

Full Length Research

Application of Electronic Information Resources in the Library Services of Michael Okpara University of Agriculture Umudike

¹Okeuhie Ndubuisi Stephen, ²McAlbert Faustinus, ³Ada Uche Tony Okereke

¹Information and Documentation Services Department, NRCRI Umudike

²Library and information science department, MOUUAU

³Federal University of Technology, Owerri Imo State

*Corresponding author's E-mail: ndubuisistephen154@gmail.com

Accepted 10 March 2026

This study examined the application of electronic information resources on the services of MOUUAU library. The study was guided by five specific objectives and five research questions. The study employed descriptive survey research design, while the population of the study is 24(42), comprising of professional librarians in MOUUAU library. There was no sample for study. The instrument used for data collection was the questionnaire. The questionnaire was validated by the supervisor and other experts from the Department of Library and Information Science, MOUUAU. Mean was used in analyzing data for the study. The study identified that MOUUAU library highly applied electronic information science in the services of their library. Electronic information resources in university libraries in Abia State were, users of MOUUAU library make use of electronic information resources in the university libraries to a high extent, electronic journal, Electronic, book, CD- ROM, HINARI and TEEAL. Are available in MOUUAU library at a high extent, the greatest challenge to the application of electronic resources in MOUUAU library is inadequate funds to acquire information and communication technology facilities, the best solution to the challenges of using electronic information resources in MOUUAU library is Allocation of at least 10% of the library budget to develop electronic resources in the library and provision of uninterrupted power supply. The study therefore The university should set aside 10% of her budget for electronic resource development, the university should make sure that there is uninterrupted power supply to facilitate the use of electronic information resources, the university should provide fund for the university libraries to subscribe to electronic information resources, the University library management in Abia State should employ the services of ICT experts, whose work will be to guide and direct users of electronic information resources, this practice will help improve the skill of users in the use of electronic information resources in university libraries, should ensure that electronic information resources are subscribed to regularly to facilitate effective utilization of electronic information resources and university library authorities should recruit competent ICT skilled technicians who will always take care of these electronic resources.

Keywords: Concept of Electronic Information Resources, Application of Electronic Information Resources, Concept of University Library, Skills Required for the use of Electronic Information Resources, Problem Associated with the Use of Electronic Information Resources and Strategies for Enhancing the Use of Electronic Information Resources

INTRODUCTION

Background to the Study

As the use of electronic information resources continues to rise especially within higher institutions of learning, students are expected to develop the required information literacy skills. In the fast-growing knowledge society, information literacy skills have become one of the most important skills. This is because students with research information needs will most likely use electronic resources if they have the skills required for their effective use. Electronic information resources provide access to information that might be restricted to the user because of geographical location or finances (Dazie, 2005). Dazie defines electronic information resources as invaluable research tools that complement the print based resources in a traditional library setting and went further to list the advantages of electronic information resources to include: access to information that is restricted to the user due to geographical location or finances, access to more current information, and provision of extensive links to traditional resources of related contents. Slim, *et al* (2001) defined electronic information resources and services as what users' can access electronically via a computing network from inside the library or remotely from the library.

Electronic information resources (e-resources) involves any information resources that can be accessed through the internet. It is an organized collection of digitized materials or its holdings in the digital form which can be accessible by a computer on the network by using TCP/IP or other protocol (Hungwa, 2013). E-resources are taking possession of a significant aspect of global literatures. The role of the library and library staff as the traditional reader advisor has changed due to need for intermediation for users and has become germane in the face of information proliferation. Academic library staff are discovering ways to respond to expanded competition for resources. E-resources have become integral part of the information resources for academicians and researchers and can substitute print resources. Generally, it is apparent that the print age is paving way for electronic information resources (Kelefa, 2017).

In the views of Shuling (2007), electronic information has gradually become a major resource in every university library. The emergence of electronic information resources, simply referred to as electronic resources, has tremendously transformed information handling and management in academic environments and in university libraries in particular. Electronic information resources offer today's students new opportunities not available to previous generations. Liew, and Chennupati (2000) argued that many people now acknowledge that electronic documents offer users advanced features and novel forms of functionality beyond those possible in printed form. They further stated that reading an e-journal is not the same as reading a printed issue.

Electronic information resources, according to Oak (2016), are systems in which information is stored electronically and made accessible through electronic systems and computer networks. These resources include OPAC, CD-ROMs, online-databases, e-journals, e-books, Internet resources. The use of electronic resources has made users to become more technologically friendly. In an attempt to offer explanation to e-resources, Baipai, (2016) placed much emphasis on e-learning. He maintained that e-learning is a technique in which a user may use different technologies, internet, computer technology, and multimedia to replace the conversational educational system. By analogy, libraries also adopt modern technologies as explained by Baipai, (2016) to make Library resources available to users in electronic form. This explains why in this modern era of digital technology, e-books are occupying a prominent role in libraries.

The major benefit of electronic resources in the university library is ease access to the needed information, since users can access information without their presence in the library. E-resources therefore promote efficacy in information dissemination for research purposes in universities (Thanuskodi, 2012). Notwithstanding the significance of e-resources to university education, their accessibility and usage in Africa are hampered by varying factors. Studies have revealed that these factors include poor funding of universities, high cost of IT equipment, and high rate of foreign exchange, power outages, poor telecommunication infrastructures, inadequate skills and limited training on the effective use of e-resources (Fatoki, 2004).

Statement of the Problem

Nowadays, users of the library especially the undergraduate students of the university prefer the use of electronic information resources to the use of print resources, and this to a large extent has affected patronage of the library especially the university library in the recent time. In response to this development, university libraries in Nigeria have invested heavily in the acquisition of electronic information resources to facilitate accessibility and utilization of the library holdings. In the same vein, universities in Abia state Nigeria have invested heavily in the acquisition of electronic information resources (EIRs) in a bid to enhance teaching, learning and research in their institutions. Electronic information resources have also become very important for the academic community in accessing current information. Electronic information resources enable students especially undergraduates to access first-hand information which is timely, current,

and also open the possibility of searching multiple files at a time and this is accomplished more easily than when using printed equivalent.

However, it is speculated by some authors that undergraduate Students may be lacking in the utilization of university library resources as a result of non application of electronic information resources, while on the other hand, other authors are of the opinion that a number of undergraduate Students utilize university library resources irrespective of the application of electronic information resources.

The impression is that many students have either shallow knowledge of basic searching skills towards EIRs use or lack computer self- efficacy. This situation may lead one to begin to ask whether or not there is coverage and quality of information circulating within the universities in Abia State, as well as what the future holds for the students on graduation, putting into consideration the global trend about information utilization in an electronic age.

Unfortunately, a thorough study of published research works show that no study has been carried out on application of EIRs in MOUAW library in Abia State. This shows a problem situation that should be addressed. It is based on this. Problem that this study intends to examine the application of electronic information resources in MOUAW library in Abia State.

General Objectives

The general objective of the study is to examine the application of electronic information resources on the services of MOUAW library.

Specific Objectives are:

- 1) To ascertain the level of application of electronic information resources in the services of Madonna College of Health library
- 2) To identify challenges faced by Madonna College of Health library in the application of electronic information resources on their services.
- 3) To proffer solutions to the challenges of the application of electronic information resources on the services of Madonna College of Health library

Research Questions

- 1) What is the level of application of electronic information resources on the services of Madonna College of Health library?
- 2) What are the challenges faced by Madonna College of Health library in the application of electronic information resources on their services
- 3) What are the solutions to the challenges in the application of electronic information resources on the service of Madonna College of Health library?

REVIEW OF RELATED LITERATURE

This chapter presents a review of related literature on the subject of the study. The review of literature is organized as follows:

Concept of Electronic Information Resources

The relevance of electronic information resources to the university libraries cannot be overemphasized. Electronic information resources are vital and they are currently the backbone of any dynamic collection, but most of electronic information resources such as full text databases and electronic books are expensive and are not publicly available. An electronic information resource is the representation of information which can be accessed via electronic system and computer network (Chimah, 2012). He further explains that the electronic information resources are available in various forms: e-books digital libraries, online journal/magazine, e-learning tutors and online test.

