ICT SKILLS AND USE OF INTERNET RESOURCES FOR ACADEMIC ACTIVITIES BY ACADEMIC STAFF OF UNIVERSITIES IN KADUNA STATE

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DECLARATION

I hereby declare that this work is the product of my own research efforts, undertaken under the supervision of Dr. Binta L. Farouk and that it has not been presented anywhere for the award of any degree or certificate. All the sources have been dully acknowledged.

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CERTIFICATION

This is to certify that this research work was carried out by HarunaTinau Ahmed (SPS/14/MLS/00020) under my supervision. It is hereby approved for its contribution to knowledge and literary presentation.

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ABSTRACT

The study investigated the ICT skills and use of Internet resources for academic activities by the academic staff of universities in Kaduna state. it was guided by six objectives, which were to determine the extent to which the academic staff under study were aware of using internet resources, the types of internet resources used, the level of ICT skills of the study also sought to determine the extent of respondents access to the available internet resources and the factors affecting their use of internet resources for academic activities. The hypothesis sought to establish the relationship between the level of ICT skills and the use of ICT resources by the respondents. The study adopted quantitative research methodology and the research design used was survey. The population of the Study was 2650 academic staff from which a sample of 346 was drawn. The administered Questionnaire copies had a response rate of 256 (73.98%), which were analyzed using SPSS version 22.0. The findings showed that all of them, or a greater percentage were aware of internet resources that were available in the universities libraries under studies, and that majority of them were sufficiently ICT literate for the use of the resources for their academic activities. the study identified challenges affecting the use of ICT resources included lack of manpower training, lack credible information and outage. The study recommend that there should be proper awareness campaign on the important of using Internet for academic activities, The study recommend that there should be a policy that will encourage the use of Internet resources in the universities under studies. The study recommend the universities Managements should provided several mean of accessing Internet resources within the universities. The Study also recommend the universities managements should organized in-house training and workshop on ICT skills and use of Internet resources for Academic activities.

TABLE OF CONTENT

CHAPTER THREE

CHAPTER FOUR

CHAPTER FIVE

LIST OF ABBREVIATIONS

ICT: Information and Communication Technology

IT: Information Technology

ACCI: Australian Chamber of Commerce and Industry

BCA: Business Council of Australia

EU: European Union

GTS: Global Positioning Systems

WWW: Worldwide Webs

FTP: File Transfer Protocol

PC: Personal Computer

ODL: Open Distance Learning

MOOLS: Massive Online Open Courses

OERS: Open Education Resources

KASU: Kaduna State University

ABU: Ahmadu Bello University

LMS: Learning Management System

DOI: Diffusion of Innovation

PAIT: Perceived Attributes of Innovation

IMSU: Imam Mohammed Bi'saud University

CCFS: Communal Computing Facilities

ITMS: Home Monitoring System

RBIS: Research based Instructional Strategies

IWBS: Interactive White Boards

NDA: Nigerian Defence Academy

NOUN: National Open University of Nigeria

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Information and communication technology (ICT) has become one of the most important building blocks of the present day society. Several countries currently see the acquisition of basic ICT skills and ideas as an unavoidable part of the necessary content of education. To the present end, numerous new models of education are emerging in response to the new opportunities offered by incorporative ICTs and, in particular, internet resources within the teaching and learning arena. The effective integration of such applications or resources depends greatly on the academic staff familiarity and ability with the information technology (IT) learning environment.

ICT are a set of technological resources and consists of hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information (Voice, data, text and images), as well as related services." (Baloban, 2012: 31). In particular, ICT hardware includes computers, speakers, scanners, digital cameras, and ICTs, as well as applications such as Microsoft word (Doyle, 2014).

ICTs play a very important role in shaping and revamping information service delivery of academic staff and this calls for the need for academic staff to gain core ICT skills and competences that will enable them to live above the threat of becoming irrelevant/dated in the face of completion in today's digital environment where academic staff operates (Narasappa &Kummar, 2016).

However, the emergence and development of ICTs permits you to access numerous data resources and web resources, databases that are placed in numerous elements and places round the world. In line with the above, Tella (2012) emphasized that some valuable

resources freely accessible on the web became necessary tools for information dissemination. Adebis (2009) antecedently steered that ICTs gives users the opportunity to possess unlimited information and, as such, expand access to information in time and area at any time and in any place, with very little regard for the placement of such an environment. Information and communication technologies are the modern science of collecting, storing, manipulating, processing, and transmitting information. Teachers ' ICT skills are a measure of their ability to correctly use ICT tools to select and obtain information, organize and store, extract and distribute.The use of ICTs in universities requires that faculty-the faculty who will manage them-have a certain level of skills so that they can fully utilize the potential of ICTs for information management, and for teachers-the teaching staff constantly updates their knowledge and competencies with regardsto ICT skills so that they can work optimally in today is ever-changing environment controlled by technology. ICT tools such as the Internet and the world wide web (WWW) allow access to information from unlimited sources without regard to geographical features. It also encourages independent use, as it allows users to work at their own pace and according to their needs. The teaching staff aims to do everything necessary, acquiring the necessary ICT skills they expect in today's digital world. Learning, teaching, research, and community service are the center from which the mission and vision of each University is formed. Therefore, academic staff should be trained and equipped with appropriate ICT skills to meet the above-mentioned mandates. the event of a coaching system can play a very important role in providing quality services to the teaching staff(Ajemsha&Madhusudhan, 2014).The investigator used a qualitative analysis methodology employing a cross-sectional study style that evaluated the program. an easy random sample was wont to confirm the first population of the study. The formula that research consultants (2006) use once haphazardly

choosing the quantity of lecturers from the entire population is additionally helpful for regulative agencies similar to the NCC, NCC, and NBT during this study. This research is also useful for researchers, particularly those inquisitive about ICT skills and the use of web resources. the analysis is additionally aimed toward increasing the prevailing quantity of knowledge.NotingAshroft and watts (2005), who argue that the distinction in skills is that the results of underutilization of data resources in Nigeria, a big difference in ICT skills and competency was found among lecturers in Nigeria.Ferdinand (2011) also notes that there's a digital divide between the developed and developing countries of the world, and this is often mirrored in digital-rich countries with a high level of ICT-competent educational workers compared to their counterparts within the third world. This has crystal rectifier to the necessity to overcome this speedy inequality so as to create correct use of web resources, also on make sure that teaching workers during this a part of the globe have an obvious level of ICT competence.In reference to the above, there's a necessity to check ICT skills and use web resources for the tutorial activities of lecturers and teachers, as well as to offer recommendations that may influence the new role of the fashionable data society. This study ought to have a national scope, however because of time constraints and proximity factors, solely Kaduna universities were used.

1.2 Statement of the Problem

The emergence of Information and communication (ICT) has led to a marked shift in the use of printed materials for the use of electronic information resources. Today, information, whether scientific or not, is mainly produced electronically or digitally. On the other hand, the Internet gives access to a huge amount of information in electronic form corresponding to the user's location. Online resources are very important for the academic activities of scholars because of the benefits they receive.

Ogunjobi and Fagbami (2012) noted that online resources allow teachers to update their knowledge, prepare lecture notes for their students, download free e-books and e-journals, and use e-mail to communicate and collaborate with colleagues. However, observations show that many academic staffdo not have the skills to effectively use ICT, especially Internet resources to meet their teaching and research needs. In a preliminary study, experience has shown that some academic staffs do not have the skills to work with ICTs, because they always seek help in one way or another when using ICTs, especially Internet resources.

It is against this background that the study aims to examine the ICT skills of academic staff to effectively use Internet resources for the academic activities in the Universities ofKaduna State.

1.3 Research Question

1. To what extent are academic staff aware of Internet resources for academic activities in universities in Kaduna state?
2. What types of Internet resources are used for academic activities by academic staff in the universities under study?
3. To what extent do academic staffs access the Internet resources for Academic activities in the universities under study?
4. What is the level of ICT skills of the academic staff in the universities under study?
5. What are the factors facilitating the use of Internet resources for academic activities by academic staff in the universities under study?
6. What are the challenges associated with the use of Internet resources for academic activities by academic staff in the universities under study?

Hypothesis

The following are the research hypothesis of the study

Ho_1: There is significant relationship between the level of ICT skills of the academic staff and the use of Internet resources for academic activities by the academic staff in the universities under study.

1.4 Research Objectives:

1. To determine the extent to which academic staffs are aware of using Internet resources for academic activities by academic staff in the universities in Kaduna state.
2. To identify the types of Internet resources used for academic activities by academic staff in the universities under study.
3. To determine the extent of accessibility of the Internet resource for academic activities by academic staff in the universities under study.
4. To identify the level of ICT skills of academic staff to use Internet resources in the Universities under study.
5. To identify the factors facilitating against the using the Internet resources for academic activities by the academic staff in the universities under study.
6. To determine the challenges of using the Internet resources for academic activities by the academic staff in the universities under study

1.5 Significance of the Study

ICT skills and use of Internet resources provide a hands-on perspective on the skills, technological know-how, and personal qualities that enable teachers and faculty to take full advantage of information and communication technologies in providing services. The rapid pace at which information technology continues to grow and change makes it difficult to determine what technological skills academic staff will have, but such research will help

determine the core competencies needed by academic staff, as the result of this research, in General, reaches the most basic and significant ICT, academic staff and employees are needed to use Internet resources.

It is expected that the results of this study will be useful for teaching doctors, familiarizing them with the ICT competencies that they need to have in order to use Internet resources and work optimally in the profession of instructor, training and research, as well as to develop their competence in this field.

It is also expected that the results of this study will drive University leaders crazy to take measures to train and develop teachers in the field of ICT, as well as to provide the necessary infrastructure and ICT tools that will contribute to improving the effectiveness of teaching and research.

The results of this study are also expected to help curriculum developers of ICT skills and competencies identify areas where the curriculum needs to be reviewed and revised. This will also contribute to the existing amount of knowledge.

1.6 Scope and Limitation of the Study

This study covered ICT skills and use of the Internet resources for academic activities by academic staff in universities in Kaduna State.

The intention of the researcher was to have a national view but time and financial constraints restricted the study only to universities in Kaduna State.

1.7 Operational Definitions of Key Terms/ Concepts

The following terms as used in this research are operationally defined as follows:

ICTs: refers to the modern hardware and software components which are used to enhance the operation or process in any organization.

ICT Skills: Refers to the knowledge of and ability to use modern ICTs such as computers, Internet resources and other electronic devices.

Universities in Kaduna State: Refers to educational institutions beyond especially education at the college of education, polytechnic and university level.

Internet Resources: These are information carrying which are made available and accessible to user through the use of computer and similar devices in a networked environment, they include e-books, e-journal and online database.

Academic staff: is professional personnel especially in teaching, learning and conducting several researches in the universities, polytechnics, colleges of education and institute is a process of teaching, learning and conducting researches in the polytechnics, colleges of education, institutes and universities.

Awareness is a process that involves getting away from a state of ignorance or being unaware.

Use of Internet Resources: Disposition to utilize resources available on the Internet for a particular purpose.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

The review of related literature to this study is presentedunder the following headings.

