use of ICT resources are: epileptic power supply, time constraint, uncooperative attitude of library staff, inadequate training of library staff, and lack of regular cooling environment. The study further recommended that, there is need for the Federal Government to strive to ensure uninterrupted power supply throughout the country. This is the only way by which the government can guarantee the use of ICT in Nigerian libraries; the library management should undertake a regular appraisal of the performance of every library staff so that the incident of users dissatisfaction with service delivery is reduced to the minimum, and regular training and talk on the use of ICT resources available in Nigeria libraries and their benefits for both academic and other library users are recommended.

Another study was conducted by Alagu and Thanuskodi (2018) on awareness and use of ICT among undergraduate students of Rural Areas in Dindigul District: a study. The results of the tests conducted indicate that ICT integration is a great effectiveness for the students. The study found that majority of the respondents had ICT information needs on their engagements like class assignment and preparing for examination, and updating subject knowledge. The study recommended that, there is need to improve the access of the student to ICT in an oriented training program for rural students to improve their level of using ICT resources and also developed their education level. Also, strategies employed in meeting their ICT needs to be exposed to their limited ICT knowledge even as they only needs to be exposed to their limited ICT knowledge even as they only have little exposure to an available training program, among others.

Khan, Bhatti, and Khan (2011) carried out a study on the use of ICT by students: A survey or faculty of Education at the Islamic University of Bahawalpur (IUB). The study found that majority of the respondents were female and majority were between 20 to 25 years old. A large number of the respondents reported that they utilized ICT at their departmental computer lab. It was found that teachers sometimes use ICT during lecture. Majority of the respondent's knowledge about computer applications was found quite sufficient for learning purposes. The majority strongly agreed that ICT have a great impact on their learning as it helps in improving their GPA, teachers should use ICT and use of ICT is better than use of library. A significant number of the respondents mentioned that they use ICT daily and mostly for study purpose. Respondents also reported that their information retrieval skills are good. Results showed that Google is a widely used search engine. Majority of the students' have been facing the problem of slow speed of PCs due to viruses, inadequate number of PCs in the Labs; lack of time in utilizing ICT resources, slow internet connectivity and electricity failure. The responses regarding problems revealed that majority of the respondents were unaware about the use of advance searching technique like Boolean logic and formulation of search query etc. and about the databases relevant to their subject, use of electronic books available on the internet, browsing e-journal and use of open access journals. The study strongly recommends that students should be trained to use advance searching techniques for retrieving the material of

their interests. It is highly recommended that students should be trained in using electronics books, journals and open access database relevant to their field.

Also, Akpoo (2019) conducted a study on Application of Information and Communication Technology for effective library service delivery in academic libraries in Benue state. The findings of the study revealed that, most of the ICT resources such as computers, printers, scanners, photocopiers, CD-ROM, projectors, Online Public Access Catalogue (OPAC) and television, among others were available in the academic libraries. The ICT resources were applied in areas like ordering, classification, bibliographic searches, registration of users, inter-library cooperation, book reservation, charging and discharging of library materials, receipt of order, library statistics, among others and extent of application was significantly high. The findings also revealed that ICTs are faced with a plethora of challenges such as inadequate fund, lack of infrastructures, incompetent personnel, unstable power supply, management problems and high cost of maintenance. Recommendations were made that, Information and Communication Technology resources such as Barcode Reader, Bulletin Board System, Radio Frequency Identification, Telefacsimile equipment's, Machine Readable Catalogue, Micro Opaque and Library Based Software (X-LIB) should be made available in academic libraries in Benue State for effective service delivery and in order to bring necessary improvement in the existing services for effective services delivery, provision of funds, infrastructures, competent personnel, stable power supply and adequate training to both staff and users should be taken as steps to enhance ICT application in the academic libraries.