Electronic information resources provide access to information that might be restricted to the user because of geographical location or finances (Dazie, 2005). He defines electronic information resources as invaluable research tools

that complement the print based resources in a traditional library setting and went further to list the advantages of electronic information resources to include: access to information that is restricted to the user due to geographical location or finances, access to more current information, and provision of extensive links to traditional resources of related contents. Slim, *et al* (2001) defined electronic information resources and services as what users' can access electronically via a computing network from inside the library or remotely from the library.

In a related study, Ellis and Oldman (2005), opine that electronic resources are tools that assist in conducting research. According to them, e-resources are important tools in the academic process of higher education learning. Electronic information resources provides university libraries the ability to influence teaching, learning and research in higher educational institutions (Bature, 2009). Electronic information resources have affected the functioning of libraries and the information seeking behavior of users (Tenopir, 2003). Oduwole, and Akpati, (2003) wrote on accessibility and retrieval of electronic information at the University of Agriculture Library, Abiokuta. According to the study, out of a population of 1,000, 425 participants responded that electronic information cuts across all members of the university community and that they are satisfied with their search output and their response rate is 53.87%. In line with the ongoing discussion, ICT is heavily needed in reference services to satisfy users' needs. It is one of the fundamental library services in meeting the increasing need of users in the present digital environment (Ozioko & Igwesi, 2010).

More so, Heterick (2002) reports that more than 60% of faculty studied are comfortable using electronic resources. They believe that a variety of electronic resources is important to their research, and they consider electronic databases to be invaluable. In addition, 62% expect that they will become increasingly dependent on electronic resources in the future. The resources they use most often are online catalogs, full text electronic journal databases, and abstracting and indexing databases. More than 70% of all respondents consider their library's online catalogue to be "very important" to their research. However, the importance of this resource varies significantly by field. Just over 60% of the economists consider their library's online catalogue to be "very important", while nearly 90% of humanists regarded it as such. In fact, the home library catalogue is the most important electronic resource for humanists, by a large margin. Based on their replies, it is as important to their research as personal computers.

Electronic journals were consulted for both research and teaching by 53.6% of the respondents to a survey in Catalan Universities (Borrego, 2007). They were consulted only for the purpose of research by 37.4% and only for teaching by 2.7%. Respondents in Exact and Natural Sciences and Engineering mainly use journals for research, whereas those in Biomedicine use them for both teaching and research. When the results are disaggregated by age, respondents under the age 30 mainly use them for research, respondents in the 41-50 age groups use them for both teaching and research, and respondents over 51 use them for teaching and research or only for teaching. Disaggregated by academic position, only the associate professors showed a high proportion of use for teaching (35.9%). According to Rowley (2006) electronic journals take two different forms: journals that are published in print form, available in digital form and electronic journals which do not necessarily need a publisher, and which can be managed by an editor and the scholarly community. Both types may have a significant impact on scholarly communication and in the way knowledge is created and disseminated.

In the views of Shuling (2007), electronic information has gradually become a major resource in every university library. The emergence of electronic information resources, simply referred to as electronic resources, has tremendously transformed information handling and management in academic environments and in university libraries in particular. Electronic information resources offer today's students new opportunities not available to previous generations. Liew, and Chennupati (2000) argued that many people now acknowledge that electronic documents offer users advanced features and novel forms of functionality beyond those possible in printed form. They further stated that reading an e-journal is not the same as reading a printed issue.

Electronic information resources, according to Oak (2016), are systems in which information is stored electronically and made accessible through electronic systems and computer networks. These resources include OPAC, CD-ROMs, online-databases, e-journals, e-books, Internet resources. The use of electronic resources has made users to become more technologically friendly. In an attempt to offer explanation to e-resources, Baipai, Hedaand Bajpai (2016) placed much emphasis on e-learning. He maintained that e-learning is a technique in which a user may use different technologies, internet, computer technology, and multimedia to replace the conversional educational system. By analogy, libraries also adopt modern technologies as explained by Baipai, Heda and Bajpai, (2016) to make Library resources available to users in electronic form. This explains why in this modern era of digital technology, e-books are occupying a prominent role in libraries.

The major benefit of electronic resources in the university library is ease access to the needed information, since users can access information without their presence in the library. E-resources therefore promote efficacy in information dissemination for research purposes in universities (Thanuskodi, 2012). Notwithstanding the significance of e-resources to university education, their accessibility and usage in Africa are hampered by varying factors. Studies have revealed that these factors include poor funding of universities, high cost of IT equipment, and high rate of foreign exchange, power outages, poor telecommunication infrastructures, inadequate skills and limited training on the effective use of e-resources (Fatoki, 2004).

The various types and forms of e-resources in academic libraries are; e-databases, e-journals, E-data archives, e-manuscript, e-maps, e-books, e-magazines, e-thesis, WWW, e-newspapers, E-research reports and e-bibliographic databases (Sharma, 2009). According to Gwaza (2011), all selected institutions in Kaduna State, had the following e-resources: computers, VCD/DVD, Internet access, full text articles, online databases, e-journals, e-books, multimedia, CD-ROMs, and flash drives; they also use the following electronic services , e-mails, online references, electronic alerts, etc.; all the institutions studied depended on Education Trust Fund (ETF) intervention to provide them with the necessary electronic resources instead of the normal government funds, which may or may not come; there was significant difference in the quantity, awareness created and use of electronic resources and services among the selected institutions.

Application of Electronic Information Resources

Many problems have been militating against the utilization of ICT -based library resources in some developing countries among which are: Non-availability and under-utilization of ICT library resources in libraries, underfunding, inadequate ICT infrastructures, donor-dependency, poor collections and high postage/delivery charges (Ani et al, 2016). They emphasized that the major problem is lack of fund. When there is no adequate funding, infrastructure cannot be acquired and high-quality collections cannot be made. It is when funds are made available that library can as well make resources available and there can be proper application. As we build the digital library of published and licensed content, digitized primary materials, open web resource and institutional records, we recognize the challenges of managing and preserving multimedia and dynamic information, increasingly integrated with services and dependent on software for effective access and use (Neal, 2012).

The application of e-resources is facing some challenges. the challenges and problems that deter effective utilization of e-resources include: slow internet connectivity, inability to access full text articles, unreliable power supply, inaccessibility of e-resources outside university premises due to ip address limitations, inadequate ict infrastructure and inadequate skills and knowledge (Kelefa et al 2017).

Strategies for Enhancing Effective Library Services The development of effective information delivery system is an important component of university teaching and learning and modern technology greatly enhances the process. Libraries have been at the forefront of providing information resources and services to their respective communities of students, teachers and researchers to support academic and scholarly work. Sources of information available within academic libraries should promote active learning and contribute towards scholarly ability to think critically (Bassey & Odu 2015). Application of e-resources in library services cannot be over emphasized as it is one of the major strategies to enhance effective library services in this century. Academic libraries need to strategize on how to carry out effective and efficient library services in this digital era. To achieve this, the library environment should be made comfortable and pleasant to the users by making all necessary e-resources available and adequately apply them

Several investigations have been done on the application of e-resources for library services in different libraries. Due to quick proliferation in information acquisition and dissemination, libraries have adopted new policies for transformation in their collection development and service structures to improve the management of scholarly information (Nirupma, 2015).

Concept of University Library

University library is part of the university with the responsibility of selecting; acquiring processing, storing and disseminating needed information (Ogbegbo, 2008).It is the function of the university library to create awareness about the availability of any information resources in order to facilitate adequate utilization of such information resources. Many university libraries in the developing countries, are responding to the new digital environment. This has become imperative because of such trends as: rise of online instructions, globalization, people's desire for information, access to social media and networking environment anytime anywhere (Ogbegbo, 2008).

In addition, Onatola (2004) opines that university libraries are established for the purpose of complementing easy achievement and continuous promotion of academic excellence in the parent institution. Bassi and Odu, (as cited in James, 2015), reported that the electronic library in the University of Calabar provides access to a number of electronic resources such as electronic databases, CD-ROM databases, open access journals and e-books. It has a capacity of 268 desktop computers and runs on both wired and wireless networks. Reitz (2004) opines that university is an academic library. According to him, university libraries are often considered the most important resource Centre of the university. He further stated that university libraries play a vital role in providing information services in various forms to students, lecturers, and researchers. To drive maximum benefits from the increasingly electronic library use environment, the users of Nigerian University Libraries need to be computer literate. All these are affected by attitude of use of electronic

information resources. Attitudes are the feelings and beliefs that largely determine how postgraduate students will perceive their learning environment, commit themselves to intended actions and ultimately behave (Velnampy, 2006 and 2008).

