MANAGEMENT AND USE OF ELECTRONIC INFORMATION RESOURCES IN ACADEMIC LIBRARIES IN KATSINA STATE

BY

KABIR IBRAHIM YARADUA

(SPS/14/MLS/00025)

SUPERVISOR

Dr. B. M. ABUBAKAR

BEING A DISSERTATION SUBMITTED TO THE DEPARTMENT OF LIBRARY AND INFORMATION SCIENCES, BAYERO UNIVERSITY, KANO, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF LIBRARY AND INFORMATION SCIENCE (MLiS).

August,2018

DECLARATION

I hereby declare that this work is the product of my own research efforts undertaken under the supervision of Dr B. M. Abubakar and has not been presented and will not be presented elsewhere for the award of a degree or certificate. All the sources have been duly acknowledged.

……

Kabir Ibrahim Yaradua

SPS/14/MLS/00025

CERTIFICATION PAGE

This is to certify that the research work for this dissertation and the subsequent preparation of it by Kabir Ibrahim Yar'adua (SPS/14/MLS/00025) were carried out under my supervision.

…… ……

Dr B. M. Abubakar Date

Supervisor

…….. ……

Dr S.M. Gwarzo Date

Head of Department

APPROVAL PAGE

This is to certify that this dissertation has been read and approved as having met the requirements for the award of Master of Library and Information Science (MLS). Department of Library and Information Sciences, Bayero University, Kano.

…… …….

Dr B. M. Abubakar — Date
Supervisor

…… ……..

Dr S. M. Gwarzo — Date
Head of Department

…….. ……..

Professor L. I. Diso — Date
Internal Examiner

……. …….

Professor A. I. Musa — Date
External Examiner

…… ……

Dean School of Postgraduate Studies — Date

DEDICATION

This dissertation is dedicated first to Almighty Allah, who has kept me throughout these years and given me the ability to complete this programme. I also dedicate this dissertation to each and every member of my family.

ACKNOWLEDGEMENTS

All glory and praise be to Almighty Allah for giving me the privilege of life, mercy, blessings and good health for the successful completion of this dissertation. It is also with great pleasure and a thing of utmost importance to use this medium to express my profound gratitude to all those who contributed in one way or the other to the execution and success of this programme. To them, I quickly say, may Allah bless you all, ameen.

My sincere gratitude goes to my supervisor, Dr B. M. Abubakar, for his tremendous effort in guiding me throughout the period of this research. He is indeed a man of integrity, a man with a good heart. Words are not enough but in all, I say may Allah bless you, Sir.

My appreciation also goes to the Head of Department, Dr S.M. Gwarzo, and the Department P.G. Coordinator, Dr A. A. Maidabino. I am also very grateful to all the lecturers in the Department of Library and Information Sciences for giving and sharing selflessly out of their wealth of knowledge and whose ideas and suggestions have been very useful and contributed tremendously to the outcome of this dissertation. They are Prof. Lukman I. Diso, Prof. GajiBadawi, Prof. S.O Bello, Associate Prof. Y.I .Harande, Dr Binta L. Farouk, Dr M. Kamba Dr K.I. Sa'id, Dr Ahmed Muhammed, Dr AbdulkadirIdris, Dr Kabir D. Abbas, Dr DaudaYakasai and all other lecturers in the Department of Library and Information Sciences.

My appreciation goes to my wife, Aisha my children, UmmalKhairi, Fatima, Muhammad, Ibrahim (Khalil), Mukhtar (Hannif), Abdul Hakeem and Muhammad Kabir(Mukarram). My appreciation also goes to all my course mates and all my colleques in Federal College of Education, Katsina Thank you all for your support and contributions.

TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTION

CHAPTER ONE: INTRODUCTION

CHAPTER TWO: REVIEW OF RELATED LITERATURE

CHAPTER THREE: RESEARCH METHODOLOGY

CHAPTER FOUR:DATA PRESENTATION AND ANALYSIS

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREBIATIONS

BI – Behavioral Intention

E I R - Electronic Information Resources

ICT - Information and Communication Technology

PEOU – Perceived Usefulness

PU – Perceived Ease of Use

SPSS - Statistical package for Social Science

TAM - Technological Acceptance Model

ABSTRACT

The study investigated management and use of electronic information resources in academic libraries in Katsina State. Procedure employed in the management of electronic resources in terms of selection, acquisition, preservation and access by library automation managers. Quantitative methodology was employed with cross-sectional survey design to elicit data from library users as well as aninterview schedule designed for library automation managers to elicit information on management of electronic resources. The population of the study comprises six library automation managers drawn from six different academic libraries and two hundred and forty one library users were randomly selected from the higher institutions of learning under the study area. Stratified sample technique was used to draw the sample from the population with a sample size of two hundred and seventy four drawn to represent the entire population. A total of 274 copies of questionnaires were administered to library users, 241 were returned and found useful, while interview schedule was developed for the libraryautomation managers. The data collected were analysed using descriptive statistics technique while percentage and frequency distribution table were used to interpret the data. The statistical package for the social science (SPSS) software version 23.0 was used to analyse the data collected into frequency and percentage tables. Findings from the study revealed that majority of the respondents had access to and use of electronic resources in their library. The slow Internet connectivity, inadequate computers and inadequate searching skills was their reasons for not using electronic resources in their library. The management of electronic resources was not only affected by lack of training, slow internet connectivity and inadequate computers, but there was lack of procedures for the proper management of electronic resources. The study recommends theprovision of necessary and modern information and communication technology equipment, such as adequate Internet bandwidth, and computers, as well as extension of e-library closing hours. The library management should have procedures for the effective management of electronic resources.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Academic libraries are established in institutions of higher learning and provide services to members of the academic community that comprises students, lecturers, researchers. According to Hammed (2010) academic libraries are established and maintained by higher/tertiary institutions of learning such as universities, polytechnics and colleges of education. According to Ekere (2014), academic libraries refer to a type of library that is distinct from others, such as public, national and school libraries and others. This is because they provide information materials in different formats to support teaching, learning and research.

On the other hand Abubakar (2011) stressed that academic libraries are the forefront of providing information services to their respective communities which comprises students, lecturers and researchers in order to support their teaching, learning and research needs. Libraries in these institutions perform functions directly related to the mission of each institution they serve. They are established to serve as centres of excellence that provide resources and services to support the academic programmes of their parent institution. Academic libraries are established in higher institution of learning to develop collections of various types, such as books, thesis, projects, journals and electronic resources to support the teaching, learning and research needs of lecturers, students and researchers as members of the community with the help of Librarians. Thus, libraries are responsible for the acquisition, organization, storage and dissemination of information in whatever format, print or electronic, for education, research and development.

The advancement in Information and Communication Technologies (ICT) has led to emphasis on electronic resources in academic libraries. These technologies, which appear in the libraries,have brought about radical changes in teaching, learning and research. According to Haugen (2005), the use of technology has led to the globalization of academic libraries, which has facilitated the exchange of information and ideas across national and international borders. It has changed the traditional library into an automated, electronic, virtual and digital one. In the digital age, libraries are acquiring more electronic resources because of their perceived benefits, such as easy access to information and its comprehensiveness. With the introduction of ICT into library services, electronic resources, such as CD-ROM databases, computers and other online resources, are used in teaching, learning and research purposes.

Electronic information resources therefore, are all the resources that appear in electronic format as opposed to the traditional type. They carry information resources in a computer based manner. By definition, electronic information resources or simply electronic resources (e-resources) are information stored in electronic format in computer or computer related facilities (CD-ROM, flash drives, digital libraries or the Internet). According to Padma (2014), an electronic resource requires computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim to be marketed. These may be delivered on CD-ROM, on tape, via Internet and so on. Electronic resources are a piece of information stored in the form of electrical signals and is usually found on a computer (Prakash 2015). The resources can be accessed through a personal computer, mainframe or handheld mobile device. They have gradually become and remained resources in every higher institution. Electronic resources

facilitate research and play a complimentary role to print library resources. These resources available in a library play a prominent role in facilitating access to require information by the users in an easy and expeditious manner.

Thus, electronic information resources, in actual sense, have become the backbones of many academic institutions world-wide, and as a result, academic library service provision is dramatically changing. Electronic resources are occupying a significant portion of the global literature. This has led to the rapid development and popularity of electronic resources. Dhanavandan, Mohammed and Esmail (2012) stated that there are several types of electronic resources which are available on the Internet.Major ones that are gaining ground are electronic journals, e-books, technical specifications, reports, patents, full text articles, trade reports and others. The different types of e-resources are e-books, e-journals, databases, CDs/DVDs, e-conference proceedings, e-reports, e-manuscripts, e-theses, e-newspaper and Internet/websites. These may be delivered on CD-ROM / DVD, over the Internet and so on.

Today, this resource has become the means for learning and research in most academic libraries as they are replacing print base resources. This transformation has been made possible by the technological breakthrough in the recent epoch (Hedstrom 2014). The exponential growth of electronic information has proved to be more value added in nature and time-saving for an individual and organization in general. According to Prakash (2015), electronic resources are piece of information stored in the form of electrical signals and is usually found on a computer. They can be accessed whether through a personal computer, mainframe or handheld mobile device. Accordingly, electronic information has gradually become and remains a resource in every higher institution. They facilitate research and play a complimentary role to print library resources.

The emergence of ICT has tremendously transformed information access and use and the creation as well as preservation of multidisciplinary information in academic libraries. Its management refers to an evolving array of problems, tasks, processes and practices associated with selection, evaluate, acquisition, organisation, preservation and maintenance and provide informed access to electronic resources in accordance with their license terms. According to Anderson (2004), management of electronic resources can be regarded as tools, which are used to process, organize administrative metadata, such as license terms, vendor contracts and usage.

It is important to note that managing electronic resources for continuous use is desirable. Akussah (2015) observed that the main goal of the electronic resource management is to support electronic collection development in libraries. As managing e-resources is a very complex process , the LIS professionals must be aware of many issues pertaining to the subscription, payment, licensing, copyrights, IPR and DRM issues, perpetual access , storage, preservation issues and to deal with the e-resources publishers and aggregators (Sinha, 2014).

Anand (2014) noted that researchers and students use electronic resources and have access to global information resources, particularly the Internet for their scholarly intercourse. This therefore, has increased with time, age and academic position, which are inversely related to the use of electronic resources, as users preferred them than print resources. Prakash (2015) asserts that the factors hindering the effective use of the library electronic information resources included power outage, slow download, low bandwidth and lack of computer systems.

Academic libraries in Katsina State occupy a central place in social institutions of learning as they provide essential academic support to students, lecturers and researchers for their formal teaching and individual learning. Indeed, many educators and scholars regard the academic library as the most important sector of the intellectual learning environment.

Despite the fact of the impact and the significance of electronic information resources in academic libraries, there are still a series of challenges facing their management and use. Among the challenges include lack of infrastructures, professional skills and preservation of the resources etc.

This study investigated the management and use of electronic information resources in academic libraries in Katsina State. Its main objective is to identify the types of electronic information resources available, their access, use and the procedures for their management. The study adopted quantitative research methodology with cross-sectional survey design as its methodology.

1.2 Statement of the Problem

Electronic information resources are essential in all academic libraries, as they provide a number of advantages over traditional print based resources. These resources no doubt offer many opportunities to library users. No doubt it makes easier access to information, saves user's time, provides the most current information and links to information or sources of information as well as serves library staff better by facilitating a multitude of tasks, such as online selection, acquisition, organization and reference services in academic libraries. Halima (2011) opined that the emergence of electronic information resources has tremendously transformed information handling and management in Nigerian academic environments and University libraries, in particular. The benefits of electronic resources in academic libraries include space economy and the simultaneous consultation of the electronic resources by many users at a time among others.There are several types of electronic information resources, which are used in academic libraries among which include: e-journal, e-book, e-manuscript, e-newspapers, e-magazines, e-conference, e-reference, e-dissertation, e-mails, and the Database include CD-ROM,

EBSCOHOST, HINARI, Online data base, offline data base, AGORA and OARE. This is in line with Okon (2014), who opined that types of electronic information resources include electronic journals, electronic books, online databases, electronic conference proceedings and CD-ROM databases.

The use of electronic information resources may encourage library users to create new ideas and use knowledge with ease and share ideas among themselves in a limited or shortest time. As such, they may be exposed to different types of resources and improve in their learning, teaching and research activities. So also it may serve as an added advantage to library users in the attainment of the set objectives of the academic institutions.

Coming to this era of technological development, the forms of resources have been distinctively transformed from printed resources to various electronic resources. From the available literatures cited indicated, academic libraries have been facing challenge for underutilization of the resources. Observations made by the researcher and the available literature have indicated low use of electronic information resources by users in academic libraries. Thus, users seem to be alienated in the global use of electronic information resources in spite of digital revolution and the efforts made by the academic libraries to provide the resources and ICT facilities at their disposal. This condition of underutilization could therefore, be attributed to lack of requisite ICT skills and training on the use of the resources by library users and automation managers. Inadequate ICT facilities in the e-library to enhance quick access to the resources in remote areas, lack of writing guidelines on the management of the resources, shortage of computers in the e-library and above all lack funds to solve urgent and immediate problem. It is in view of these that the researcher seeks to carry out an investigation to determine the management and use of electronic information resources in Katsina State.

The philosophical paradigm, the researcher adopted positivist approach in the aspect of research process, to ensure the use of correct procedures and find answer to research questions. The structured approach mode of enquiry was used to have control of bias and maintenance of objectivity in terms of research process whereby the researcher adopted questionnaire as an instrument for data collection for library users. Library automation managers the use of unstructured interview was adapted to solicited information on management of e-resources.

In addition,the preliminary investigation further revealed that there are 13 tertiary institutions in Katsina state. The available electronic resources in the institutions under study include e-books, e-journals, e-manuscript, e-thesis, e- conference, while electronic data base are Hinari, Ebscohost, Agora, CD_ROM among others. The total number of registered users in the institutions under study is 37,238 while total number of professional librarians is 81. It is in view of these that the researcher aims to carry out an investigation to determine the management and use of electronic information resources in academic libraries in Katsina state.

1.3 Research Questions

The study sought to answer the following research questions:

1. What types of electronic information resources are available in the academic libraries in Katsina State?
2. What are the procedures for the management of electronic information resources in the academic libraries under study regarding:
    a. Policy statement
    b. Selection
    c. Acquisition
    d. Organization

e. Preservation

3. What is the level of staff training on the management of electronic resources in the academic libraries of Katsina State?
4. What is the frequency of access to electronic information resources I the libraries under study?
5. What is the frequency of the use of electronic information resources in the libraries under study?
6. What are the challenges associated with:
   a. Management of electronic information resources in academic libraries in Katsina State and
   b. Use of electronic information resources?
7. What is the level of satisfaction derived from the use of electronic information resources by the users of academic libraries in Katsina State?

1.4 Research Objectives

The main objective of this study was to determine the management and use of electronic information resources in the academic libraries in Katsina State. The specific objectives of the study are as follows:

1. To determine the types of electronic information resources available;
2. To identify the procedures for the management of electronic resources regarding:
   a. Policy statement
   b. Selection
   c. Acquisition
   d. Organization

e. Preservation

3. To find out the level of staff training on the management of electronic resources;
4. To find out the frequency of access to electronic information resources in the libraries under study.
5. To find out the frequency of use of electronic information resources in the libraries under study.
6. To find out the challenges associated with:
   a. Management of electronic information resources and
   b. Use of electronic information resources;
7. To determine the level of the satisfaction derived from the use of electronic information resources by users.

1.5 Significance of the Study

Electronic information resources are vital tools which help users to access, use, and exchange and share information as well as for research activities by researchers. Thus, they have capacity of improving skills in searching or information in a rapid changing environment.Adams (2010) opined that Nigerian universities seem to be alienated in the global use of electronic resources in spite of digital revolution in ICT. Therefore, in order not to underutilize electronic resources in academic libraries, it becomes imperative to train users as well as library staff on their use and management, so that they may align themselves and effectively use these resources.

The study would be of immense assistance to library users as well as library automation managers, as it determines the availability of electronic information resources and finding out how they are accessed and used in academic libraries. It is against this background that the researcher deems it necessary to examine the extent of the use of electronic information

resources in academic libraries. Hence, this study attempts to fill the gap and accordingly contributes to the body of literature in this area. It has become imperative to explore the influence of electronic information resources management and use in academic libraries of universities with a view to identify the availability of the resources that are actually most used by registered library users and their management processes.

Also, the findings of this study would help the administrators of academic libraries with effective management of electronic information resources. The findings of the study would sensitize electronic resources users in academic libraries on the need to acquire the necessary ICT skills for the use of the resources effectively. The findings of the study would improve the quality of the use of electronic information resources by the users thereby leading to improved learning, teaching and research activities as well as encourage the ability to favorably compete with counterparts in other developed nations.

Finally, the result of the study will contribute meaningfully to the literature on information resource development in academic libraries because it will add to the literature as well as provide a platform for further researches by students and scholars in the field of library science.It would equally widen the knowledge of the library management in the overall management of electronic information resources in terms selection, acquisition, organization and preservation of library resources.

1.6 Scope and Limitations of the Study

The study covered the aspect of electronic resourcesuseand management in academic libraries. The researcher seeks to cover all academic libraries in Katsina State. The institutions to cover in this study are only those that have functional electronic resources at the time of this research, which were stratified selected.These institutions include Federal University Dutsin-ma,

Federal College of Education Katsina, Hassan Usman Polytechnic Katsina, Isa Kaita College of Education, Katsina, School of Nursing Katsina and Institute of Management and Technology Katsina.However, most of the academic libraries visited have some problems affecting the use and management of electronic resources, which definitely affect the use and management of electronic information resources in Katsina State.

The study therefore, had some limitations in terms of registered users of the e-library. Although effort was made by the research to locate the users in various locations hence the researcher considered such as limitation in the present study. Other limitations associated with the present study could be that library automation managers despite the follow up by the researcher to ensure that a hundred per cent of the administered questionnaire was returned ,yet 91% for library users was dully returned, which is considered adequate.

1.7 Operational Definition of Key Terms

Electronic Resources: refers to information resources and service that user's access electronically via a computer network. Or they are information materials that can be accessed from information sources using electronic means/format, that is, computer or computer related facilities (CD-ROM, flash drives, digital libraries or the Internet).

Management of Electronic Information Resources: This refers to the act or activity of setting the strategy design to the maintenance and preservation of electronic resources.

Use of Electronic Information Resources: The act of using or state of being used of electronic resources available in the library.

Academic Libraries: Refers to libraries found in higher learning institutions, such as Universities, Colleges of education and polytechnics.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter contains reviews existing literature that was found relevant to the topic as well as variables under study. The chapter is organized under the following sub-headings:

2.1 Concept and Significance of Electronic Information Resources

2.2 Types of Electronic information Resources in Academic Libraries

2.3 Accessibility to Electronic Information Resources

2.4 Use of Electronic Information Resources

2.6 Management of Electronic Information Resources In Academic Libraries

2.5 Challenges Associated with Management and Use of Electronic Information Resources

2.6 Summary of the Review and Uniqueness of the Study

2.1 The Concept and Significance of Electronic Information Resources

Electronic resources play an important role in the changing nature of information access and dissemination and have become a critical part of teaching, learning and research, particularly in higher institutions and bring tremendous benefits to organizations. This can be done by provision of adequate resources to the users and train them on the use of such resources. These resources in most universities are integral parts of the electronic library and stand as vital academic resources that support teaching, learning and research activities (Zhang, Liu, 2011). Academic libraries are transforming from print base resources to electronic information resources. The online dictionary of library and information science (2004) defines electronic information as material consisting of data and/or computer programs encoded for reading and manipulation by a computer by use of a peripheral device directly connected to the

computer,such as a CD-ROM drive or remotely via network, such as the internet. Electronic information resources, therefore, are an indispensable and essential ingredient in today's educational, social, economic, political industrial and technological development of academic libraries worldwide.

Ukpebor (2012) noted that the resources provide accurate and timely information, especially for students and researchers, who depend greatly on them for information to advance research and collaboration with other researchers around the world for intellectual growth. They also provide current and up-to-date information, which cannot be available in print resources. In view of the above, electronic resources are the backbone of academic libraries because they can be accessed in a remote area and provide up to date happenings in an area or beyond. Oyedun(2007) in his study found out that electronic resources are facilities that assist librarians to offer quick, adequate and efficient services to their clientele. They also help them to meet the diverse needs of their patrons. Therefore, electronic resource can be seen as requiring computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections and other multimedia products.In addition, electronic information resources consist of information resources provided in electronic format such as internet, CD-ROM databases, e-books e-journals, Online database, Online Public Access Catalogues and other computer based electronic networks.

Electronic resources, therefore, refer to documents in digital formats, which are made available to library users through a computer based information retrieval system. Kalbande, Shinde and Ingle (2013) stressed that the impact of e-resources was visible from the decrease in the number of printed documents in comparison to the increase in that of electronic resources that are becoming more important for the academic community for their learning, research and

teaching. It is important to note that electronic resources use have advantages over print resources with regard to their easy accessibility, saves time and more importantly provide current happening within a document and beyond. In recognising their importance over printed resources, Brophy (1999) affirmed that electronic information sources offer students different opportunities from their predecessor. He pointed out that electronic information can, therefore, provide a number of advantages over traditional print based sources. Obviously, these advantages include the fact that electronic information sources are often faster than consulting print indexes, especially when searching retrospectively, and are straightforward. They can be printed and searches saved to be repeated at a later date; they are updated oftener than printed tools. This view is in relation to the present situation in some academic libraries, particularly in Nigeria, where the electronic resources are given more emphasis in learning, teaching and research activities. In some libraries, users prefer electronic resources better in their day to day activities.