2.1 Concept and Significance of Internet Resources

2.2 Awareness of Internet Resources for Academic Activities

2.3 Types of Internet Resources used for Academic Activities

2.4 Accessibility of Internet Resources for Academic Activities

2.5 ICT Skills and competencies of Academic Staff for Accessing Internet Resources

2.6 Factors Facilitating the Use of Internet Resources for Academic Activities

2.7 Challenges Associated with the Use of Internet Resources for Academic Activities.

2.8 Theoretical and Conceptual Framework

2.9 Summary of the Review and Uniqueness of the Study.

2.1 Concept and Significance of Information and Communication Technology (ICT)

The importance of information and communication technologies in teaching and learning in the twenty-first century has been repeatedly emphasized by scientists (Oliver, 2002; Sarker, 2012; Voogt, Dede &Estrad, 2011).

Webwaba (2011), quoted in Agbatogun (2013), States that the use of ICT in the learning environment provides unlimited access to information for teachers and students regardless of place and time (at any place and time), which guarantees high quality content.

This is why the development of information and communication technologies has had a huge impact on the world we live in today. Now information can be sent and received in just a few seconds, making communication easy and accessible. ICTs have been found to have a

significant impact on almost all aspects of human activity (Brakel and Chisenga, 2003), making it almost impossible to imagine a world without ICTs.. Empirical research shows that ICTs can have a positive impact on student learning outcomes (Abass, 2011, Maleki, 2012, Verbrianto&Edgar, 2011), so that teachers at all levels of education can effectively use them in their learning activities.

In accordance with the above review of the literature on information and communication technologies, it is possible to understand the role and impact of ICTs, especially in teaching and learning activities, such as time savings, access to relevant information resources, the reliability of Internet resources and the convenience achieved as a result of using this technology.

Interestingly, many researchers have studied the use of the Internet by University teachers and other higher education institutions. Adeshina (2013) studied the use of Internet information to teach secretarial research at a training College in Nigeria and found that teachers ' access to the Internet was very poor. The study identified the lack of proper preparation for using the Internet for training sessions as the main reason for such limited access and use of Internet resources in the learning process. In another study, oguwu (2010) said that teachers at colleges of education in Delta state of Nigeria are well versed in the Internet, as its results show that they use a single database, email, search engines, and a worldwide network to conduct research as well as to teach their courses. In a similar study on Vyaton, Olagunju&Adeyemi (2013) reported that human teachers use the Internet more often than their female counterparts at private educational colleges in the Nigerian country of Lagos. Onasanya, Shehu, Oduvaye, and Shehu (2010) studied the attitudes of higher education teachers to integrate ICT into teaching and research. The study showed that teachers at universities and polytechnics are better prepared to integrate ICT into teaching than their counterparts from educational colleges.

Another study conducted by Tella (2011) reported low availability and subsequent low use of ICT by teachers in colleges of education in southwestern Nigeria. Annie, Rai and Ottong (Ani, Edem&Ottong, 2010) found that Calabar teachers have very low Internet access, with most respondents accessing the Internet through commercial cybercafes outside of the University. The study also showed that the main reasons for Internet access are, in particular, communication, teaching and research activities.

Other researchers report that Internet access in most higher education institutions is mainly through cybercafes (Mishra, 2009; Bankol&Babalola, 2012; Omotayo, 2006). In addition to using a commercial Internet cafe to access the Internet, Ogunrevo and Odusina (2010) say that University faculty and teachers have been open to accessing the Internet, mainly through personal computers, as they browse the Internet to get information about research and educational materials.

According to the court (2002), future skills are the results of an extensive study conducted by the Australian business Council (AM) and the Australian chamber of Commerce (acci) in 2001. for skills that determine the effectiveness of your employees. The eight skills that determine employee productivity according to research results are communication skills, teamwork skills, problem-solving skills, self-management skills, planning and organization skills, technology skills (ICT), continuous learning skills, and proactive and entrepreneurial skills. However, interest and attention in this study is focused on the skills of using ICT and the Internet by teaching staff at Kaduna universities.

ICT skills are necessary for teaching staff to record an excellent job at Kaduna State University: turning on and off the computer, Opening and closing applications and programs, using the mouse to select and move objects on the screen, printing documents, - writing and

sending documents, using word processing programs (such as Microsoft word), creating new documents, using the basic functions of word (such as Microsoft word) to create new documents. spell check), use the toolbar to edit documents, select the size and style, etc., create cells and tables to display information in the document to create tables. D. year. Microsoft emphasizes that network skills, scanning technologies, embedding digital data in cells, and using excellent tools to add sums to a table just like Linston and Devezas (2012) the question is whether the new wave of ICT-related technological innovations demonstrates the same effectiveness, continuing the effect of the past, as well as the technological revolution. There is also a fierce debate about whether the growth of ICT use is destroying jobs (Brinjolfsson and McAfee, 2011). More recently, based on aggregated data from 27 EU countries, Evangelista et al. (2014) found that the use of ICT has a positive and significant impact on labor productivity. There is still no consensus on the impact of different types of ICTs on employment and productivity.

In recent years, there has been a shift towards more complex and complex forms of ICT and Internet applications. Overall, the study focused not only on the impact of capital or ICT infrastructure, but also on the impact of complex ICT applications, e-Commerce activities, digitization, and the indirect impact of ICT.

Their research provides new empirical data on the relationship between various ICT / e-Commerce activities and labor demand and productivity, using data from 14 European countries.

In particular, we look at different types of ICT capabilities, ranging from the availability of websites and broadband Internet to complex systems such as enterprise resource planning systems. Special attention is paid to the range of relationships. The empirical model is evaluated using OLS methods in long differences and dynamic panel data that take into account group effects (in pairs of the size of industrial companies for the country). The use of dynamic

panel data methods allows US to consider ICT indicators as predefined. The tools used are deferred variable levels and delayed variable difference. This data consists of unique panel data in several EU countries, i.e. garnet. Here, the parameters such as the production of goods (measured as broad industrial groups) and the size of companies for the period 2002-2010 are highlighted, as well as a set of data at the two-digit industry level. Just a few studies have explored the relationship between different ICT applications and employment. A number of studies have examined the relationship between employment and broadband access or data usage at the municipality/name level (crandall, 2007; Kolko, 2012; Atasoy, 2013). For example, using data from the U.S. district for the period 1999-2007., Atasoy (2013), he found that broadband access is significantly positively associated with increased employment. How many (Kolko, 2012) believe that the expansion of broadband access is largely positively associated with the growth of employment at the local level. Using similar data for the US, Jayakar and Park (2011) concluded that counties with better broadband availability have lower unemployment rates even after monitoring other factors.

The disadvantage of these studies is that broadband access / usage is not shared between households and workplaces. In addition, ICT indicators other than broadband use have not yet been used. An exception is the study by Atasoy, banker and Pavlou (2013), which examines the relationship between employment and a wide range of ICT applications. The authors distinguish between company-wide applications (ERP, SCM, elm, orders and Extranet) and specific specialized ICT applications (e-banking, web page, e-government, e-education). They found a positive relationship between ICT use and employment. However, these effects vary depending on the type of ICT application, and they have a more significant positive impact for ICT applications worldwide than for more specific ICT applications. Using company-level data for the UK, as opposed to

using company-level data for the UK, de Stefano, Kneller, R., Timmis (2014) finds no impact on broadband access to employment growth.

There are several empirical studies examining the impact of ICTs (Van Reenen, 2010; Biagi, 2013; Cardona, Kretschmer& Strobel 2013). The literature suggests that ICTs are a very important factor for improving productivity (Dahl, Kongsted&Sørensen, 2010; Venturini 2009; O'mahony&Vecchi, 2005). However, the impact of ICTs has mainly been studied in terms of the impact of ICT capital rather than Internet-related infrastructure (broadband usage, percentage of workers with Internet access and mobile Internet access). The assessments are given over two time periods to examine the importance of the impact of ICTs during the 2007 economic and financial crisis. The econometric model is based on a dynamic panel model. The main contribution of the study is to provide new estimates of the impact of various types of ICT use, digitization, and e-Commerce on labor demand and productivity. Only a few studies have examined the relationship between these indicators and employment and productivity based on representative and internationally comparable data from several European countries (with the exception of Panthea 2014).The possible effects on employment are likely to vary widely by type of ICT, as well as by industry (for example, which uses and produces ICTs). Investment in ICT infrastructure and increased use of ICT in the workplace can lead to increased output by reducing transaction costs and, consequently, creating new jobs. This can be called a compensatory effect.

New ICT infrastructures and specific ICT applications, such as resource planning systems, can reduce the number of workers for each specific product, which implies the effect of labor savings on specific ICT infrastructures due to aging tasks. This effect is

likely to be higher in industries with intensive scaling of production and services. The labor saving effect is also called the dependent effect. The negative effect of using ICT in employment occurs when the value of the expulsion effect exceeds the value of the compensation effect. This effect is likely to be more pronounced in industries where ICTs tend to replace labor-intensive and routine tasks, such as in service sectors with a high proportion of workers, with routine and repetitive tasks. In contrast to different types of ICTs and Internet applications, activities in the field of electronic Commerce directly affects production and material costs. E-sales activities can replace traditional sales channels, but can potentially create new additional sales channels and new markets, thereby increasing employment. E-shopping activities can lead to lower material costs and thus increase productivity and possibly employment. Given that e-sales activities directly affect the sales structure and possibly the level of sales, the model of unconditional demand for labor was clarified. Innovations in ICT are often accompanied by new ways of organizing work (Edquist, Hommen, and McKelvey, 2001).

It is generally recognized that changes in business practices, practices, work, and new human resource management systems lead to increased productivity by reducing costs and / or improving the quality of existing products (Bresnahan, Brinjolfsson, and HITT, 1999). In particular, there is strong empirical evidence that certain human resource management practices, such as changes in labor organization, increase company productivity (bloom and van Renen, 2011). Often this increase in productivity is due to employment. An empirical model can be derived from the CES cost function with two production factors, namely labor and capital (Hamermesh, 1996). The main assumption is ideal competition in both commodity and factor markets, i.e. exogenous labor prices.

It is assumed that the capital is quasi-fixed. The optimal equation of labor demand can be derived from first-order conditions.

The development of information and communication technologies has had a huge impact on the world we live in today. Information can now travel around the world in just a few seconds, making communication easy and accessible. It has been established that ICTs have a significant impact on almost all aspects of human activity (Brakel&Chisenga, 2003), which makes it almost impossible to imagine a world without ICTs. One area of human activity where the impact of ICT has a significant impact on its performance is in the field of education (Yusuf, 2005), which leads to learning and learning that gets a significant boost. Empirical research shows that ICTs can have a positive impact on student learning outcomes (Abass, 2011; Maleki, 2012; Verbrianto& Liza, 2011), so that teachers at all levels of education can effectively use them in their learning activities.