As a matter of fact, the university libraries have long been recognized as the "hearts" of their universities. To fulfill their mission of supporting the educational objectives of their parent bodies, which include teaching, learning, research, and cultural development, the libraries had to develop and maintain standard books, journals, and audio-visual collections and services. During the "oil boom" era, the libraries flourished—they were busy filling their shelves with learning materials in order to sustain the main academic disciplines established by their parent universities. Today, the story is not the same. University libraries have problems even in maintaining core collections which represent their universities' curricula and activities because of lack of money and high inflation. Coupled with this is the emergence of ICTs in the educational system worldwide. However, Waldman (2003), reported high usage of university library's OPAC by students at City University of New York. Similarly, Falk (2003) reported rapid growth and use of e-books in universities in developing countries. The ability to find and retrieve information effectively is a transferable skill useful for future life and for enabling the positive and successful use of the electronic resources for students at the university (Tella, Ayeni & Omoba, 2007).

In the opinion of Dai, *et al* (2000), there is a need for a library consortium that will ensure collective acquisition of electronic resources. This will enable financially weak university libraries to contribute to a general pool that would ensure the utilization of jointly acquire ICT facilities as a means of gaining easy access for the users. In a related study by Bedi and Shama (2008), it was reported that a consortium with the collective strength of resources of various universities available to it is in a better position to resolve the problems of managing, organizing and archiving the electronic resources. University libraries according to Madhusudhan (2010), have become digital resources, which are less expensive and more helpful for easy access and use. Dange (2013), also added that with the rapid development of information communication technologies (ICT), electronic information resources have increasingly become readily available and easily accessible as well as providing information about available university library services.

Chisenga, (2004), (as cited in Egborengbe, 2011), listed some of the factors that hinder the use of electronic information resources in university libraries in Nigeria higher institutions. Some of the factors include the following: lack of strategic planning: adequate or reliable funding, lack of use of Internet to provide information services to users in new ICT services. The major challenge in the use of electronic information resources in university libraries as mentioned by Egborengbe (2011), is lack of information retrieval skills for exploiting electronic information resources, thus making the level of usage of resources by postgraduate students very low.

Library Services

The development of effective information delivery system is an important component of university teaching and learning and modern technology greatly enhances the process. Libraries have been at the forefront of providing information resources and services to their respective communities of students, teachers and researchers to support academic and scholarly work. Sources of information available within academic libraries should promote active learning and contribute towards scholarly ability to think critically (Bassey & Odu 2015). Application of e-resources in library services cannot be over emphasized as it is one of the major strategies to enhance effective library services in this century. Academic libraries need to strategize on how to carry out effective and efficient library services in this digital era. To achieve this, the library environment should be made comfortable and pleasant to the users by making all necessary e-resources available and adequately apply them. Echezona (2005) cited by Ani *et al*, (2016) opined that availability and access to library resources will be enhanced if the following are taken into consideration: Provision of online materials in electronic format, Provision of both printed and electronic information resources, Updating the skills of library staff to enable them to help users in meeting their informational needs Improving the funding of the library to enable it to purchase and maintain needed information technology, books, journal and audio-visual resources. According to Jacobs (2013) cited by Bassey & Odu (2015), developments of ICTs are presenting rapid growth in the availability of electronic/digital information, subjects depositories and digital contents. With the evolving digital library services, online access to information, automation of library operations, establishment of library networking and resource sharing, the adoption of ICTs has no doubt transformed the traditional role of academic libraries and added to the advancement in the provision of fast and quality services.

Skills Required for Use of Electronic Information Resources

In recent years, the advent of electronic information resources has posed a very big challenge to the information professionals. Though electronic information resources make the work of information professionals very easy, it requires a lot of skills. Work of the information professionals has become characterized by fast-paced change and new skills

requirements. Ashcroft and Watts (2004) records that information professionals are increasingly required to adapt their skills and practice in order to gain an awareness of technological advances. He further says that profession itself exists in a state of flux alongside these emerging technologies, with traditional roles being increasingly subsumed by new skills and working environments. The provision and use of ICT is part and parcel of the entire system. It is one thing to recognize the importance of ICTs and another to know if they are effectively utilized by professionals, students and academics. If ICTs are put to effective use, then the essence of acquiring them is to a large extent justified (Ganiyu, 2012).

Lowe and McAuley (2002) define information and communication technology literacy as the skills and abilities that will enable the use of computers and related information technologies to meet personal, educational and labour market goals. This means that every professional, irrespective of his field, requires computer skills. Ebijuwa (2005) defines ICT as tools used for collection, processing, storage, transmission, and dissemination of information. Relating the definition of Ebijuwa (2005) to the practice of librarianship which focuses on preservation and dissemination of information resources, librarians and information professionals require ICT skills to enable them discharge their duties effectively. However, Sutton (2001) posits that the library and information science profession has harnessed ICTs to perform old tasks better through the automation of housekeeping tasks such as reference work, bibliographic services, cataloguing, serials control, circulation and acquisition, which are performed more efficiently in an ICT environment.

Chauhan (2004) observes that digital resources also pose human, social and technological problems, such as discomfiture in reading on the screen, problems in Internet access and speed, poor infrastructure, lack of sufficient skills to use the digital resources, and perceptual change resulting from right to use rather than physical possession. Curry (2000) reports that information professionals and students have to be able to navigate information networks competently, LIS curricula need to consolidate ICT concepts, knowledge, skills and proficiency into core competencies. Curry (2000) further says that LIS schools need to provide adequate content and practice that will enable LIS graduates and professionals to adapt and use ICTs effectively. Curry (2000) agrees that ICT skills is required by students to enable them utilize electronic information resources effectively. Gui (2007) opines that the information retrieval skills which the university students need include those skills needed to navigate, select, evaluate and re-use information. By implication, the library and information science professionals working in university libraries need to develop information skills essential for locating and retrieving information in an information and communication technology rich environment to position themselves as real information gate-keepers and instructors in contemporary society. Zin (2000) in his study opines that knowledge, skill and competence with computer technology are important assets for all.

Problems Associated with the Use of Electronic Information Resources

There are number of problems associated with the use of electronic information resources by students. In universities in Nigeria, especially universities, in Abia State, despite several advantages of electronic resources and its positive effect on students' academic performance in universities, students are yet to harness the opportunities provided by electronic resources due to some challenges (Aniedu & Uzuegbu, 2014). According to Chandel and Saikia (2012), one of the problems associated with the use of electronic resources is pricing. Price at which electronic information resources are bought is not fixed, thereby making subscription for these electronic resources very difficult. More-so, there is no standard pricing model for electronic resources yet different publishers have different price policies which are subject to change from time to time.

They further argue that electronic information resources are not visibly available to users when compared to other information resources like print materials which are visibly available for knowing and use. Libraries subscribe to the different electronic resources of different publishers/vendors, as information sources remain scattered and not convenient to the users for browsing and searching (Chandel & Saikia, 2012). Electronic information resources need to be well managed and integrated for access with a single stroke of key so as to facilitate easy utilization by users. According to Chandel and Saikia (2012), electronic resources are remotely located and often remain under the ownership of the publishers or vendors. Libraries can only have access to these resources when they meet the term and conditions of the publishers and this poses serious problems especially after the expiry date of the subscription. Archiving of back files is also a problem. Library shall have to pay maintenance and licensing charges for back issues, if the responsibility of archiving is assigned to the publishers.

According to Manda, (2006), Internet access is not widely available. Efficiency is also poor as many libraries in African countries experience downtime, several times daily. He reported lack of ICT knowledge and skill among the problems associated with the use of electronic information resources by students. Furthermore, Jensen (2005) posited that there are also many external systemic factors militating against the use of electronic information resources by users, such as electricity, transport networks, import duties etc.; which impact on Internet service delivery on the African continent. In some institutions, access is limited, not only by the number of Internet service points, but also by the time access available. Among the problems cited by Minishimajanja (2007) are (a) re-skilling so as to improve ICT competency, (b) lack of

systems manager/support staff/ICT experts and (c) low level of epistemological access.