However, based on the literature reviewed of such studies looked at the accessibility and availability of electronic information resources, which have increased remarkably due to the digitization of information. These consist of e-books, e-Journals, articles, newspapers, thesis, dissertations, databases and CD-ROM, which are likely to be the alternative to print media. To justify this statement, Ellis &Oldman (2005) noted that electronic information resources have availed researchers and students access to global information resources, particularly the Internet for their scholarly intercourse. The resources can be searched, browsed, accessed, copied, downloaded fast and customized, linking feature facilitates link within the documents as well as outside of the documents. Many users can use electronic resources simultaneously and it is possible to monitor usage to some extent. Similarly, Smith (2003) in his research aimed to

explore the role of electronic journals in the weekly scholarlyreading habits of faculty. The study showed that electronic resources access to journals, particularly library funded access, is integral toresearch activities, with the vast majority of respondents reported that they read at least one article from an electronicsource weekly. Library users have been increasingly dependent on electronic resources in their day to day activities rather than their counterpart. The resources they use most often include online catalogues, full-text electronic journal databases, and abstracting and indexing databases.

However, electronic resources in Nigeria are yet to make the required impact on users compared to developed nations, due to inadequate ICT facilities, skilled automation managers to man the electronic resources centres and poor Internet connectivity. These have made the digital library lag in its formative stage. Kiyingi and Baziraake (2012) buttressed that the utilization of e- resources was influenced by human and institutional factors, including information literacy, low bandwidth and the limited number of resources available to users.

Electronic resources provide information accurately and timely for learners and researchers. They assist users in searching for a huge amount of information for teaching, learning and research activities. The resources can be available electronically and can also be the Internet and the World Wide Web, digital libraries and archives, government portals and websites, CD-ROM databases, online academic databases, such as Medline Online, or commercial databases, such as LEXIS and NEXIS all of which are computer networked facilities. Thus, resources can be accessed via electronic networks from third party information providers or mounted locally within the institution or within the library.

With the rapid advancement in computer technology along with information technology, libraries and information centers have been blessed with electronic materials and, therefore, are

gradually shifting towards the electronic libraries with electronic resources. Chandel and Mukesh(2012) assert that most library users today have become internet dependent. It is the contribution of information communication technology and the impacts of internet that information processing, storing searching, dissemination and use have become expeditious and easy. Maxwell (2015 cited in Ray and Day 1998) stated that the importance and wide-ranging scope of electronic resources for general communication, information retrieval and instructional delivery to support teaching and research activities in tertiary educational institutions is acknowledged worldwide. Electronic resources are available with increased accessibility beyond time and space restrictions, restricting information users to visit physical libraries. This technology has fulfilled the long dream of conceiving the idea of universal library more than a century ago. Similarly, the usability of electronic resources depends on the facilities available to use them whereas the use of printed materials is less dependent on technology.

Therefore, the usability of electronic information resources has been increasing with improved internet facilities. Libraries are forced to change from physical to virtual environment and make available tools and techniques, so that the flow and use of information is simple as well as effective. Oyedun (2007) opined that electronic resources are facilities that assist librarians to offer quick, adequate and efficient services to their clienteles. It also helps them to meet the diverse needs of their patrons. Nomambulu (2007) stressed that electronic information has gradually become a major resource in every university library. The emergence of e-resources transformed information handling and management in the academic environment and in University libraries. Through the use of e-resources, academics and students now have access to global electronic information resources for their scholarly communication.

Review of related literature has shown that many academic libraries embraced the use of electronic resources among which include e-book, e-journal, e-newspapers, internet for research learning and other services. There are many advantages of e-resources that enhance and support research and education, such that they enable users to save time and space and provide easy access to useful information at minimum cost. Some of advantages, according to Shuling (2007) includequicker, faster and easier access to current information, easy storage and possibility of sharing the same information resources among many users at a time, saving space with relatively easy maintenance and easy linkage. Further, electronic information resources offer users the opportunity to control their learning and assist them to have full interaction with information resources and play a vital role in enhancing the research and development activities and improving the productivity of an individual.

E-resources have become very important in recent times as they are up-to-date, multi-dimensional and directional in nature and also can be retrieved as well as used anywhere, crossing all geographical boundaries. For their effectively use in academic libraries, there is a need for the training and provision of adequate computers in use and improving access to electronic resources for all users.

Therefore, the situation is important to this study as it has become necessary to study electronic resources in Katsina State to ascertain whether these problems affect use and management of electronic resources.

2.2 Types of Electronic Information Resources in Academic Libraries

Electronic resources encompass many genres, formats, and delivery mediums. The information contain can be selected, acquired, organized and preserved electronically and be accessible remotely through electronic systems and computer networks. To Okore (2012)

electronic resources include electronic books (e-books), electronic journals (e-journal), CD-ROM, database, Thesis, Dissertations, Indexing and abstracting. These resources can be used for learning, teaching, research and collaboration and sharing ideas. Aina, Mutula and Tiamiyu (2008) observed that electronic resources are available in computer process able form. Examples of electronic resources databases subscribed to by Babcock University library include: academic Journal, AJOL, BOOKBOON, Dissertation, HINARI, EBISOHOST, SAGE, etc. However, most of the academic library resources in the present are being made available in electronic formats, such as e-journals, e-books, databases, etc. These Libraries are moving from print to electronic resources either subscribing individually or through consortia because of its advantages over print resources.

There are different types of electronic resources which have occupied a significant portion of global literature; they are referred to information sources in electronic form. These resources include E-books, E-journals, Databases, CDs/DVDs, E-conference proceedings, E-Reports, E-Maps, E-Pictures/Photographs, E-Manuscripts, E-Theses and E-Newspaper and some are delivered on CD-ROM or via Internet. Equally, electronic resources can be online and include e-book e- journal database and web sites.

Review of related literature has shown that many libraries are moving from print to e-resources either subscribing individually or through consortia because of its advantages over print resources. The categories of electronic information resources include software applications, electronic texts, bibliographic databases, institutional repositories, web sites, e books, collections of e-journals, etc. This increased the global dissemination of information.Wood (2000) noted that our society's digital revolution has transformed the traditional quiet world of libraries. Dramatic changes are in the offing for academic libraries as a result of the digital revolution, such as:

changes in the form of the library, changes in the relationship between an Institution's library and its information technology division, changes in the way collections are acquired, organized, stored and delivered and changes in the design of library buildings and facilities and in participation by libraries in consortia (Marcum, 2002). Therefore, the provision of effective and efficient electronic information resources and services in academic libraries are expected in our institutions of learning nationwide to be able to support the teaching, learning and research activities. This offers academic libraries opportunities to shift from the traditional system to the ICT base. It was in this sense Swain (2010) stated that different types of electronic resources available in academic libraries include: e-journals, e-books, online databases, e-theses/e-dissertations, electronic conference proceedings, electronic technical reports, electronic reference documents and CD-ROM databases. Mohammed and Nagarajan(2012) stressed that there are several forms and types of electronic resources, which are available on the Internet. Some popular ones that are gaining ground the electronic journals, standards, technical specifications, reports, patents, full text articles, trade reports and a host of others.

It is in view of the above that the tremendous change in the nature of information environment in academic libraries also changed by subscribing to different types of electronic resources. Okore (2009) identified specific types of electronic information resources as consisting of electronic books (e-books), electronic journals (e-journal) and indexes, collections of journal articles, reference works, digital collections, databases and websites. He further details the types of electronic resources as:

Intuitions Repositories (IR): An Institutions Repository is the intellectual output of the University or Institution in the form of digital collections. The scholarly materials published by faculty members and research staff are made accessible and available to users through web-based

searchable databases through intranet and internet as well. The institution repositories improve scholarly communication and disseminate the research outputs of organizations to the community. IR could be student thesis and project reports; faculty publications, lecture notes and presentations etc. Taking into consideration both privacy and intellectual property issues, content could include e-prints, reprints, technical reports, course outlines, data sets and symposium proceedings.

E-Books: Electronic books are generally known as e-books. These are text and image based publications in digital form readable on computers or other digital devices. In 1971, the e-book was created as a first step of Project Gutenberg, a digital library for books from public domain. The Oxford Dictionary of English defines the e-book as "an electronic version of a printed book, but e-books can and do exist without any printed equivalent"(Wikipedia, 16 July 2013). Borchers (1999) defined an electronic book or e-book as "a portable hardware and software system that can display large quantities of readable textual information to the user, and that lets the user navigate through this information"**.** Most e-books can be read as PDF files and hence specific reader application or devices are required to read an e-book. The PDF version of thee-book is popular because it has similar options like a paper book.

E-Journal: An electronic journal is also known as online journal, e-journal and electronic serial available full text in electronic form accessed via electronic transmission and usually published on the web.E-journals appeared during the 1970s but became popularized in the 1996s. E-journals, which are available in electronic media, such as Floppy, CD-ROM, DVD or the entire information, can be accessed online and through Gopher, FTP, Telnet, E-mail or discussion lists, but are mainly accessed through the web (Majumder& Roy, 2007). Generally, electronic journals are published in two different ways on the web, such as commercial and open source. Journals

which are paid by the customer for accessing the same are called commercial journal whereas open sources journals are freely accessible to all.

CD-ROM Databases: CD-ROM stands for 'Compact Disc-Read-Only Memory'. This is a type of optical disk having the capacity to store large amounts of data up to 1GB. The most common storage capacity is 650 MB. The databases store on CD-ROM is defined as CD-ROM databases, where users search their queries through different search features. CD-ROM was used to store text-based data due to its large storage capacity (about 650 megabytes) and was mainly used in the library and information centres for the storage and retrieval of bibliographic records (Elshami, 1996). This is also explained by Anand (2014) who listed types of electronic resources and its utilities as;

Indexing and Abstracting Databases: These are the reference sources which provide bibliographic information about journals, including the abstracts of the articles.

Reference database: These are reference materials online, such as, Dictionaries, Almanacs and Encyclopaedias, which are available on internet in electronic format.

E-Thesis: These are databases that contain PhD theses and Dissertations published through e-format.

E-Patents: is the exclusive right granted by the government to make use of an invention for a specific period.

To this end, it can be concluded that it is imperative for academic libraries providing a wide variety of different types of electronic information resources to enhance teaching, learning and research activities to users, ranging from e-books, e-journals, online data base and CD-ROM, among others. It is in line with this that this study seeks to find out the types of electronic resources available in academic libraries in Katsina State.

2.3 Access to Electronic Information Resources in Academic Libraries

Libraries have always served as centres for information generation, access and dissemination points for users. Recognizing the importance of a new mode of information access, academic libraries took responsibility for automation. For the purpose of this study, presentation byAina (2011) who believed that accessibility determines the speed at which an information output in any formats is obtained. A good information resource should be received and retrieved to meet the desired needs of users. It is expected that those resources should be well organized for easy access. Some electronic resources required password and user ID for them to be accessible while some can be accessed without any restrictions. Electronic resources facilitate research and play a complimentary role to print library resources.

The growing supply of literature in libraries available in digital format facilitates effective searching for the material needed by library users and scholars. These developments have rapidly increased scholars' exposure to a wider range of literature than would otherwise be available. Madhusudham (2007) maintained that the Internet makes it possible to access a wide range of information, such as up-to-date research articles, from anywhere in the world. It enables scholars and academic institutions to disseminate information to a wider audience having websites and a way to search them and organize the output.

It has become an important component in academic institutions, as it plays a pivotal role in meeting the information needs to its users accessing electronic information resources. Racheal (2014) believed that there are larger volumes of information than ever before, new ways of collecting information, new information containers and new tools for working for information. Library users can now access electronic information through a variety of technologies. These include: Compact Disk Read Only Memory (CD-ROM), Compact Disk Read Only Memory

(OPAC) and e-journals, while the internet provides a broad range of information via search engines, subject gateways, subject directories and other web-based resources.

The provision of electronic information resources and services has bridged the gap in the access and to information resources in academic the library. Oyewusi and Oyeboade (2009) in their study of the accessibility and use of library resources by undergraduates in LadokeAkintola University of Science and Technology, Ogbomosho, Nigeria, found out that a high number of the respondents accessed and used electronic resources for research and few for readings. Contrary to above,Agba (2013) in his study identified the following problems as hindrances to effective accessibility and utilization of e-resources, inadequacy of existing resources, slow speed of the internet or poor bandwidth, lack of publicity of the available facilities, limited subscription to databases, irrelevant databases and poor user skills.

The goal of any library is the provision of quality and access to information resources for users to satisfy their information need through optimum use of available resources. Emwanta and Nwalo (2013) stressed that electronic resources have the potential for enhancing student learning, as the resources provide teachers and students with vast quantities of information in an easily accessible non-sequential format. Electronic resources provide access to information that might be restricted to the user because of geographical location or finances. These resources also provide access to the current information, as these are often updated frequently. This corroboratesEgberongbe (2011) in his study of the accessibility and retrieval of electronic information, revealing that electronic information cuts across all members of the University community and that it was to a greater extent easy to use and users were satisfied with their search outputs. Therefore, academic libraries must provide access electronic resources to serve users and increase the visibility of their institutions, as a measure of prestige. All these resources

are channelled toward providing access to the information available to library users in line with the courses offered in the institutions to support academic activities. Thus, access to electronic resources is very essential in the attainment of the academic institution's overall objectives, which usually revolve around the development of national human resources. In the same vein Shokeen and Kauslik (2002) assert that the utilization of electronic resources as taking advantage of the resources available in the library by users for learning and research purposes.

For effective access to electronic information resource, there must be adequate and sufficient provision of Internet connectivity, adequate computers, adequate time allocation to users for searching and, above all training users on the use of electronic resources. This corroborate Plum (2010), who revealed that there are many hindrances and challenges faced by users in the access of the e-resources, which include lack of awareness of information literacy skills necessary to search databases and of time. Therefore, there is a need to develop and improve ICT and information literacy skills for utilizing the enormous benefits available in electronic formats. The discussion above relates to the present situation in developing countries. This is because access to electronic resources by users met with hindrances, such as poor electric power, slow network and limited time for searching.

Review of related literature has shown that many academic libraries have embraced the access to electronic information resources in many ways to enhance learning, teaching and research activities by users. In the present study, it shows that access to electronic information resources from library resources and putting it into practical use to causes a change in the user or in the society is essential. The electronic information resources available in a library play a prominent role in facilitating access to the required information by the users in an easy and expeditious manner. It is equally important that electronic resources are used for different

purposes by different people, depending on their specialization and information need. Some access electronic resources for general information on everyday life, the economic, the social and the political while some others access them for educational purposes.

This study is not similar to the present study, which covers all the higher institutions of learning, such as Universities, Colleges of Education, Polytechnic and even Health Institution in Katsina State. Differences also lie in the subject matter, which is the use of e-resources, such as e-databases and the internet and the present study is conducted to cover the management and use of electronic resources in academic libraries.

2.4 The Use of Electronic Information Resources in Academic Libraries

Electronic resources can only be accessed by the use of computers and other ICT devices. These materials may require the use of a peripheral device directly connected to a computer, for example, a CD-ROM drive or a connection to a computer network, for example, the Internet. Electronic resources have given rise to new modes of organizing the educational environment in tertiary institutions. Lefuma (2017) asserts that the ability to use e-resources efficiently depends on the basis of computer skills, knowledge of what is available and how to use it and the ability to define a research problem.

Many academic libraries have embraced electronic information resources for learning, teaching and research activities. The resources have necessarily provided access to useful, current, reliable and affordable information and at the right time, because of shifting from print resources to electronic. Remilekun (2015 cited in Agba, and Nyumba2004) that the shift means that both academic staff and students in the university system must use these resources for better quality and efficient and effective research more than ever. Furthermore, the use of electronic

resources aids users in keeping abreast with current developments in their respective subject fields in contrast to print media, which are not regularly updated.

Crawford (2006) studied the use of electronic information resources and information literacy at Glasgow Caledonian University and found that students used the resources for their academic pursuits, communication, current awareness and entertainment. The findings revealed that majority used the internet, but e-databases were significantly underutilized. Contrary to Crawford, (2013) in his study of the use of electronic resources found that different types of such resources available in the university library, but their use rate were low. He further, explained that the factors that impeded effective utilization of electronic resources were large mass of irrelevant information, the need to filter the results from searches, download delay, failure to find information and inadequate or lack of search skills. In the present age of information superhighway where electronic resources is shaping information access and dissemination, academic libraries need to be adequately provide these resources for better academic activities in tertiary institutions.

Bishop (2013) found that the use of electronic journals was very low in their first year of implementation and argued that the use pattern was negligible. However, empirical results from studies on the use of electronic journals are not uniformly decisive. In a survey on faculty use of electronic journals, he found that over half of the faculty was not aware of electronic journals in their field.

To ensure effective and optimal use of these resources, some factors needs to be considered, such as the provision of adequate infrastructure, relevance resources, search skills and training. Elavazhagan and Udayakumar (2013) study of the extent use of e-resources by faculty members and confirmed that e-resources are time-saving, easy to use and handle,

informative and preferred for their flexibility and effectiveness. E-information resources can be retrieved easily by searching through their author, title, full text of the articles, date range, journal category, and subject category. Academic libraries have the greatest number of electronic information resources but patrons are not using them.

The study Wu and Chen (2012) on how graduate students perceive, use and manage electronic resources found that usage varied according to the subject background of the student. Academic libraries need to acquire and organized electronic information resources in retrievable formats and make them accessible to library uses in conducting their teaching, learning and research activities.

In the result of a study of Alex (2000) the use of electronic resources by postgraduate students of the department of library and information science of Delta state university. The findings reveal that there is a low level of skilfulness in the use of ICT among them. There is also a low level of electronic resource experience and the use of internet via Cybercafé as the major facility used to access electronic resources by the postgraduate students of the Department under study. Therefore, the level of electronic resource usage by the Postgraduate Students is high. The above discussion indicated that the availability of information does not mean its accessibility and utilization.

The significance of the academic library, consists not just in the richness and variety of its collections print or electronic resources, but also in the professional use of their informational potential**,** as the mission of any library is to allow the users' effective and efficient access to information on any kind of support. The use of electronic resources has added advantages in learning and research in academic libraries. Shokeen and Kauslik (2002) asserted that utilization of is taking advantage of the resources available in the library by a user

for learning and research purposes. However, in the present study, utilization and accessing electronic information resources from the library and putting them into practical use cause a change in the user of the resources. It is on that premises that Okiki and Ashiru (2011) in their study on the use of electronic information resources found that students were motivated to use the resources for their research projects, gain quick access to information and to search for new things. It is reasonable to assume that if library users use the library resources, the more familiar they become with its resources, the more access to it is ensured. The provision of adequate and sufficient electronic resources in academic libraries make the resources accessible and effectively use.

It is pertinent to note that the use of this new technology has enriched and harnessed library services and operations. The popularity of electronic resource is overwhelming as new outlets and is thus taken for granted. Egberongbe (2011) in his study found that lecturers preferred to use electronic resources compared to print resources because they found it less time-consuming, even though some of them believed that the resources can never diminish the significance and importance of print resources. The study of Bhukuvhani, (2012) found that academic staff used at least one or more electronic information resources to find information for use for their teaching and/or research, while very few of them indicated non-usage of the information sources. Tenopir (2008) reviewed the available literature on the usage of electronic resources from 1995 to 2003 and concluded that the resources have become widely adopted in the academic environment and that users in different disciplines have a distinct usage pattern. He further stated that E-Resources are used not only by university teachers, but also by students, employees of government and private sector organizations, scientist and others for a multitude of reasons. In another study on the usage of electronic resources by Adeniran (2013), he found that

students were aware of the different types of electronic information resources available in the university library; but their use rate was low. Accessibility to a vast and growing amount of information available through electronic information resources has given students the opportunity to enhance their academic performance.

In another study by Agada (2010) who investigated the utilization of electronic information resources at Makerere University by academic staff, the findings revealed that majority of the respondents were aware of the e-resources available in the library and that used them. This study is similar to the present research even though it investigated the utilization of e-resources by academic staff in a University only as against the present study which has investigated the use and management of electronic resources in academic libraries consisting of polytechnics, colleges of Education and Universities.

On the other hand, Kamba (2008) noted that the internet provides users with the means of carrying out research online by acting as the main engine for exchanging information and publishing. He observed that the use of the internet by Nigerians has reduced the shortage of information resources and consequently enhanced research and publication output. The reason, according to him, is that the Internet has the capacity to provide an enabling environment for Nigerian scholars and researchers to overcome the barriers of locations, communication and collaboration. For better use of library resources, there should be training and skill acquisition by users on the effective utilization of electronic resources. Brophy (1993) opined that library users should reach a position where the acquisition of information skills is considered to be one of the key learning objectives for all students entering the university. He further explained that this would enable the users to be fully equipped to cope with the information intensive world.