3.1 METHODOLOGY

The study adopted descriptive survey research design. The area of the study is Makurdi Benue State, Nigeria. This is because Francis Sulemanu Idachaba Library University of Agriculture, Makurdi is located geographically in Benue State. Historically, Benue State is located in the North Central zone of Nigeria. The state has Makurdi as its capital. It stretches approximately between longitude 7° 47' and 10° 0' East and latitude 6° 25' and 8° 8' North with annual average relative humidity of 60%. Benue State occupies a landmass of 34,059 square kilometer (Wikipedia, 2019). The population for this study was made up of 3,654 postgraduate students who are registered with Francis Sulemanu Idachaba Library University of Agriculture, Makurdi (office of HOD, Readers Service Division, FSIL, UAM, 2019). The population comprises of all postgraduate students undertaken various programmes in the school ranging from postgraduate diploma (PGD), Master Degree (M.Sc.) and Doctorate Degree (Ph.D.) respectively who are card carrying members of the library.

The sample size for this study was 361 registered postgraduate students. This was determined using Taro Yamene's formula for sample size determination as seen below:

$$n = \frac{N}{1 + N (E)^2}$$

n = The sample size

N = The population size

$$\begin{aligned}
n &= ? \\
n &= 3,654 \\
E &= 90\% (0.05) \\
n &= \frac{3654}{1 + 3654 (0.05)^2} \\
n &= \frac{3654}{1 + 3654 (0.0025)} \\
&= \frac{3654}{1 + 9.135} \\
&= \frac{3654}{10.135} \\
&= 360.53 \\
\Omega & \text{ Approximately } 361.
\end{aligned}$$

Simple random sampling technique was used to select the actual sample size from the entire population of 3654 by selecting the respondents at random without replacement from the population to get the overall sample

Two instruments were used for data collection. They include: checklist (part 1) and questionnaire (part 2) which were developed by the researcher. The instruments were titled “checklist on availability of ICT facilities by postgraduate students (CAIFPS)” and “Questionnaire on utilization of ICT facilities by postgraduate students (QUIFPS)”.

The checklist was structure to elicit information on the ICT facilities available for utilization by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. With regards to response made and rating of instrument, the checklist has a rating scale of 2 and 1 with response made of Available (AVA) or Not Available (NA), “while” the questionnaire has a rating scale of 4,3,2,1 with response mode of Very Great Extent (VGE), Great Extent (GE). Low Extent (LE), Very Low Extent (VLE). Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD), Agree (A), Disagree (D) and Strongly Disagree (SD) respectively.

The checklist contains 15 items which is labeled Section A which was used to ascertain the ICT facilities available for utilization by postgraduate students to answer research question 1. The questionnaire on the other hand contains 35 items divided into three (3) sections labeled section B, C and D. section B contains 15 items to determine the extent of ICT facilities utilization by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi; Section C contains 10 items soliciting information on the purpose of utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. Finally, section D contains 10 items find out the factors

militating against effective utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. The checklist was used to answer research question 1 (Section A) and Questionnaire to answer research questions 2, 3, 4 (section B, C and D) respectively.

The instrument was subjected to face and content validation. Two (2) professionals in the field of library and information from Benue State University Makurdi and one professional from measurement and evaluation, department of Educational Foundations and General Studies, Federal University of Agriculture, Makurdi validated the instrument. The questionnaire as the study instrument was pre-tested on 30 postgraduate students from University of Mkar, Mkar here in Benue State who were not part of the study but had similar characteristics with the subjects under study. Internal consistency reliability was done section by section using Cronbach Alpha method. To determine the consistency of the questionnaire items and coefficients of 0.83, 0.77, 0.81 and 0.89 were obtained. The overall reliability coefficient of the instrument of 0.8 was obtained which showed that the instrument was highly reliable for the study. Data for the study was collected by personal administration of instruments to respondents by the researcher's. The instrument administered was retrieved immediately to ensure high percentage return (100%). The data collected was analyzed using descriptive statistics. Descriptive statistics of frequency counts, simple percentages, and mean scores were used to analyze data generated by the research questions. Items with percentages ranging from 50% and above was accepted and regarded as available (AVA), "while" items with percentages ranging from 49% and below were rejected and regarded as Not Available (NA). A criterion mean (a mid-point mean score) of 2.50 was adopted. The average of the response on a 4-point type scale is 2.50 ($4+3+2+1 = 10/2 = 2.50$). Any mean that rank from 2.50 and above is regarded as positive and accepted while 2.49 and below is regarded as negative and rejected.