The challenges of using electronic information resources according to Omeluzor (2015), include the following: poor information technology, infrastructure development; lack of knowledge on how to use e-journal, lack of facilities, lack of time and awareness and large mass of irrelevant information, the need to filter the results from search, download delay, failure to find information, inadequate or lack of search skills, high cost of access, inaccessibility of some electronic resources and difficulties in navigating through electronic resources.

In a related study, Adeniran, (2013) listed challenges of electronic resources to include: lack of awareness, insufficient bandwidth, high cost of internet connectivity and lack of electronic information resources, inadequate computer systems, slow internet speed and poor network service, frequent power failure, poor internet connectivity, improper guidance on use of electronic resources, non-payment of subscriptions and lack of personal computers.

Strategies for Enhancing the Use of Electronic Information Resources

In order to facilitate the use of electronic information resources by students, a lot of strategies have to be put in place. Pejova (2006) recommends that developed and less developed countries have to embark on collaborative joint projects between professionals from these countries as a method of developing information literacy skills which will enable students to acquire the necessary information retrieval skills which will enable them to exploit the massive electronic resources that exist today. Also, Katundu (2002), notes that due to the fact that only librarians are engaged in the teaching of library science discipline, information literacy has not received much attention in the curriculum. Similarly, Heseltine (2000) posited that a successful information literacy programme can be made to relate information sources to various courses. This way it will become functional and more meaningful to students.

Further-more, Dai (2000), opined that there is need for a library consortium that will ensure collective acquisition of electronic resources. This will make it possible for students from financial weak university libraries to adequately utilize the jointly-acquired ICT facilities. A consortium with the collective strength of resources of various institutions available to it is in a better position to resolve the problems of managing, organizing and archiving the electronic resources. Therefore, for students to maximally benefit from the quantum of electronic information resources available around the globe, consortium is very imperative. Today libraries world over are forming alliances, for the purpose of identifying and addressing common needs arising from the utilization of electronic information resources, especially growing importance of the Internet and the World Wide Web. Bedi and Shama (2008) discussed strategies libraries will adopt to enhance the use of electronic information resources by library users, especially students. The strategies include:

Selecting a coordinating agency to work on behalf of the entire group of library participants that will be charged with executing and monitoring programs and activities. When this consortium is maintained, coordinating agency will be charged with the responsibility of supplying the necessary electronic resources to the concerned library that will in turn make the resources available to the users to utilize?

- Identifying and negotiating with the potentials publishers/vendors or aggregators to provide access in which purchase of e-resources is done by consortia; and
- Identifying the necessary infrastructure for electronic access to resources. Such arrangement will make it possible for users to access and download the required electronic information resources without even going through the rigorous process of inter-library lending (Bedi and Shama, 2008).

Furthermore, Seiden, (1992), carried out a work on “Undergraduate students in the digital library Information seeking behavior in a heterogeneous Environment” they studied about sixty undergraduates, information seeking behavior at Skidmore College. They elicited information about the search process and discerned how students acquired their knowledge of online searching and their level of expertise with online searching, computer application and libraries. The study indicates that most undergraduates have a relatively poor understanding of the information environment and digital resources.

RESEARCH METHODOLOGY

Presentation of methods and the procedures used for conducting the study are discussed in this chapter. They were discussed under the following headings: design of the study, area of the study, population of the study, sample and sampling technique, instrument for data collection, validation of the instruments, methods of data collection and methods of data analysis

Design of the Study

The descriptive survey design was used in conducting the study. Hence, the research design is appropriate for the study because it generated the relevant and useful data from a sample that is representative of the population of the study for generalization.

Area of the Study

The area of the study is Abia State. Abia state is one of the five states that make up the five states in South-East zone of Nigeria. The area covered by Abia State is about 5,833.7 sq. km which is approximately 5.8 percent of the total land area of Nigeria. The state's capital is located at Umuahia, and it has 17 local government areas, namely; Aba North, Aba South, Arochukwu, Bende, Isiala Ngwa North, Isiala Ngwa South, Isuikwuato, Ukwa East, Ukwa West, Ikwuano, Umuahia North, Umuahia South, Obingwa, Ohafia, Umunneochi, Ugwunagbo and Osisioma. The major occupation of the people of the state is trading and farming. The State has four (4) universities, which include: Federal University of Agriculture, Umudike in Ikwuano Local Government area, Abia State University Uturu, Gregory University, Uturu, and Rhema University Aba. The State also has other higher institutions which include: Abia State polytechnics and Covenant polytechnics Aba. Situated in the State are: college of education (technical) at Arochukwu, Staff Training School at Umunato in Bende LGA, Abia state, , Schools of nursing and Midwifery in Ariba, Aba and Umuahia, respectively, a world class Agricultural Research Institute (NRCRI) at Umudike. More so, the State has a school of Midwifery attached to the Methodist Hospital Amachara, the School of Health Technology at Aba which trains various categories of health staff located at Mgboko in Obingwa LGA. Also, there are about 800 primary schools, 160 secondary schools, 1 teacher training college and five technical colleges in the state.

The use of Abia State for this study has research and educational implications. It provides an insight into the state of electronic information resources in university libraries in the state and the extent of utilization of these resources. This will give rise for more studies to understand the state of electronic information resources in university libraries in the state. The result of this study will also provide the facts needed to compare electronic information resources density in universities in Abia State.

Population of the Study

The population of the study is 24 librarians in Michael Okpara University of Agriculture Library, Umudike.

Sample and Sampling Technique

The entire population (24) of librarians in Michael Okpara University of Agriculture Library, Umudike will be used for the study. The sample consists of the entire population of staff drawn from the Michael Okpara University of Agriculture Library, Umudike.

This method of using the entire population as sample is referred to as complete census method Ogomaka & Isaughedigh (1992), as cited in Nnadozie and Nwosu,(2016).

Instrument for Data Collection

The instrument that will be used in collecting data is the questionnaire. The questionnaire is titled: "Application of Electronic Information Resources Questionnaire (AEIRQ)". The questionnaire will be arranged in two (2) sections. Section (A) will request bio data and will have (3) items. Section (B) which will answer research questions, will have (6) clusters. Cluster (A) which will have ten (10) items will dealt with the level of application of electronic information resources among librarians in MOUAU library. Cluster (B) will have ten (10) items and will deal with the extent of utilization of electronic information resources by librarians in MOUAU. Cluster (C) will have (8) items and will identify electronic information resources available in MOUAU library. Cluster (D) will have (8) items, and will deal with challenges faced by MOUAU library in the application of electronic information resources on their services. Cluster (E) will have (8) items, and will deal with solutions to the challenges of the application of electronic information resources on the services of MOUAU.

The questionnaire will be designed using a four point rating scale. The options are as follows: VHA-Very High Application, LA- Low Application, VLA-Very Low Application, VHE-Very High Extent, HE-High Extent, LE-Low Extent, VLE-Very Low Extent, SA-Strongly Agree, A-Agree, D-Disagree, SD-Strongly Disagree. The response values used in this study are: 4, 3, 2 and 1.

Validation of the Instruments

The instrument will be validated by two (2) experts who shall be from the Department of library and information Science, all from Michael Okpara University of Agriculture, Umudike The experts who will validate the instruments shall be asked to ascertain the appropriateness and suitability of the items as they relate to the study. The experts are to either include or remove any item considered appropriate or inappropriate.

Method of Data Collection

The instrument will be administered to the librarians in MOUAU library by the researcher. The researcher will use two weeks to administer and collect the instruments. A total of 24 copies of the questionnaire will be administered to the MOUAU library staff. The completed questionnaire will be collected back after completion. This method will ensure high return rate.

Method of Data Analysis

The data collected will be analyzed using descriptive statistics (mean) to answer the research questions.. For answering the research questions, any item with the mean value of 2.50 and above will be regarded as applied, utilized and accepted, otherwise, they will be regarded as not applied, not utilized and rejected. Mean will be used for all the research questions and 2.50 will be used as criterion mean or bench mark.