Similarly, Ozoemelem (2009) asserts that students must acquire and practice the skills necessary to retrieve information from electronic resources. To surmount the problem of retrieving information, they may require a combination of skills, which include informational retrieval, operational retrieval and strategic retrieval skills to make the process of retrieving information a simple task. For the effective use of electronic resources in the academic library there are factors, problems, which affect the proper use of these resources. These factors include lack of competence of the e- resources users, lack of knowledge, negative attitudes and poor practices and inadequate and limited infrastructure (Smith, 2007).

Anand (2014) studied the use of electronic resources in ten Academic Libraries. He found that most of the libraries had internet connectivity but very few were using these resources. The study, however, identifies four barriers to the useful facility of electronic resources in those libraries, namely: lack of considered planning, lack of sufficient or trustworthy financial support; lack of use of Internet to supply information to users and a lack of constant preparation for users in new Information and Communication Technology services The significance of electronic resources has necessitated the need for its effective management. In another study by Alison (2012) she found that effective utilization of e- resources was influenced by institutional factors, including information literacy, low bandwidth and the limited number of resources available to users and lack of management of the resources. Generally, users of academic libraries are the opinion that the use of electronic resources, in particular CD-ROM, has been positive with students enjoying the use of these resources and finding relatively few problems while using them. In this light, the effective use of electronic resources in academic library has become part of the proper management of the resources. Nevertheless, Sivasubramaniyan, (2012) in their study found that the uses of e-resources are very common among the faculty members of

Pondicherry University as well as to those who are in affiliated colleges. It was clear that majority of them were dependent on e-resources to get desired and relevant information.

The reviewed literature above indicates the use of electronic resources by users in the academic library as there is any study conducted to find out the use and management of electronic resources in academic libraries in Katsina State. It is against this, that the researcher wants to find out the use management of electronic resources there.

2.5 The Management of Electronic Information Resources in Academic Libraries

The management of electronic resources often refers to the processes used with regard to the policy statement, selection, acquisition, organization and preservation of electronic information resources.Electronic resources management according to Robek (1996) is a systematic control of all organizational records during the various stages of their lifecycle from their creation or receipt through their processing, distribution, maintenance and use and ultimate disposition. The effective management of e-resources depends on the execution of a wide range of functions that follow a slightly different life cycle. He further stated that libraries at present generally do not deal with the creation of licensed e-resources, evaluate new products, services, and other fairly close parallels between a simplified records management life-cycle model and one for e-resources.

Electronic resources management has emerged as a distinct activity within acquisitions units of academic libraries as electronic resources collections continue to grow exponentially in both size and use. Smith (2006) viewed electronic resource management as an area of technical services responsible for the evaluation, selection, pricing, securing, maintenance and provision of electronic resources, such as e-journals, e-books and databases. Chioma (2013) stressed that the assessment of library software and e-resources management library software, e-resources

management and ICT facilities are complicated resources and all need acquired new skills in the course of usage and acquisition. However, it is disheartening to note that users were unable to acquire new skills in the area of CD-ROM and software management of electronic resources.

Management of electronic resources is a practices used by librarians to keep tract of important information about electronic resources. Its activities are associated with managing the life cycle of electronic products and is intended to be generally applicable to the processes followed at most institutions (Saikia2013). Therefore, policies, strategies and guidelines are important in managing electronic information resources in academic libraries. In light of the above mention, a detailed guideline is required to ensure the proper management policies, procedures and quality standard in place for effective management and use of electronic information resources. Electronic resources management includes the selection, acquisition, organization, storage and dissemination of information to users. There isan increased number of electronic resources in academic libraries, such as online journals and databases. Therefore, there is the pressing need for proper management and maintaining of these resources.

To ascertain the effectiveness for the management of electronic resources in academic libraries,Helly (2013) asserts that for the effective management of electronic resources many universities attempted to create their electronic resource management systems with varying degrees of success. Some created complete systems to manage many aspects of electronic resources processing at their libraries, while others focused their efforts just on specific aspects of managing the resource. Electronic resources management represents electronic things that may be acquired, licensed or managed. Electronic product encompasses interfaces, e-resource packages and e-resource titles.

Electronic resources and print resources differ in their manner in which they are acquired, access and licensed. Therefore, electronic resources need to support the differences by providing the infrastructure for their maintenance and management. In relation to the study Saikia (2013) found that on the growth of reliance on electronic resources in libraries the recognition of electronic resource management is a new problem area and specialty within libraries and to the development of a variety of electronic resource management systems and services that have been widely adopted by libraries. Similarly, due to the diversity of formats and packages in which the electronic information resources appeared, frequent changes necessitated the need for the efficient management control of electronic information resources. It is in relation to this,Sinha (2014) stated that electronic resources have changing trends of publishing. Many online and offline resources are being published, as these resources have a great demand from the libraries and user community. It needs to properly manage. The e-resources like e-books and e-journals are popular among the end users for their academic and research activities. Internet and www makes e-publishing possible for organization and dissemination e-resources.

However, from the above reviewed empirical studies, it is revealed that much emphasis on the management of electronic resources generally point to the fact that, there is little or no literature on management as it relates to electronic resources. It is on this basis that this research is anchored. Based on this, electronic resources management will be examined for effective use in academic libraries. Ogbonna (2009) Opined that such management life cycle consists of: policy statement, selection, acquisition, organization and preservation.

2.5.1 Policy Statement

Policy statement is a principles and guide-lines designed to guide the library in the management of its resources, which include: selection, acquisition, organization and

preservation. The development and use of policies is critical in electronic resource management. Ozioko and Ekere (2011) asserted that the collection development policy is a written document representing a plan of action and information during the selection and acquisition of library materials and proves handy in pointing out subject areas that need emphasis. A policy statement is very important to academic libraries, as it assists the automation manager to build a balanced healthy collection and management of electronic resources, which can meet user information needs. In the context of this study policies are viewed as blueprints, which direct academic libraries in their central task of the selecting, acquisition, organizing and preservation of electronic information resources.

2.5.2 The Selection of Electronic Information Resources

Selection refers to choice from a variety of resources and is not a new term in libraries, since long back they started acquiring printed material through carefully selecting relevant materials to for users. However, academic libraries are now focusing to adopt e-resources information technology approaching towards the selection of e-resources rather than printed materials as the technology developed. According to Evans (2000), selection is the process of deciding which material to acquire for a library collection.

The selection process should be done relevant with the demands of the users, committee, focus group, user recommendations etc. Similarly, Abidoye (2015) stressed that the selection of electronic resources needs to follow some steps, which include:

- To identify library needs;
- To identify content and scope of the e-resources;
- To evaluate quality of that particular resource and search capabilities;
- To estimate the cost;

- To check either subscription based or web based when acquiring;
- To evaluate the systems and technical support;
- To review licensing agreements;
- To evaluate application software and installation, updated sporadically or in regular schedule; and to check the facilities for educational support and training.

2.5.3 The Acquisition of Electronic Information Resources

Electronic information resources are expected to be acquired, organized in retrievable formats and made accessible to users. Acquisition is a technical process of collection development in academic libraries. Aghadiuno(2015) asserts that acquisition is the process of selecting, ordering and receiving materials for university library, which may include budgeting and negotiating with outside agencies, such as publishers, dealers and vendors to obtain resources to meet the needs of the university's users in the most economical and expeditious manner. The acquisition process may include identifying and selecting materials for the library collection; pre-order searching to identify duplicate orders and verify correct author and title as well as availability and price; ordering materials from vendors or publishers; negotiating licensing agreements and contracts for electronic resources; claiming materials not delivered within the expected time frame; receiving materials; approving invoices for payments; physical processing, such as ownership identification, security taping and call number marking; binding; and preserving materials, as needed. Acquisition functions are generally located in the technical services divisions whose operations provide access to information in all its forms and formats. On the other hand,Aghadiuno (2015 cited in Wilkinson and Lewis 2003) argued that the core management function of acquisition remains the same regardless of the type of library or number

of its staff which is to acquire materials for the use of its users. Therefore, the management of electronic resources needs special skills and experience from the librarian.

From the literature, it can be said that steps for the acquisition of electronic information resources in academic libraries is to guide library management on the acquisition processes of qualitative resources. It is in line with this that the study identified processes used in the acquisition of electronic information resources in academic libraries in Katsina State.

2.5.4 The Organization of Electronic Information Resources

In any Library Information System (either traditional or modern library system), the organization of resources is also one of the important and crucial works for library services to function smoothly. As such, the system manager should have good professional skills to organize the available resources effectively. In a modern digital library information system, the professional should have skills like computing, database management, networking and other management skills relating to IT environment for the proffer organization of its resources. According to Seidu (2012), electronic resources can be organized in the technological environment via the use of metadata, an icon of the description and arrangement of electronic resources. Therefore, the system manager should keep in mind the following points while organizing the e-resources:

- To include those resources either in OPAC or to make different list for browsing;
- To organize accessing under a separate authority;
- To provide access either by alphabetical or under specific subject headings;
- To organize the e-resources within the context of other resources and websites;
- To check the method of access to e-resources, abstracting or full content;

Since most users search the resources under subject heading predominantly, the organization of resources should be in such a way that the users could retrieve different sets of information or records.

Seidu (2012) asserted that organization and orderliness is the bedrock of library services because, information, in its chaotic nature of existence requires orderliness to make it useful to the library patrons. Rubin (2007) opined that "information has an entropic character, it does not organize itself rather it has a tendency toward randomness. Unless there are ways to organize it, it quickly becomes chaos". Adesanya (2002) maintained that "the organization of information/knowledge is an essential preliminary to the effective use and dissemination of that information. As the quantity of knowledge expands the need for information becomes more pressing".

Organization of information resources in electronic context involves the use of networked computer systems with the mainframe computer that will serve as a host computer or server. Somasundaram and Shrivastava (2009) opined that, "historically, organizations had centralized computers (mainframe) and information storage devices (tape reels and disk packs) in their data center. The evolution of open systems and the affordability and ease of deployment that they offer made it possible for business units/departments to have their own servers and storage. In earlier implementations of open systems, the storage was typically internal to the server. The proliferation of departmental servers in an enterprise resulted in unprotected, unmanaged, fragmented islands of information and increased operating cost. Originally, there were very limited policies and processes for managing these servers and the data created. To overcome these challenges, storage technology evolved from non-intelligent internal storage to intelligent networked storage".

Another way of organizing electronic information resources is by computerized filing system which The National Archives (2010) viewed as "the filing structure reflects the relationship of business activities through careful structuring of folders (with meaningful titles) 'containing' the records. This structure illustrates what the organization's business is, and it provides a means of managing its records. A filing structure provides an environment for presenting a common understanding of how records should be stored and retrieved. This is particularly important not just for users working in a team, but also when working across the organization by improving the retrieval of content and making it understandable to every user. If the filing structure is well designed it will allow the organization to control access more effectively, ensuring that unauthorized users are not inadvertently granted access".

The management of the collections of electronic information resources raises a new set of issues for libraries and librarians.Bidyut, (2013) stressed that electronic information resources have posed new challenges for library professionals to manage. The resources still need to be selected, acquired, catalogued, made available and preserved, but in radically different ways from traditional print materials. The daily management of the resources present enormous opportunities and challenges for all library staff, but also involves significant management overheads, including licensing negotiations and monitoring, equipment provision and support, training and awareness costs.

Electronic resources management is a technique and practice that ensure the information resources are deliberately planed so as to guarantee equitable access to the resources. Their effective management, according to Parker (2007), started as a result of Digital Library Forum (DLF) held in Atlanta, Geogiain 2000 with a view to review the shift needed to adjust from project to production perspective in digitizing libraries. Subsequently, Yu and Breivold (2008)

stressed that electronic resource management is a practice use by librarians to keep track of important information about electronic information resources, especially internet based resources, such as electronic Journals, databases and electronic books. There is the need for a combination of a relatively high level of technological and information skills to be combined, while all library staff need to acquire new skills in the use and promotion of electronic resources management in an academic library. In view of the above, the study is intended to view the management of electronic information resources regarding policy statement and the selection, acquisition, organization and preservation of electronic information resources in academic libraries in Katsina State.

2.5.5 The Preservation of Electronic Information Resources

Digital preservation is a vast and complex issue which involves many aspects and areas of expertise. The precondition for passing the effective preservation of electronic resources is the provision of availability and adequate infrastructure and necessary expertise to implement long-term maintenance procedures and any operation required by technological changes migration or emulation (Tommaso, 2007). In essence, preservation actions include planning, conservation treatment and prevention action to improve the environment or otherwise reduce the risk of damage or loss.

The complexity of the preservation process above all when standard and technologies are still yet insufficiently developed. Therefore, digital preservation requires active and constant maintenance. Preservation has been defined in the same IFLA Principles for the Care and Handling of Library Material to include all the managerial and financial considerations including storage and accommodation provisions, staffing levels, policies, techniques and methods the involved in preserving library and archival materials and the information contained in them. In

preservation, consideration is given to every element that promotes the protection of the materials, including the housing, storage system and security against such threats as theft, mutilation and poor handling. Preservation is, therefore, a more embracing concept and includes conservation (Thomas, 2013).

2.6 The Procedures for Managing Electronic Information Resources

The Management of electronic resources is an activity that is carried out to keep tract of information resources active for access and use concerning license terms, product consideration, acquisition and maintenance. Timoth (2004) considered procedures for electronic resources management as:

1. **Product Consideration and trial Process:** The selector is responsible for identifying a resource, determining whether a trial is necessary and gathering preliminary license information. The acquisition administrator is responsible for negotiating a trial license, if needed. The selector recommends whether to proceed following a trial, which the super selector then approves or disapproves. Additional details, such as trial URLs, passwords and publicity, are established and recorded during this phase.
2. **Acquisition Processes:** These processes involve three fairly distinct sub-processes that may take place simultaneously. The acquisitions administrator is responsible for license negotiation and for the entry of related information into ERM and the computing services administrator determines technical feasibility and gives or withholds permission to proceed. Remaining tasks, also the responsibility of the acquisitions administrator, relate to funding and purchase.
3. **Implementation**: During this phase, authentication details are worked out and recorded, any necessary database configuration is performed and the resource and any appropriate

components are catalogued and incorporated into public Web pages. The descriptive tasks during this phase can be difficult and time-consuming, particularly if the resource in question is an e-journal or aggregator package containing a large number of journals or other content. Public Web page presentations can be provided in a number of ways and, as will be shown later, could include the provision to staff and users of information about licensing terms. It may also be necessary to make the resource known to a link resolver or proxy server.

4. **Product Maintenance and Review:** One of the important tasks within this phase is subscription renewal, which can be triggered by date-configurable reminders to staff and could involve price or license-term renegotiation. Another task is the maintenance of the holdings or coverage information encountered during the implementation phase. Additional tasks that could figure in the renewal process include acquiring and making usage data available to staff and identifying and resolving problems relating to access and other technical issues. These procedures were not practiced in academic libraries of developing nations, such as Nigeria.

2.6.1 Staff Training Requirement in the Management of E-Resources

The aspects related to training refer to all the categories of library users for whom different strategies need to be adopted. They need to know how to use a computer to be aware of the type of electronic information resources available; to know how to find relevant information sources. Therefore, an information literacy course is necessary to make them able to manage the multitude of information available. Adeniji (2011) stressed that training is an important programme that promotes the worker in an industrial set up. Staff training brings about benefits to an organization towards improving efficiency and job performance to the higher level

and reduces in cost effectiveness. Employee training and development are the heart of employee utilization, productivity, commitment, motivation and growth. Some studies show that many employees have failed in organizations because their needs for training were not identified and provided for as an indispensable part of management function. Considering the fact that the information provision to every user is the mission of the academic libraries. Cole (2006) asserts that the scope of training and development activities, in an organization, depends on its policy and strategies. In support of that, Daramola (2016) noted that training and development results from a planned organizational effort to help employees improve work behaviours.

Similarly, Ajidahun (2012) stressed that the proper management of electronic resources, training and skills are determinant factors for use and access of web-based electronic resources. Therefore, the effective training of staff enables employees to learn to do their job better and perform more proficiently. For effective learning applicable to the design and implementation of training programmes, the following has to be considered:

a. Ability to motivate the trainee: An individual must be motivated to learn, if a trainee is not interested, then the learning outcome is going to be insignificant.
b. Ability to practice: Time must be provided for practice and repetition of the subject matter that has been learned. Practice enables the quality of performance to be retained.
c. Feedback: This is a form of information about one's attempt to improve and in fact is vital for learning as well as for trainee motivation. It is useful for the trainee to be informed how well he is progressing.

The trainee should have a clear perspective of the progress he is achieving and the encouraging aspects and whether any attitudinal correctives need to be adopted. The ability of library staff to

keep up to date is necessary; therefore, adequate training is vital in facilitating the good use of electronic resources in academic libraries.

2.7 The Challenges Associated with Management and Use of EIR in Academic Libraries

The advancement of information communication technology has accelerated the availability and usage of electronic resources in modern times. Academic libraries are faced with challenges of management and use of these resources in this digital era. Iwhiwhu, (2009) identify inadequate ICT infrastructures, manpower, fund, inadequate government support and lack of user education as the major challenges facing digital libraries in Nigeria. Despite the fact and accepted view about the significance of electronic information resources in academic libraries, there is still a number challenges and shortfalls associated with the management and use of these resources. The problems in relation to that in academic libraries are many. Igun (2005) pointed out that the challenges faced by the libraries and information centre in the establishment of electronic information resources include the acquisition of skills to handle current e-tools, metadata knowledge for cataloguing e-resources, expertise in licensing e-journals and the maintenance of URLs among others. Plum (2010) also noted that there are many hindrances and challenges faced by users in the utility and access of the e-resources, which include lack of awareness, lack of the information literacy skills necessary to search databases, lack of time, the challenge of locating good citable stuff, inability to use effectively the library and poor skills in information searching. Lefuma (2017 cited in Okiki and Asiru2011) asserted that e-resources present a number of challenges, especially technical issues that need to be considered to ensure resources are compatible with existing library hardware and software and that the library has the capability to provide and effectively maintain access to resources on cost-effective basis.

However, libraries face a number of challenges as they seek to continue offering the high level of services that users have come to expect. Madhusudhan (2010) conducted a study on problems facing electronic information resources and revealed that the most common problem facing use of electronic resources is slow access speed. Another problem identified by the author is difficulty in getting relevant information due to information overload and lack of IT skills. Suleta (2013) noted that the adoption of e-resources has a great advantage over library services. In fact, most users are satisfied with such facilities since they can easily retrieve their required information within a short period.

The Nigerian situation is not different from other developing countries in regard to the problems associated to the management and use of electronic resources in academic libraries. Devi (2012) asserts that libraries face a number of challenges as they seek to continue offering the high level of services that users come to expect. Some of the challenges facing e-resource management include:

1. **Preservation**- Though e-resources are enabling information to be created, manipulated, disseminated and located with increasing ease, preserving access to this information poses a great challenge. Unless the preservation of digital information is actively taken, the information will become inaccessible due to change in technology platform and media instability.
2. **LackofProfessionalSkills**- Due to lack of management and technical skills, library professionals are not able to handle e-resources. Professional staffs are required to constantly update their own knowledge and skill base so as to work in today's rapidly changing digital environment.

3. **Inadequate Library Fund-** Most libraries have inadequate fund for acquiring e-resources and so users do not get their needy information at the right time. Libraries are at a disadvantage when acting alone in this environment and there is the need for cooperative purchasing through library consortia.
4. **Technical Infrastructure-** In a digital information service system, infrastructure, such as software, hardware, internet facilities and other physical equipment, is required to provide easier, faster and comprehensive access to information. Therefore, libraries in the digital age need to enhance and upgrade current technical architecture to accommodate e-resources.
5. **Lack of Cooperation of Staff Members-** The support and cooperation of staff members, programmers and technical staff are very essential to provide effective service in a digital environment. As such, library staff should not only be technically competent but should also use the user-friendly approach. Similarly in the use of electronic information resources to obtain information and current awareness, the major constraints faced are the shortage of computers, unreliable internet connection and lack of skills.

Most Nigerian students who enter higher institutions have never used electronic information resources in their library. It can be suggested that orientation on the use of library should be in place library among other things, as panaceas. The study of Okiki and Ashiru (2011) revels that the major problems encountered by students in gaining access to and use of electronic information resources is slow internet connectivity, frequent incessant power outage and too few computers with internet facilities and skills. The factors that impede the effective utilization of electronic resources were large mass searching skills, download delay, failure to find information and inadequate or lack of search skills. Tarik and Zia (2014) argued that the main barriers to use

and access of electronic information resources are slow network connection, power failure, viruses and subscription issues.

Malekani (2006) stated that the management problem of EIRs in the university library is funding. There is no specific budget allocation for the development of EIRs; the library budget is not sufficient to meet its needs and the funds for library development are disbursed piecemeal. He further stated that these factors make it even more difficult for the university library to have an up-to-date print collection, let alone EIRS that are capital intensive and require specialized training and retraining. This training may not be possible because of lack of funds and has a multiplier effect in the sense that when librarians, who are to teach information literacy skills do not possess these skills themselves, library users will suffer the same fate. Talja and Maula (2003) asserted that there is also a disciplinary difference in the use and non-use of e-resources such as e-journals, databases and e-books, etc. So there is the need to develop and improve ICT and information literacy skills for utilizing the enormous benefits available in electronic formats.