Thus, information and communication technologies are a systematic process of collecting, processing, storing, transmitting and extracting information through broadcast, computing and telecommunications media (Onwuagbok, 2009). It includes hardware such as computers, scanners, and digital cameras, as well as software such as standard office applications and specialized applications. Coverage coverage covers aspects such as communications, such as digital television, digital radio, email, Internet, broadband, networks (wired and wireless), mobile phones, HPP(global positioning system), video conferencing, instant messaging, and Fax. There is a wide range of applications of these ICT resources in the teaching and learning environment. It has been found that the Internet plays a very important role in the rapid access and

dissemination of information about education and is therefore widely used by teachers and students around the world. The Internet consists of millions and millions of interconnected computer networks, forming a huge "intersystem network" according to the teachings. ICT.com the Internet consists of the" world wide web " (WWE), and other components such as email, instant messaging, chats, file transfers, news groups, ad-hoc networks, and forums.

According to (Singh, 2002), the Internet offers many opportunities for academia. It is a tool for disseminating information and a means of joint interaction between people and their computers without taking into account the geographical boundaries of space. Similarly, it has been found that the Internet plays a very important role in learning and the learning environment, as it is considered an effective tool used to expand educational opportunities, as well as the most powerful tool for providing access to unlimited information (Kaur, 2006). It is an interactive learning tool between teacher and student (Kamba, 2007). Although the use of the Internet in teaching and learning in higher education has been accepted and accepted worldwide, educational institutions in Nigeria, especially teaching colleges, seem to lag behind in this regard. Kamba (2007) reported that 60% of the respondents used in his study did not use the Internet. The researchers studied the use of the Internet by teachers at the College of Education, Other than those in Southeast Nigeria (Adeshina, 2013; Oguwu, 2010; Tella, 2011).

Although the Nigerian Communications Commission distributed desktop and laptop computers to almost all teachers at these colleges, cases where teachers could not access their e-mail were widespread in almost every college in the region.

The perception of the teaching staff means the impression of using the resources of the Internet. This approach and the use of Internet tools such as a web page, website, e-mail, web search engine, online help source, online database, free access to electronic journals and magazines, online newspaper, online books, web catalogs, File Transfer Protocol, so the statistics highlights the growth of the Internet in the future.

From the literature discussed above, most researchers emphasized the importance of the use of ICT by faculty members due to unlimited access to information resources for teachers and students, regardless of time and place. In developed countries that have already archived the use of the Internet due to the necessary ICT skills, but there is a difference in the Nigerian context, because most of our university teachers have not acquired the necessary ICT skills to use Internet resources. Against this work contradicts the intention of the researcher to understand the importance of ICT in the universities studied.

There is little or no literature on the importance of the use of ICT for academic activities in the field under study. Therefore, this study will aim to clarify the importance of the use of ICT for academic activities by the teaching staff of Kaduna universities.

It has been found that the Internet plays a very important role in the rapid access and dissemination of information on education and is therefore widely used by teachers and students around the world. The Internet consists of millions of interconnected computer networks, together forming a wide "Internet". (Teach.ICT.com).

According to Tom (2002), the Internet offers many opportunities for academia. It is a tool for disseminating information and an environment for joint interaction between a person and his computer without taking into account the geographical boundaries of space.

Although the use of the Internet in teaching and teaching in higher education institutions has been accepted and accepted all over the world, higher education institutions in Nigeria,

especially in the colleges of Education, seem to be too far behind in this regard. According to Adomi (2009), the Internet is an important component of information and communication technologies. This usually refers to red as a network of networks. Where millions of computers around the world are interconnected, and the sources of information on each computer become available to all users who have access to the Internet.

Therefore, in accordance with the above, Saburi, Shamsall, Sinaki and Abu (2010) considers Internet resources and services as invaluable search tools that complement the printed resources of any traditional library, they provide access to information that may be restricted by the user due to their geographical location or finances. It is also known that Internet resources are an important and main source of information and a means of facilitating the communication, dissemination and storage of information. In support of this claim, Bamidele (2011) argues that Internet resources and services are an ocean of information where users gain knowledge on all topics from all corners of the world. In the same study, Singh and Sinha (2011) argued that online resources provide easy access to accurate, complete and up-to-date information to users, especially academics who are still involved in some form of research. Similarly, Araminde and Bolarinwa (2010) argue that online resources and services provide teachers with more diverse and up-to-date information than a traditional library.

Therefore, in accordance with the above, Bipin and Pardan (2011) claim that Internet resources have become very important at present, because they are modern, multidimensional and nature-oriented, and can be accessed and used anywhere, crossing all geographical boundaries. Tanuskudi (2011) stated that online resources are very important because they offer huge benefits, giving users faster and more convenient 24-hour access from home, campus to college or library. Similarly, Oyedapo and oho (2013) noted that Internet resources are the most important, widely used and excellent computer network for information sharing and distribution of educational resources that enhance teaching and learning.

Thus, in many countries, especially in developing and developed countries, it is common to use Internet resources to carry out pervasive environmental research (anywhere, anytime, access to ICT, educational resources), promote personal training and encourage collaborative learning between teachers and students (Bulanskat, Bannister, Henzi, SigilloVueorikari and Kapylis 2013).

However, the use of Internet resources for educational activities is at the heart of the role of Teachers of Kaduna state universities in teaching, attracting public services and conducting research in various fields of spécialisation.au over time, they will participate in other scientific activities such as publishing papers and collaborating with colleagues to expand the boundaries of scholarship and knowledge, with the advent of Internet resources such as e-books, e-journals, online databases and Internet services such as e - mail, File Transfer Protocol. Usenet, Telnet, message board, new group, among many. Academic activities carried out by teaching staff can now be carried out effectively to increase their effectiveness.

Babu, sarada, and Ramaiah (2010) investigate the use of resources in the electronic library of Virginia southern University (SV). They postulated that using up-to-date, useful and reliable information obtained from Internet resources, as well as the ability to communicate effectively with colleagues using Internet services, scientists and researchers who make the most of the resources, influence the resources. Slimy, Mahmoud (2010). During the investigation of the use of; Internet and services of librarians and academic informants in Pakistan, the most widely used online resources are e-books, e-publications and online databases, thanks to the current and up-to-date information they have received.

Nasir (2009) surveyed the online 218 labor protection Resheshi, Bangladesh, and found that (88.07%) use e-books and e-magazines, as well as mail and (8.26%). They mainly use Internet services to establish contacts with foreign educational and research organizations. The result is

a boom'Rafi (2009) conducted a study on the use of Internet services by faculty and faculty at the University of Sharjah (UAE). The results of the study show that (88.57%) use email for communication purposes. Likewise, the adhesion (2011) conducted a study on awareness and use of electronic information resources (online resources and services) in Trource India, the report shows that teachers and researchers use Internet resources such as electronic journals, e-books and online databases, as compared with students, this may be due to the awareness of teachers about the benefits and importance of online resources, in particular, to obtain relevant and reliable information in another study, made by Sharma (2011) to use e-books, the result shows that students know and use online reference materials as similar, Nagahban and Talavar (2009) conduct a study to assess the dependence of Iranian social science teachers on Internet resources.the Los Angeles finding shows that most respondents rely on online databases for academic activities, such as research and preparing course summaries.

The tenopira study (2013), conducted by more than 200 libraries, shows how the use of e-books and e-journals(online resources), as well as e-mail, file transfer (FTP) and Usenet (Internet services) has been rapid in academic communities, but with options in various disciplines, the study further showed that the provision of up-to-date and reliable information and the ability to communicate and collaborate with colleagues, regardless of geographical location, are the main reasons suggested for using resources and Internet services, respectively.

Arthur and Brafi (2013) show in their research the use of the Internet among higher education students in Ghana, with students using Internet services, respectively, highly effective communication with their teachers, due to the fact that information on how to produce, offer, extract and distribute without restrictions. Most of the Internet resources used by respondents are electronic journals, electronic databases, and e-books, respectively. As a result, in another study conducted by Ajala, Adegun and Oyewumi (2010), the impact of the use of Internet resources for teaching and research by faculty members of LadokeAkintola technical

University, the use of electronic journals, Internet databases and Internet resources most frequently used for their research activities was identified. Similarly, Ukpebor (2011) also argued that due to effective collaboration with colleagues via email, the file transfer Protocol (FTP) was the most preferred Internet service used among engineering teachers and students at Edo University, Nigeria.

Adetunji, Ajala and Yaro (2013) claim that email is one of the most frequently used Internet services from students of Olabisionabanjo University, Nigeria. Sulaam and Adegbor (2010) investigated the use of Internet access services by students than private universities in Ogun, Nigeria.

The study found that email and file transfer Protocol (FTP) are the most frequently used Internet services, while Internet messages, new groups, message boards, and chats are rarely used. In another case, Ukpebor (2011) examined the use of Internet resources and services by professors and students of Edo engineering departments in Nigeria. The study showed that the use of Internet resources and services is stimulated, despite the lack of infrastructure.

In addition, caurmanhas (2008) lists email, world wide web (WWW), file transfer Protocol (FTP). Discuss groups and Bulletin boards that Internet services use for academic purposes. They also believe that conference materials, online databases, e-books, e-journals, standards and patents, reference books, technical reports, electronic theses and dissertations are online resources available on the Internet for use in educational activities. Similarly, Fasue and Aladeny (2012) describe ads, file transfer Protocol (FTP) ad services, search engines, and the world wide web (WWE) as an Internet service that facilitates effective scientific activities when used correctly.

Based on a review of documentation on the use of Internet resources and services, there is almost no documentation about the area under study. Internet resources, such as e-books, e-

publications, and online databases, are identified by various researchers as the most frequently used for conducting educational activities.

2.2 Awareness of Internet Resources for Academic Activities

Awareness involves getting out of the state of ignorance or unconsciousness, and becoming aware of new innovations. It is used as a synonym for the words knowledge, understanding, understanding, evaluation, knowledge and acceptance.

Thus, awareness implies awareness of the existence of an Internet resource and its usefulness in conducting academic activities.

Constant innovations and advances in information and communication technologies have undergone constant changes. The method of obtaining information is the process of storing, extracting and transmitting information. So it changed the way the teaching staff worked. While organizations around the world thrive in modern technology, the use of Internet resources in academic activities is no exception. The educator is expected to strive to remain important and up-to-date in his academic activities of teaching, learning, research, collaboration and communication with friends and colleagues around the world. Therefore, it is expected that the teaching staff of a higher education institution will be aware of the existence of an Internet resource to access and its effective and efficient use of learning activities.

Research conducted in the field of awareness of Internet resources, such as Upadhyyay&Ehakarobroty (2011), published in a study conducted by a professor of the Institute of Technology of Banaras University in India, shows that 84.37% of respondents are aware of Internet resources, while 15.63% are not. 84.37% of respondents who indicated that intelligence had a different level of intelligence, because some of them had a high level of intelligence and some had a low level of intelligence. In addition, Chandran (2013) shows that users of the Shiva Institute of aeronautical engineering Library in India knew 95.12% of the

online resource and 14.88% were unaware. the study showed that respondents have different levels of consciousness. In addition, the study shows that users are informed about the existence of online resources through specialists of the library, the institution's website, the official circular saw and receive advice. The high level of awareness response can be attributed to several sources of awareness provided by the institution.