Hence, any item with mean value of 2.50 and above will be interpreted as Highly Applied, High Extent and Accepted, while any item with mean value of less than 2.50 will be interpreted as Low Application, Low Extent and rejected. The ratings of the questionnaire are assigned as follows:

0.50-1.49 - Very low Application, Very Low Utilization, Very low Extent or Rejected

1.50-2.49 - Low application, Low Utilization, Low Extent or Rejected

2.50-3.49 - High Application, High Utilization, High extent or Accepted

3.50- 4.00– Very high Application, Very High Utilization, Very High Extent, or Accepted.

The mean will be calculated thus:

$$X = \frac{\sum FX}{N}$$

Where:

X = Mean

N = Total number of respondents

F = Frequency

\sum = Summation Sign

The response value used in this study are: 4, 3, 2 and 1.

$$\text{Criterion Mean} = \frac{4+3+2+1=10}{4} = 2.50 \text{ (cut off point or bench mark)}$$

RESULTS AND DISCUSSION

This chapter presents the results of data analysis and discusses the findings of the study. It was presented under descriptive analysis, testing of hypothesis, findings and discussion of findings.

SECTION B:

This section is divided into clusters and provides answers to all the research questions.

Keys: VHA-Very High Awareness, HA-High Awareness, LA-Low Awareness, VLA-Very Low Awareness, VHE-Very High Extent, HE-High Extent, LE-Low Extent, VLE-Very Low Extent, SA-Strongly Agree, A-Agree, D-Disagree, SD-Strongly Disagree,

Research Question 1. What is the level of application of electronic information resources on the services of MOUAU Library?

Table 1. Mean Response of MOU AU Library Staff on Level of application of electronic information resources on the services of MOU AU library. **N = 24**

S/N	Items	VHA	HA	LA	VLA	\bar{x}	RMK
1	AGORA	8	12	3	1	3.13	HA
2	Electronic serials	6	8	6	4	2.67	HA
3	Electronic magazines	2	3	10	9	1.92	LA
4	Electronic journal	9	8	4	3	2.84	HA
6	HINARI	14	6	3	1	3.38	HA
7	TEEAL	15	7	2	0	3.54	HA
8	Electronic books	9	8	5	2	3.00	HA
	Cluster Mean					2.91	HA

Cluster Mean = 2.91. Note: \bar{x} = Mean,

The data presented in Table 1 above showed that cluster mean of the responses of staff of MOU AU library of all the 8 items is 2.91 (cluster mean), which is greater than the criterion mean of 2.50 on 4-point rating scale. This indicates that staffs in MOU AU library apply electronic information resources in the services of the library.

Research Question 2. What is the extent of utilization of electronic information resources on the services of MOU AU library?

Table 2. Mean Response of MOU AU Library Staff on Extent of Utilization of electronic information resources on the services of MOU AU library. **N = 24**

S/N	Items	VHE	HE	LE	VLE	\bar{x}	RMK
11	AGORA	6	5	8	5	2.17	LE
12	Electronic Serials	4	5	11	4	2.38	LE
13	Electronic Magazines	2	3	12	7	2.00	LE
14	Electronic Journals	12	6	4	2	3.17	HE
15	CD-ROMS	8	7	5	4	2.79	HE
16	HINARI	13	8	2	1	3.38	HE
17	TEEAL	10	9	4	1	3.17	HE
18	Electronic Books	8	7	7	2	3.08	HE
	Cluster Mean					2.77	HE

Cluster Mean = 2.77. Note: \bar{x} = Mean,

The data presented in Table 2 above showed that cluster mean of the responses of staff of MOU AU library of all the 8 items is 2.77 (cluster mean), which is greater than the criterion mean of 2.50 on 4-point rating scale. This indicates that staffs in MOU AU library utilize electronic information resources in the library.

Research Question 3. What are the electronic information resources available in MOU AU Library?

Table 3. Mean Response of MOU AU Library Staff on Extent of Availability of electronic information resources in MOU AU library. **N = 24**

S/N	Items	VHE	HE	LE	VLE	\bar{x}	RMK
21	AGORA	12	6	4	2	3.17	HE
22	OPAC	4	6	10	4	2.42	LE
23	Electronic journal	9	7	5	3	2.92	HE
24	Electronic book	8	9	4	3	2.92	HE
25	CD- ROM	6	5	9	4	2.96	HE
26	HINARI	11	8	4	1	3.21	HE
27	TEEAL	12	8	3	1	3.29	HE
28	Electronic serials	6	4	8	6	2.42	LE
	Cluster Mean					2.91	HE

Cluster Mean = 2.91 Note: \bar{x} = Mean,

The data presented in Table 3 above showed that cluster mean of the responses of staff of MOUUAU library of all the 8 items is 2.91 (cluster mean), which is greater than the criterion mean of 2.50 on 4-point rating scale. This indicates that electronic information resources listed in table above are available in the library.

Research Questions 4. What are the challenges faced by MOUUAU library in the application of electronic information resources on their services?

Table 4. Mean Response of MOUUAU Library Staff on challenges faced by MOUUAU library in the application of electronic information resources. **N= 24**

S/N	Items	SA	A	D	SD	\bar{x}	RMK
39	Epileptic power supply	14	7	2	1	3.42	Accepted
40	Inadequate funds to acquire information and communication technology facilities	16	4	3	1	3.46	Accepted
41	Low level of information and communication technology awareness among users	8	10	4	2	3.00	Accepted
42	Information overload on the internet	5	8	7	4	2.58	Accepted
43	Frequent changes and modification of information and communication technology	4	5	10	5	2.33	Rejected
44	Slow internet connectivity	12	9	3	0	3.75	Accepted
45	Shortage of skilled technicians	6	2	10	6	2.33	Rejected
46	Breakdown of facilities	10	8	4	2	3.08	Accepted
	Cluster Mean					2.99	Accepted

Cluster Mean = 2.99. Note: \bar{x} = Mean,

The data presented in Table 4 above showed that cluster mean of the responses of staff of MOUUAU library of all the 8 items is 2.99 (cluster mean), which is greater than the criterion mean of 2.50 on 4-point rating scale. This indicates that staff in MOUUAU library accepted that challenges listed in the table above are challenges faced by MOUUAU library in the application of electronic information resources.

Research Questions 5. What are the strategies to the challenges in the application of electronic information resources on the service of MOUUAU library?

Table 4. Mean Response of MOUUAU Library Staff on Strategies to the challenges faced by MOUUAU library in the application of electronic information resources. **N = 24**

S/N	Items	SA	A	D	SD	\bar{x}	RMK
47	Provision of high quality user education on the use of electronic resources	12	8	2	2	3.25	HE
48	Allocation of at least 10% of the library budget to develop electronic resources in the library	13	9	2	0	3.46	HE
49	Updating users on recent development in information and communication technology	10	8	2	4	3.00	HE
50	Developing effective information and communication technology policy sustenance and development of library services	7	10	4	3	2.88	HE
51	Creating awareness on the availability of electronic information resources	12	9	2	1	3.33	HE
52	Provision of networked computers with fast internet connectivity	12	8	3	1	2.88	HE
53	Recruitment of competent ICT skilled technicians	14	7	2	1	3.42	HE
54	Provision of uninterrupted power supply	12	11	1	0	3.46	HE
	Cluster Mean					3.21	HE

Cluster Mean = 3.21. Note: \bar{x} = Mean,

The data presented in Table 5 above showed that cluster mean of the responses of staff of MOUUAU library of all the 8 items is 3.21 (cluster mean), which is greater than the criterion mean of 2.50 on 4-point rating scale. This indicates that staff of MOUUAU library accepted that items listed in the table above are strategies to the challenges faced by MOUUAU library in the application of electronic information resources.