A study has been conducted by Ray and Day (1998)on electronic resources management in a Universities library. The results showed that staffing is the major problem that affects the management of EIRS. Many of the library staff do not have background training on electronic resource. Among the professional librarians, many do not have ICT skills. Establishing adequate training for the use of electronic resources in academic libraries is essential in order to achieve the objectives of libraries. In line with this not much has been known about the various challenges confronting the academic libraries in Katsina state such that this research intend to fill the gap on the challenges associated with the management and use of electronic information resources in higher institutions, so as to have effective management and use of these resources.

2.8 Theoretical /Conceptual Framework

A theoretical framework is a collection of interrelated concepts like a theory but not necessarily so well worked out. Ajegbomogun (2011) explained that the conceptual framework model makes logical sense of the relationships among several factors that have been identified as important to the problem being studied. A theoretical framework guides the researcher in determining what things to measure and what statistical relationships to look for. Therefore, the study used the Technology Acceptance Model (TAM). TAM was introduced by Davis in 1989 to explain user acceptance behaviour and addresses issues of how users come to accept and use a technology. It has been used to describe, predict and understand the role of social influence as related to individual acceptance and usage behaviour in the organizational implementation of new information technology (Bagozzi and Warshow, 2003). TAM identifies perceived usefulness and the perceived ease of use as the application to behavioral intention to use a technology (Venkatesh, 2000). It positioned that computer technology usage is determined by perceived usefulness and perceived ease of use and usefulness (Bagozzi and Warshaw, 2003). According to Davis (1989), TAM constructs and Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are the two fundamental beliefs regarding system use. This study therefore examined the influence of the perceived ease of use, perceived usefulness and other constructs that influence the effective management and use of electronic information resources in the academic libraries in Katsina State.

The use of technology in academia has been hailed. However, despite the perceived necessity of new and sophisticated technology, the end users of such technology may not readily embrace such tools (Gibson, Harris &Colaric, 2008). TAM's major strengths are that it provides factors which lead to its acceptance and provides room for extensions and elaborations better

than other competing models (Taylor & Todd, 2001). Usability refers to how well the system can be used without you having any hardship. Nicholson therefore views a user's use of library services as being affected by their awareness and by the relevance to them of the library's offerings. According to TAM, both PEOU and PU influence the users' attitude toward using a technology. It claims that, if users find a technology useful and easy to use, then they develop a positive attitude toward it. The fourth construct, Behavioural Intention (BI), is defined as the degree to which a person has formulated conscious plans to perform or not perform some specified future behaviour (Davis, 1989). TAM claims that PU and ATT directly influence BI. If users find a specific technology as a useful one (PU), then they develop a positive intention of using it. Similarly, users' positive attitude toward a specific technology leads them to develop an intention to use it. TAM suggests users' behavioural intention (BI) shapes their actual use of the technology (AU). If they have the intention to use a specific technology then they use it. In support of this, Davis in 1989 listed some boundary conditions to the applicability of their model. The knowledge that their primarily interest is in the work place setting in which utility is primarily of user acceptance is always the reason why the researcher would adopt this model in measuring howusers of academic libraries use EIR in their learning process in Katsina State.

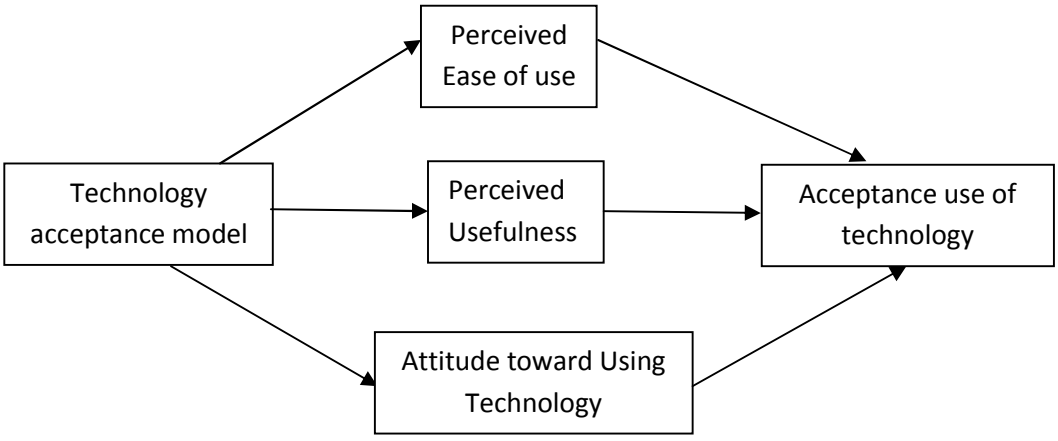

FIGURE 1.Technology Acceptance Model (TAM)

With this modification, Davis explained that users' motivation could be elucidated based on three factors: perceived ease of use, perceived usefulness and the attitude towards using the system (Kripanont, 2007; Chuttur, 2009). According to Davis (1989) as explained by Lederer, et al (2010):

i. **PerceivedUsefulness** is the degree to which a person believes that using a particular information system would enhance his or her job performance, i.e., by reducing the time to accomplish a task or providing timely information or the situation whereby a prospective user's subject probability that using a specific application will increase his or her job performance within an organisational context" (Davis, Bagozzi& Warsaw, 1989);

ii. **PerceivedEaseOfUse**, on the other hand, is the degree to which a person believes that using a particular information system would be free of effort or the degree to which the prospective user expects the target system to be free of effort (Davis, Bagozzi& Warsaw, 1989); and

iii. **AttitudeTowardsUse** is the user's evaluation of the desirability of employing a particular information systems or technology.

TAM has been applied to different technologies e.g. Word processing, e-mail, hospital information, banking, educational and library systems, etc. under different situations. A study conducted on attitudes toward the use and usage of information technologies over a period of 10 years (1989-1999), which includes Devis (1993), Devis, Bogozzi and Warshaw (1992) andDevis and Venketash (1996), supports the use of TAM as a predictive or explanatory model of the usage of different technologies. Based on this, the researcher is convinced to opt for this model

to examine the existing relations between perceived usefulness, perceived ease of use, attitude toward use and the actual usage of EIRs in the academic libraries in Katsina State Nigeria.

2.8.1 Conceptual Framework

This framework is derived from the Technology Acceptance Model (TAM). The idea to use electronic information resources is one of the significant initiatives in developing effective and efficient means of learning and researching to academic library users. In this regard, there is the need for academic library users to exploit the electronic resources in their respective libraries. However, to date some of these resources have not really been used in any significant way among the library users in Katsina State, particularly the potential to use electronic resources such as e-books, e-journals, e- conferences, Hinay and Ebscohost, among others.

The conceptual model for the management and use of electronic information resources in Katsina State is composed of two components. The first component comprises six antecedents, such as access to electronic information resources, types of resources, use of the resources, and challenges associated with the management of the resources which will determine their use based on the second component of the model, which comprises three antecedents, such as perceived ease of use, perceived usefulness and attitudes towards the use of the electronic information resources.

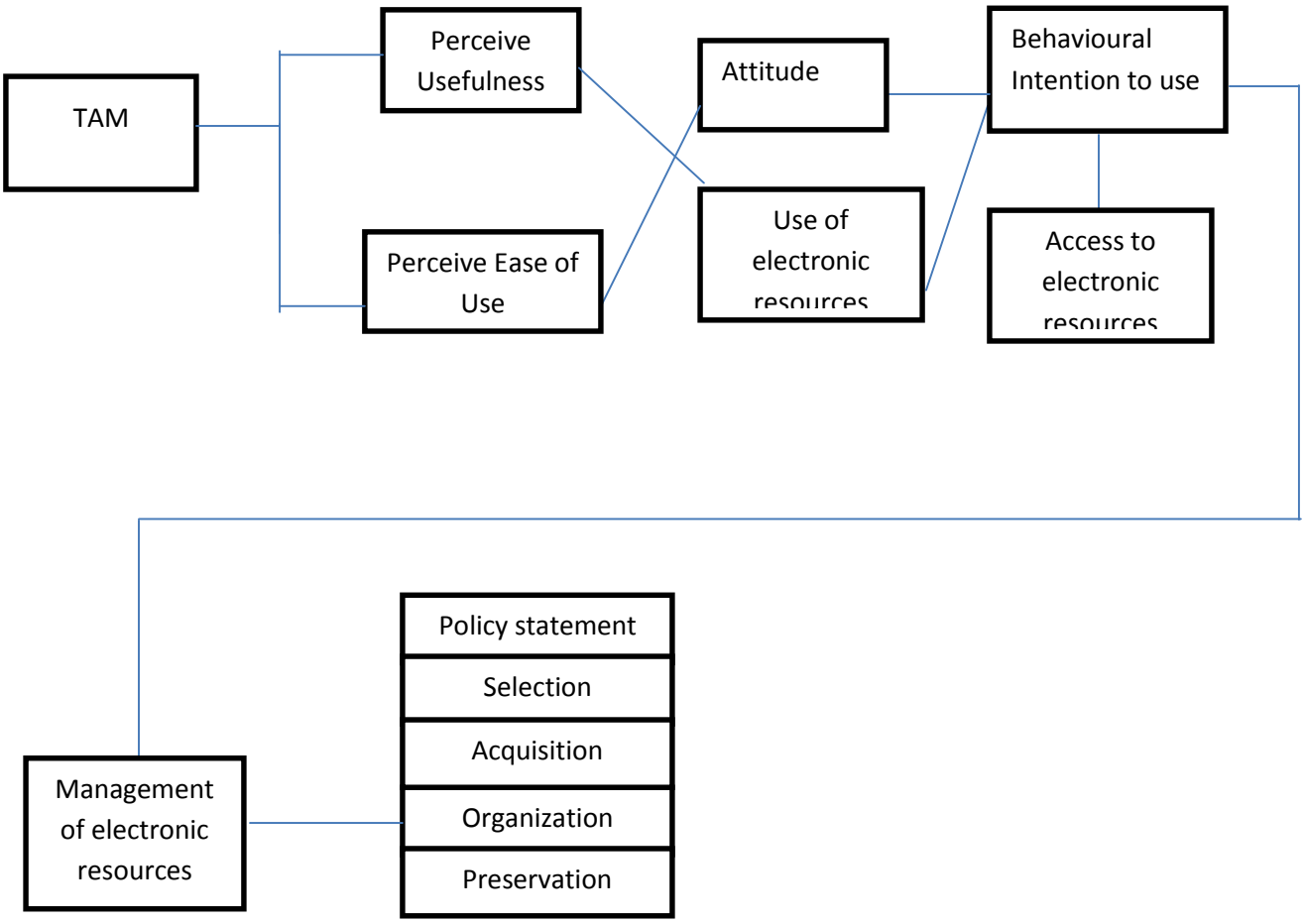

Figure: 2 Conceptual Frameworks

In the context of this study, the management and use of electronic information resources carried out in academic libraries in order to empower users with skills to utilize electronic information, assist them in learning, teaching and research to use information effectively. In this model, perceived ease of use and perceived usefulness will empower them with literacy skills in excellent search strategies and also to evaluate the search results, which in turn leads to successful use of electronic information resources.

The component of the conceptual model for the management of the resources with regards to policy statement, selection, acquisition, organization, preservation and access, so also the use of the resources by the users in tertiary institutions of Katsina state comprise perceive

usefulness, perceive ease of use, attitude and perception toward use, types of e-electronic resources and purpose of use, as well as challenges affecting the use of the electronic resources. Details of each component are provided below:

Perceived Usefulness: Perceive Usefulness (PU) in this research is defined as the perspective user's subjective probability that using electronic resources will increase their performances in their institutions. Prior research has shown that PU is a major determinant of user acceptance or has a positive effect on the use electronic resources by users. PU is a measure of the individual's subjective assessment of the utility offer by the new technology in a specific tax-related context. Therefore, from this framework, the influence of PU on electronic resources use can be explain in that, users are inclined to accept and use electronic resources when they perceive them to be instrumental for achieving their goals and objectives, which are teaching, learning and research. PU often has a stronger relation with system use compared to ease of use. In the context of this research, therefore, the prominence of PU suggests that users tend to accept a technology primarily because of the functions it performs. This implies that ease of use cannot compensate for a system that does not provide the needed functionality (Devis, 1986). In accordance with TAM, the researcher found that perceived usefulness would have a positive direct effect onthe intended use of electronic resources by the users of tertiary institutions. In this context, it is perceived that electronic resources enhance the users on their performance.

Perceive Ease of Use: Perceived Ease of Use (PEOU) in the context of this research refers to the degree to which users expect the use of electronic resources to be free of effort. Therefore, perceived ease of use is another important determinant for electronic resources acceptance by users in tertiary institutions. Perceived ease is the cognitive effort needed to learn the new

technology (Gafen et al., 2012). Prior research that examined the effect of PEOU on system use has yielded mixed results.

Some studies reported a significant effect of PEOU on system (Mei-Liang et al 2011; Park, Lee & Cheong 2007; and lee 2006). Yet, others found that PEOU has only an indirect effect on system usage through PU. According to Park, Lee & Cheong (2007), even though perceived usefulness and ease of use has no direct effect on university student intention to use e-learning, these construct were related to the attitude toward e-learning. Overlooking these construct could have a detrimental effect on academic's acceptance of e-journals. Based on this conceptual framework, perceived ease of use of electronic resources is hypothesised to have a significant relationship on intention to use. Davis, et al. (1989) also suggested the role of PEOU as a causal antecedent to PU. Perceived ease of use is hypothesized to have a significant relationship on perceived usefulness. According to TAM, the direct effect of PEOU on PU explained in that increased PEOU can contribute to improve performance by saving the effort needed to do the same work. Consistent with TAM, the researcher found that PEOU has an influence on use of electronic resources by the users of tertiary institutions in Katsina State. Therefore, the use of electronic resources for teaching, learning and research is influenced by perceived ease of use.

Attitude and Perception: System use is one of the critical dependent variables in information system research. Individual attitude and the perception of a given technology have a significant influence on usage behaviour. Attitude and perception are also important in that they are amendable to managerial manipulation through intervention, such as system design and training. According to TAM, the use of a system is influenced by a user belief about the usefulness and ease of use. Therefore, in tertiary institutions of Katsina State user's attitude and perception to

use electronic resources depend on their beliefs in perceived usefulness and ease of use. The influence of user belief on behavioural intention to use the system has been empirically supported in many studies (Pituch& Lee 2006; Park, Lee & Cheong 2007; Chuttur 2009). It refers to the belief about something or the way one sees things. In the context of this study, this refers to the user's attitude and perception of electronic resources as tools that can enhance performance, which is also free of effort. Attitude and perception prepare users to use electronic resources for teaching, learning and research activities.

Factors Facilitating Use: This refers to the set of conditions that help in achieving the smooth utilisation of electronic resources by users. In this context, the factors facilitating the use of electronic resources with regards to effective management in terms of policy statement, selection, acquisition, organization and preservation of the resources are considered important antecedents to the access and use of the electronic resources by the users of tertiary institutions.

2.9 Summary of the Review

The literature reviewed in this study was summarized in this section. Literature on the academic library was reviewed on issues such as definition, division and purpose of academic libraries (Ekere 2014, Aina2014 and Omeje2015). The review also discussed the concept and significance of electronic information resources in academic libraries. This area was covered by scholars and researchers like Ukpebor(2012), Kalbande, Shinde and Ingle(2013) and Chandlel and Mukesh(2012) among others.

Considering the types and accessibility to electronic information resources, the review found that common resources are e-books, e-journals, e-magazines, CD_ROM,ande-conference, among others. Scholars that contributed to that include Appleton (2006), Mohammed and

Ngarajan(2012), Racheal(2014) and Agba(2013). Moreover, the management of electronic resources was discussed with particular emphasis on policy statement, selection, acquisition, organization and preservation as well as the procedures for the management of electronic information resources, the scholars that contributed to that includeChioma(2013), Helly(2013), Ozioko and Ekere(2011), Abidoye(2015), Seidu(2012), Ikpetan(2015).

Other segments of the reviewed literature also include the use and the impact of electronic information resources in the academic library. The review found that students and faculty members as well as researchers use electronic resources for their academic activities. The writers that contributed to that includeNdubuisi(2013), Adeniran(2013), Agada (2010) and Maxwell(2015).The Challenges facing the management of electronic resources were also reviewed. The review shows that the most common challenges to resources are unwritten policy guiding management of resources, inadequate training and workshop and seminars. The writers that contributed to that includeSuleta(2013), Okiki and Ashiru(2011), Tarik and Zia (2014). Similarly, TAM related studies were reviewed and provided the theoretical basis for the research.

2.10 Uniqueness of the Study

Uniquely, there are many contributions of the literature on electronic information resources, but they are holistic, as none was directly made on the management of electronic information resources in the academic libraries in KatsinaState.Therefore, it is hoped that the findings, conclusions and recommendation of this research would fill the gap of knowledge and contribute towards its development. Quantitative research methodology is also unique for this study. The researcher also adopted the technological acceptance model TAM to investigate the management and use of electronic information resources in Katsina State of Nigeria.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discussed the research methodology used in carrying out this study, and includes the research design, research setting, population and the sampling technique used for the study, sample size, instrument and the method of data analysis, it gives the reasons for selecting specific methods. The study used quantitative research methodology, which is concerned with the use of numbers or statistics. Quantitative research is considered cost effective in terms of time and money, as a sample of the population is to be used, and the results generalized.

The research methodology adopted allowed the researcher to ask specific and narrow questions, collect quantifiable data from participants, analyse the data using statistical procedures and conduct inquiry in an unbiased and objective manner.

3.2 Research Design

The design used in this study was survey research. Akuezuilo and Agu (2003) opined that a research design provides guidelines that direct the researcher towards solving the research problem and may vary depending on the nature of the problem being studied.Survey design was used in the study since it allows data to be collected from a large sample due to its relative cost-effectiveness.The purpose of research design is to plan for generating empirical evidences that would be used to answer research questions and test hypothesis. Cross-sectional survey design was employed for the study. Daniel (2010) defined survey as “a descriptive study which seeks to find out and describe the condition or opinions held by a population by collecting and analyzing data from people who are considered to be representative of the entire group”. This is done by

gathering information from large number of cases about variables using questionnaires or interview.

The choice of cross-sectional survey researcher design was its suitability to the research objectives more than the longitudinal research design. Obadon (2012) stressed that data the method includes questionnaire, interview (structured or loosely structured) and observation. Therefore, the researcher adopted cross-sectional design, because of the nature of the data collection method, which was done at a single time over days, based on the respondents' commitment. A cross-sectional design has advantage in measuring current attitudes or practices in a given environment. It also provides information within a short period of time and is simple and cost-saving.

3.3 Research Setting

The research environment within which the study was conducted was all the academic libraries in Katsina State. It was the environment within which the researcher applied the chosen methodology. Katsina in northern Nigeria is one of the populated states in the country. There were thirteen academic libraries in the state two of which were owned by the Federal Government, ten by the State Government and one by a private institution. The tertiary institutions included were: Federal University Dutsin-ma, Federal College of Education, Katsina, Hassan Usman Polytechnic Katsina, Isa Kaita College of Education Katsina,Dutsin-ma, School of Nursing Katsina and Institute of Technology and Management,Katsina respectively. The preliminary investigation showed that all the academic libraries under study had electronic information resources.

3.4 Preliminary Study and its Findings

As a prelude to the main study, a preliminary survey was carried out on the 24th of August, 2016.

The main objectives of the preliminary survey were:

1. To identify the total number of tertiary institutions in Katsina State
2. To determine the availability of e-resources in the institutions under study
3. To find out the total number of registered users in the libraries and
4. To find out number of professional librarians in the libraries

The findings of the preliminary survey indicated that there were thirteen (13) Institutions of higher learning in Katsina State. It was also revealed that institutions under study have functional electronic information resources. The available electronic resources at Federal College of Education, Katsina includes e-books, e-journals, e-conferences. While data base available comprise of Hinari, Agora, Ebscohost and CD-ROM. Federal University Dutsin-ma electronic resources include e-books, e-journalas, e-manuscripts, e-theses, and e-mails. While database available are Ebcohost, Hinari, Djor, Agora and CD-ROM. Electronic resources available at Hassan Usman polytechnic are Ejournal e-books and e-conference. IsaKaita College of Education Dutsin-ma has e-books and e-journals while database available are Ebscohost, CD-ROM, and Hinari. At Institute of Management and Technology Katsina electronic resources there are e-references, e-books, e-manuscripts e-journal and e-mails. While School of Nursing and midwifery they has e-books, e-journals, e-conferences. Data base available are Djor, Hinari, Science Direct and CD-ROM respectively.

The total number of registered users in the institution under study Federal University Dutsinma is 4696 registered users; Hassan UsmanUsman Polytechnic has 5868 while Isa Kaita College of Education Dutsin-ma has 5295. Institute of Management and Technology Katsina has 151 registered users. School of Nursing and midwifery Katsina total number of registered users

are 423. The findings also revealed that there were eighty one (81) professional librarians in all the academic libraries. The table below represented the above information.