In addition, Chetan and Amrutbhai (2012) conducted a study on the information of users of Internet resources in the library of pharmaceutical companies in Ahmedabad. the study showed that there is a high level of consumer awareness in libraries. Similarly, the Okello-Obura (2010) study conducted at Makerer University showed that respondents were aware of most of the Internet resources provided to them at the institution and thus had a positive impact on their research results. Resources offered by the Internet, e-books, e-publications and online databases that represent up-to-date, reliable and up-to-date information they provide. In addition, Egberink (2011) explore the use of Internet resources at the University of Lagos. It turned out that 71.4% of respondents are aware of the existence of Internet resources. This means that respondents are more likely to use the resources in their learning activities.

A study conducted by Salaam, Ajiboye&Bankol (2013) for the use of electronic information resources, scientists from the Federal Agricultural University of Abeokuta (Nigeria), showed that 98.8% have a high level of awareness of online resources and services.

In addition, Okiki (2012) conducted a study on awareness, attitudes and use of electronic information resources among scientists at the University of Lagos, Nigeria. The study showed that 55% of respondents showed knowledge of Internet resources. In another study by Jonathan made and satisfaction (2015) in terms of accessibility and consumer awareness of the electronic information resources of doctoral students in the libraries of the Federal University of Southeast Nigeria, it was found that 65% of respondents indicated that they were aware of Internet resources, while 35% indicated their ignorance. In addition, the study found that

respondents have a different level of consciousness, some of them high and some low. A similar study by Annie and Eden (2011) indicates that users of the University of Calabar library are mostly familiar with online databases such as science direct, EBSCOHOST, AGURA and HINARI. His research on the use of the Ilorin Ishi University Electronic Library (2010) indicates that most teachers are aware of the existence of Internet resources. This awareness may be linked to periodic emails from the university community of online resources subscribed to the University. Ovolabi (2012) noted that the introduction of Internet resources into the academic environment, especially in universities, is almost predictable, accompanied by rapid awareness of students and scientists, thereby improving academic performance.

Contrary to the above results, Anushandhan and Maharama (2013) in a study on access, awareness and use of electronic information resources, researchers from the University of Berhampura in India showed that 48% of respondents are aware of Internet resources, while 52% are not. This means insufficient use of resources due to lack of attention. Another study conducted by Ndinoshiho (2010) of nursing students at the University of Namibia found that 86.4% of respondents did not use available Internet resources because they did not know them.

This discovery prompted researchers to pay attention to the use of Internet resources in academia, the literature has shown that many university libraries subscribe to online resources to spend millions on research, but many of them are used, and many other unknown teachers teaching staff, supporting this statement " Angelo (2010), shows that awareness of online resources among livestock researchers in Tanzania is very low, because only 24.4% had been informed about the use of, and 75.6% of no.

The issue of awareness of online resources is important, the Opeke&Odunlade (2011) report on the relationship between awareness and internet use by teachers of the polytechnic institutes of Nigeria identifies a positive correlation (r 0.37, p 0.012 < 0.05). This indicates that low or insufficient awareness is a problem with the use of Internet resources, which will lead to

ineffective work of teachers in educational activities. In a similar study conducted by Idaho and Olusola (2010) for the use of internet resources of agricultural science students at the University of Nigeria, it was found that students do not use most of the resources provided on the Internet, perhaps due to a lack of awareness or basic knowledge about the use of these resources.

The above literature shows that some respondents to the mentioned empirical studies are aware of Internet resources and their advantages in conducting their academic activities, while some of them are not informed about available resources or Internet resources. In addition, the literature shows that respondents who are familiar with Internet resources have a different level of awareness, and some of them have a high level of awareness, and some of them are low.

Thus, the above review of the available literature shows that research on raising awareness of Kaduna university professors to Internet resources for academic activities was not conducted.

Thus, awareness of an online resource for veterinary activities, the above statement is consistent with the fact that it can be obtained in universities of developed societies that already know and use online resources for educational activities, but there is a fairly significant difference in the context of some teachers who do not know about online resources and do not use online resources

2.3 Types of Internet Resources for Academic Activities

The internet service is a useful tool to help with various educational activities that range from research to training. Anderson and reed (1998) noted that Internet technologies and computers allow students to become active students and allow teachers to be intermediaries. Jackson (2011) noted that the Internet will level the field of education because of its accessibility to everyone, anywhere and anytime, regardless of gender, race/ethnicity, income, or other socio-demographic characteristics.

The Internet is therefore an essential tool that will enable university education to reach heights as worlds advance in the knowledge economy. Universities around the world are currently investing heavily in the Internet as it reduces the time between knowledge production and use, improves collaboration and the sharing of ideas with other researchers in other institutions, religions and countries. Promotes the exchange of information and the development of interdisciplinary research.

Today, the survival of scientists without the Internet is difficult to imagine. The Internet has found useful applications in online data warehouses, library catalogues, magazines, information services, online support or exclusively online training, as well as digital communication with other stakeholders. Other modern applications of Internet teachers include buying entertainment and even dates. Exploring how the Internet fits into the daily lives of employees and students of an educational institution makes sense when considering the ubiquitous and ubiquitous opportunities for online communication.thus, research has been conducted in many places to understand how university students and faculty members use the Internet, the purposes for which faculty members use Internet skills, and the problems that hinder the effective use of the Internet, among other things. The Internet is very useful for professors in Nigeria, as it allows them to access timely, accurate and up-to-date information resources that cannot be obtained from library schedules.

The advent of information and communication technologies (ICT) has changed the complexity and structure of users ' information needs. These advances in information Technology have brought about significant changes in the process of collecting, storing, distributing and accessing information. One of the products of these developments, which have become indispensable for academic activities around the world, is an electronic information resource. These resources have recently become an increasingly important part of the collections of university libraries.

"Electronic resources", according to Johnson (2012), refer to resources that require access to a computer, whether through a personal computer (computer) or a mainframe or portable mobile device. They are accessible remotely via the Internet and locally and include e-magazines, e-books, e-images and audiovisual resources.

Electronic journals are considered the most popular among scientists of all available electronic information resources. An electronic journal, as defined by Panda and Mohanta (2008), is any magazine, magazine, newsletter or series available online in electronic form. Borrego, Anglada, Barrios &Cormella (2007) confirm this fact indicates a growing preference for electronic journals at the expense of the printed format among teachers of universities that are part of the consortium of scientific libraries "Catalonia" in Spain. The reason is that research, which is one of the cardinal points of academic activity, is defined as an important indicator of academic performance in all areas traditionally considered as "indices of academic performance" (Ajegbomogun 2011). For their part, scientists around the world are now paying special attention to research and publications, not only because research is supposed to enrich both teaching and learning, and contribute to the body of knowledge, but also because it is a major determinant of institutional authority. This means that there is a need for faster access to areas where the different types of e-journals available for FREE provide the necessary platform.

The use of electronic information resources is considered necessary, especially among teachers (bar-llanmic, Perit and Wolman, 2003). They found that the academic discipline of teaching staff affects the nature of its use. Most Nigerian higher education institutions, especially universities, provide their users with online databases and other electronic resources to support teaching, learning and learning. recherche.de numerous studies have shown that electronic resources are gradually replacing printed resources. Falk (2005) examined the online library databases of libraries in the United States and described the availability of online library

ammunition databases in the United States. It was discovered that online databases are now widely available to library visitors in the United States.

Singh Gantar (2004) in his study "Electronic databases :the Indian scenario", in which the focus is on access to information through Online CDs. The study concludes that modern information refers to the ever-increasing volume of information stored in various electronic databases around the world, which has changed the nature of information delivery and consumption.

Odini (1997), in a study conducted at the University of Sheffield, built that Internet search has significant advantages over manual search, although manual sources still have certain qualities that make them valuable.

Information available but not available to users is irrelevant. Okoe and Ejikeme (2011) confirmed the need to access the information search necessary to enrich education and share knowledge. Because there is an urgent need for research results to be accessible to as many researchers as possible . However, despite the benefits, the researchers in the use of electronic tools have taken into account the limitations associated with the use of ICT and electronic resources in Nigeria (Onderi-Okenwa, 2004, Ashcroft &Valls, 2005, Adams, 2005, Oduwole&Sowole, 2006: Valls&IbegBulam, 2006), including: lack of ICT skills among staff and users, at least the basic literacy rate of internet cafes, immaturity of information and communication technology infrastructure and accessible internet access.

However, a recent study conducted by 117 professors on the use and perception of electronic resources by users at Annarmalaya University in India. Natarajan (2010) found that the frequency of electronic resources is low, despite the wide range of resources available. He then highlighted the following limitations: lack of time, poor awareness, small range of topics and low workload - while Igbo and IMO (2010) found a lack of electronic resources and irregular subscriptions to electronic journals among the factors that hinder the use of electronic information resources in some areas, Omotayo (2010) noted that the main problem limiting

consumers is awareness of electronic resources, which is not evidence of their use. One of the factors that can prevent some people, especially adults, from using electronic resources is the consequences of long-term reading of e-books. In addition to eye fatigue, the use of electronic resources. Effective work will require some mastery of computing, and electronic resources are easier to search, especially among huge amounts of data, in the shortest possible time-significantly, there are a huge number of sources using the Internet, some of which can be obtained for free. The use of electronic resources is becoming more common.

Electronic resources in most universities are an integral part of the Electronic Library and are vital academic resources to support teaching, learning and research activities (Zhangye&Liu, 2011).

In education, electronic resources dominate the research activities of researchers who have realized the importance of these resources (Hadagali, Kumbar, Nelogal&Buchalapur, 2012). Electronic resources provide accurate and timely information, especially for students who rely heavily on electronic resources to obtain information to facilitate research and collaborate with other researchers around the world for their intellectual growth(Ukpebar, 2012).

Despite the expected availability of electronic resources in universities and their benefits for higher education, their effective use by postgraduate library users in Nigeria appears to be hampered by various factors (Ndubuisi and Udo, 2013).

The term electronic resources is considered by Sharma (Sharma, 2009) in library information materials, which are in electronic form, which include: e-books(e-books): e-newspapers(e-journals): e-publications (e-magazines), as well as Internet resources. Electronics also include databases, journals, archives, abstracts, conference reports, government publications or articles, scripts and monographs in electronic form.

The importance of electronic resources for students and university libraries cannot be overestimated. They provide graduate students with access to up-to-date and up-to-date information in various fields. The advent of electronic resources, according to Ani and oedema (2012), has significantly changed the management of Information and the management of the Nigerian university environment and university libraries in particular.

Electronic resources reduce the pressure on university libraries to physically store books and journals and provide unlimited access to users (Norris, 2004) from an agency in Nigeria that has signed a number of international and local journals and made them available in universities in Nigeria via their link (<Link>). WWW.Nigerianvirtuallibrary.com) and online, NUC, NULIB (consortium of Nigerian university libraries) and eifl.net (electronic library Information network) partner to provide electronic resources for teaching, learning and research in Nigerian universities (Okiki, 2012). National Information Technology Development Agency (NITDA), according to Egbe (2014), which develops ICT in higher education institutions in Nigeria as part of the national virtual library project, creating virtual libraries and donating computers and/or Internet security tools. The literature reviewed above shows that e-resources play a critical role in assisting teaching, learning and research in most of our higher education institutions, especially in universities in Nigeria.