4.0 Data Presentation, Analysis, Interpretation and Discussion

4.1 Response Rate

Table 1:

No. of Questionnaire Administered	No. of Questionnaire Returned	Percentage (%)
361	361	100%

The table above indicate that the total number of questionnaire administered was 361, total number of questionnaire returned were 361 and at 100%.

4.2 Data Presentation and Interpretation

Research Question 1: What are the ICT facilities available for utilization by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi?

Table 2: Frequency and percentage scores of ICT facilities available for utilization by postgraduate students.

S/N	Item Statement	N	Response		Remark
			AVA (%)	NA (%)	
1	Computer hardware and software	361	308 (85%)	53 (15%)	Available
2	Online Public Access Catalogue (OPAC)	361	226 (63%)	135 (37%)	Available
3	Electronic Databases	361	294 (81%)	67 (19%)	Available
4	Internet Connectivity	361	346 (96%)	15 (4%)	Available
5	Photocopiers	361	332 (92%)	29 (8%)	Available
6	Lamination and Scanning Machines	361	280 (78%)	81 (22%)	Available
7	Virtual Library (E-library)	361	300 (83%)	61 (17%)	Available
8	Printers	361	225 (71%)	106 (29%)	Available
9	CD-ROM	361	239 (66%)	122 (34%)	Available
10	Projectors	361	284 (79%)	77 (21%)	Available
11	Audiovisuals	361	244 (68%)	117 (32%)	Available
12	Flash Memory Discs	361	199 (55%)	162 (45%)	Available
13	Local Area Network (LAN)	361	214 (59%)	147 (41%)	Available
14	Wide Area Network (WAN)	361	168 (47%)	193 (53%)	Not Available
15	Television	361	299 (83%)	62 (17%)	Available

Source: Field Survey, 2019.

Table 2 shows the ICT facilities available for utilization by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi in frequencies and percentage scores. From the table item 1 has 308 (85%) available and 53 (15%) not available; item 2 has 226 (63%) available and 135 (37%) not available, item 3 has 294 (81%) available and 67 (19%) not available; item 4 has 346 (96%) available and 15 (4%) not available, item 5 has 332 (92%) available and 29 (8%) not available, item 6 has 280 (78%) available and 81 (22%) not available; item 7 has 300 (83%) available and 61 (17%) not available ; item 8 has 225 (71%) available and 106 (29%) not available; item 9 has 239 (66%) available and 122 (34%) not available; item 10 has 284 (79%) available and 77 (21%) not available; item 11 has 244 (68%) available and 117 (32%) not available; item 12 has 199 (55%) available and 162 (45%) not available; item 13 has 214 (59%) available and 147 (41%) not available; item 14 has 168 (47%) available and 193 (53%) not available; and finally, item 15 has 299 (83%) available and 62 (17%) not available respectively. On the whole, 14 ICT facilities out of 15 presented to the respondents were available (items 1,2,3,4,5,6,7,8,9,10,11,12,13 and 15 were available) while 1 of the ICT facilities (item 14) was not available.

Research Question 2: To what extent are ICT facilities utilized by postgraduate students in Francis Idachaba Library University of Agriculture, Makurdi?

Table 3: Frequencies and mean scores of the extent of ICT facilities utilization by postgraduate students.