Table 3.1: Results of the Preliminary Study

S/No	Name of Institution	Status	Total No of registered users	Total No of professional Librarians
1	Umar Musa Yaradua University, Katsina	State	11856	18
2	Federal University Dutsin-ma	Federal	4696	8
3	Alqalam University Katsina	Private	6239	4
4	Federal College of Education Katsina	Federal	7831	11
5	Hassan UsmanKatsinaPolytechnic,Katsina	State	5868	7
6	Isa Kaita College of Education, Dutsin-ma	State	5295	13
7	Katsina state Institute of Technology and Management	State	151	3
8	School of Nursing and midwifery Katsina	State	423	3
9	College of Business , Funtua	State	1027	2
10	Yusuf BalaUsman College of Legal & General Studies Daura	State	3107	4
11	School of Midwifery, Malumfashi	State	346	3
12	School of Health Technology, Kankia	State	735	3
13	School of Health Technology Daura	State	683	2

Source: Registry Department of the Institutions

3.5 Population of the Study

Population refers to all the possible members of a category and from which sample is drawn. Adams (2005) defined population as “any set of person or objects that possess at least one common characteristic”. He further stated that “it is the entire entity that is of interest to the researcher, the aggregate of all elements that conform to form designated set of speculations”. The population of this study comprised all registered users and the automation librarians in

academic libraries in Katsina State. In all, there were total of 37,238 registered users. This is presented in Table 3.2

Table 3.2:Population of the Study

S/NO	Name of Institutions	Professional Librarians	No of Registered Users
1	Federal University Dutsinma	8	3935
2	Umar Musa Yaradua University	18	7321
3	AlQalam University Katsina	4	6239
4	Federal College of Education Katsina	11	4385
5	Hassan UsmanKatsina Polytechnic	7	4173
6	Isa Kaita College of Education Dutsinma	13	4628
7	Yusuf BalaUsman College Of Legal & General Studies Daura	4	3107
8	College of Nursing and Midwifery Katsina	3	508
9	School of Midwifery Malumfashi	3	346
10	Katsina State Institute of Technology&Management	3	151
11	College of Business Administration Funtua	2	1027
12	School of Health Technology Kankia	3	735
13	School of Health Technology Daura	2	683
	Total	81	37,238

Sources Institutions registry offices August 2016`

Therefore, the population of this study comprise all the registered users in academic libraries in Katsina State which are 37,238 numbers of registered users and 81 librarians in the academic institutions.

3.6 Sampling Technique

A sample is a small proportion that is selected for observation and analysis. Sampling refers to the act, process or technique of selecting a suitable or a representative part of a population for the purpose of determining the parameters or characteristics of the whole population (Khan, 2012). For the purpose of this study, stratified random sampling was used to determine the sample size of the population. Stratified sampling results gives reliable and detailed information from the population which a sample was drawn and do not constitute a homogeneous group. Rick (2005) opined that stratified sampling permits the researcher to identify sub-groups within a population and create a sample which reflects these sub-groups by randomly choosing subjects from each stratum. Similarly, Kothari (2004) maintained that, stratified sampling technique is generally applied to obtain a representative sample.

Therefore, technique was used to draw the sample from the population of this study. The researcher found it useful to apply these techniques to minimize bias or something of that nature, since the research was designed to determine the management and use of electronic resources. However, the designated stratum used by the researcher to base the selection the respondent from the academic libraries within each institution under study.Each stratum in the population had probability of being selected randomly. Therefore, stratified sample was adopted for this research work.

3.7 Sample Size

Sample size is as important as the selection, but it should not be done arbitrarily. In selecting a sample for the study, there is no satisfactory generalization on what the appropriate size should be. Ifidon (2007) stressed that if the portion of the research population is selected to be studied rather than studying the whole population, that portion selected is called sample size.

Nwana(2007) stressed that if the population is in a few hundred one needs a sample size of 40% or more, but if it is in many hundreds and one needs 20%, and for the sample size of a few thousands, 10% will do, while for several thousand one needs 5% or less. For the fact that the total population of the study was several thousands, the researcher had taken the sample size of 3% for library the users to represent the entire population. Also, library automation managers served as the sample for the interview component. The researcher purposively selected one (1) Automation Librarian to serve as a participant from each of the libraries under study, making six (6) automation librarians as the sample for the study.

The sample size of 274, out of a population of 9175 library users who had registered with ICT the library, was adequate, with regard to Nwana (2007) formula.

Formula: $\frac{N \times \%}{100}$

Where N= total No. of registered users = 9175

%= 3%

100 = Constant

$\frac{9175*3\%}{100\%} = 274$

Table 3.3: Sample Size

S/N	Name of Institutions	Registered ICT library Users	3% Sample Size	Library Automation Managers
1	Federal University Dutsinma	2623	79	1
2	Hassan UsmanKatsina Polytechnic	2146	64	1
3	School of Nursing and Midwifery Katsina	241	7	1
4	Federal College of Education Katsina.	1978	59	1
5	Isa kaita college Education	2109	63	1
6	Katsina Institute of Technology. & Management	78	2	1
	Total	9175	274	6

3.8 Instrument for Data Collection

The instrument for data collection is a tool that is used by the researcher for collection of data in social science research (Bhandarkar& Wilkinson, 2010). There are many instruments for data collection depending on the research process and methods.

Questionnaire:

To collect data on the use of e-resources in academic libraries, a questionnaire was adopted for the purpose of collecting data from library users. Deng (2010) described it as a structured instrument for gathering data from a potentially large number of respondents. It was chosen because it proved to be economical, covered a wide group and was considered adequate to yield all the information required for the survey more objectively.In the process of data collection, the researcher used structured questions in form of the questionnaire whereby the respondents chose from the available options provided in the questions. The questionnaire was self-developed by the researcher based on the literature reviewed along with research questions

raised using researches conducted by Firdausi (2016), Abubakarismail (2017) and SulaimanAdamu (2018) as a guide. Moreover, the questionnaire was designed to gather information/data for answering the research questions and testing the research hypothesis. In this study, each questionnaire was designed for one respondent of the six academic institutions in Katsina state.

The questionnaire was structured into 6 sections, containing 19 items as follows:

Section A: Demographic information of the respondents, which had four(4) items.

Section B: Access to electronic information resources which had six (6) items.

Section C: Use of electronic information resources which had nine (7) items.

Section D: Question on challenges associated with the use of electronic information resources had one (1) item.

Section E: Measures to overcome the challenges on use of electronic resources has one (1) item.

Interview

The interview schedule was used to complement the questionnaire as instruments for data collection with the survey method in the study. Interview is an instrument for data collection in a survey as a "fixed questionnaire". Yin (2011) defined interview schedule as "an interview format consisting of detailed set of questions and probes". Therefore, the interview schedule or fixed questionnaire contains a list of questions that the researcher asked the respondents during the study. In the course of conducting this study, the interview schedule was unstructured and gave room for the respondents to answer questions freely and fully in their words and frame of reference with regard to the management of electronic information resources.Notes taken were

however, and used as a means of recording the responses by jotting down ideas.The interview was structured in four (4) sections which contained 11 items.

Section A: Demographic information of the respondents. Had four (4) items

Section B: Types of electronic information resources had three (3) items.

Section C: Management of electronic information resources had two (2) items.

Section D: Challenges associated with management of electronic information resources and measures to overcome the challenges.

3.9 Validity of the Research Instruments

Validity is the most important issue in the evaluation of an instrument. To establish validity for the conduct of this research before use, it refers to the ability of a research instrument or instruments to measure a research variable effectively or the degree in which a variable is measured well by the research instrument (Frankfort-Nachmias, Nachmias 1996). Therefore, the researcher used content validity for the measurement of the instrument. The content validity of the questionnaire was conducted by experts in the Library Department of Federal Polytechnic, Kaura-Namoda, Federal College of Education Technical, Bichi and Bayero University, Kano. They were specifically requested to critically examine the instrument in terms of the clarity of the expression used and the appropriateness of language as well as the content of the questions to ascertain their consistency. The essence of this exercise was to ensure that the questions were clear, simple, appropriate, measurable and applicable to the study. They validated the content of the research instrument and necessary corrections were made to make valid in measuring the objectives of the study. The correction made includes question no 7 how do you access e-resources? Which was corrected to how often do you access e-resources in your library? Also question no 8 what satisfaction do you get from access to electronic resources? Which was

corrected to what is the level of satisfaction derived from access to electronic resources? Question 12 was as adjusted from what is the reason for not use of electronic resources. On the interview side question 8 what types of training have you attend with regards to e-resources management? Similarly question 9 do you have any procedure/guideline on management of e-resources? In addition, validity was ascertained by the project supervisor, who reviewed some items with regard to research questions and their overall suitability to the purpose of the study.

3.10 Reliability of Research Instrument

For the purpose of this study, Cronbach's Alpha reliability was used to determine the coefficient correlation with the Statistical Packages for Social Sciences (SPSS) Version. Additionally, the returned questionnaires were subjected to Cronbach alpha for reliability test, using SPSS. The instrument was administered to 47 respondents from Ahmadu Bello University, Zaria; Federal Polytechnic,Kaura-namoda; ShehuShagari College of Education, Sokoto and School of Hygiene, Kano.

However, a total of 40 questionnaires were returned and used to conduct the reliability test using SPSS (version 23). Cronbach's Alpha (α) was calculated for all the six variables and the reliability of the total scale consisting of 78 items are as follows:

Table 3.4: Reliability Test

Variables	Cronbach Alpha
Use of electronic resources	.823
Types of electronic resources used	.817
Perceived Ease of use	.857
Perceived Usefulness of EIR	.727
Access to electronic resources	.744

Challenges of use the of electronic resources .793

Generated by the researcher using SPSS 23.0 from the questionnaire responses, 2018

Malhotra (2004 cited by Victoria 2012) stated the coefficient varies from 0-1. An alpha coefficient below 0.6 is weak in reliability, 0.6- 0.8 are strong while 0.8-1.0 are very strong. The Cronbach's Alpha reliability testing results show that none of the variables has less than 70%. This showed that the questions were reliable based on the assertion of Malhotra (2004). Reliability measure is difficult to assess with an interview schedule as instrument for data collection (Bellamy, 2012). However, to maximize its reliability, these scholars proffered a solution, which was adopted in this study. Bellamy(2012) and Silverman(2001) suggested that the researcher should ensure "that each respondent understands the questions in the same way and that the answers can be coded without the possibility of uncertainty". Thus, the following measures were used to increase or maximize the reliability of the interview. One, attention was given to the concepts used to frame the questions in the interview schedule to aid each respondent to have the same understanding of these concepts. Ambiguous questions were avoided. Finally, a pilot study was conducted to pre-test the interview schedule, and thereafter necessary modifications were made.

3.11 Trustworthiness of the Qualitative Instrument

Qualitative research gives a detailed description of the phenomenon studied rather than analyses statistical data. According to Best and Khan (2012), ''Qualitative research collects data from the interviews and consists of direct quotations from people about their experiences, opinions, feelings and knowledge''. Having established that the interview schedule was reliable, it is now appropriate to establish the trustworthiness of the study. Trustworthiness is a common term in qualitative research closely related to the term "validity" in quantitative research.

Quantitative research emphases on validity and reliability of the research instrument. Therefore, these concepts are thus often not suitable for qualitative research. On the other hand, qualitative research established the use of trustworthiness to justify the reliability of the research instrument. Qualitative research firstly did not strive for a broad generalization of results (i.e. their reliability), but took the view of that findings related to the individual context of a specific research situation. Following the nature of this study, which aimed at getting information on the management and use of electronic information resources in the academic libraries in Katsina State , the validity of the research was ensured through the trustworthiness and understanding of the findings. The interview questions went through members checking strategy by the participants. Member checking is a key tool for establishing trustworthiness, transferability and credibility in qualitative analysis by returning research products to participate and using such internal authentication will be determined by establishing rapport with the participants, which was already established during the conduct of pilot the study. Finally, the instrument was given to some experts in the field for further validation before the actual data collection exercise.

3.12 Administration of the Research Instrument

The administration of the research instruments was carried out personally by the researcher. This had enabled him to ensure the timely collection of data from the respondents in order to minimize the rate of unreturned questionnaires. Best and Khan (1989) asserted that questionnaire administered personally to a group of individuals have a number of advantages as the person administering the instrument has the opportunity to establish rapport and explain the meaning of items that might not be clear. In addition, Moser and Kalton (1979) stated that self-administering of the data collection instrument will also give room for corrections and further explanation where necessary. To get the desirable data, the instrument (questionnaires) was

administered to only e-library users in the institutions understudy, while the interview schedule was conducted to one library automation manager in each institution under study.

3.13 Method of Data Analysis

After collecting the data on the problem under investigation, the next line of action was data analysis. The data gathered on this research was analyzed using descriptive statistics techniques through percentage and a frequency distribution table were used to interpret the data. As data for this research was largely quantitative, only few (6) automation managers was qualitative. Descriptive statistics is a set of tools used to summarize and consolidate given data, which can either be a representation of the entire population or a sample (Sidhu, 2007). Furthermore, data collected from the interview schedule for automation librarians were analysed using thematic qualitative data analysis technique coding. The researcher used define and naming theme step to describe the data from the interview. Each data collected was named in the theme as L1, L2, L3, L4, L5 and L6 respectively. Thematic coding is a form of qualitative analysis which involves recording or identifying passages of text or images that are linked by a common theme (Gibbs 2007). The interview text was transcribed in accordance with the research variables and by the interpretations and analysis of data.

3.14 Research Matrix

Research matrix is a way to simplify the preparation of research or thesis proposal without leaving out the important items to include in its preparation.It can also be seenas a systematic way of ensuring that everything is well addressed or covered fully in your research. It includes research questions, methodology and methods of data analysis.

Table 3:5 Research Matrix Table

S/N	Research questions	Methodology	Method of data analysis	Respondents
1	What types of electronic information resources are available in the academic libraries in katsina state?	Qualitative research methodology	Thematic analysis	Heads of library
2	What are the procedures for the management of electronic resources in the academic libraries under study regarding: policy statement, selection, acquisition, organization, preservation and access?	Qualitative research methodology	Thematic analysis	Heads of library
3	What types of training needed in the management of electronic resources in academic libraries under study?	Qualitative research methodology	Thematic analysis	Heads of e-library/automation units
4	What is the frequency of use of electronic information resources in the libraries under study?	Quantitative research methodology	Descriptive statistic	Library users
5	What are the challenges associated with management and use of electronic resource in academic libraries under study?	Quantitative and qualitative research methodology	Descriptive statistic and thematic analysis	Head Library and library users
6	What is the level of satisfaction derived from the use of electronic resources by the users of academic library	Quantitative research methodology	Descriptive statistic	Library users

Table 3.5 provide research matrix of the study, it shows research question, the methodology applied to each research questions, method of data analysis and the respondents of the study. It indicated that research question one is types of electronic information resources which was qualitative research methodology, the method of data analysis was thematic and the respondents are heads of library, then followed by research question twoand three which is the procedure for the management of electronic information resources and type of training needs for the management of electronic resources was also qualitative research methodology and the method of data analysis was thematic and the respondents are the heads of library/ automation units.The table further shows that research question four, is frequency of use of electronic resources which was quantitative research methodology and the method of data analysis was descriptive statistics and the respondents are the library users. Also question five which is

challenges associated with management and use of electronic resources which was qualitative and quantitative research methodology and the method of data analysis was thematic and descriptive statistics and the respondents are head of library and library users. Furthermore, question six, was level of satisfaction derived from the use of electronic resources was quantitative research methodology and method of data analysis was descriptive statistics, the respondents are library users.

CHAPTER FOUR

DATA PRESENTATIONAND ANALYSIS

4.0 Introduction

This chapter presents the results of the data collected for the study on the management and use of electronic information resources in Katsina State. The data are presented, analysed and interpreted under the following sub-headings:

4.1 Response Rate

4.2Types of Electronic Information Resources

4.3 Management of Electronic Resources

4.3.1 Procedure for Management of Electronic Resources

4.4 Level of Staff Training

4.5 The frequency of Access to Electronic Information Resources

4.5.1 Location of Access to Electronic Information Resources

4.6 Use of Electronic Information Resources

4.6.1 Frequency of Use to Electronic Information Resources

4.6.2 The Purpose of Use Electronic Information Resources

4.7 The Challenges that affect

4.7.1 Management of Electronic Information Resources

4.7.2 Use of Electronic Information Resources

4.8 The level of Satisfaction derived from use of Electronic Resources

4.1 Response Rate

This section is designed to analyse the responses in the institutions under study, evaluate the adequacy of data collected and help in examining the efficiency and effectiveness of the questionnaire administration exercise conducted by the researcher.

Table 4.1 Response Rate

S /N	Higher Institutions in Katsina State Under Study	IC	QA	PQ	QR	PR	QN	PN
1	Federal University Dutsinma	1	55	20.1%	50	18.2%	5	1.8%
2	Hassan Usman Katsina Polytechnic	1	55	20.1%	50	18.2%	5	1.8%
3	Federal College of Education Katsina	1	55	20.1%	50	18.2%	5	1.8%
4	Isa Kaita College of Education, Katsina	1	50	18.2%	40	14.6%	10	3.6%
5	Katsina Institute of Technology and Management.	1	29	10.6%	25	9.1%	4	1.5
6	School of Nursing and Midwifery	1	30	10.9%	26	9.4%	4	1.5
	Total	6	274	100%	241	88.0%	33	12.0%

Source: Field Survey, 2018

Key to table 4.1

SYMBOL	DESCRIPTION
IC	No. of Interviews Conducted With the Heads of Library
QA	No. of Questionnaire Administered
PQ	Percentage of Questionnaire (%)
QR	No. of Questionnaire Returned
PR	Percentage of Questionnaire Returned (%)
QN	No. of Questionnaire Not Returned
PN	Percentage of Questionnaire Not Returned (%)

Table 4.1 showed that a total of six (6) heads of library/ automation managers were interviewed and all responded in the first approach of the study (qualitative methodology). In the second approach (quantitative methodology), two hundred and seventy four (274) copies of questionnaire were administered to library users in the six institutions by the researcher out of which 241 (88%) were duly completed, returned and found usable. The remaining 33 (12%) copies were not returned despite all the efforts by the researcher to retrieve them. Thereturned copies were good enough to generate the needed data for the study. The high response rate was achieved because of the effort of the researcher in seeing that the instruments were administered personally. Therefore, this analysis is based on the responses from the six (6) institutions, six (6) heads of the library/ automation units and 241 (88%) copies of the questionnaire were filled by the library users respectively.

Table 4.2 Codes Ascribed to Libraries, Gender and Time of Interview

S/No	Interviewers Status	Code	Gender	Date& time of interview
1	Ag. University LibrarianFUDMA	L1	Male	24/1/2018 10:25-11:10am
2	Automation Manager HUK	L2	Male	22/1/2018 11:15am
3	Head of ICT Unit IMTK	L3	Male	29/1/2018 9:30-10:15am
4	College Librarian FCE	L4	Male	14/4/2018 8:30-10:15am
5	College Librarian ICOE	L5	Male	24/1/2018 12:12-1:15pm
6	School Librarian SNK	L6	Male	2/2/2018

Table 4.2 indicated names of institutions under study, codes assigned to each head of library in the institutions. The coding is conformity with the use of thematic method of analysis when qualitative method is adopted in a research work. Code L1 was assigned to Federal University Dutsin-ma head of library, L2 was assigned to Hassan UsmanKatsina Polytechnic head of library, L3 was Institute of Management and Technology Katsina head of library, L4 was assigned to Federal College of Education Katsina head of library, L5 was assigned to Isa Kaita College of Education Dutinma head of library and finally, that of School of Nursing and midwifery head of library respectively. This shows that all the head of the libraries were males.

4.1.1 The Demographic Information of the Respondents

The main reason for the demographic data in this study was to give the reader/researcher a description of the population under study. This section was designed to present the bio data from the respondents. It presented the demographic information obtained from the library users. This is presented in Table 4.3 below

Table 4.3 Demographic Information of the Respondents

S/No	Demographic Information		
1	**Age**	**Frequency**	**Percentage%**
	18-25	56	23
	26-30	63	26
	31-35	71	29
	36-40	32	13
	Above 40	19	9
	Total	241	100
2	**Gender**	**Frequency**	**Percentage%**
	Male	173	72
	Female	68	28
	Total	241	100
3	**Programme of Study**	**Frequency**	**Percentage%**
	OND/NCE	107	44.4
	BSC/BA	87	36.1
	MA/MSC	36	14.9
	PhDs	11	4.6
	Total	241	100

Table 4.3 showed the demographic information of the respondents. They were asked to indicate their demographic information in terms of age, gender and programme of study.

Based on gender, the Table revealed that more than half 31-35 years, constituting of 71(29%), followed by 63(26%) 26-30years, 18-25 years which constituted 56 (23%), 36-40 years, 33(13%) and above 40 years 19(9%). Similarly, the data revealed that 173 (72%) were males and 68(28%) females. This showed that majority of the respondents, who used electronic resources in academic libraries under study were males, that majority of the library users were of the younger generation within the digital age.

Regarding the educational qualification of the respondents, the data showed that107 (44.4%) obtained ND/NCE as their highest educational qualification 87 (36.1%) were holders of B.A/B.SC/HND; 36 (14.9%) M.A/MSC, while 11 (4.6%) had PhDs. Based on this result, it could be concluded that majority had adequate educational qualifications to provide effective service to

the users of electronic information resources. This implies that majority of library users were studying ND/NCE.