Together with the above, Dhanavandan, Esmail, Mohammed &Nugarajan (2012) note that ICT has changed all aspects of human activity and that universities are no exception. In this regard, information is quickly distributed around the world due to changes in the communication channel. The use of information and communication technologies (ICT) in the implementation of educational activities is becoming very useful in academia, as it makes the provision of services to students faster and more efficient. Similarly, Vijayakumar (2011) defined ICT as the use of technology to acquire, organize, research, store and distribute information. Mdange (2015) explained this definition as a revolution that provides a platform and technical means

for information processing and communication. Based on the above definition, it can be rightly said that ICTs are catalysts for the production, processing, storage and dissemination of information.

Seena and judge-Pillal (2014) noted that the early 1970s was the beginning of the development of library automation, and in the late 1990s, the invention of the Internet led to the emergence of web services and the digitization of library resources, while the latest innovations of the last decade were web 2.0.

ICT has revolutionized many traditional library practices, creating challenges, opportunities and competition for library professionals (Narasapa and Kumar, 2016). In addition to the above statements, itsekor and Janes (2012) underestimate the fact that the evolution of technology, globalization and digitization, as well as the explosion of information in the modern information society, have led to the automation of libraries.

At the beginning of the twentieth century, there have been evolutionary changes in the way users access information, so now the search for communication anytime and anywhere and access to electronic resources (Oki, 2010).

This development has brought revolutionary changes in the ways and methods of storing, retrieving and transmitting information. In ancient and medieval times, the library works mainly for the collection and storage of information (Kehinde&Tella 2013). In this regard, Itseker and Ugwunna (2014) note that ICT is transforming the geopolitical landscape of libraries into something less, as the role of library and information science specialists shifts from bookkeepers to information specialists responsible for creating, processing, storing, manipulating and distributing information electronically.

High-level teachers are called teachers and teaching staff. Thus, Modebeln and Oryali (2011) describe this university staff as a group of people employed in universities and other higher educational institutions, to train and train students with higher workforce training needs. They

are usually divided into men and women. They are professionals whose responsibilities include teaching, teaching, teaching, educating and promoting student knowledge, learning and success. As experts and professionals, these staff must be flexible, creative, inventive and innovative.

The role of ICT in education has been widely discussed in recent decades, with teachers and researchers questioning the importance of the link between ICT in educational practice and learning (Hicks 2011, Kinchin 2012, Tompselt 2013). It is now considered important to go beyond discussions on the technical aspects of ICT (access, reach and speed) to take into account the knowledge of students involved in technology-based educational activities.

The main factors influencing the climate are reduced public funding, globalization, rapid changes in technology and the growing number and diversification of higher education providers (Daly, Reid and Buckley 2016). According to a report published by Ernest and young (2012: 4), "digital technologies will change the way education is provided and accessible, as well as the way higher education providers create 'value'."

Engelbrecht (2015) believes that the democratization of knowledge has created an opportunity for all to have free and free access to information. Therefore, universities cannot claim to be the sole custodians and creators of knowledge. In addition, distance learning plays an important role in meeting the high demand for access to education, especially in developing countries. In addition, distance learning has contributed to the complex and disruptive changes that higher education is facing(Aziza, 2015).

This study was conducted at an outdoor distance Learning centre (ODL) in South Africa, at the University of South Africa (Anisa). The University has existed for more than 140 years, and in 2015.serves nearly 400,000 students (Wessels 2015).

The world is experiencing the third wave of destruction of information Technology, when everything becomes cheaper, faster and stronger. Barreneche and Jenkins (2016). He also predicts that by 2020, the number of " Things connected to the Internet will range from at least three times the world's population (or about 25 billion) to 1 trillion devices (120 times the population).

By'ambi, Brown, Bazalek, Gachago and Wood (2016) drew attention to two important facts. First, South African higher education institutions have moved from a "relatively poor ICT infrastructure to unlimited educational resources that are freely available, open and easily accessible". Secondly, while "mobile and social media" are available "in the practice of teaching and learning in South African higher education, much has not changed" Broman (2016) confirmed the Afrobarometer's conclusion that South Africa's progress in building an information society is relatively slow.

With the above, Moschello (2015) reported that in order to succeed in the future, an organization must rethink itself and strive to simplify, transform and accelerate its activities through automated and digitized information processes.

Similarly, Lowenda (2014) believes that Internet technologies should be an integral part of the institutional business model of higher education and that people, processes and technologies cannot be separated in pursuit of organizational goals.

E-learning "includes the provision and administration of learning and support opportunities via IT, Networking, distance learning and web technologies" to support individual productivity and development (Erasmus 2015). According to Velmurugan and Ramasamy (2014), online learning can only be achieved through an improved computer system and powerful tools to provide training and learning offerings. E-learning, indeed, there are different advantages and disadvantages, but one of the important advantages is that it bridges the gap between the

teacher and the student in different geographical places, so that the student can learn anywhere and at any time (Tulebian, Mohammadi& Ahmad, 2014, Velmurugan&Ramasany, 2014).

ICT is a set of technological resources and consists of hardware, software, networks and media for the collection ,storage, processing, transmission and presentation of information (voice, data, text, images), as well as related services " (Sakar, 2012).

According to Sadaf, Novy and Ertmer (2016), Web 2.0 technologies offer education many opportunities to create a 21st century educational environment.

In general, the term web 2.0 includes tools such as Facebook, LinkedIn, Pinterest, YouTube, timeo, Google flicker recently that the Internet is going through a new stage of change, and thanks to a significant departure from the web web 2, in 2006. web 3 is now updated (Spivak, 2016). Web 3 will be more open, intelligent, and include machine learning and reasoning, among other things.

Some benefits can be applied, for example, to the use of ICT in the context of Higher Education (Fartan 2014);

Faster production of knowledge at a reduced cost.

i. Transforming teaching and learning by means of for example, massive online open courses (MOOCs) and open education resources (OERs). Which allow for instant access.
ii. Increased communication and collaboration between student facilitators and researchers.
iii. Online assessment allows for electronic feedback to lectures on much aspect and is particularly useful in enhancing teaching and learning.

On the other hand, compared to young people, senior employees need more support in terms of learning modern management techniques, project management and In-Depth IT knowledge(soji&soji, 2016). On ICT and growth, Broadband Commission (2015).) it found

that 21 per cent of women in developing countries are less likely to have a mobile phone than men in developing countries, and nearly 25 per cent fewer women than men have access to the Internet.

According to Arinto (2013), academics need more technology-related skills to be able to teach effectively online. They also need four areas: content development, learning activities, learning strategies and evaluation. Therefore, awareness of the use of Internet resources for academic activities is very important

2.4 ICT Skills and Competencies of Academic Staff Required for Internet Use

The introduction of various trends in information and communication technologies (ICT) has led to a change in the structure of demand for new ICT skills and training. Every day, new technologies in the modern environment, teachers-teaching staff in all aspects are seriously affected by these new technologies, computer technologies, communication technologies and data storage technologies are among the areas of continuous development that are changing the way information and communication Technology (ICT) skills are required. Teaching staff must have the skills (ICT) to teach, teach, research and communicate effectively. However, it is essential for teachers in a teaching and research position to recognize the imperative of continuous professional development and to ensure that the various faculty members actively maintain the current level of knowledge in the field of ICT.

The Oxford Advanced dictionary (2015) defined skills as "basic basic knowledge necessary to acquire certain skills". In other words, ICT skills mean having the knowledge necessary to develop skills in the use of ICT in a teacher's professional life. The approach to this development includes the basic concepts of ICT, computer use and file management, text editors, spreadsheets, databases, creating presentations, searching, sending and receiving information and communicating with a computer for social and ethical issues and jobs using

ICT. Awareness and information literacy concepts, as well as ICT skills, are important for faculty members to develop their own research and training.

Ibog (2010) also noted that most trainers generally suffer from severe motor skills. The most basic motor skills (pointing, clicking and dragging the mouse) must be mastered before you can develop the ability to use ICT tools, associated with confidence and self-esteem. Similarly, ADEA (2001) notes that there are also barriers to ICT development in Africa, such as insufficient computerization, insufficient information infrastructure and insufficient human capacity, most of which are related to the economic disadvantage of these countries. Disso (2009) noted that Nigeria is characterized by a poorly developed economy and an unstable political structure and an economic socio-cultural environment with low productivity and a low load on productive capacity.

Low levels of industry and industrialization, weak infrastructure, unemployment and underemployment, and widespread poverty all indicate this scenario. Other functions include high levels of illiteracy, insecurity, apathy of the population (in general), traditionalism, poor reading, culture and poor information environment, and, at the state level, poor policy development and implementation. All these problems have undermined the development of ICTs in Nigeria, especially with regard to the development of ICTs in higher education. Information Literacy allows people to recognize not only when they need information, but also when different types of information are needed. It provides them with methods to process the huge amount of information coming from all sides, through all kinds of electronic resources, allowing them as well as the skills to know where to search and find information effectively and efficiently. Information literacy also enables teaching staff to analyze and evaluate available information and use it effectively. It therefore gives them the opportunity and confidence to use the information to carry out their responsibilities as teaching staff. According to the research information network (2012), academic institutions play an important role in the

development of the workforce of any nation, as they provide a higher and middle-level workforce necessary for the social, political and economic development of the country. This is done through their education, training, research and Community services Program. Higher education institutions do not play a Central role in this process, as they are required to provide staff with the IT infrastructure necessary to develop the ICT skills necessary for the acquisition of strong ICT skills and competencies in higher education teachers. Similarly, Carlson and Gadio (2002).)they said that teachers trained in the use of ICT are the best basis of the country'S ICT policy, as they make learning possible. According to pelgruim and low (2003), teacher training, the use of shared office applications, the sending of programmable emails, the use of the Internet, the use of ICT in classroom teaching, the production of multimedia course materials, data analysis, online literacy, video conferencing, networking and payment injection are other areas

Manda (2005). The literature shows that accessing and using the Internet can significantly improve the productivity and skills of a professor in ICT research. Similarly, the report" limited development of responses "(2009) considers ICT skills as"a powerful driver of development". This is due to its significant impact on the human, economic, social, scientific, academic, political and cultural aspects of life.

Omekwu and Ehezona (2008) note that ICT skills are seen as a central and driving force for the application of modern cognitive skills in the extraction, evaluation and communication of information. This includes basic computer skills such as learning e-mail, operating systems and word processors, graphics programs and spreadsheets. Knowledge or skills include the teaching staff of higher educational institutions in the development of problem-solving skills. These skills will help them find and extract information, identify relevant information, develop research strategy skills, and critically evaluate and manage the communication system.

According to Omekwu (2006), ICT is primarily the scientific integration of information technologies and communication systems for the transmission of information in multimedia formats. Thus, this term is a set of information and communication technologies for the purpose of placing, collecting, processing, storing and distributing information.