S/N	Item Statement	Frequency Scores				Mean (X)	Remarks
		VGE	GE	LE	VLE		
1	Computer hardware and software	183	77	54	47	3.09	Great Extent
2	Online Public Access Catalogue (OPAC)	163	78	67	53	2.97	Great Extent
3	Electronic Databases	198	76	69	18	3.26	Great Extent
4	Internet Connectivity	208	79	70	4	3.36	Great Extent
5	Photocopiers	138	80	57	86	2.74	Great Extent
6	Lamination and Scanning Machines	140	66	39	116	2.64	Great Extent
7	Virtual Library (E-library)	198	82	43	38	3.21	Great Extent
8	Printers	86	134	104	37	2.75	Great Extent
9	CD-ROM	161	36	17	147	2.58	Great Extent
10	Projectors	150	50	60	101	1.58	Low Extent
11	Audiovisuals	120	178	33	30	3.07	Great Extent
12	Flash Memory Discs	66	104	84	107	2.36	Low Extent
13	Local Area Network (LAN)	200	22	95	44	3.05	Great Extent
14	Wide Area Network (WAN)	37	106	75	143	2.10	Low Extent
15	Television	86	30	99	146	2.15	Low Extent

Source: Field Survey, 2019.

Table 3 shows the extent of ICT facilities utilization by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi in frequency and means score. From the table as indicated by the respondent's item 1, item 2, item 3, item 4, item 5, item 6, item 7, item 8, item 9, item 11 and item 13 have mean values above the benchmark of 2.50 which showed Great Extent of ICT facilities utilization by post-graduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. While, item 10, item 12, item 14 and item 15 were below the benchmark of 2.50 which indicated that the extent of ICT facilities utilization by postgraduate students is low (i.e. items 10, 12, 14 and 15 clear indicated low extent of ICT facilities available).

Research Question 3: What are the purpose of utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi? Please tick [√] as applicable.

Table 4: Frequencies and mean scores of the purpose of utilization of ICT facilities by postgraduate students.

S/N	Item Statement	Frequency Scores				Mean (X)	Remarks
		SA	A	D	SD		
1	For in depth research work	314	20	18	9	3.77	Accepted
2	To prepare for examination	102	139	3	117	2.63	Accepted
3	To update subject knowledge	83	197	30	51	2.86	Accepted
4	For consultation of reference materials	108	200	45	8	3.13	Accepted
5	To complete thesis/dissertation	226	36	44	55	3.19	Accepted
6	For updating students lecture notes	192	116	13	40	3.27	Accepted
7	For communication and exchange of ideas	217	81	32	31	3.34	Accepted
8	For browsing the web	188	12	113	48	2.94	Accepted
9	To consult periodical/journals	168	94	56	43	3.08	Accepted
10	For information storage and retrieval	112	83	53	113	2.54	Accepted

Source: Field Survey, 2019.

Table 4 shows the purpose of utilization of ICT facilities by post-graduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi in frequency and mean scores. From the table as indicated by the respondents, item 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 have mean values above the benchmark of 2.50 which showed that the items presented to the respondents are the purpose of utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. All the items were clearly accepted by the respondents with mean values above 2.50 which is the benchmark of acceptance of each item.

Question 4: What are the factors militating against effective utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi?

Table 5: Frequencies and mean scores of factors militating against effective utilization of ICT facilities by postgraduate students.

S/N	Item Statement	Frequency Scores				Mean (X)	Remarks
		SA	A	D	SD		
1	Internet connectivity always off	311	20	12	18	3.73	Accepted
2	Electricity failure	213	64	24	60	3.19	Accepted
3	Lack of computers	78	66	120	97	2.35	Rejected
4	Lack of awareness on existence of ICT facilities	192	48	36	85	2.96	Accepted
5	Inadequate assistance from library staff	240	58	40	23	3.43	Accepted
6	Inadequate ICT equipment & infrastructure	97	186	26	52	1.91	Accepted
7	Lack of regular cooling environment	116	89	53	103	2.60	Accepted
8	Lack of ICT skills	174	100	47	40	3.13	Accepted
9	Students poor orientation	201	58	49	53	3.12	Accepted
10	Lack of time in utilizing ICT facilities	168	94	64	35	3.09	Accepted

Source: Field Survey, 2019.

Table 5 shows the factors militating against effective utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi in frequency and mean scores. From the table as indicated by the respondents, item 1, item 2, item 3, item 4, item 5, item 6, item 7, item 8, item 9, and item 10 have mean values above the benchmark of 2.50 which showed clearly that the items were accepted by the respondents as factors militating against effective utilization of ICT facilities by postgraduate students. However, item 3 on the table above was rejected by the respondents having a mean score of 2.35 which is below the benchmark of 2.50. This means that, the students were not having any challenge of lack of computers to use in Francis Sulemanu Idachaba Library University of Agriculture, Makurdu. Hence, item 3 was rejected as not a factor militating against effective utilization of ICT facilities by postgraduate students.