4.2 Types of Electronic Resources available in Academic Libraries

The researcher asked the participants about the types of electronic resources available in their libraries. Data collected via interview with 6 automation librarians with aim of identifying the types of EIRs available in the library under study are presented in the Table 4.4

Table 4.4 Types of Electronic Information Resources

S/N	Name of the Institutions	e-books, ejournals, e-references	Access to Global Online Resources in Agriculture (AGORA)	Directory of Open Access Journals (DOAJ) and Directory of Open Access Books (DOAB)	African Journals Online (AJOL), Science Direct	Health Internet Network Access to Research Initiative (HINARI)	E – Theses and Dissertations	Database of African Theses and Dissertations (DATAD)	Directory of Open Access Books (DOAB) online/ offline
1	Federal University Dutsinma	√	√	√	√	√	√	√	√
2	Hassan Usman Polytechnic	√	√	*	√	√	*	√	√
3	Institute of Management & Technology	√	√	*	√	√	*	*	√
4	Federal College of Education	√	√	√	√	√	√	*	√
5	Isa Kaita College of Education	*	*	*	*	*	√	*	√
6	School of Nursing Katsina	√	√	*	√	√	*	*	√

Table 4.4 represents the different types of Electronic Information Resources. In order to determine the nature of electronic information resources available in the surveyed institutions under study, Federal University Dutsin-ma, Hassan UsmanKatsina polytechnic Katsina, Katsina Institute of Management. & Technology, Federal College of Education Katsina, Isa Kaita COE and School of Nursing & Midwifery were asked to provide the status of availability of electronic information resources from their respective institutes.

From the analysis on the table, it revealed that E-Journals and E-Books, Access to Global Online Resources in Agriculture (AGORA),Online Access to Research in the Environment (OARE) are available in all the three institutes. Others include E-Theses, E-Dissertation, Directory of Open Access Journals (DOAJ) and Directory of Open Access Books (DOAB), AJOL are readily available. The analysis further showed that AGORA, E-Theses, E-Dissertation are not available in some health institution and Institute of Management and Technology. The librarians submitted that users can access all the resources online on their own within the library's network or within the campus area.

The results of types of electronic resourcesavailable in the libraries under study in Katsina State revealed that there were slight differences on the types of the electronic resources available from the different institutions; the reason was based on peculiarity in thecomposition of the institutions, University have more complex courses than the other institutions while polytechnics, colleges of Education and Health Institution also have their unique features in information needs.

The finding of this study is in line with Swain (2010),who found that different types of electronic resources available in academic libraries are e-journals, e-books, online databases, e-theses/e-dissertations, electronic conference proceedings, electronic technical reports, electronic reference

documents and CD-ROM databases. The result of this study agreed with the postulation ofOkore (2012), who found that types of electronic resources to include electronic books (e-books), electronic journals (e-journal), CD-ROM, database, Thesis, Dissertations, Indexing and abstracting.

The finding of this study also corroborate with Okon (2014) who found that types of electronic information resources include e-journals, electronic books, online databases, electronic conference proceedings and CD-ROM database. It also support the work of Aina, Mutula and Tiamiyu (2008) who investigated electronic resources in computer process able form and found out different types of electronic resources includes academic journals, AJOAL, BOOKBOON, Dissertation, HINARI, EBISOHOST, SAGE among others. On the contrary Mohammed and Nagarajan (2012) found out that several forms and types of electronic resources which are available are on the Internet. Some popular ones that are gaining ground the electronic journals, standards technical specifications reports, patents, full text articles, reports and host of others.

Based on the findings of this study it is observed that electronic information resources are available in the institutions under study. This shows that all existing field of study in the institutions under study have relevant electronic information resources.

4.3.1 Procedures for the Management of Electronic Information Resources

The participants were asked the procedures for theprocedures for the management of electronic information resources in their libraries. In response to the above question, all the six participants revealed that they did not have any written policy for the management of electronic resources. *"No we don't have standard writing policy for the management of electronic resources".* This implies that the academic libraries under study did not have written policy guide line on management of electronic information resources.

4.3.2 Selection of Electronic Resources.

The researcher asked the participants about the criteria used in the selection of electronic resources. In response to the above question the data obtained from the participants showed that **L1, L2, L3 and L4**employed the criteria for the selection of electronic resources concerning the currency of the materials, the discipline/subject area of interest of clientele and accessibility factors.*"Selection of electronic resources was being done on subject/discipline area, interest of our users and easy access to the resources".*While **L5** criteria in regards to selection of electronic resources consider users demand on the resources and their currency. *"Things we considered in selection are users demand and current resources".***L6** responded to the question by stating that the criteria for the selection of electronic resources was consideration of cost, the compatibility of the product, the uniqueness of resources and over all the subject area or specialization of the courses offered in the institution. *"Yes we considered cost of the resources, how computable is it, area of interest of the users and uniqueness of the resources."* This implies that selection was done mostly on subject areas or the courses offered in the institutions.

This study found out that there is no standard policy guide on selection of electronic information resources. Procedure used in selection and acquisition of electronic information resources. The findings of this study corroborate the study of Ogbonna (2009) who found thatelectronic resources management consisted of policy statement, selection, acquisition, organization and preservation. It also support works of Ogbonna and Smith (2006) who viewed electronic resource management as an area of technical service responsible for the evaluation, selection, pricing, securing, maintenance and provision of electronic resource such as e-journals, e-books and databases. The study lean with Abidoye (2015) who found that the selection of electronic resources needs to follow some steps, which include: to identify library needs;to identify content

and scope of the e-resources, to evaluate quality of that particular resource and search capabilities, to estimate the cost etc. This study concluded that there is no policy guide line on selection of electronic information resources.

4.3.3 Acquisition and Organization of Electronic Resources

The researcher asked the participants about the process of acquiring electronic resources. In response to the question, **L1, L2, and L3**responded that the process followed in the acquisition of electronic resources is through agents, we also consider the uniqueness of the information. Available funds are considered, too and user friendliness and authoritativeness are all part of issues we consider in our electronic resources acquisition. *"We acquired electronic resources through agents; look in to funds available, uniqueness of the resources because not all information on Internet is genuine, user friendliness and authoritativeness of the resources".***L4 and L5** acquired electronic resources through publishers like D-space based on computability, accessibility, the uniqueness of the information and reliability. *"Electronic resources were acquired through publishers like D-space; we considered computability of the resources, easy accessibility, uniqueness and reliability".* This implies that electronic resources were acquired looking at available funds through agents or publishers.The participants were asked on how they organized their electronic resources. **L1, L2 & L3**organizes electronic resources according to the system of subject area and classification mark via the use of metadata. *"Electronic resources were organized like printed resources i.e. subject area, classification mark via use of metadata"*while**L4 & L5** responded that electronic resources either acquired or downloaded were organized in computers based on their discipline for easy access, i.e. the sciences, social sciences, languages and Vocational and Technical Education. *"Our computers were organized on subject area levelled sciences, languages, social sciences and voc. and*

*tech."***L6**saidElectronic resources were systematically organized alphabetically A-Z, according to their subject areas. This implies that the organization of electronic resource was done systematically.

The findings on acquisition and organisation of electronic resources showed that one of the basic functions of the library is to help users locate information of their choice effortlessly through organization and description of the resources. The results indicated that organisation of electronic information resources is on the subject area, classification mark via the use of metadata. Acquired or downloaded resources are organized in the computer system on subject or discipline for easy access. The findings of this study contradict Seidu (2012) who found that electronic resources can be organized in the technological environment via the use of metadata, an icon of the description and arrangement of electronic resources, he further the system manager should keep in mind the following points while organizing the e-resources, to include those resources either in OPAC or to make different list for browsing, to organize accessing under a separate authority, to provide access either by alphabetical or under specific subject headings, to organize the e-resources within the context of other resources and websites.

The study of Wu and Chen (2012) reaffirmed that academic libraries need to acquire and organized electronic information resources in according to the subject background of the users on retrievable formats and make them accessible to library uses in conducting their teaching, learning and research activities. In support of the study the National Archives found (2010) that another way of organizing electronic information resources is by computerized filing system which "the filing structure reflects the relationship of business activities through careful structuring of folders (with meaningful titles) containing the records.A filing structure provides

an environment for presenting a common understanding of how records should be stored and retrieved.

4.3.4 Preservation of Electronic Resources

The participants were asked how electronic resources were preserved in their libraries. **L1, L2 and L3:** said preservation of electronic resources in their library is done on computer hard disk, institutional repository created by the library, flash drives and CDs *"preservation of electronic resources was done through hard disc, institutional repository and flash drives"*. **L4, L5 and L6**in response to this question stated that the strategies adopt on the preservation of electronic resources through external hard drive, institutional repository and CDs. This implies that the preservation of method was external hard disc or flash drive. *"External hard drives were used for preservation also institutional repository were used"*. This implies that academic libraries preserved electronic resources on external drive, hard disc or flash drive.

On the results the preservation of electronic resources,the study revealed that preservation of electronic resources were done in a computer hard disk, institutional repository created by the library, flash drives and CDs. The results further showed that the facilities used for the preservation were external hard drive, institutional repository and CDs. This study is in line with the Obianwu and Azubike (2009) who found that preservation as a process that effectively extends the life or useful life of a living or non-livingcollection, the individual items or entities included in a collection, orstructure, building or site by reducing the likelihood or speed of deterioration. However, there is no detailed or specific policy on preservation of resources in the library.

On contrary to the study Tommaso, (2007) found out that the precondition for passing the effective preservation of electronic resources is the provision of availability and adequate

infrastructure and necessary expertise to implement long-term maintenance procedures and any operation required by technological changes migration or emulation

4.4 Types of Training Required for the Management of EIRs

The respondents were asked about the type of training required for the management of electronic resources in their library. **L1, L3, L5 and L6**revealed that the trainings required is seminars, workshops, internal and external training, short and long training courses on the management of electronic resources.*"We attend seminars on management of ICT facilities, workshop, internal and external training organized by stakeholders".*

L2 & L4stated that the training required is on how to take proper care of electronic resources, attending workshops and conferences delivered to library staff for effective and efficient services. *"Yes we attend conferences, workshops and training by experts on management of electronic resources, we also trained other library staff".*

This implies that library automation managers undergo various training and workshops on the management of electronic resources.

On the results with regard to the type of training required on the management of electronic resources the study found out that automation managers undergone one training or the other. The training they had undergone included seminars, workshops, internal and external training andshort and long training courses on the management of electronic resources. The findings are in line with the work of Ajidahun (2012) and found out that the proper management of electronic resources, training and skills are determinant factors for use and access of web-based electronic resources.

The finding also corroborated the works of Adeniji (2011) who found that training is an important programme that promotes the worker in an industrial set up. Staff training brings about benefits to an organization towards improving efficiency and job performance to the higher level and reduces in cost effectiveness.

4.5 Access to Electronic Information Resources

Respondents were asked about accessibility to electronic information resources. Their response is presented in Table 4.5

Table 4.5 Access to Electronic Information Resources

Access to electronic resources	Frequency	Percentage
Yes	169	70.1%
No	72	29.9%
Total	241	100%

From Table 4.5, 169 (70.1%) indicated that they have access to electronic resources. While 72 (29.9%) indicated that they did not. Therefore, the result of the findings showed that majority had access to electronic resources in their libraries in the tertiary institutions of Katsina State.

The major finding on access to electronic information resources the result revealed majority of users have access to electronic information resources. This corroborates Oyewusi and Oyeboade (2009) in their study of accessibility and use of electronic resources by undergraduates in LadokeAkintola University of Science and Technology, Ogbomosho, Nigeria, who found that a high number of the respondents accessed and used electronic resources for research and readings.OncontraryAgba (2013) identified the following problems as hindrances to effective access and use of e-resources: inadequacy of existing resources, slow speed of the internet or

poor bandwidth, lack of publicity of the available facilities, limited subscription to databases, irrelevant databases and poor user skills.

The result of the study support Okiki and Ashiru (2011) who found out that major problems encountered by students in gaining access to and use of electronic information resources is slow internet connectivity, frequent incessant power outage and too few computers with internet facilities and skills. In corroboration to above findings Tarik and Zia (2014) revealed the main barriers to access to electronic information resources are slow network connection, power failure, viruses and subscription issues.

4.5.2 Frequency of Access to Electronic Information Resources

Respondents were asked to indicate how frequently they access electronic information resources. Their responses are presented in Table 4.6:

Table 4.6 Frequency of Access to Electronic Resources in your library

Frequency Access to electronic resources	**Frequency**	**Percentage**
Daily	19	11.2%
Weekly	67	39.6%
Monthly	51	30.2%
Often	18	10.7%
Rarely	14	8.3%
Total	**169**	**100%**

Table 4.6represent frequency of access of electronic resources. The analysis above indicated that majority of the respondents (67 or40.2%) accessed electronic resources weekly, followed by 51 (30.2%) monthly, and 19 (11.2%) daily, 18 (10.7%) did so frequently and 14 (8.3%) rarely, respectively. This implies that majority accessed electronic resources frequently in tertiary institutions of Katsina State.

The study found out that majority of the respondents accessed electronic resources weekly, followed by monthly and daily while very few respondents rarely access electronic resources.

This implies that majority accessed electronic resources frequently in tertiary institutions of Katsina State.

This finding is in line with Kanoppa (2014) who found that, majority of scholars use electronic information resources every day and have become familiar with electronic information resources. Findings of the study revealed that, the use of electronic information resources, were found to be relatively high, thus reaffirming the findings of a study conducted by Lefuma (2017) who asserts that the ability to use e-resources efficiently depends on the basis of computer skills, knowledge of what is available and how to use it and the ability to define a research problem. And the most utilized electronic information resources are e-dissertation, e-references, e- books, e-journal and databases, thus, the findings affirm the study by Govindaraju (2010) and Yu-Hui (2015). It was also found from the result that the most preferred electronic information resources are internet, CD-ROM and electronic database.

4.5.3 Location of Access to Electronic Information Resources

Respondents were asked to indicate where they accessed electronic information resources. Their response is presented in Table 4.7:

Table 4.7 Location of Access to Electronic Information Resources

Location of Access to Electronic Resources	Frequency	Percentage
Institution library	102	60.4%
Within the campus	41	24.3%
In the hostel	21	12.4%
Cyber café	05	2.9%
Others	------	------
Total	**169**	**100%**

Table 4.7 above showed majority of the respondents (102or 60.4%) accessed electronic resources in their institution library, while 41(24.3%) indicated the campus as their place of access. 21 (12.4%) indicated the hostel, while 05 (2.9%) did so through commercial cyber cafes. This implies that majority accessed electronic resources in their institution library.

Results on the frequency of use of electronic resources indicated that less than half of the participant's used the resources weekly. The results corroborated with Bishop (2013) that the use of electronic resources was very low in their first year of implementation and argued that use pattern was negligible. The results also collaborated with Smith (2003), who reported that the use of electronic resources was integral toresearch activities, with the vast majority of respondents reported reading at least one article from an electronicsource weekly. This implies that the problem of internet connectivity or inadequate computers had affected the use of electronic resources in the academic libraries under study on daily basis.

Contrary to this finding Lefuma (2017) found that the ability to use e-resources efficiently depended on the basis of computer skills, knowledge of what was available and how to use it and the ability to define a research problem.

4.6 Use of Electronic Information Resources

Respondents were asked to indicate their use to electronic information resources. Their responses are presented in Table 4.8:

Table 4.8 Use of Electronic Information Resources

Use of Electronic Information Resources	Frequency	Percentage
Yes	154	91.1%
No	15	8.9%
Total	**169**	**100%**

Table 4.8 indicated that 154 (91.1%)used electronic resources, while 15 (8.9%) did not. The results indicated that majority of the registered users in tertiary institutions in Katsina State are using various types of electronic information resources.

The findings revealed that majority of the respondents uses electronic resources while very few are not using it. This finding is in line with the works of Agada (2010) who investigated the utilization of electronic information resources at Makerere University by academic staff, the findings revealed that majority of the respondents were aware of the e-resources available in the library and that used them. This study is similar to the present research even though it investigated the utilization of e-resources by academic staff in a University only as against the present study which has investigated the use and management of electronic resources in academic libraries consisting of polytechnics, colleges of Education and Universities.

On contrary Crawford, (2013) study the use of electronic resources who found different types of resources available in the university library, but their use rates were low. He further, explained that the factors that impeded effective utilization of electronic resources were large mass of irrelevant information, the need to filter the results from searches, download delay, failure to find information and inadequate or lack of search skills.

4.6.1 The Frequency of Use of Electronic Information Resources

Respondents were asked to indicate how often they use electronic information resources. Their views are presented in Table 4.9 below: -

Table 4.9 Frequency of the Use of Electronic Information Resources

Frequency of Use of E R	Frequency	Percentage %
Daily	51	30.2%
Weekly	86	50.9%
Monthly	19	11.2%

Rarely	13	7.7%
Total	**169**	**100%**

The Table shows majority of the respondents 86 or 50.9% usedelectronic resources weekly, while 51(30.2%) indicated daily use, 19 (11.2%) monthly, 13(7.7%) rarely used. Similarly, this implies that a significant number in the tertiary institutions in Katsina State used EIRs frequently.

The study found out that majority of the respondents used electronic resources weekly, followed by daily and monthly while very few respondents rarely uses electronic resources. This implies that majority uses electronic resources frequently in tertiary institutions of Katsina State.

This finding is in line with Kanoppa (2014) who found that, majority of scholars use electronic information resources every day and have become familiar with electronic information resources. Findings of the study revealed that, the use of electronic information resources, were found to be relatively high, thus reaffirming the findings of a study conducted by Lefuma (2017) who asserts that the ability to use e-resources efficiently depends on the basis of computer skills, knowledge of what is available and how to use it and the ability to define a research problem. And the most utilized electronic information resources are e-dissertation, e-references, e- books, e-journal and databases, thus, the findings affirm the study by Govindaraju (2010) and Yu-Hui (2015). It was also found from the result that the most preferred electronic information resources are internet, CD-ROM and electronic database.

4.6.2 Purpose of Use of Electronic Information Resources

Respondents were asked to indicate their purpose for which they use electronic information resources. The result is in Table 4.10

Table 4.10: Purposes of Using Electronic Information Resources

Purpose of use of electronic information resources	Frequency	Percentage %
For research purposes	126	74.6%
For leisure	08	4.7%
Further readings (current awareness)	35	20.7%
For entertainment	0	0
Others please specify	0	0
Total	**169**	**100**

Table 4.10 indicated the purposes of using electronic resources in academic libraries. For126 (74.6%) it is for research purposes, 35 (20.7%) further readings and for 08 (4.7%) leisure. This implies that majority used electronic resources for research purposes.

Concerning the purpose for the use of electronic resources in the academic library, majority of the respondents used them for research purposes, while less than half for further readings and for pleasure. The results revealed that the purpose of using electronic resources in academic libraries in tertiary institutions in Katsina State is for research, further readings, solving problems and entertainment purposes. This is in line with Oyewusi and Oyeboade (2009), who found out that high number of respondents, accessed and used electronic resources for research and for readings. This also corroborated with Iwehabura (2009) who stated that electronic information resources were used for academic and research activities in higher educational institutions, such as online databases, e-books, and e-journals for academic purposes. Contrary to this study,Shuling (2007) stressed that the resources werequick, faster and easier to access current information, easy storage and possibility of sharing the same information resources among many users at a time, saving space relatively with easy maintenance and easy linkage.

In support of this findings Crawford (2006) empirical study studied on the use of electronic information resources and information literacy at Glasgow Caledonian University

found that students used the resources for their academic pursuits, communication, current awareness and entertainment. The findings revealed that majority used the internet, but e-databases were significantly underutilized.

4.7.1 Challenges Associated with the Management of Electronic Resources

The participants have interviewed on the challenges associated with the management of electronic resources. The responses obtained by the researcher revealed that the e-library faced many problems. The summary of the responses obtained were presented below:

L1, L2 & L3: The challenges experienced with respect to the management of electronic resources were inadequate ICT skills by library staff, lack of funds, low internet connectivity and the malfunctioning of ICT equipment in the library. *"With respect to the challenges associated with management of electronic resources we experienced inadequate ICT facilities, low Internet connectivity and inadequate funds".*

L4, L5: With regards to challenges associated with the management of electronic resources, we experienced slow network connectivity, inadequate ICT facilities, inconsistent power supply, inadequate training of staff and lack of policy guidelines to manage electronic resources. *"What we considered as challenges on management of electronic resources are; slow network, lack of standard ICTfacilities, electricity problem and inadequate training".*

L6: The e-library faces numerous challenges, ranging from slow-speed network, poor power supply, malfunction of computers and lack of funds allocated to the electronic library. Moreover, automation librarians lacked regular training, workshops or seminars in relation to management of electronic resources. There was also lack of a policy framework guiding the management. This implies that management of electronic resources in academic libraries experienced challenges of slow or poor Internet connectivity, lack of training and poor power supply.

The challenges experienced by the management of libraries under study with respect to the management of electronic information resources are Inadequate ICT skills of some library staff, lack of confidence in the use of ICT facilities, Poor condition of infrastructure like electricity supply, lack of adequate funding, lack of ICT policy in the library, lack of ICT experts in the library, poor telecommunication services like low internet connectivity and malfunctioning of ICT equipment in the library.

This finding corroborates the works of Iwhiwhu, (2009) that inadequate ICT infrastructures, manpower, fund, inadequate government support and lack of user education as the major challenges facing digital libraries in Nigeria.