In order for teachers to perform their professional work effectively and efficiently during this period of high expectations on their part, they must need a significant level of ICT competence. Researchers have identified the ICT skills that people are expected to possess. These skills, according to Mazumele (2007), cited in Anyoku (2012), can be divided into two large classes; first, these are the skills required to use computer and computer tools. for them, these are the skills to use pre-programmed application software, for example, based on word processing tools, graphic design tools, presentation software, web programming, scanning methods, creating and maintaining databases, software installation skills and knowledge of basic hardware and troubleshooting. The second category includes skills in the use of the Internet and computer communication networks, such as web 2.0, skills and capabilities (Mazunda, 2007; Anyoku, 2012).

It is clear from the above statement that there is a clear justification for teaching staff in universities in developed countries to acquire ICT skills. However, in the Nigerian context, there is a difference in the fact that not all university teachers have the skills to use ICT to leverage Internet resources for learning activities, compared to teachers in developed countries who need to use Internet resources to teach research and publications.

Based on this literature, a small or comprehensive study was conducted on the skills and ICT skills required for the use of the Internet in the academic activities of the Faculty of Kaduna University. Against this background, the researcher is inclined to study the degree of competence and ICT skills of the professor in the use of Internet resources.

ICT skills are the ability of a person to identify the information necessary to meet his information needs, as well as to use computer and digital systems to obtain information and use the information collected to meet a perceived need.

Glister (1997) noted that an ICT competency is the ability to understand and use information in various formats from a wide range of sources when presented by computer. The ability to identify the desired information depends on knowledge and understanding of the use of ICT tools in the current digital age, ICT skills inevitably depend heavily on technological development. ICT skills are becoming increasingly important in the educational process at the diploma level, which will affect both the way academic staff manipulate this information and communication for learning and research, and therefore ICT skills related to knowledge creation and information exchange, understanding and therefore, how these skills are required is of great importance. Bib (2004) noted that there are different methods by which teaching staff can acquire knowledge. Information and communication technology skills acquired through formal training sessions in schools or colleges, as well as informal training of friends, relatives or peers, can be learned independently through the user guide.

Kumar and Kaur (2006) stated that ICT skills can be acquired through trial and error, recommendations from colleagues and Friends, University training, self-study and external courses.

Harris (1996) noted that academics, education policy makers and employer groups increasingly understand that faculty development is part of the objectives of Higher Education. Recent publications by educational associations call for greater use of ICT in schools (e, 2000).

Similarly, Ajidahun (2007) studies the development of vocational training and training of Information Technology library staff in university libraries in Nigeria. The results show that out of 276 professional librarians working in 20 universities in Nigeria, only 89 (32.24%) in

computer science. This result also showed that the level of Information Technology training received by professional teachers at the University of Nigeria is generally insufficient.

Anseri (2013) studies ICT skills of teachers at universities in Karachi, Pakistan. The aim of the study is to examine the level of ICT competence of teachers at the University of Karachi, Pakistan, and to find an area in which teachers and teaching staff should acquire ICT skills. Most of them were moderately experienced.

As Ezema (2014) in a study on the skills required of a professor of ICT and Internet technologies skills required by a professor. Information technology skills required by faculty include: electronic resource management (knowledge of how digital resources are needed, managed, and available), networking skills (using a search engine to search the Internet), hardware, software, and networking (using a computer for basic work).), scanning techniques (the ability to scan a machine to save a document) and institutional storage (understanding the basic structure of a document). content and use of the institutional framework) and Internet skills(skills to use the Internet for e-mail, search, etc.). other information technology skills required by teachers for teachers listed by Ezema (2014) include using Windows Alice, desktop publishing (ability to read and publish materials using computers), learning management (knowledge of the structure and use of the LMS), managing, recording and describing digital collections), and developing web pages (understanding how to design and maintain websites).

The UK training agency (2012) identifies the basic ICT skills needed by teachers and employees in general. The ICT competencies defined by the agency are applicable to the academic librarian. ICT skills are similar to those listed in Ezema (2014). According to the agency, basic ICT skills include enabling and disabling the computer, opening and closing applications and programs, using the mouse to select and move items on the screen, printing a document, using word processing programs (such as Microsoft word) to create a new document using word's basic functions (such as spell checking), using the document editing toolbar,

selecting font size and style, creating spreadsheets(such as Excel), creating and managing files and folders, copying and moving files to different storage folders, searching for a file or folder, storing information on a CD or DVD to store files using a computer connected to a digital projector to provide power point presentations.

In modern societies, despite the gradual increase in the number of studies in the field of information and communication technologies (ICT), many related studies have shown a large difference between the individual level of ICT skills and their frequency of use of ICT (Verhoeven, 2014). Most of these studies attempt to use these differences to trigger causes such as gender, age, education, access to ICT, family culture, wealth, computer anxiety, beliefs in the benefits of computers and in rural and urban areas (Hargiltai, 2010, Salajan, 2010 and Kutluca, 2010). The results obtained in a number of studies conducted with students of higher educational institutions vary depending on the circumstances of place and time.

Knowledge in the field of information and communication technologies and related skills play an important role in modern educational activities. Research shows that due to the widespread use of information and communication technologies, especially in higher education, students tend to have a level of relevant skills (Yalman and Tunga, 2014).

It is important to teach and apply information and communication technologies in secondary and secondary schools. Research has shown a positive Association between the use of ICT and related skills in primary and secondary schools in science and mathematics, and a negative Association in social and other fields (Firat and Osiden, 2013).

In addition, research on the use of ICT in primary schools shows the development of students ' thinking skills (McMahon, 2010). Similarly, Freeman (2011) reports that entertainment programs have a negative Association with scientific culture.Akel (2010) noted that among the students of the Turkish primary school. Those who had a computer with Internet access had lower scores for progress in science. Won and Han (2010) found a negative Association in the

academic success of students playing games, given both the educational experience of participants ' parents and the total number of books available at home. Similarly, Kubiatko and Vikova (2010) in their study with high school students in the Czech Republic found a positive relationship between literacy.

However, digital literacy skills are important for the functioning of modern society, mainly because people are becoming increasingly dependent on (digital) Information (Van Deursen& Van Dijk, 2010; Rodicio, 2015). When certain groups of people are not able to acquire the skills necessary to function in a modern digital society with equality (Van Deursen& Van Dijk, 2015).According to van Braak (2009), there is a need for ICT skills training to become secondary education. It is Important that students have physical access to computers and can acquire online skills for children early in their primary school career (Esert, 2014).

According to a number of studies, it can be concluded that in general, "digital natives" already have a certain level of skills in working with digital technologies, and also that it is impossible to assume that depending on age, these students are able to perform all computer skills, naturally (Freylon Et al., 104: Li battery &Ranieri 2010,, ng 2010: Davis, Halford&Gibins, 2012). On top of that, Davis and gp..al (2012) digital competence, as well as other contextual factors such as the role of peers, family and education in determining people's digital competence.

As noted above, it seems important to pay attention to teaching digital literacy skills. However, there is no consensus on what exactly is meant by digital literacy skills. Digital literacy is described as information and communication literacy (model and Yuen, 2014), computer and information literacy (Frailion, Schultz and Andy, 2013), or other similar terms.

In addition to the various terms used for this concept, there are also several definitions. According to Lau and Yuen (2014), this is mainly due to the fact that researchers often conduct

research in isolation, which leads to a lack of consensus on those aspects of the concept that are important and need to be considered. Although there are many different versions for this amount, it is agreed that digital literacy should represent a combination of skills, knowledge and attitudes (Thijs 2014, Model & Yuen, 2014, Voogt& Parga Rablin, 2010).

in addition, according to the UK training agency (2012), other skills are connecting to the Internet, searching for information using search engines such as Google, downloading files from the Internet, an organization's website, marking and drawing, sending and receiving emails, browsing local websites to access information, planning an interactive whiteboard, using an interactive whiteboard to conduct a lesson, using a digital camera to take pictures, the transfer of images from a digital camera to a computer, the use of a digital camera to take and record photos, including the use of a TV, the use of ICT in administrative tasks such as student registration, the use of a computer system to monitor, record and evaluate students, procedures and terminology during the lesson, teaching the entire class of the lesson using CDs to conduct the lesson, assessing the content of ICT resources according to age groups, students ' abilities and social background, and access to current health care and computer use legislation.

Based on our literature, it can be understood that most teachers in developed countries have received a high level of ICT skills, a big difference in the Nigerian context is that some of them are literate in the field of ICT, others are not.

From the review of the available literature, it is obvious that there is practically no research on the skills and competencies of ICT teachers for the use of Internet resources in academic activities. In this context, the present study examines the ICT skills and competencies of the teaching staff of the universities studied.

2.5 Accessibility of Internet Resources for Academic Activities.

The availability of online resources for teachers improves their learning activities. Access to Internet resources may be available at various locations. Research has been conducted on the availability of Internet resources, for example Parameshware&Patil (2010) found on the basis of a study of the use of the Internet, teachers and researchers of the library of Gulberg University, India, that personal computers, at home and in offices, Android phones, blackberry phones, the Electronic Library of the University and in the same vein, Lazrinis (2010) argues that young people have access to Internet resources and services in many places, homes, libraries, schools and internet cafes. Similarly, Fariemiohale 2012 studied four universities in Nigeria. The study confirms that teachers have access to the internet resources of the University Library, Internet cafes and their homes. They mainly use Internet resources to conduct research, gain knowledge on the topic and prepare lectures. Respondents say they are satisfied with the use of Internet resources. From the above studies, it is clear that Internet resources are easily accessible and used, since they are accessible from different points and sources.

In addition, Tanuskodi (2011) believes that Internet resources are convenient to use, since users can access information from an electronic library, an internet cafe or from the comfort of their homes at any time of the day.

In another study, Owolabi, Ajiboye, Lawal&Okpeh (2012) found that offices are the main access points to Internet resources. This may be due to the fact that teachers have access to the Internet and spend more time in their office than at home.

FASI and Aladnji (2012), in their study on the use of the Internet by science students at two Nigerian universities, found that (81%) and A (19%) of respondents have access to the internet resources of the cyber and university library, respectively, this may be the result of poor Internet service, a lack of constant electricity supply, or a lack of access to

In another study conducted by Tahir El and Shafiq (2010), it is assumed that the use of electronic information resources and tools by humanitarians is limited due to the fact that the majority of respondents have access to computers and the Internet in their offices and at home. Similarly, Ozoemelem (2009) found that the cyber café serves as the primary access point for the use of Internet resources at Delta State University, Abraca. This may be due to the constant availability of Internet connection and electricity. In addition, Okiki and Asiru (2011) note that Internet resources allow scientists and researchers to access an e-book, an e-journal, an online database, search engines, and the full digital content of local and remote libraries using computers and the Internet from offices. Osinulu and Okewale (2012) review of Internet access and use among students at OlabisiHulita University in Nigeria. The study shows that despite the importance of Internet resources and services for their learning activities, Internet access abounds more in Internet cafes than in the college library, and the researcher examines limited internet access at the university due to slow and irregular meals.

According to Annie (2012), recent research in Nigeria shows that off-campus commercial internet cafes are the main sources of Internet access for students and faculty of Nigerian universities, as most university libraries are not connected or, if connected, connectivity / access is unreliable and sustainable.