Summary of Findings of the Study

Specifically, based on the data analyzed, the study:

- 1) Identified AGORA, Electronic serials, Electronic journal, CD-ROMS, HINARI, TEEAL and Electronic books as electronic information resources that are applied at high extent by MOUUAU library
- 2) The extents of utilization of electronic information resources by users of MOUUAU library were high on Electronic Journals, CD-ROMS, HINARI, TEEAL, and Electronic Books. AGORA,
- 3) The study identified AGORA, Electronic journal, Electronic book, CD- ROM, HINARI and TEEAL as electronic information resources that are highly available in MOUUAU library.
- 4) The study also identified Provision of high quality user education on the use of electronic resources, Allocation of at least 10% of the library budget to develop electronic resources in the library, Updating users on recent development in information and communication technology, Developing effective information and communication technology policy sustenance and development of library services, Creating awareness on the availability of electronic information resources, Provision of networked computers with fast internet connectivity, Recruitment of competent ICT skilled technicians and Provision of uninterrupted power supply as challenges of applying electronic information resources in the services of MOUUAU library.
- 5) The study identified Provision of high quality user education on the use of electronic resources, Allocation of at least 10% of the library budget to develop electronic resources in the library, Updating users on recent development in information and communication technology, Developing effective information and communication technology policy sustenance and development of library services, Creating awareness on the availability of electronic information resources, Provision of networked computers with fast internet connectivity, Recruitment of competent ICT skilled technicians and Provision of uninterrupted power supply as solutions to the challenges of application of electronic information resources in the services of MOUUAU library.

Discussion of Findings

Discussions on findings of this study are presented as follows:

The study considered electronic resources to include: document management system, employee self-service portals, cloud-based storage, regular backups, centralized database, use software to manage staff records

Level of Application of Electronic Information Resources on the Services of MOUUAU

The study revealed that the electronic information resources applied in the services of MOUUAU library are: AGORA, Electronic serials, Electronic journal, CD-ROMS, HINARI, TEEAL and Electronic books This finding is in agreement with the study carried out by The University of Melbourne (2021), their findings revealed that records management has to do with capturing and maintaining of accurate, complete, reliable and useable documentation of activities of an organization in order to meet legal, evidential, accountability and social and cultural requirement of the organization.

Extent of Utilization of Electronic Information Resources

This study found that the electronic information resources that users of MOUUAU library users utilized at high extent include: Electronic Journals, CD-ROMS, HINARI, TEEAL, and Electronic Books. AGORA, Electronic Serials and Electronic Magazines were utilized at a low extent by users of the university library. The findings of this study agreed with that of Lucky, O. Akpojoto (2016), whose findings revealed that users of MOUUAU library use electronic resources to a large extent. He also included the following among the electronic information resources not utilized by user of MOUUAU library, AGORA, Electronic Serials and Electronic Magazines

Similarly, the findings of this study conform to that of Sethi and Panda (2012) on the use of e-resources by life scientist in Sambalpor University and they found that the 92.18% of the respondents preferred to use e-resources, compared to print documents.

Level of availability of electronic information resources in MOUUA library

The study revealed that the electronic information resources that are available at high extent in MOUUA library include the following: AGORA, Electronic journal, Electronic book, CD- ROM, HINARI and TEEAL. OPAC and electronic serials were not available in the library. This finding is in agreement with the study carried out by Adegunle, O. (2019), whose study found high availability of AGOA, e-journals, e-books, and CD-ROMs in academic libraries in Nigeria.

Challenges faced by MOUUA library in the application of electronic information resources on their services

Challenges associated with the application of use of e-resources in MOUUA Libraries found by the study include. Provision of high quality user education on the use of electronic resources, Allocation of at least 10% of the library budget to develop electronic resources in the library, Updating users on recent development in information and communication technology, Developing effective information and communication technology policy sustenance and development of library services, Creating awareness on the availability of electronic information resources, Provision of networked computers with fast internet connectivity, Recruitment of competent ICT skilled technicians and Provision of uninterrupted power supply

Findings of the study are also in agreement with Enakire and Onynania (2007). These authors identified challenge of using electronic information resources; as lack of ICT infrastructure, financing constraints, lack of browsing skills and lack of information on how to use e-resources.

Strategies to the Challenges in the Application of Electronic Information Resources on the Service of MOUUA Library

The Study identified solution to the challenges of using electronic information resources to include: Provision of high quality user education on the use of electronic resources, allocation of at least 10% of the library budget to develop electronic resources in the library, updating users on recent development in information and communication technology, developing effective information and communication technology policy sustenance and development of library services, creating awareness on the availability of electronic information resources, provision of networked computers with fast internet connectivity, recruitment of competent ICT skilled technicians and Provision of uninterrupted power supply

The finding of this study is in agreement with that of James (2015), who concluded that the university management should ensure that the university libraries internet connection is strongly developed, improved and made available in the entire campus. This study further found that a formal training program on the effective use of electronic resources should be organized by the university library to promote use of e- resources.

CONCLUSIONS AND RECOMMENDATION

Summary

The study examined the application of electronic information resources on the services of MOUUA library. The study adopted descriptive survey research design.. Population of the study is 24 library staff in MOUUA library. The entire population of the study was used as sample. Only one instrument was used for this study. This is the questionnaire. The instrument was captioned: Application of Electronic Information Resources Questionnaire (AEIRQ)". Validity of the instrument was ascertained by the supervisor and other experts from library and information science,

Data for the study were collected by the researcher. The total of 24 copies of questionnaire administered to the library staff were filled and completely returned. The data collected were analyzed using descriptive statistics such as mean to answer research questions. Based on the data collected, the study identified, AGORA, Electronic serials, Electronic journal, CD-ROMS, HINARI, TEEAL and Electronic books as electronic information resources that MOUUA library staff apply in the services of the library

The extent of utilization were high on the following e-resources: Electronic Journals, CD-ROMS, HINARI, TEEAL and Electronic Books However, extent of utilization on AGORA, Electronic Serials and Electronic Magazines were low

The study further identified the following electronic information resources available at a high extent: Electronic journal, Electronic, book, CD- ROM, HINARI and TEEAL. Also, the study identified that OPAC and electronic serials were not available.

The challenges identified by the study as militating against the use of electronic information resources include: Epileptic

power supply, Inadequate funds to acquire information and communication technology facilities, Low level of information and communication technology awareness among users, Information overload on the internet, Slow internet connectivity, Breakdown of facilities.

The study also revealed that solutions to the challenges of using e-resources include: Provision of high quality user education on the use of electronic resources, Allocation of at least 10% of the library budget to develop electronic resources in the library, Updating users on recent development in information and communication technology, Developing effective information and communication technology policy sustenance and development of library services, Creating awareness on the availability of electronic information resources, Provision of networked computers with fast internet connectivity, Recruitment of competent ICT skilled technicians and Provision of uninterrupted power supply.

CONCLUSION

From the results and findings obtained in this study, the following major conclusions were drawn:

- (1) MOUAU library highly applied electronic information science in the services of their library. Electronic information resources in university libraries in Abia State were
- (2) Users of MOUAU library make use of electronic information resources in the university libraries to a high extent.
- (3) Electronic journal, Electronic, book, CD- ROM, HINARI and TEEAL. Are available in MOUAU library at a high extent.
- (4) The greatest challenge to the application of electronic resources in MOUAU library is inadequate funds to acquire information and communication technology facilities.
- (5) The best solution to the challenges of using electronic information resources in MOUAU library is Allocation of at least 10% of the library budget to develop electronic resources in the library and provision of uninterrupted power supply

IMPLICATIONS OF THE STUDY

The findings of the study have implication for the management of university libraries in Nigeria who are directly responsible for the provision of electronic information resources in their libraries. They must ensure that electronic information resources are adequately provided and applied not only to enhance their operations but satisfy the needs of users.

However, the findings of the study on the application of electronic information resources in university libraries by MOUAU library revealed that the library applied the following electronic information resources in their services: AGORA, Electronic serials, Electronic journal, CD-ROMS, HINARI, TEEAL and Electronic books this has an implication on the academic performance of the students which reflects on the quality of graduate from the Nigerian universities. Therefore, since application leads to utilization, the management of the university libraries should organize training for the staff of the university libraries for effective application of E-resources.