On contrary Igun (2005) found out that the challenges faced by the libraries and information centre in the establishment of electronic information resources include the acquisition of skills to handle current e-tools, metadata knowledge for cataloguing e-resources, expertise in licensing e-journals and the maintenance of URLs among others. The finding supported the finding of Plum (2010) that there are many hindrances and challenges faced by users in the utility and access of the e-resources, which include lack of awareness, lack of the information literacy skills necessary to search databases, lack of time, the challenge of locating good citable stuff, inability to use effectively the library and poor skills in information searching.

4.7.1 Challenges Associated with the Use of Electronic Resources

Respondents were asked to indicate which among the challenges affect their use of electronic information resources. The results are in Table 4.13

Table 11 Challenges that affect the use of electronic resources

Challenges affect use of ER	**Yes**	**No**

	Freq	%	Freq	%
Inconsistence power supply	142	84.5	26	15.5
Lack of enough time for searching	133	79.2	35	20.8
Lack of searching skill	122	50.6	119	49.4
Inadequate computers system	176	73	65	27
Lack of training on the use of electronic resources	105	43.6	136	56.4
Poor Internet services	163	67.6	78	32.4
Others please specify	63	26.1	178	73.9

Table 4.13 showed the result of data collected and analyzed with the aim of identifying the challenges that affected the use of electronic resources in tertiary institutions in Katsina State. Majority (163 or 67.6%) indicated poor Internet services. while 78 (32.4%) did not indicate this as a challenge.176 (73%) indicated inadequate computers,, while 65 (27) did not indicate this as a challenge. This was an indication that tertiary institutions in Katsina state had poor Internet connectivity, which greatly affected their use of electronic resources.

Moreover, 133 (79.2%) considered limited time for searching as a challenge and 35 (20.8%) did not indicate this as a challenge. About174 (72.2%) indicated lack of searching skills, while 67 (27.8%) did not indicate it as a challenge. This implies that majority considered lack of searching skills as threat to the use of electronic resources. Also, it could be observed from the data obtained that majority indicated that the time of searching was not enough to accomplish their activities.

Additionally, 142(84.5%) indicated that inconsistent power supply as a challenge to the use of electronic resources, while 26 (15.5%) did not indicate it as a challenge. Furthermore, 105 (43.6%) indicated lack of training, while 136 (56.4%) did not agree. The Table also shows 63

(26.1%) indicating conducive atmosphere as well as ICT/ virtual library were not opened in the evening/night shift as a challenge, while 178 (73.9%) did not indicate this as a challenge.

Based on the findings and for the purpose of this study, it could be seen that the major challenges with the use of electronic resources were poor Internet connectivity, limited time for searching, power shortage and inadequate computers in tertiary institutions of Katsina State, while a few respondents indicated lack of training on the use of electronic resources as a challenge.

Those challenges experienced with respect to use of electronic information resources are lack of convenience, lack of enough computers, insufficient quantity, and restricted access to Internet, poor internet connection or signal, poor and unstable power supply, lack of ICT appliances like cables.

The finding also supported Madhusudhan (2010) empirical findings where the researcher explored the problems facing electronic information resources and revealed that the most common problem facing use of electronic resources is slow access speed. Another problem identified is difficulty in getting relevant information due to information overload and lack of IT skills.The also supported Ray and Day (1998) when they found that staffing is another problem that affects the management of EIRS in the University library. Many of the library staff does not have background training in library and information science. Among the professional librarians, many do not have ICT skills. These findings are not unexpected because of the decreasing budgetary allocations to the university library.

4.8 Level of Satisfaction derived from the Use of Electronic Resources

Respondents were asked to indicate their level of satisfaction with the use of electronic information resources. The responses are shown in Table 4.11

Table 4.12 Level of satisfaction Derived from the use of electronic information resources

Level of your satisfaction	Frequency	Percentage%
High satisfaction	43	25.4%
Satisfactory	62	36.7%
Moderately satisfied	45	26.7%
Low satisfied	19	11.2%
Total	**169**	**100**

From the Table 62 (36.7%) were highly satisfied. Those satisfied are 62 (36.7%), either moderately satisfied or lowly satisfied are 64 (37.9).From the results, the level of satisfaction on use of electronic resources in tertiary institution in Katsina State was low.

Regarding the level of satisfaction from the use of electronic resources, the results revealed that majority of the participants were moderate satisfied or low satisfied on the use of electronic resources in tertiary institutions in Katsina State.This could be attributed to slow Internet connectivity, inadequate computers and limited searching time among others.

This finding corroborated withAgba (2013), who identified that users are not satisfied with the use of electronic resources due to the fact that there are inadequacy of existing resources, slow speed of the internet or poor bandwidth, lack of publicity of the available facilities, limited subscription to databases, irrelevant databases and poor user skills.

4.9 Summary of Major Findings

The methodology employed in this study was the Descriptive Cross-sectional Survey Design which explores the management and use of electronic information resources in the academic libraries in Katsina State using descriptive statistics for analysis of research objectives. Therefore, the major findings of the investigation are as follows

1. The results of the types of electronic resources available in the libraries under study in Katsina State includese-books, e-journals, e-reference, e-theses, e-dissertations, data base, Agora, Ajol, Science direct, Jstor, institutional repository and Online references, such as Interdisciplinary, Book boon, Doaj, Science Direct, Hindawi and OARE.
2. The Procedures for the Management of electronic resources in academic libraries is based on unwritten procedure/policy, Standard procedure usually followed for selection and acquisition of electronic information resources are publisher's contact/agents, finance, accessibility, compatibility of the product and content.
3. Training required on the management of electronic resources as found out by the study is that automation managers undergo training fromseminars, workshops, internal and external training andshort and long training courses on the management of electronic resources.
4. The major findings on access to electronic information resources in academic libraries under studies are high.
5. The study found out that thefrequency of the use of electronic information resources in the academic library, was low, this could be attributed to poor Internet connectivity, inadequate computers and poor ICT facilities.
6. The challenges experienced with respect to the management of electronic information resources are Inadequate ICT skills of some library staff, lack of confidence in the use of ICT facilities, Poor condition of infrastructure like electricity supply, lack of adequate funding, poor telecommunication services like low internet connectivity and malfunctioning of ICT equipment in the library.

7. The study found the level of satisfaction derived from the use of electronic resources is high 105 (62.1%).

4.10 Implication of the Study

The findings of this study have implications for the library users, the library management and library automation managers. For the library users, this study had established that availability and utilization of electronic information resources have significant relationship with enhancement of learning and research activities. Therefore, the more they utilize EIRs the better the development of their learning and research activities. The study also noted that the Health Internet Network Access to Research Initiative (HINARI) and Database of African Theses and Dissertations (DATAD) as major electronic database are not readily available, which is responsible for the low influence of the independent variables on their research activities as indicated from the analysis of the research. These lacks of availability of relevant databases may affect the level at which library users and researchers patronize EIRs for their learning and research activities.

For the institutes library management and librarians working in the academic libraries, the identified electronic information resources databases and the established relationships from this study will further give academic libraries recognition in learning and research development. Yet, these resources available need to be enhanced as they are relevant to learning and research activities, while the unavailable related electronic information resources and databases should be made available and accessible to enable effective utilization of these resources thereby advancing positive attitude towards utilization of these resources. This will also make teaching, learning and research activities more relevant to their users.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presented a summary of the study, the major findings, a conclusion, recommendations and areas of further studies.

5.2 Summary of the Study

The study investigated the management and use of electronic resources in the academic libraries in Katsina State. It was divided into five (5) main chapters as showed below:

Chapter One dealt with the introduction to the study, statement of the research problem, research questions, research objectives and statement of hypothesis developed, significance of the study and scope and limitation, as well as operational definition of terms.

Chapter Two, which was the literature review, reviewed the concept and significance of electronic information resources, types of electronic information resources, access to electronic information resources, use of electronic information resources, management of electronic information resources in academic libraries, challenges associated with management and use of electronic information resources, theoretical and conceptual frame work, summary of the review and uniqueness of the study. Literature related to the study revealed low utilization of electronic resources in the academic libraries under study.

Chapter Three, which was the methodology, discussed the method used in carrying out the study. The researcher used quantitative research method through the use of survey research design. A questionnaire and an interview were used as instruments for data collection from 241

respondents and 6 library automation managers, who form the total population of the study. As statistical method was used in analyzing the data collected.

Chapter Four presented data and results generated from 241 completed and returned questionnaires and interpretation of the interview schedule for the study.Chapter Five consists of a summary of the study, the major findings, conclusion and recommendations.

5.3 Summary of the Findings

From the analysis conducted, the findings were presented as follows:

1 The study found that the types of the electronic resources available in the institutions under study are: CD-ROM, e-books, e-journals, online data base, emails and e-manuscript, among others.

2 The study found that institutions under study did not have written policy/procedures for the management of electronic resources.

3 The level of staff training on electronic resources management was low due to the lack of readiness of the library managers and lack of sufficient funds. Similarly, the automation managers attend in-house training, seminars or conferences.

4 There is a very high level of access to electronic information resources for learning and research activities by library users I the institutions under study.

5 The study found that the use of electronic information resources by the respondents was moderate.

6 The major challenges of the management of electronic resources consist of unstable power supply, inadequate ICT skills by some library staff, low internet connectivity, inadequate training of staff and lack of policy guide-line for selection, acquisition, organization and

preservation of these resources. Challenges with regard to the use of electronic resources consisted of slow or poor Internet connectivity, inadequate computers and limited searching period, among others.

7 Majority of the users of electronic resources in academic institutions were satisfied with the use of these resources.

5.4 Conclusion

The general conclusion of the study is that emergence and development in information and communication technologies had revolutionized almost all the spheres of lifeand has made libraries embrace various forms of electronic information resources (EIR) like e-books, e-journals, e-mails and e-conferences to replace print resources.

The study concludes that libraries in Katsina state have different types of electronic resources such ase-books, e-journals, e-reference, e-theses, e-dissertations, data base, Agora, Hinari, Ajol, Science direct, Jstor, institutional repository and Online references, such as Interdisciplinary, Book boon, Doaj, Science Direct, Hindawi and OARE, among others.The Procedures for the Management of electronic resources in academic libraries is based on unwritten procedure/policy, which is a guide to the management of electronic resources.

The study also concludes that the selection and acquisition of electronic information resources are usually considered by the head librarians whenever electronic information resources are to be acquired or generated. Standard procedure usually followed for selection and acquisition of electronic information resources are publisher's contact/agents, finance, accessibility, compatibility of the product and content. Consideration is giving to Faculties, departments of the institutions for effectiveness of selection of electronic resources.

Libraries in Katsina state organises electronic resources based on the subject area, classification mark via the use of metadata. Acquired or downloaded resources are organized in the computer system on subject or discipline for easy access. The facilities for preserving electronic resources in libraries in Katsina state are in a computer hard disk, institutional repository created by the library, flash drives and CDs.

On training required on the management of electronic resources, the study concludes that automation managers undergoon – the job - training inseminars, workshops, internal and external training andshort and long training courses on the management of electronic resources. The purpose for the use of electronic resources in the academic librarywas majorly for research, further readings, solving problems and entertainment purposes.

The study also conclude that the challenges experienced by the management of libraries under study are inadequate ICT skills of some library staff, lack of confidence in the use of ICT facilities, poor condition of infrastructure like electricity supply, lack of adequate funding, lack of ICT policy in the library, lack of ICT experts in the library, poor telecommunication services like low internet connectivity and malfunctioning of ICT equipment in the library.

Finally, overcoming the challenges associated with the management and use of electronic resources in the academic libraries under study involve the provision of effective Internet connectivity, adequate computer systems adequate, attending workshops seminars and proper training of library staff on management of electronic resources, among others.

a. Recommendations

Based on the conclusions drawn from the findings of the study, therefore, the study offers the following recommendations:

1. The study observes that the enabling electronic information resources will lead to increased access and use of electronic information resources by library users. Thus, Academic libraries in Katsina state should subscribe to relevant e-resources for an enabling the enhancement of learning, teaching and research activities.
2. For a proper management of e-resources, there should be procedures for policy statement, selection, acquisition, organization, preservation and access to the electronic resources.
3. Special training programms should be organized for the proper management and maximum use of e-resources so that users can adequately trace relevant information. There is the need to ensure regular staff training and attending conferences and workshops to ensure effective and efficient services to the library user.
4. The institutions should expand their ICT infrastructure in the e-library and on campus to increase the access point and create hotspots around various locations on campuses that cover every college or school in order to improve the accessibility of electronic resources.
5. The academic libraries under study should provide necessary and modern information and communication technology equipment such as adequate computers, robust Internet and extension of e-library closing hours for efficient useof the resources.
6. Funding the electronic library should be proper to solve urgent and immediate problems such as the subscription of fees, acquisition and up-date of license agreement.The institutions should make provisions for an alternative power supply in order not to disrupt academic activities, such as research and learning in the e-library. Also libraries should provide more computers, problem relating to poor Internet connectivity should be overcome by upgrading the bandwith.

7. To satisfy the information needs of the users, libraries should organized orientation programme, provide adequate access point to e-resources so that it can be access from remote areas.

5.6 Areas for Further Research

1. A similar study on the management and use of electronic information resources needs to be conducted in other state of North east geo-political zone of the country to compare its findings with the one obtained in the present study.
2. A similar study on the management and use of electronic information resources needs to be conducted in other tertiary institutions in the state.

REFERENCES

Abubakar, B. M. (2011) Academic Libraries in the 21st Century. *Library Philosophy and Practice.*

Adams, J., King, C. & Hook, D.(2010), Global Research Report: Africa. Leeds: Evidence Publishers,

Adeniji, M.A. (2011), Training and its multiplier effect on productivity at the OlabisiOnabanjo University Library, Ago-Iwoye, Ogun State, Nigeria, PNLA Quarterly 75:3 Available at http://unilib.unl.edu/LPP/PNLAQ/adeniji75-3htm.Accessed on 12/3/2013

Agba, D, Kigongo,B. &Nyumba, J. (2004). Utilization of Electronic Information Resources by Academic Staff at Makerere University.*University of Dar es Salaam Library Journal* 6(1)18-29.

Aghadiuno,C, Agbo A. &Onyekweodiri, N.(2015). Acquisition and Organization of Serials and other Continuing Resources in two Selected University Libraries in Nigeria.*Research Journal of Library Sciences.*3(8),Available online at: www.isca.in, www.isca.me

Aina, L, Mutula, S. and Tiamiyu, M. (2008). Information and Knowledge Management in the Digital age: Concepts, Technologies and African Perspectives. Ibadan. Third World Information Services Limited.

Aina, L. (2004). Library and Information Science Text for Africa.Ibadan: Third World Information Services.

Aina, R. (2011). Foundation of Information Studies, Lagos.Emaphine Reprographics Ltd.

Ajidahun, C. O. (2012), The training, development and Education of library manpower in Information Technology in University Libraries in Nigeria. World Libraries 17(1). Available: www.worlib.org/vol17/no1/ajidahunprint-v17nlshtml. Retrieved on 20/4/2013

Akuezuilo, E. O. (2003). Research Methodology and Statistics: For Beginning Research Students, Enugu; Chiriston publishers.

Akussah, M. Edward, A. & Rosemary, A. (2015) Impact of Electronic Resources and Usage in Academic Libraries in Ghana; Evidence from Koforidua Polytechnic and All Nations University Colleges Ghana: Journal of Education and Practice vol. 6(33) 2015

Alison, K, Kiyingi, G,&Baziraake B. (2012). Factorsa Affecting Utilization of Electronic *Health Information Resources.Annals of Library and Information Studies,* 59(2).Retrieved from http://www.niscair.res.in.

Anand,S. (2014).Types of e-resources and its utilities in Academic libraries*: International Journal of Information Sources and Services.*1 (1). .101-105

Anderson, I. (2004) Electronic Resource Management: Report of the DLF electronic resource management initiative. Retrieved fromhttp://www.diglib.org/pubs/dlf102/dlfermi0408appa.pdf.

Angello, C. &Wema, E. (2010). Availability and Usage of ICTs and E-resources by Livestock Researchers in Tanzania: Challenges and Way forward. *International Journal of Education*

and Development using Information and Communication Technology (IJEDICT) 6(1) 53-65.

Appleton, L. (2006). Perceptions of Electronic Library Resources in Further Education.*TheElectronicLibrary Journal*24 (5)619-634.

Ballard, R. & Lang J. (2007). The Hidden Benefits of Implementing an Electronic Resources Management System, Retrieved from hhtp:www.libraryyale.ed/preifla/papers/ballard.pdf

Baro, E, Oni, O. &Onyenania, G. (2009). Gender and Publication output of librarians in Edo and Delta State University libraries in Nigeria:*Performance Management and Metrics,* 10(3): 180 – 192

Bellamy, C. (2012).Principles of Methodology: Research Design in Social Science. Los Angeles: Sage Publishers.

Best J. W. & Kahn J. V. (2012) Research in Education 9th ed. New Delhi; PHI Learning.

Bhukuvhani, C., Chiparausha, B. &Zuvalinyenga, D. (2012) Effects of Electronic Information Resources Skills Training for Lecturers on Pedagogical Practices and Research Productivity *International Journal of Education and Development using Information and CommunicationTechnology.* 8(1), . 16-28.

Carlson, Bethany; &Reidy, Sharon. (2004). Effective Access: Teachers' Use of Digital Resources (research in progress). *OCLC Systems & Services,* 20(2), 65-70.

Cecilia (2016) Perception and Utilization of Electronic Resources by Undergraduate Students: *American Journal of Educational Research.* 4, (5), Available online at http://pubs.sciepub.com/education/4/5/1

Chandler, A. (2004). Electronic Resource Management.Retrieved from http:// metadata-wg.mannlib.cornell.edu/forum/index.

Chuttur, M.Y. (2009) Overview of the Technology Acceptance Model: Origins, Developments and Future Directions, Indiana University, USA. Sprouts: Working Peppers on Information Systems, 9(37). http://spouts.*htt://spouts.asisnet.org/9-37*

Collins English Dictionary Complete and unabridged, (2003). London: Herper Collins. Retrieved September, 2012 from www.thefreedictionary.com.

Collins, M. (2005) Electronic Resource Management Systems: Understanding the Players and How to Make the Right Choice for Your Library.*Serials Review*. 31(2)125-40.

Crawford, J. 2006. The Use of Electronic Information Services and Information Literacy: A Glasgow Caledonian University Study. *Journal of Information Science and Librarianship* 38 (1): 33-44.

Creasy, G. (2014).Understanding Mixed Method Research. Retrieved from: www.sagepub.com/../10981 chapter 1.pdf

Dadzie, P. (2010). Electronic Resources: Access and Usage at Ashei University College. Campus Wide Information Systems22(5):290-297. Also Available at: http/www: emeraldinsight.com/1065-0741.htm.

Daniel, W. O. (2010). Graduate Students' Views on Information Literacy (Master Thesis) International Master in Digital Library Learning [DILL]

Daramola, C. E. (2016) Electrornic Information Resources Philosophy and Practice (e- journal), American Journal of Educational Research 4(5) 2016.

Davi, T. & Devi, K. (2012).Managent of e-Resources in the Modern Library Information System: An out look. New, Delhi.Akansha Publishing House.

Davis, F. D., Bagozzi, R. P., &Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. Management science, 35(8), 982-1003.

Davis, F.D. (1989) Perceived Usefulness, Perceived Ease of Use and User Acceptance of Information Technology. MIS Quarterly, 13(1), 319-340.

Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", MIS Quarterly, 13(3), 319-340.

Deng, H. (2010). Emerging Patterns and Trends in Utilizing Electronic Resources in a Higher Education Environment: An Empirical Analysis. New Library World 111 (3/4), 87-103.

Dhanavandan, M. Esmal S. ansdNagarajan, M. (2012) Use of Electronic Resources at Krishnasamy College of Engineering and Technology Library, Cuddalore Library Philosophy and Practice, Retrieved March 12, 2013, from http://www.unllib.unl.edu.

Dutton, B. (1990). An Introduction to end User Searching: the Effective gateway to published information. London: Aslib.

Egberongbe, H. (2011). The Use and Impact of Electronic Resources at the University of Lagos: Library Philosophy and Practice. Available.www.webpages.uidaho.edu/-mbolin/egberonbe.html.(15sept. 2012

Ekere, F. &Ekere, J. (2014). Contemporary Challenges facing Library and Information Science Professions in Nigeria: Global challenge and enhancement strategies. Proceeding from first International Conference of the Faculty of Education, University of Nigeria, Nsukka, held from 17th-21st June.

Elavazhagan, K, &Udayakumar, M. (2013). Use of e-resources in the BITS, Pilani – Hyderabad Campus: A study. *International Research: Journal of Library & Information Science,* 3(3), 470-479.

Ellis,D. &Oldman, H. (2005) The English Literature Research in the Age of Internet. *Journal of Information Science*31(1).

Emwanta, M &Nwalo, K. (2013). Influence of Computer Literacy and Subject Background on Use of Electronic Resources by Undergraduate Students in Universities in South-western Nigeria. *International Journal of Library and Information Science.* 5(2), 29-42. Accessed on November from http://www.academicjournals.org/IJLIS

Evans, G. E. (2000). *Developing Library and Information Centrer Collections 4th ed*. Englewood. Colorado: Library unlimited.

Federal Ministry of Education (2000).National Virtual digital Library Project. Abuja: National Universities Commission.