4.3 Summary of the Major Findings of the Study

The following findings emanated from the study based on the research questions answered.

- i. There is evidence from table 1 above that, Information and Communication Technology facilities such as computer hardware and software, Online Public

Access Catalogue (OPAC), electronic databases, internet connectivity, photocopiers, laminating and scanning machines, virtual library (e-library), printers, CD-ROM, projectors, audiovisuals, flash memory disc, and television are available for utilization by postgraduate students in Francis Sulemanu Idachaba Library, University of Agriculture, Makurdi.

- ii. Postgraduate students to a great extent utilized the available ICT facilities in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. Excepting projectors, flash memory discs, wide area network (WAN) and television which level of utilization was low.
- iii. The respondents indicated that, they utilized the available ICT facilities in Francis Sulemanu Idachaba Library for various purposes such as: for in depth research work, to prepare for examination, to update subject knowledge, consultation of reference materials, to complete thesis/dissertation, for updating students lecture notes, for communication and exchange of ideas, browsing the web, to consult periodicals/journals as well as for information storage and retrieval.
- iv. There are several factors militating against effective utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi.

4.4 Discussion of Findings

Based on the findings derived from the results of the study, the following were discussed.

The findings on research question 1 on table 2 revealed that, information and communication technology facilities such as computer hardware and software, Online Public Access Catalogue (OPAC), electronic databases, internet connectivity, photocopiers, laminating and scanning machines, virtual library (e-library), printers, CD-ROM, projectors, audiovisuals, flash memory discs and television are available for utilization by postgraduate students in Francis Sulemanu Idachaba Library, University of Agriculture, Makurdi. This findings corroborates that of Osuchukwu, Obuezie and Ogwuche (2017) whose study on availability and utilization of ICT facilities in a private university library in Nigeria revealed that ICT facilities available includes computers, internet, photocopiers, flash drives, scanner, CD-ROMs, e-mail services as well as institutional website. Similarly, Odionye (2016) reported that ICT facilities are available in UNN library but some are available than others. He further revealed that, the ICT facilities available and mostly utilized by students and staff are Online Public Access Catalogue, internet and virtual library. The findings also corroborate the view of Lawal – Solarin (n.d) who revealed that, the library provides internet services, electronic databases, OPAC, computers, photocopying services, binding and printing services, audio and video services for staff and students which are the available ICT resources in the library. From the findings of this study, it can be deduced that the availability of some of the ICT facilities in Francis Sulemanu Idachaba Library, Federal University of Agriculture, Makurdi shows that there are some consciousness of the significant role that ICT can play in education most especially at the level of postgraduate studies in terms of learning, teaching and research.

The findings on research question 2 on table 3 revealed that, postgraduate students to a great extent utilized the available ICT facilities in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. This findings corroborates that of Osuchukwu, Obuezie and Ogwuche (2017) who reported that ICT has resources and facilities that are available which students utilized to a high extent. Similarly, Lawal – Solarin (n.d) whose study on use of ICT in academic libraries in Nigeria revealed that, ICT resources and facilities are utilized frequently for academic purposes. The findings of the study is also in line with that of Akpoo (2019) who revealed that, information and communication technology are to a high extent applied in academic libraries for effective service delivery to enhance students utilization.