Another study by Ossai-Ugbach and Ogunrombi (2011) confirms that all respondents (100%) are connected to the Internet and have access to the office, home or both. Similarly, Salam and Adebar (2010) examine the use and access to the Internet by students at private universities in Ogun State, Nigeria. The study confirmed the availability of Internet resources and services in all the universities studied. In addition, the researchers found that access to Internet resources in the universities studied is paid, not free. According to Uzuegbu, Chukwu and Ibegwam (2012), the problem of Internet availability is rapidly disappearing in Nigeria, as many studies show that university libraries receive Internet services.

Based on the above-mentioned literature, a small or comprehensive study of the availability of Internet resources was conducted by Kaduna's teaching staff. A review of the literature shows that most institutions have access to Internet resources. Availability varies, with some institutions offering free access, some for a fee, and most places at home or office, libraries and internet cafes. In this regard, researchers want to know whether academic staff of Kaduna universities have access to Internet resources for their academic activities.

2.6 Factors Affecting the Use of Internet Resources for Academic Activities

The teaching staff of universities depends on various sources of resources and information services that allow them to succeed in their academic activities, one of the main sources of which is Internet resources.

The Internet and the teaching staff are inseparable issues of the modern dissemination of electronic printed publications and the preservation of the results of Igun (2005). However, a number of factors influence the acquisition of knowledge on the Internet. According to Martins (2006), the lack of preparation for e-learning programming is one of the manifestations of the attitude of staff to acquire knowledge on the Internet or ICT skills. He also states that some university staff with extensive experience generally show no interest in programs that have no weight for evaluation purposes and that also affect the use of online resources for teaching and learning. On the other hand, Ascroft and watts (2005) stated that some academic staff view e-learning as an opportunity to visit places they have never been to, or even go on vacation abroad, ignoring the reason for learning as a way to improve knowledge to achieve institutional goals.

Eye (2008) argues that good online training should be based on student needs, i.e. good. about what a student or intern should know or should be able to do. The absence of this automatically

leads to the fact that teachers-teachers form a negative attitude to online learning, which, in turn, affects the use of Internet resources by teachers of teaching staff.

Another important factor is the lack of motivation. According to Lehner (2000), providing information services is usually not motivated and sees motivation as a force that charges energy and directs a person's desire to achieve his goals. When they say this to Internet literacy skills, it means that teachers-teaching staff, in any case, are not motivated to spend time acquiring Internet literacy skills, which in turn affects the use of Internet resources by teachers for learning activities. Aguolu and Aguolu (aguolu, 2002) also confirmed that the lack of training of staff in the use of information technology affects the use of information from Internet disc. The situation when the teaching staff is not sufficiently prepared for the use of computer tools will clearly affect the use of Internet resources. According to Eshet-Alcalaya (2004), the lack of awareness of Internet services available at the University is one of the problems, which leads to a deterioration in the use of Internet resources by the university faculty. He suggested using marketing strategies to raise awareness and increase consumer interest in the services provided. This is one of the factors that influenced the acquisition by teachers of literacy skills on the Internet and the use of Internet resources.

Several factors that affect the use of Internet resources for educational activities. For example, Dan (2010) conducted a study to determine the extent to which Internet resources are used in Australian Higher Education. The purpose of this study was to study the structure and trends of access to their resources and their use for more effective management. It also aims to identify critical factors for effective and efficient use of Internet resources. The study showed that the use of Internet resources is common in academia and depends on the user and the purpose of resource use.

In another study conducted by griefers (2010), the discouraged use of Internet resources and services and the conditions that will help academics overcome these barriers in a way that

facilitates the use of computer science, identify scientists and computer tools (skilled labor and facilities) are the main factors of successful use of Internet resources for activities he stressed that faith and attitude also play an important role. This shows that the actual use of Internet resources largely depends on the personal feelings, skills and views of scientists. This means that teachers who have a positive attitude towards Internet resources and perceive them as useful and vital are likely to use them as an effective school performance tool. Similarly, Gros and Aquita (2005) in their study identified demographics as key factors contributing to the use of Internet resources. They said age, education, gender, income and computer skills are key factors influencing the use of Internet resources for academic activities. In an attempt to demonstrate the factors that use online resources for university students, Lukashevks (2010), cited by Emwanta and Nwalo (2013), noted that undergraduates are looking for a practical, quick and quick response when moving from using physical collections to a digital library on various university campuses.

From the literature conducted by the researcher, no literature was found to identify factors that contribute to the use of Internet resources of new technology in the field under study. The literature suggests that many factors contribute to the use of new technologies, including sufficient knowledge and skills, the availability of Internet resources, the availability of time and rewards and incentives for participation, the commitment of those involved and leadership. In this regard, the researcher studied the factors contributing to the use of Internet resources for academic activities in Kaduna state.

2.7 Challenges of Using Internet Resources for Academic Activities.

The challenges related to ICT skills and Internet use among the teaching staff at Kaduna University are enormous. Perma and Afred (2008), in their research on the management of information and communication technologies in education in Tanzania, noted that while new

technologies have increased the value of academic services, introduced new ways of collecting, storing and providing information and communication technologies in education.; information, they created new challenges and aggravated some of the problems faced by higher education institutions as to how these challenges were related to the acquisition and learning of ICT.

Walmiki and Ramakrishengovda (2009) studied the ICT infrastructure in the libraries of the University of Karnataka and found that most libraries do not have enough hardware and software and do not have the appropriate Internet nodes and bandwidth.

Sivakumaren, Geeta and Jiaprakash(2011), in their study of ICT tools in university libraries in India, found that computers, printers, scanners and copiers are the majority of the tools used, and the use of ICT increases library functions, and user expectations have increased due to advances in technology. Jordan (2003) was of the view that barriers to adequate ICT training in developing countries stem from both a lack of ICT knowledge and the fact that many local library schools do not integrate ICT into their curricula, and that other barriers or limitations listed by Ashcroft and watts (2005) include the lack of technically competent library staff, the lack of qualified human resources, the installation of computer networks and their management, as well as the lack of opportunities to develop ICT skills among existing staff.

Goulding (2000) indicates that the Department of education is responsible for supporting the development of appropriate ICT skills to provide modern information services by including new skill requirements in the curriculum. This can be achieved through a programmed partnership between libraries in developed and developing countries. Adeleke and Olorunsola (2010) examined the use of ICT and the Internet and found that ICT tools are the main constraints faced by academic staff when using Shafi-Ullah tools and Robert (2010) found that

the ICT infrastructure needed to provide a research culture in a higher education institution, and it is recommended Atabal (2010) studied the existence of ICT and found that the situation is not optimistic. Adenijuet (2011) added that there are some issues that prevent respondents from using ICT facilities in their different IT universities in Nigeria, these factors include power outages, high connection costs, lack of ICT skills, interconnection problem and outdated equipment. Most of these problems need to be addressed by both the library management and the schools and information providers Directorate before they can meet the information needs of their many day-to-day users.

The above conclusion shows that respondents who use ICT resources face various challenges when searching for their information. This conclusion is related to the mission (2007), as noted by oconi (2007), which identified barriers to Internet connectivity and specific problems specific only to the African context-power outages, equipment failures, regulatory restrictions and communication technologies, expensive and unreliable technologies, and low content Imo and Igbo (2011) noted in their research that most there is not enough software experimentation during this period. For reasons ranging from inadequate software technical support(100%), a lack of appropriate feasibility studies (85.71%), deficiencies noted (71.43%) to high maintenance costs (57.14%). Insufficient technical support and lack of appropriate feasibility studies are two technical areas that need to be properly addressed in order for the use of software in university libraries in Nigeria to make sense.

Merited (2003) argues that because technology changes frequently, the role is understood on the fly, noting that an expert on software with associated clippings of the information world can age with the release of a new software with a new clippings of the world, with sufficient knowledge of this among software users can lead to users subscribing to software with outdated

technology. This answer is confirmed by the fact that the surveyed libraries rate the lack of technical support for the software (an average of 3.57) and the lack of planning and evaluation of the software before purchasing it (an average rating of 3.86) as problems related to the use of the software in libraries.

Zaid (2008) and Afolabi and Abidoye (2011) noted some of the challenges facing ICT skills and competencies, including

1. Lack of adequate finance and cost of ICT facilities the current downturn in the Nigerian economy has attached the educational sector academic institution are not exceptions a lot of equipment and manpower are needed for successful automation of tertiary institutions service Zaid (2008) noted that the university of logos like other academic institutions in Nigeria is under funding the institution development fund is no more a reality as universities have to depend on the support which the international donor can give from time to time despite the fact that ICT is applicable to the institution , high cost of ICT equipment could not make it to be widely utilize by most libraries Adedoye (2010) stress that most library users and librarians could not afford the cost of common personal computer.
2. Power outage: The nation for the past few years has been experiencing power outage. There had been problem with the generation and distribution of power by power holding company of Nigeria so that effect the ICT skills and competencies of academic staff.
3. Staff Attitude towards ICT utilization: many staff shy away from electronic systems with the fear of damaging or deleting important information while keying-in this slows down the automation processing university of logos library

management had addressed the problem by putting a PC on every librarian's table and embarked on training them on the use of it the use of ICTs is easier for younger librarians several studies, according to Ezeani(2010) have showed that academic staff find it difficult to use some of these newer technologies.

4. Inadequate training and technical/ skills manpower: The training is inadequate as staff needs to always acquire more skills especially on the use of software currently used in the higher institutions of learning. These should be continuous training and re-training. These are deaths of technical man power in the area of ICT in Nigeria faulty equipment is abandoned in some institutions because there is no knowledgeable staff to repair them.
5. Frequent change in technology which might lead to total over hauling of the existing system. The frequent change in software lead to total over hauling of the existing system as we have in some academic libraries in Nigeria.
6. Lack of ICT policies/inability of the government to monitor effectively the policy on information technology: there is a lack of systematic ICT policy in most of the tertiary institution in developing countries which impedes the deployment of ICTs various polices on ICTs in Nigeria like Nigerian university NET school- net etc are not properly monitored. Also, there is lack of systematic ICT policy in most tertiary institution in developing countries of which Nigeria is apart.

Similarly, Salaam &Adegbore (2010). In their study identify electricity and poor Internet connectivity problem as major challenges using the ICT. Similarly problem presented by the literature pertaining to the Internet resources for academic activities as provided by Uwaifo (2012) in a survey, use of electronic information resources by library and information science student in Delta state university, Abraka. The finding of

this study shows that, majority of the respondents (98.84%) identify poor power supply as a major barrier against the use of Internet resources.In a study conducted by Quadri (2013) on challenges of utilizing the Internet resources and services. He posited slow speed of server, distance to the library, power failure, attitude of library staff, system breakdown, lack of ICT skill in using the Internet, insufficient workstations, and time constraints as the challenges of using the Internet resources.