Gafen, D. Karahanna, E. & Straub, D.W (2012) Trust and TAM in Online Shopping: an integrated model. *MIS Quarterly*, 27(1) 51-90.

Gibson, S. G., Harris, M. L., &Colaric, S. M. (2008). Technology acceptance in an academic context: Faculty acceptance of online education. Journal of Education for Business, 83 (6), 355-359.

Hammed, A. B. (2010). Use of Library: Essential Manual for Beginners, New ed. Ibadan, Akacom Publishers.

Huagen B. (2005) The Impact of Globalization on Law Libraries. Int. *Journal Legal Inform.*33(3). Retrieve August 19, 2008 from http://search.epnet.com/login.aspx

Ibrahim, A. (2004) Use and User Perception of Electronic Resources in the United Arab Emirates University. Libri, 54, 18-29

Idowu, A. O. (2011) Effective Library Services in the College. A Paper delivered at the 1st Library Workshop at Adeyemi College of Education, Ondo.

Ifidon S. (2007) Basic Principles of Research Method. Benin-city Nigeria: Goodness express Communication.

Iwehabura, M. F. (2009). 'Skills and Training needs for use of Electronic Information Resources (EIRS) among Students in four Tanzanian Universities.Heartland J. Libr.Infor. Sci. 2(1&2)

Jewel, T. et al. (2006). Electronic Resource Management: Report of DLF Electronic Resource Management Initiative. Washington, D.C.: Digital Library Federation. Retrieved from http:// www.diglib.org/pubs/dlf102

Kalbande, T.Shinde, P. & Ingle, R.(2013). Use of e-resources by the Faculty Members: A case study. International Research: *Journal of Library & Information Science,* 3(3), 459-469.

Kamba, M. (2008). The Changing Role of Researchers in Nigeria: The internet as an alternative future to modernity. Library Philosophy and Practice.Retrieved fromhttp://www.webpages.uidaho.edu/~mbolin/kamba.htm.

Konappa, K. (2014). Use of Electronic Information Resources in University Libraries of Tinupati (A.P).International Journal of Library & Information Science.6(1). 5-13. Retrieved from http://www.academicjournals.org/ijls

Lukasiewicz A (2007). Exploring the Role of Digital Academic Libraries.*Library Rev*. 56(9):821-827.

Madhusudhan, M. (2010), Use of UGC.*info net journals by the Research Scholars of University of Delhi. Library hi tech.* 26(3): 369-386.

Mallhotra, N. K. (2004) *Marketing Research: An applied orientation*, 4thed. New Jersey: Pearson education, inc.

Manda P (2005). Electronic Resources Usage in Academic and Research Institution in Tanzania. Information Dev. 21(4):269-82.

Maxwell S. (2015) Impact of Electronic Resources and Usage in Academic Libraries in Ghana Journal of Education and Practice. Retrieved fromwww.iiste.org 6,.(33),

Mitchell, A. & Surratt, B. (2005). Cataloguing and Organizing Digital Resources: A how-to-do-it manual for librarians. New York, Neal-Schumn Publishers.

Moser, J. M. &Kalton H. (1979).Designing Funded Qualitative Research.In N. K. Denzin& Y. S. Lincoin (Eds) Handbook of qualitative research. Thousand Oaks, C. A: Sage.

Muhammad, R& Naga, I. (2012) Prospects of Digitization in University Libraries of Pakistan. Unpublished Ph.D Thesis Submitted Department of Library and Information Science

Nachmias, S. (1996) Research Methodology in the Behavioural Sciences. Ibadan; Longman.

Ndubuisi, C. &Udo, N. (2013). Empirical Study of Motivation, Challenges and Strategies in the Use of Electronic Information Resources by postgraduate library users in south-east Nigerian Federal Universities, international Journal of Library and Information Science. 5(11), 468-473.

Norris, L. (2004). World Library and Information Congress: 70th IFLA general conference and council. Buenos Aires, Argentina, 22-27 August.Retrieved February 8, 2015, from http://www.ifla.org/ir/ifla70/ prig04.html.

Nwalo, K. (2003). Fundamentals of Library Practice: A manual of library routine. Ibadan: Stirling-Horden Publishers.

Oduwole A. Sowole A (2006). Utilisation and Impact of the Essential Electronic Agriculture Database (TEEAL) on library services in Nigerian University of Agriculture*, Program: Electronic Lib. Information Syst.* 25(8/9):.361-167.

Oduwole, A. (2003). Electronic Services Provision in Nigerian University libraries*. Nigerian Library and Information Science Review,* 20(1&2), .1-7

Ogbonna, M. Isaac (2009) Appreciating the Library. Enugu: His glory Feather, John (2004) Managing Preservation for Libraries and Archives",

Okello C.& Magara, E. (2010). Electronic Information Access and Utilization by Makerere University in Uganda [online]. Available at: http;//creative commons.org/licenses/by/2-0.

Okiki, O. (2012). Electronic Information Resources Awareness, Attitude and Use by Academic Staff Members of University of Lagos, Nigeria. Retrieved from http://digitalcommons.unl.edu/lipphiprac/828

Okiki, O.C. &Asiru, S.M. (2011): Use of Electronic Information Sources by Postgraduate Students in Nigeria: Influencing Factors, *Library Philosophy and Practice*.

Okon, E. A., Patrick, N., andBosire, O. (2014).Effect of Accessibility and Utilization of Electronic Information Resources on Productivity of Academic Staff in Selected Nigerian Universities.*Science Research*.2(6), 166-171. Retrieved 17 June 2015 from: http://article.sciencepublishinggroup.com/pdf/10.11648.j.sr.20140206.13.pdf

Okore, A, Asogwa C & Eke H. (2009). Online Resources and web Research. Introduction to the use of the Library and study skills.Nsukka: The Library Department, University of NigeriaNsukka.

Okorie, C.N. (2012). Use of Automated Electronic Information Services: A Case Study at the University of Agriculture Library, Abeokuta, Nigeria. *Chinese Librarianship: an International Electronic Journal, 29*. URL: http://www.iclc.us/cliej/cl29okorie.pdf

Okoye M, Ugwuanyi C (2012). Management of electronic resources by cataloguers in Nigeria federal university libraries.Retrieved from: http://www.unlib.unl.edukpp/ on June 20, 2012.

OlabisiOnabanjoUniversity,*Global Advanced Research Journal of Educational Research and Review* 4(4) April, 2015 Available online http://garj.org/garjerr/index.htm

Olasore,S.(2015), Use of Library Electronic Information Resources by Academic Staff in

Oyedun, A. &Sowole A. (2007). 'Utilization and Impact of the Essential Electronic Information Resources on the Library Services in Nigerian University" *program: electronic library and information systems, 40(2).*

Oyewusi, F. &Oyeboade, S. (2009). An Empirical Study of Accessibility and Use of Library Resources by undergraduates in a Nigerian State University of Technology.Library Philosophy and Practice.Retrieved October 6, 2010 from http://www.webpages.uidaho.edu/~mbolin/oyewusi-oyeboade.htm.

Ozioko, R..&Ekere, F. (2011).Collection Development in Libraries.Nsukka:Dominion Printing Company Ltd.

Ozoemelen, O. (2009). Use of Electronic Resources by Postgraduate Students of the Department of Library and Information Science of Delta State University, Abraka, Nigeria. Library philosophy and practice.

Padma. P. et al.(2014). Awareness and Use of Electronic Resources by the Engineering e library research journal.2(10).

Parker, K.(2007). Tools for Mature Management of Electronic Resources Lifecycle in Libraries.http://www.library.yale.edu/preifla2007 papers/parker.pdf.

Pinfield, S. (2001).Managing Electronic Library Services: Current issues in U.K. higher education institutions. http:// www.ariadne.ac.uk/issue29/pinfield/intro.html .

Pituch, K.A & Lee, Y.K (2006) The influence of system characteristics on e-learning use. Computers Education. 47(2); 222-224.

Popoola, S. &Haliso, Y. (2009).Use of Library Information Resources and Services as Predicator of Teaching Effectiveness of Social Scientists.*African Journal of Library, Archives and Information Science,* 19(1): 65 – 77.

Popoola, S.&Haliso, A.(2009). The Use of Information Sources and Services and Its Effect on the Research Output of Social Scientists in Nigerian Universities.Library Philosophy and Practice. Available at: http://www.webpages.uidaho.edu/~mbolin/popoola.htm. (Accessed 30 June 2011).

Prakash, T. (2015).Use of Electronic Information Resources by Research Scholars of Kurukshetra University.The Electronic Library Journal.28(4).

Rachael F. A. (2014), Awareness, Accessibility and Use of Electronic Databases among Academic Staff of babcock University Business School. *Kuwait Chapter of Arabian Journal of Business and Management Review* 3,(6);

Ray, K. and Day J. (1998). Student Attitudes Towards Electronic Information resources. *Information Research* Vol.4 no.2. Available at: http://informations.net/ir/4-2/paper 54.html. Accessed 8th June, 2008.

Reitz, J. (2005) "Digital library" ODLIS: Online Dictionary for Library and Information Science. Retrieved 21st May, 2012. From http://www.iu.com/odlisd.cfm

Remilekun E. (2015)Global Advanced Research Journal of Educational Research and Review Available online http://garj.org/garjerr/index.htm

Renwick, S. 2005. Knowledge and Use of Electronic Information Resources by Medical Science Faculty at the University of the West Indies.*Journal of Medical LibraryAssociation*93 (1): 21-31.

Rick, Y. (2005). Research Design and statistical analysis in Christian ministry. Available at: http://www.scribd.com

Robek, M., & Brown, D. (1996).Information and Records Management, 4th ed. New York: McGraw Hill.

Sadia E. (2011) The Use and Impact of Electronic Resources at the University of Lagos; Library Philosophy and Practice, Lagos, University Press.

Sandore, B. (1997). Technology and Management in Library Services. London: Library Association Publishing.

Seidu, A.E. (2012). "Management of Electronic Information Resources in the Libraries of Radio Stations in South West Zone, Nigeria; A Masters proposal (unpublished)

Sharma, C. (2009). Use and Impact of E-Resources at Guru Gobind Singh Indraprastha University (India): A Case Study. *Electronic Journal of Academic andSpecial Librarianship,* 10 (1), 58-64.

Sharon J. (2012), Key Issues for e-Resource Collection Development: A Guide for Libraries**.** Viewed May 30 2011, http://www.library.yale.edu/consortia/webstats.html.

Sheard J, Ceddia J,& Hurst J (2010). Inferring Student Learning Behaviour from website Interactions: A usage analysis.*Educ. Information Technol*. 8(3):245-266.

Shija, H. (2009). E-resources Use via the Internet Improvement is a must:a case of special libraries in Tanzania. Retrieved from www.ais.up.ac.za/digi/docs/papershija.doc on 9th October, 2013.

Shokeen, A. &Kauslik, S. (2002). Information Seeking Behaviour of Social Scientists of Haryana University.*Library Herald,* 40(1): 28 – 35.

Shuling, W. 2007.Investigation and Analysis of Current Use of Electronic Resources in University Libraries.*Library management.*28(1-2):72-88.

Silverman, D. (2001). Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction.2nd Edition. London: Sage Publications.

Singh D, Ogbonnaya C, &Ohakwe J (2011). Factors affecting the use of electronic information services by international students in malaysia. Continental J. Appl. Sci. 6(3):8-18.

Sinha, M. (2014). Managing Collection Development of Electronic Resources in digital and Networked Environment: An Overview. *In*: Charaibeti: Golden Jubilee Commemorative Volume (*Eds*: GoutamMaitey*et.al*., Department of Library and Information Science , Jadavpur University , Kolkata ,

Sivasubramaniyan, G.; &SadikBatcha, M. (2012). Use of e-resources by the faculty members of pondicherry university and its affiliated colleges: An analytical study. *Indian Journal of Information Sources and Services, 1*(2), 36-41.

Smith, J. (2007). The Impact of Electronic Communications on the Science Communication process – investigating crystallographers in South Africa. *IFLA journal.*33(2):145-159.

Swain, D. & Panda, K. (2009). Use of e-Services by Faculty Members of Business Schools in a State of India: a study. *Collection Building*, 28(3): 108-16. http://www.emeraldinsight.com (accessed June 11, 2011).

Swain, D. (2010)**.** Students' Keenness on Use of E-resources.*The Electronic Library* 28 (4): 580-591.

Tenopir, C., Wilson, C, Vakkari, P.,& King, D. (2008). Scholarly E-Reading Patterns in Australia, Finland, and the United States: 74th IFLA General Conference and Council, 1014 August, Quebec, Canada. Available at http: //www.ifla.org/IV/ifla74/index.htm. (Accessed 10 July 2011).

Thanuskodi, S. (2012). Use of E-Resources by Post Graduate Engineering Students with Special Reference to Sona College of Technology, Salem: A Survey. In: DK Swain (ed.) *Electronic Age Librarianship.* New Delhi: Ane Books PVT Ltd. 323-338.

Thomas, A. (2013). Problems of Conservation and Preservation of Library Resources in African Academic Libraries.Greener Journal of Social Sciences. 3 (1).

Uhegbu, A. (2007). The Information User: Issues and themes. Okigwe: Whytem Publishers. University of Nigeria. World Library and Information Congress: 71th IFLA General Conference and Council held at Oslo Norway, August 14th-18th. Available at: http://www.ifla.org/iv/ifla71/Programme.htm. (Accessed 20th June 2012).

Ujo, A. (2004) Understanding Social Research in Nigeria: A Non qualitative Approach, Kaduna: Joice Publishers

Ukachi, N. Okeke, J. (2012). Utilization of MTN Foundation Digital Library Project in Nigerian University Libraries: a case study of University of Lagos. Abuja Infolib: *Journal of Library and Information Science.* 6 (1 & 2) 83-93.

Venkatesh V. & Davis, F.D. (2000), "A theoretical extension of the technology acceptance model: four longitudinal field studies", Management Science, 46(2), 186-204.

Watts, C. &Ibegbulam, I. (2005). Access to Electronic Healthcare Information Resources in Developing Countries: Experiences from Medical Library, College of Medicine, University of Nigeria. World Library and Information Congress: 71th IFLA General Conference and Council held at Oslo Norway, Retrieved from http://www.ifla.org/iv/ifla71/Programme.htm. (Accessed 20 June 2012).

Wikipedia.(2011). Electronic Resource Management.*Wikipedia, the free encyclopedi*Retrieved 25 – 04 – 2011 fromhttp://en.wikipedia.org/wiki/Electronic_resource_managementYu, Holly and Breivold, Scott. 2008. Electronic resourcemanagement in libraries: research and practice. IGI Global, LosAngeles, USA.

Wu, M. & Chen, S. (2012). How Graduate Students Perceive, Use and Manage Electronic Resources. Aslib Proceedings: *New Information Perspectives*, 64(6): 641-652

Yin, R.K. (2011).*Qualitative Research From Start to Finish*. New York: Guilford Press. Available at http://www.myilibrary.com.oasis.unisa.ac.(Accessed 8 September 2012).

Yusuf, f &Iwu, J(2010) Use of academic library: A case study of Covenant University, Nigeria. Chinese Librarianship: an International Electronic Journal, 30. Retrieved from http://www.iclc.us/cliej/c130YI.pdf 3rd September, 2014.

Zhang, L. Ye, P. & Liu, Q. (2011).A survey of the Use of Electronic Resources at Seven Universities in Wuhan, China.*Program: Electronic library and informationSystems.* 45(1):67-77.

APPENDIX I: Consent Letter

Department of library and information sciences,
Bayero University Kano.
23th July, 2018

Dear respondent,

REQUEST FOR COMPLETIO OF QUESTIONNAIRE

I am a student of the above named institution currently conducting a research on Management and Use of Electronic Information Resources in Academic Libraries in Katsina State, as part of the requirement for Masters in Library and Information Science you are chosen as one of the respondents and therefore, need to respond to the items in the questionnaire by ticking the appropriate answers in the space provided. Any information provided will be strictly used for the purpose of research only.

Thank you.

Yours faithfully,

Kabir Ibrahim Yaradua

SPS/14/MLS/0002

APPENDIX II: Questionnaire for Users

QUESTIONNAIRE FOR USERS OF ELECTRONIC INFORMATION RESOURCES IN ACADEMIC LIBRARIES IN KATSINA STATE

SECTION A: DEMOGRAPHIC DATA

Personal Data (Demographic information)

Please tick as where necessary

1. Name of institution……

2. Age 18-25 ( ), 26-30 ( ), 31-35 ( ), 36-40 ( )

3. Gender

Male ( ) Female ( )

4. Programme of Study ND/NCE ( ), BSC, BA, ( ), MA/ MSC ( ), PHD ( )

Section B: Access to Electronic Information Resources

5. Do you have access to electronic resources?

a) Yes ( )

b) No ( )

6. If no why?……..

7. How often do you access electronic resources in your library?

a) Daily ( )

b) Weekly ( )

c) Monthly ( )

d) often ( )

e) Very often \ ( )

8. What is the level of satisfaction derived from access to electronic resources?

a) Highly satisfied ( )

b) Moderately satisfied ( )

c) Satisfied ( )

d) Not satisfied ( )

9. How will you rate the frequency of access of electronic resources in your library?

a) Daily ( )

b) Weekly ( )

c) Monthly ( )

d) Bi-annual ( )

e) Annually ( )

10. Location of access to electronic information resources?

a) Institution library ( )

b) Off campus ( )

c) In the hostel ( )

d) Cyber café ( )

e) Others (please specify)……..

Section C: Use of Electronic Information Resources

11. Do you use electronic information resources in your institution library?

a. Yes ( )

b. No ( )

13. Which of the following types of electronic resources do you use? Please tick as appropriate.

S/No	Electronic Resources	Tick
1	CD-ROM	
2	e-books	
3	e-journals	
4	e-newspapers	
5	Online data base	

6 e-mail
7 e-magazines
8 e-conference
9 e-reference
10 e-dissertation
11 e-manuscripts
12 Others, please you list

14. How frequently do you use electronic information resources in your library?

a) Daily ( )

b) Weekly ( )

c) Occasionally ( )

d) Rarely ( )

e) Never ( )

15. Why do you use electronic information resources?

a) It saves time ( )

b) No need to go to the library ( )

c) Availability of the information ( )

d) Easy access to information ( )

e) Contain current information ( )

16. What is the purpose of using electronic information resources in your library?

a) For research purposes ( )

b) For leisure ( )

c) Further readings ( )

d) For entertainment ( )

e) Others (please specify)……..

Section D: Challenges Affecting the Use of Electronic Information Resources

Please tick as many as possible.

18. What are the problems affect the use of electronic resources in your library?

a)) Inconsistence power supply ( )

b) Lack of enough time for searching ( )

c) Not aware of the existence of electronic resources ( )

d) Lack of searching skill ( )

e) Inadequate computers ( )

f) Lack of training on the use of electronic resources ( )

g) Poor Internet services ( )

h Others please specify ( )

Section E: Measures to overcome the challenges

19. What measures do you think can be taken to overcome the challenges?

a) Adequate power supply ( )

b) Adequate time for search ( )

c) Creating awareness about e-resources ( )

d) Provide adequate computers ( )

e) Adequate Internet service ( )

f) Adequate search skills ( )

g) Adequate training ( )

h) Others (please specify) ……..

APPENDIX III: Structured Interview

Interview schedule for Automation Managers

Section A: Demographic information

1. Name of Institution……

2. Designation/ Rank……

3. Gender…….

4. Qualification……..

Section B: Types of Electronic Resources Available

5. What types of electronic information resources are available in your library?

6. How are electronic information resources accessed by users in your library?.....

.....

7. What are the types of training required on the management of electronic information resources in your library?

Section C Management of Electronic Resources

8. What are the procedures for the management of electronic resources in your library?

Section D: Challenges Associated with Management of Electronic Resources

9. What are the challenges associated with management of electronic resources in your library?.....……

……

12. In your opinion, what are the measures you suggest that should be taken into consideration on ensuring the effective management of electronic resources in your library?.....

APPENDIX IV: Reliability Test

Variables	Cronbach Alpha
Use of electronic resources	.823
Types of electronic resources used	.817
Perceived Ease of use	.857
Perceived Usefulness of EIR	.727
Accessibility to electronic resources	.744
Challenges of use the of electronic resources	.793

Generated by the researcher using SPSS 23.0 from the questionnaire responses, 2018

APPENDIX V: Results of the Preliminary Study

S/No	Name of Institution	Status	Total No of registered users	Total No of professional Librarians
1	Umar Musa Yaradua University	State	11856	18
2	Federal University Dutsin-ma	Federal	4696	8
3	Alqalam University Katsina	Private	6239	4
4	Federal College of Education Katsina	Federal	7831	11
5	Hassan UsmanKatsina Polytechnic	State	5868	7
6	Isa Kaita College of Education, Dutsin-ma	State	5295	13
7	Katsina state Institute of Technology and Management	State	151	3
8	College of Nursing and Midwifery Katsina	State	423	3
9	College of Business Administration Funtua	State	1027	2
10	Yusuf BalaUsman College of Legal Studies	State	3107	4
11	School of MidwiferyMalumfashi	State	346	3
12	School of Health Technology Kankia	State	735	3
13	School of Health Technology Daura	State	683	2

Source: Registry Department of the Institutions