The findings on research question 3 on table 4 revealed that ICT facilities are available and utilized by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi for various purposes such as for in depth research work, to prepare for examination, to update knowledge, for consultation of reference materials, to complete thesis/dissertation, for updating students lecture notes for communication and exchange of ideas for browsing the web, to consult periodicals/journals and for information storage and retrieval. This is in conformity with Odionye (2016) who attested that ICT facilities such as OPAC, internet and virtual library are mostly used to source for reference materials, complete project work, update knowledge and lecture notes. This is in line with the findings of Lawal-Solarin (n.d) who reported that, the purpose for using ICT resources in the library by students includes: to prepare for examination, browsing the web, updating of knowledge, in depth research, updating of lecture notes, communication, completion of project work, to consult reference materials, as well as for leisure/recreation. Similarly, Khan, Bhatti and Khan (2011) reported that, students' knowledge about ICT applications was found quite sufficient for learning purposes hence a significant number of students use ICT daily and mostly for study purpose. In support of this view, Awotona (2019) attested in his study on use information and communication technology (ICT) by post basic midwifery students in college of nursing and midwifery. Eleyele, Ibadan that the students deploy ICT and its tools to learning resources more than just scanning the internet reading emails and chatting with friends online. Hence, it can be deduced from this finding that the application of ICTs in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi ensures enormous services and resources are provided for postgraduate students to utilize for various academic purpose.

The findings on research question 4 on table 5 revealed that, there are several factors militating against effective utilization of ICT facilities by post graduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi which includes: internet connectivity always off, electricity failure, lack of awareness on existence of ICT facilities, inadequate assistance from library staff, inadequate equipment and infrastructure, lack of regular cooling environment, lack of ICT skills, students poor orientation, and lack of time in utilizing ICT facilities.

This finding corroborates that of Osuchukwu, Obuezie and Ogwuche (2017) who reported that, challenges such as inadequate assistance from staff, epileptic power supply, irregular internet connectivity, inadequate ICT equipment and infrastructure, inconvenient time of opening hours and no training on ICT utilization in the library are the encountered by students in accessing

the ICT resources. The finding is also in line with that of Odionye (2016) who revealed irregular power supply and irregular cooling environment as the major challenge encountered in the use of ICT resources by staff and students. Similarly, the finding is at variance with that of Akpo (2019) who reported inadequate fund, lack of infrastructure, incompetent personnel, unstable power supply, management problems, high cost of maintenance, software problem, inadequate technical support, inadequate number of staff and frequent changes in technology as challenges hindering application of ICT in academic libraries for effective service delivery hence deprived students usage of ICT resources and services. In another vein, Lawal – Solarin (n.d) attested that, epileptic power supply, time constraint, uncooperative attitude of library staff, inadequate training of library staff, and lack of regular cooling environment as the problems encountered by students in the use of ICT resources. In support of the finding, Khan, Bhatti and Khan (2011) reported problems facing students in utilizing ICT such as slow speed of PC's due to viruses, inadequate number of PC's in the Labs, lack of time in utilizing ICT resources, slow internet connectivity and electricity failure. The authors further attested that students are unaware about the use of advance searching technique like Boolean logic and formulation of search query etc. and about databases relevant to their subject, use of electronic books available on the internet, browsing e-journals and use of open access journals.

5.0 Conclusion and Recommendation

5.1 Conclusion

Based on the result of the findings, the researcher concluded that information and communication technology facilities are available for utilization by postgraduate students in Francis Sulemanu Idachaba Library University of Agriculture, Makurdi. Hence, postgraduate students utilized the available ICT facilities to a great extent. Also, postgraduate students utilized the ICT facilities for academic purposes. However, there are various factors militating against effective utilization of ICT facilities by postgraduate students in Francis Sulemanu Idachaba Library, University of Agriculture, Makurdi.

5.2 Recommendations

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

- i. There should be inclusion of ICT literacy into postgraduate programme of the university to enhance students' knowledge of ICT usage in the university library.
- ii. University library should provide proper guidance for postgraduate students to use ICT resources and facilities effectively hence the need to organize awareness programs to sensitize students on the existence of the available ICT facilities in order to boost their search for information for academic and research purposes.
- iii. Alternative source of power should be provided for ICT equipment/facilities that enable uninterrupted power supply to facilities in order to enhance students interrupted services.