The finding of the study on extent of utilization of electronic information resources in university libraries in MOUAU revealed that the following electronic information resources were utilized at a high extent: Electronic Journals, CD-ROMS, HINARI, TEEAL and Electronic Books Also, users utilized AGORA, Electronic Serials and Electronic Magazines at a low extent. This has an implication on the academic performance of the students and this will in turn reflect on the quality and strength of the Nigerian university graduates. Therefore, for the library to apply electronic information resources effectively there should be adequate training of library staff on the use of E-resources.

The findings of this study on the availability of electronic information resources revealed that E-resources are available in MOUAU library: Electronic journal, Electronic, book, CD- ROM, HINARI and TEEAL. OPAC and electronic serials were not available. This implies that there is an urgent need for the university management to facilitate availability of the unavailable electronic resources. This will enable university library users' to withstand the challenges of integrating e-resources for research and learning.

More-so, the findings of this study on the challenges of application of e-resources by the library revealed that the following challenges were encountered in the application of electronic information resources: in the services of the library: Epileptic power supply, Inadequate funds to acquire information and communication technology facilities, Low level of information and communication technology awareness among users, Information overload on the internet, Slow internet connectivity, Breakdown of facilities. The government and management of the university libraries should plan and provide the necessary facilities, improve power supply, increase fund for the funding of the university libraries and employ skilled technicians for the application of e-resources notwithstanding it is not the major problem..

The findings of the study on the solutions to the challenges of using electronic information resources in university

libraries include the following: Allocation of at least 10% of the library budget to develop electronic resources in the library and provision of uninterrupted power supply

Government as the financiers or funding authorities of university libraries in the country should ensure that electronic information resources are provided and applied in the services of university libraries, if they are to function efficiently and effectively. This study has revealed to the government that though MOUAU library applied electronic information resources in the services of the library, a lot need to be done to make sure that those resources that are not well applied and utilized are provided, applied and utilized so as to satisfy users' needs.

RECOMMENDATIONS

The following recommendations have been made based on the findings, discussions and implication of the study:

1. The university should set aside 10% of her budget for electronic resource development.
2. The university should make sure that there is uninterrupted power supply to facilitate the use of electronic information resources.
3. The university should provide fund for the university libraries to subscribe to electronic information resources,
4. The University library management in Abia State should employ the services of ICT experts, whose work will be to guide and direct users of electronic information resources. This practice will help improve the skill of users in the use of electronic information resources in university libraries in Abia State.
5. University libraries should ensure that electronic information resources are subscribed to regularly to facilitate effective utilization of electronic information resources.
6. University library authorities should recruit competent ICT skilled technicians who will always take care of these electronic resources.

LIMITATIONS OF THE STUDY

The findings of the study were limited by the following factors: The researcher had planned to extend this study to other universities in Abia State since they also have electronic information resources but could not due to economic issues.

SUGGESTIONS FOR FURTHER STUDIES

In view of the limitations of the study, the following suggestions are made for further research:

1. A study on the availability and use of e-resources by student of colleges of education in Abia State.
2. A study on the awareness and use of e-resources by faculty members in Federal and State Polytechnics in Abia State.

REFERENCES

- Adeniran, P. (2013). Usage of electronic resources by undergraduates at the Redeemer's University Nigeria. *International Journal of Library and Information Science*, 10(5), 319-324. Retrieved from: [doi: 10. 5897/IJLI2013.0392](https://doi.org/10.5897/IJLI2013.0392).
- Aina, R.F (2004) Awareness, accessibility and use of electronic databases among academic staff of Babcock University. *Business School and Management Review*. 3(6). Retrieved from: [htt://arabianjbm.com/pdfs/KD_VOL_3_6/4.pdf](http://arabianjbm.com/pdfs/KD_VOL_3_6/4.pdf).
- Ashcroft, L. & Watts, C. (2004). Change implications related to electronic educational resources. *Online Information Review*, 4(28); pp. 284-91.
- Ani, O.E. & Ahiauzu, B. (2008). Towards effective development of electronic information resources in Nigerian University Libraries. *Library Management*, 29(6).
- Badu, E. E. & Markwei, E.D (2005). Internet awareness and use in the University of Ghana. *Information Development*, 21(4), 260-268.
- Baipai, R.P., Hada, K. S. & Bajpai, G. (2016). Academic libraries and E-learning: Initiative and Opportunities. *International Journal of Library & Information Science*. 5(3), pp. 159–165, Available online at: <http://www.iaeme.com/IJLIS/issues.asp>.
- Bar-Ilan et al., (2003). A survey on the use of electronic information databases and electronic journals accessed through the web by the academic staff of Israeli Universities. *The Journal of Academic Librarianship*, 29(6), 346-61.

- Bature, I. (2009). Utilization of library resources by students of Tertiary institutions in Kebbi State of Nigeria. *International Journal of Research in Education*, 6(1&2).
- [Bedi, S & Sharma, K. \(2008\). Library Consortia and information technology: the past, the present and the promise. *Information Technology and Libraries*, 1\(17\), 7-12](#)
- Bhatti, R (2014). Internet-based information usage patterns of pediatricians: a survey of southern Punjab Pakistan. *Library Philosophy and Practice*. Retrieved from: <http://www.diditalcommons.unl.edu/libphiprac/1023>.
- Borrego, A., et al., (2007). Use and users of electronic journals at Catalan Universities: The results of a survey. *Journal of Academic Librarianship*. 33(1): Available at: <http://www.aglInternetnetwork.org>
- [Chandel, A.S & Saikia, M. \(2012\). Challenges and opportunities in e-resources. *Annals of library and information Studies*, 59\(3\), 148-154. Available at: \[http://nopr.niscair.res.in/bitstream/123456789/14973/1/ALIS%2059\\(3\\)%20148-154.pdf\]\(http://nopr.niscair.res.in/bitstream/123456789/14973/1/ALIS%2059\(3\)%20148-154.pdf\)](#)
- Chang, H.R. (2006). The use of web based electronic book among undergraduate students. *Journal of the Korean Society for information Management*, 23(4), 233-256.
- Chauhan, B. P. (2004). ICT enabled library and information services. In: Winter school on ICT enabled library and information services, TIET Patiala, India, 27–31. Available at: <http://dspace.thapar.edu:8080/dspace/bitstream/123456789/51/1/>
- Chimah, J.N. (2012). Key issues for e-resource collection development: a guide for libraries. International Federation of Library Associations and Institutions. Retrieve from: http://www.ifla.org/files/assets/acquisitioncollectiondevelopment/publications/IFLA_ELECTRONIC_RESOURCE_GUIDE_DRAFT%20FOR%20COMMENT.pdf.
- Chisenga, J. (2004). The use of ICTs in African public library services: A survey of ten countries in Anglophone Africa. In *International Network for the Availability of Scientific Publications (INSAP)*, U.K.: Oxford Press. Easterbrook.
- Curry, A. (2000). Canadian library and information science education: Trends and issues. *Education for Information*, 18 (4), 325-337.
- Dai, et al (2000). China Academic library and information systems: an academic library consortium in China. *Information Technologies and Libraries*, 19(2), 66-9
- Dange, (2013). Postgraduate students computing confidence, computer and internet usage at Kuvempu University. *International Journal of instruction*, 3(2).
- Dazie, P.S. (2005). Electronic resources: Access and usage at Ashesh University College. *Computer Wide Information System*, 22(5), 290-297.
- Ebijuwa, A.S. (2005). Information and communication technology in university libraries: The Nigeria experience. *Journal of Library and Information Science*, 7(1&2), 23-30.
- Egborengbe, H.S (2011). The use and impact of electronic resources at the University of Lagos. *Library Philosophy and Practice*. Retrieved from: <http://www.webpages.unidaho.edu/~mbolin/egborengbe.htm>
- Ellis, D. & Oldman, H. (2005). The English literature researcher in the age of internet. *Journal of Information Science*, 31(1), 13-21.
- Enakrire, T.R. & Onyanania, O.G. (2007). Causes inhibiting the growth or development of the information transfer in Africa: a contextual treatment', *Library HI –Tech News*, 4(24), 20 -8.
- Falk, H. (2003). Electronic campus. *The Electronic Library*, 21(1), 63-6
- Fatoki, O. C. (2004), Impact of library resources and Internet on undergraduate students'
- [Ganiyu, O.Q \(2012\). Impact of ICT skills on the use of electronic resources by information professionals: a review of related literature. *Library Philosophy and Practice*.<http://www.webpages.uidaho.edu/~mbolin/quadri.htm>.](#)
- Gui, M. (2007). Formal and sentential internet information skills. The role of socio demographic differences on the possession of different components of digital literacy, 1-6. Retrieved from: <http://www.firstmonday.org/issues/issues.129/gui/index.html>
- [Heterick, B. \(2002\). Faculty attitudes toward electronic resources. *EDUCAUSE Review*, 10-11. Available at: <http://net.educause.edu/ir/library/pdf/ERM0248.pdf> <http://digitalcommons.unl.edu/libphilprac/1210>](#)
- Hungwa, S., & Ramatu, T. (2013). The significance of electronic resources and digital library theories for skills development of library staff in nigeria. *Library Philosophy and Practice* (e-journal). Retrieved from <http://diditalcommons.unl.edu/libphilprac/1001>.
- [Katundu, D. \(2002\). Mainstreaming information literacy across university curricula: an ignored necessity or luxury: A study of public university libraries. A Paper Presented at the Conference of East African, Public University Librarians, 17 -19.](#)
- Kelefa, M., Emmanuel, E., & Esther, N. S. (2017). Utilization of e-resources to support teaching and research in higher learning institutions, Tanzania. *University of Dar es Salaam Library Journal*, 12(2), 98-123.
- [Liew, C. L., Foo, S.& Chennupati, K. R. \(2000\). A study of graduate student end-users' use and perception of electronic journals. *Online Information Review* 24\(2\), 302-315.](#)
- Madhusudhan, (2010) Use of electronic resources by research scholars of Kurukshetra University. *The Electronic Library*

(*Emerald ISI journal*), 28(4), 492-506.

Manda, P.A. (2006). State of ICTs in LIS curriculum in Tanzania. A paper presented at the IFLA workshop on integrating ICTs in LIS curriculum in Africa. 21- 23 November 2006 at Safari Court Hotel, Windhoek-Namibia.

[Minishi- Majanja, M.K. \(2007\). Integration of ICTs in library and information science education in Sub-Saharan Africa. World library and information congress. IFLA General Conference and Council, 19-73. Retrieved from: <http://www.ifla.org/iv/ifla73/index.htm>](#)

[Nnadozie, C.O. & Nwosu C. C. \(2016\). Analysis of final year students' satisfaction with information resources and services in four Nigerian Federal University Libraries. *International Journal of Advanced Library and Information Science*. 4\(1\), 333-345. Retrieved from: <http://scientific.cloudjournals.com/index.php/IJALIS/article/view/Sci-385>.](#)

[Oak, M., \(2016\). Assessing the library users' expectations: A select study of management institutions in Savitribai Phule Pune University Pune, India. *International Journal of Library & Information Science*, 5\(3\), 149–158. Available online at: <http://www.iaeme.com/IJLIS/issues.asp>.](#)

Obaje, M.A. & Camble, E. (2008) Use of CD-ROM database by staff and students in the University of Jos Library: The information scientist. *An International Journal of Information and Communication Technology (ICT)* 5(1), 7-8

Oduwole A. A. & Akpati, C. B. (2003). Accessibility and retrieval of electronic information at the University of Agriculture Library Abeokuta, Nigeria 52(5), 228–233, Available at: <http://www.emeraldinsight.com/researchregister>.

Ogbegbo, O. (2008). A review of trends and issues affecting academic libraries in higher education. *Nla-online Forum*. Available at <http://uk-mgt41.mail.yahoo.com/neo/launch?reason=1>

Omotayo, B.O. (2010) Access, use, and attitudes of academics toward electronic journals: A case study of Obafemi Awolowo University, Ile Ife. *Library Philosophy and Practice*. Retrieved from: <http://unllib.unl.edu/LPP/omotayo.htm>.

Osunrinde, A. A. (2002). Internet connectivity vis-à-vis prospect and problems on research growth in academic Institutions in Nigeria. *Nigeria Journal of Emotional Psychology and Sports Ethics*, 4, 90-91.

[Ozioko, R. E. & Igwesi, U. \(2010\). Digitalized reference services in a globalized environment. *Nigerian Journal of Library, Archival and Information Science*, 1\(11\), 21-26. Retrieved From: \[www.unn.edu.ng/internals/staff/viewProfile/MTE5MA--/5\]\(http://www.unn.edu.ng/internals/staff/viewProfile/MTE5MA--/5\)](#)

Pejova, Z. (2006). Information literacy: an issue which requests urgent action in developing countries and countries in transition. White paper prepared for UNESCO, the U.S. National Commission on Libraries and Information Science, and the National Forum on Information Literacy, for use at the Information Literacy meeting of experts, Prague, the Czech Republic. Available at: <http://WWW.nclis.gov/libinter/infolitconf&meet/papers/aiyepuku-fullpaper.pdf>.

[Rowley, J. \(2000\). The question of electronic journals. *Library Hi Tech*. 18\(1\), 46-54.](#)

Seiden, P (1992). Undergraduate students in the digital library information seeking behavior in a heterogeneous environment. Skidmore College, Saratoga Springs, NY.

Shukla, P. & Mishra, R. (2011). Use of e-resources by research scholars of institute of technology, Banaras Hindu University, India. *International Refereed Research Journal*, 2(2), 184-194. Retrieved from: <http://digitalcommons.unl.edu/cgi/viewcontent>.

[Shuling, \(2007\). Investigation and analysis of current use of electronic resources in university libraries. *Library Management*. 28 \(1\), 72-88.](#)

Slim et al. (2001). Measure and statistics for research libraries 'networked services: Procedures and issues. *International Journal of library and Information services*, 54(1).

Soyizwapi, I.L. (2005). Use of electronic databases by postgraduate students in the faculty of science and agriculture, university of Kwazulu Natal, Pietermaritzburg. Thesis. University of Kwazulu Natal.State of Nigeria. *International Journal Research in Education*, 6(1/2).

Sutton, S.A. (2001). Trends, trend projections, and crystal ball gazing. *Journal of Education for Library and Information Science*, 42 (3), 241-247.

Tella, A., Ayeni, C.O. & Omoba, R.O. (2007). Self-efficacy and use of electronic information resources as predictor of academic performance. *Electronic Journal of Academic and special Library*, 8(2).

Tenopir, C. (2003) Use and users of electronic library resources: An overview and analysis of recent research studies. Council on Library and Information Resources; Washington, D.C. Retrieved from: http://works.bepress.com/cgi/viewcontent.cgi?article=1109&context=carol_tenopir

Thanuskodi, S. (2012) Use of e-resources by the students and researchers of faculty of Arts, Annamalai University Zululand, South Africa. Retrieved from: <http://article.sapub.org/10.5923.j.library.20120101.01.html>

Tiefel, V. (2004) The Gateway to Information: A System Redefines: How Libraries are used in American libraries. 22 (9).

Uhegbu, A. N. (2007). The information user: Issues and Themes. Okigwe; WHYTEM Publishers Nigeria. 6611.

Ukachi, N.B. and Okeke, J.R. (2012). Utilization of MTN foundation digital library project in Nigerian University libraries. *Journal of library and Information Science*. University of KwaZulu Natal.University of Illorin. Nigeria. *Journal of Emerging Trends in Computing and Information Sciences*Unlimited, 6(1&2).

[Uzegbu, C.P. \(2012\). Information Search and retrieval in the internet age: is there any need for librarians. Proceeding of Maiden Conference of Nigerian Library Association, Abia State Chapter, 91-101.](#)

- Velnampy, T. (2006). Association among personal demographic variables and incentive systems in Sri-Lanka. Proceedings of the 3rd International Conference on Business management, Colombo.
- Velnampy, T. (2008). Job attitudes and employees performance of public sector organizations in Jaffina District, Sri-Lanka. *GITAM Journal of Management*, 6(2), 1-11.
- Zin, N.A.M (2000). Gender difference in computer literacy level among undergraduate students in university Kebangsaan Malaysia (UKM). *The Electronic Journal on Information Systems in Developing Countries*, 1(3), 1-8. Retrieved from: <http://www.elisdec.org>.