- iv. The university management should support the library financially to enable them acquire all the necessary ICT facilities needed for students utilization. More financial support to provide ICT infrastructural facilities/equipment.
- v. Proper orientation on the usage of ICT should be given to students to enhance their knowledge and skills for effective information retrieval.
- vi. University library in collaboration with the management team should improve on internet wireless service connectivity as this will enhance students' access to the internet without time limit or restrictions. The improvement of internet connectivity will help in sustaining ICT utilization for maximum satisfaction.
- vii. The library staff should provide adequate assistance to the students for effective utilization of ICT facilities in the library.
- viii. Provision of regular cooling environment for ICT facilities for effective service delivery which will enhance student usage of ICT facilities.
- ix. The library management should improve on the time of closure of the ICT center in the library to create more time for student to access and utilize the ICT resources and services available.

REFERENCES

- Abubakar, D., Gupiyem, G.G. & Banwar, D.M. (2017). Information and Communication Technology Accessibility as correlate of Electronic resources usage among postgraduate students in Nigeria University Libraries. *Journal of Applied Information and Technology*, 10(2):181.
- Adegbore, A.M., Adeniyi, O.S. & Adeshina, K. (2015). Stress and frustration effects on use of ICT for research by undergraduates in Ogun state, Nigeria. *Journal of Ergonomics*, 5(3):2-8.
- Adetimirin, A.E. (2012). ICT literacy among undergraduates in Nigeria Universities. *Educational Information Technology*, 17:381-397. Retrieved from <https://link.springer.com/article/10.1007/s10639-011-9163-y>
- Adomi, E.E. & Kpangba, E. (2010). Application of ICTs in Nigerian Secondary Schools. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/345>.
- Agboola, B. & Shaibu, R. (2019). Impact of ICT on Information Retrieval System in academic libraries: the experience of Federal University Gashua Library, Yobe State, Nigeria. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2350>
- Agim, N.C., Iroze, P.C, Osuji, C.E & Obasi-Haco, C. (2018). Level of availability and utilization of ICT facilities by students: A case study of Federal Polytechnic Nekede, Owerri, Imo State, Nigeria. *International Journal of Library and Information Studies*, 4(3): 26-39.

- Aina, L.O. (2004). *Library and information science text for West Africa*. Ibadan: Third world information services limited.
- Akpoo, B.V. (2019). Application of Information and Communication Technology for effective Library Service delivery in academic libraries in Benue State, Nigeria. Unpublished thesis submitted to the department of educational foundations and general studies Federal University of Agriculture, Makurdi in partial fulfillment of the requirements for the award of Masters of Library and Information Science (MLIS).
- ALA (n.d). *Glossary of Library and Information Sciences (4th ed.)*. New York: American Library Association. Retrieved from <https://www.alastore.ala.org/content/ala-glossary-library-and-information-science-fourth-edition>
- Alayu, A. & Thanuskodi, S. (2018). Awareness and use of ICT among undergraduate students of Rural Areas in Dindigul District: A study. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2084>.
- Awotona, S.O. (2019). Use of Information and Communication Technology by post basic midwifery students. A case study of Oyo state college of Nursing and Midwifery, Eleyele, Ibadan. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2297>
- Babayi, B.U; Abba & Aliyu, M. (2019). Attitude of Students towards utilization of computerized library services in Nigeria libraries. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2616>
- Barfi, K.A., Nyagorme, P. & Duodu, N.Y. (2019). Information and Communication Technology Assess and use by Teachers of Community Health Nurses training school in Adansi Fomena. *Library philosophy and practice (e-journal)*. Retrieved <https://digitalcommons.unl.edu/libphilprac/2532>
- Bhoi, N.K. (2017). Use of Information and Communication Technology (ICT) and library operations: An overview, proceedings of International Conference on Future Libraries: from promises to practices. Retrieved from <http://eprints.rclis.org/32231/>
- Ekwelem, C.N. (2019). Information and Communication Technology (ICT) and the future of library. A review of related literature. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2232>
- Etebu, A.T. (2010). ICT availability in Niger Delta University Libraries. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/342>.
- FUAM (2019). Historical Development of Francis Sulemanu Idachaba Library Federal University of Agriculture, Makurdi (FSIL FUAM). Retrieved from www.uam.edu.ng
- FUAM (2019). History of Federal University of Agriculture, Makurdi (FUAM). Retrieved from www.uam.edu.ng
- Khan, A. & Bhatti, R. (2012). Departmental Libraries at the University of Peshawar: Current status, services, issues, challenges and prospects. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/860>.
- Khan, S.A., Bhatti, R. & Khan, A.A. (2011). Use of ICT by students: A survey of faculty of Education at IUB. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/677>.

- Krubu, D.E. & Osawaru, K.E. (2010). The Impact of Information and Communication Technology (ICT) in Nigerian University Libraries. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/515>.
- Kumar, S.P. & Moorthy, T.K. (2013). A study of information and communication technology by the users of university libraries in Tamilnadu, India. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/969>
- Lawal – Solarin, E.O. (n.d). The use of Information and Communication Technology (ICT) in academic libraries in Nigeria: A case study of Covenant University Library Ota, Nigeria. Retrieved from <https://covenantuniversity.edu.ng/Profiles/Lawal-Solarin-Esther/The-Use-of-Information-and-Communication-Technology-ICT-in-Academic-Libraries-in-Nigeria-A-Case-Study-of-Covenant-University-Library-Ota-Nigeria>
- Nweze, C.M.T. (2010). The Use of ICT in Nigerian Universities: A case study of Obafemi Awolowo University, Ile-Ife, Nigeria. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/406>.
- Nyam, S.S. & Akawe, M.N.(2015). Management of library media resource centres. In R.E. Ozioko (Ed.), *Book of Readings in library and information Science* (135-156). Makurdi: Climax and Graphix publishers Ltd.
- Odionye, C.M. (2016). Uses and application of ICTs in Nigerian University Libraries: The case of University of Nigeria Nsukka (UNN). *Research Journal of Mass Communication and Information Technology*, 2(3): 36-51.
- Olajide, O. & Adio, G. (2017). Effective Utilization of University Library Resources by undergraduate students: A case study of Federal University of Oye – Ekiti, Nigeria. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/1503>
- Onilude, O.O. & Apampa, O.R. (2010). Effects of Information and Communication Technology on Research and Development Activities: The FIIRO Experience. *Library Philosophy and Practice (e-journal)*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/420>.
- Osuchukwu, N.P., Obuezie, A.C. & Ogwuche, G.O. (2017). Availability and utilization of Information Communication Technology facilities in a private university in Nigeria. A case study of Madonna University, Nigeria. *Journal of Information and Knowledge Management*, 8(3):16-25. Retrieved from <https://dx.doi.org/10.4314/ijikm.v8i3.2>
- Ozowa, V. (2017). Perceived effect of personality traits on information seeking behaviour of postgraduate students in Universities in Benue State, Nigeria. A thesis proposal presented to the college of Agricultural and Science Education, University of Agriculture, Makurdi in partial fulfillment of the requirement for the award of Master of Science in Library and Information Science.
- Sivakami, N. & Rajendran, N. (2016). A study on usage of ICT in Arts and Science College Libraries. *Research Journal of Recent Sciences*, 5(7):47-49. Retrieved from <http://www.isca.in/rjrs/archive/v5/i7/9.ISCA-RJRS-2016-049.pdf>
- Syed-Noor, U.A. (n.d). An effective use of ICT for education and learning by drawing on worldwide knowledge, research and experience: ICT as a change agent for education. Retrieved from <https://www.nyu.edu/classes/keefer/waoe/amins.pdf>

- Tyonum, M.N. (2015). Information and Communication Technology (ICT) application in library and information sciences. In R.E. Oziokwo (Ed.), *Book of Readings in library and information science* (pp. 85-103). Makurdi: Climax Graphics and Publishers Ltd.
- Udende, P. & Azeez, A.L (2010). Internet access and use among students of the University of Ilorin, Nigeria. *Journal of Communication and Media Research*, 2 (1): 33-42.
- Wikipedia (2019). Definition of Postgraduate students. Retrieved from <http://en.wikipedia.org/wiki/postgraduate-students>