Kabir (2011) categorized five (5) major challenges face with the use of Internet resources these are:

- **Technological factors:** these include system failure, technical knowhow, lack of maintenance skill etc.
- **Economic factor:** these is to do with issue of purchase of both the hardware and the software of the Internet, subscription to the Internet generally, installation of the system and general maintenance.
- **Political factor:** lack of government policies to deal monitor access and use of the Internet resources.
- **Social factor**: negative attitude and unwillingness of academic staff to embrace the use of the Internet resources in their academic activities.
- **Environmental factors**: the weather condition of Nigeria is not favorable to the hardware and software used to use the Internet resources for teaching and learning.

Harande (2002) in his paper problems hindering the development of information technology in Nigeria itemized the following:

Telecommunication: in Nigeria is very poor and is supposed to be the pivot to the nation's technological growth and development. This problem contributes greatly in

slowing down the development and progress of information technology especially Internet in Nigeria.

Erratic power supply: in Nigeria power supply, is not stable and due to high cost of diesel and low budgetary allocation. Institution cannot afford to provide constant electricity to the systems as such it become a problem to the user of the Internet resources in Nigeria.

Lack of government commitment to implement policies: The governments have policies on information and communication technology but the implement body is not doing well to the extent that citizenry will know the extent of the policy that will go by it provisions, as such it becomes a problem.

Lack of access to information technology facilities: the development of some aspect of information technology for example, the Internet. In many African countries has mostly been a consequence of poor technical, financial management and other inefficiencies on the part of the telecommunication industry. On the other the delay observed in information technology adoption in certain sectors places the very survival of some organization in jeopardy.

From the literature review above, the researcher did not come across any literature that identify challenges faced with the use of Internet resources for academic activities by academic staff in the area under study , a lot of challenges associated with the use of Internet resources have been identified by scholars and researchers which include lack of proper founding, high cost of Internet services provider including hard ware and software equipment power outage, lack of technical skills, frequent change of technology, lack of ICT polices. In this regards this study investigate the challenges of using the Internet resources for academic activities by academic staff.

2.8 Theoretical and Conceptual Framework

The theoretical basis of this research is mainly based on the theory of diffusion of innovation (Dpi). Beginning with his PhD thesis in 1957, Everett M. Rogers championed IPR research, completing his world-renowned work "innovative diffusion," published in 2003 . Rogers (2003) results and generalizations related to IPR have been used as a theoretical basis for many studies examining the process of innovative communication channels with members of social systems over time (Powelson, 2011). Although the genesis of IPR has come from various research traditions since the early 20th century (Rogers, 2003), the structure of IPR is widely used to study the spread and application of computer and Internet innovation(Vallier et al., 2008;Häggman, 2009; Williams, & Schwarz, 2009; Andrés et al., 2010; Ross, 2010 and Powelson, 2011).

2.8.1 Diffusion of Innovation Theory.

Diffusion of innovation is a theory that has enjoyed a wide range opportunity of being tested, implemented and used to explain the acceptance of new ideas, inventions and practices by people and social systems adoption of new ideas, inventions and practice. Thisis accounts for its use by a variety of disciplines as a framework. As cited in Carlet (2014), " the DOI theory has been applied and tested to many and diverse disciplines, such as anthropology (dissemination of cultural traditions among primitive tribes); medicine (infection of the disease); education (about 150 studies conducted at Columbia University under the direction of Paul mort); Rural Sociology (distribution of hybrid corn seeds to farmers); Medical Sociology (taking medicines by doctors); industry (distribution of a new product to consumers); political science (distribution of governments of municipal directors in the United States) (Gray 1973, 1994; Mooney and Lee 1999; Daley and Garand 2005). This framework has given rise possibility of generating overall findings over time and has come out as one of the most

multidisciplinary research topics in the Social Sciences for now (Prescott 1995; Rogers 2003 Carlet, 2014). The theory states that innovations can be circulated via certain channels over time between members of the social system. This definition is made up of four main elements, namely: innovation, the communication channel, time and the social system.

Rogers (2003) defines innovation as any idea, object or practice perceived as a new phenomenon. An innovation may have been created a long time ago, but if a person sees it as new, it can still be an innovation for him. Communication channels are a means used to exchange information between community members. In this context, it is necessary to disseminate information about innovations. Rogers (2003) mentions media and interpersonal communication as two channels of communication used to convey innovation from source to recipient. Time determines both the pace (a temporal entity) at which progress occurs and the position people take in the evolution of this progress(Inman, 2000). The time involved in countries consists of (1) the process of diffusion of innovation (time between the introduction of a new idea and the adoption/rejection of new ideas), (2) individual innovation (the degree and speed with which people in the social system feel a new idea) and (3) the rate of adoption of innovation (the relative speed with which a new idea is accepted and measured by the number of members of the social system who adopt the new idea at that time). The social system, the fourth and last element, is a set of interrelated units, such as people, groups, organizations and subsystems that participate in the joint resolution of problems to achieve a common objective. Rogers (2003) argues that the nature of the social system affects people's innovation, which is the main yardstick for classifying followers.

According to Rogers (1995), the four main elements of IPR theory are components of other theories of the innovation process. Rogers (1995) combined these elements to create a mid-range diffusion theory. Summarizing all the most significant conclusions related to the diffusion of different disciplines, Rogers (1995) presented a theory in the 1995 issue of The

Book diffusion. It presented the four most used diffusion theories, namely: the theory of innovative decision-making process; the theory of individual innovation.; the acceptance rate of the theory and perceived attributes of innovation theory(PAIT), which is the theory adopted for this study. Pait is considered appropriate for this study because it explains some of the characteristics of innovation that affect the speed of its adoption in society.

2.8.1.1 Innovation Decision Theory

This theory was corresponded by Rogers (2003). One of the general findings of the Rogers literature review is the process of making innovative decisions. The innovation decision-making process describes the steps a company goes through when making the decision to introduce innovations. A subject can be a single person or a group, such as a community or a company. Rogers (2003) describes innovative decision - making as "a research and information activity in which the individual is motivated to reduce uncertainty about the pros and cons of innovation. It says everyone goes through a five-step process when they decide to adopt innovation. The five stages include knowledge, persuasion, decision making, application and approval.

a) knowledge: the process of making innovative decisions begins with the knowledge stage. You can't start an adoption without knowing the innovation. At this point, a person learns the technology for the first time, perhaps because he has seen someone use this technology in real life, informed by a peer or mentor, or seen the technology advertised on television, or read about it in a magazine or online.

B) persuasion: after getting to know the technology, the person becomes interested in the technology and searches for information about the technology:prices, characteristics and consumer reviews. At this point, he begins to be considered a potential consumer of the technology and begins to actively consider whether to implement the technology in its normal activities.

C) decision: at this stage, the person makes the decision to accept or otherwise the technology. This process takes into cognizance the advantages, disadvantages, costs, advantages and disadvantages. The decision to accept or reject is an active choice not to buy the technology and never use it. This stage is one of the most important for understanding the process of implementing the technology. This is probably one of the hardest to learn.

d) implementation: the task of integrating and incorporating innovations into regular use is called the implementation stage. This can be a gradual and time consuming process. Changes in the victim's habits and practices may be necessary. This technology is also examined as expected. Additional information about the technology may also be requested to improve the ease of Use and usefulness of the technology. At this point, a redesign may take place. Reinvention refers to the process by which an individual adapts or modifies a technology to better meet their needs and improve their overall compatibility.

e) confirmation: once the integration and reinvention processes are completed, the final stage is reached, i.e. the confirmation stage. At this point, the person completes his decision to adopt the technology. One option is adoption. At this point, the person seeks to use technology to its fullest extent so that he can serve it in his life. Another option is to cancel the initial choice in favor of using the technology. This is actually a delayed rejection.

After the adoption of the technology, the person is not always continue to use it. After the initial period of using the technology, a person can withdraw from it. This situation is known as a pause. This gap can occur in several ways. Some technologies face aging in the sense that they stop working or have a limited expectation of the duration of their use. Another form of interruption is replacement. If a broken technology is replaced with a new version, this is a form of replacement. This technology can be replaced with a newer or older version. Upgrading your computer with the latest software or buying a new mobile phone model are examples of this type of Power Off replacement. The last type of interruption is the rejection of

frustration, also called rejection. This happens when the user becomes dissatisfied with the technology and stops using it. While the decision to stop using may be deliberate, the consumer may instead use the technology gradually less and less until it is forgotten.

2.8.2 Individual Innovativeness Theory

The second aspect of time is the innovation of individual or other adoption units. "This is the relative earliness/lag with which innovation is accepted relative to other members of the system" (Rogers, 1995). People can be divided into five categories based on their ability to innovate: innovators, early adopters, early majority, late majority, and latecomers" (Rogers, 1995).

a) innovators: they are considered the most enterprising of the five categories of adopters. The desire to be bold pushes them to join social groups outside their neighborhood. They share ways of communication and friendships with other innovators, despite their geographical location. Financial and mental resilience to failures and potential losses due to the failure of innovation is also associated with the "desire for carelessness, courage and risk" (Rogers, 1995). The most important role of all categories of adopters belongs to innovators. This role is to introduce new ideas into the system. 2.5% of innovators make up the social system.

(B) early adopters: they are considered localities. Early adopters were leaders of public opinion on the system. These potential innovators turn to 13.5% of the system that constitutes the first proponents for their valuable opinion, because they are "the very embodiment of the successful and discreet use of new ideas" (Rogers, 1995). To reduce their uncertainty, they embrace innovation, revise it, evaluate it subjectively, and share their assessment with their colleagues.

C) early majority: this third category of adopters is an essential link between those who adopt innovations early and those who adopt innovations late. This group contains a significant critical mass, since it contains 34% of the members of the system. They are very closely related

to their peers, but rarely take on leadership roles. They spend time thinking about adopting innovations, but when they do, they consciously accept them (Rogers, 1995). This group is aimed at traders outside the system who seek to promote their innovations through the system.

(d) subsequent majority: these individuals should be considered sceptics of the system. This group also contains 34% of the entire system. Thus, they also constitute a large critical mass. They wait for others to accept them because they are cautious and skeptical of them and want to feel safe. Sometimes it is an economic necessity, as well as the increasing peer pressure of the system that compels them to accept (Rogers, 1995).

(e) laggards: the fifth and final group that accepts innovations is lagging behind. The remaining 16% of the population in the system lag behind, have traditional values and are rooted in the past with a suspicion of change and innovation. They communicate with like-minded people who, because of their economic situation, must be sure that the innovations they adopt will not fail (Rogers, 1995).

Innovators (innovators, early adopters, early majority, late majority, and latecomers) use various individual aspects and elements (innovation, communication channels, time, and social system) of diffusion theory when participating in the innovative decision-making process.

2.8.3 Rate of Adoption Theory

The last aspect of time is the adoption rate, defined by Rogers (1995) as "the relative rate at which innovations are accepted by members of the social system." According to Rogers, " the acceptance rate is generally measured by the time it takes a certain percentage of system members to adopt innovations."Just as a person affects the reception rate, so does the system. For example, the number of people who have accepted innovations over a certain period of time is one of the indicators of the speed of adoption of innovation. Perceived attributes of innovation are important predictors of adoption rate. Rogers reported that between 49% and

87% of the change in the adoption rate of innovation is related to the five innovation attributes that were adopted in this study and will be described later in this chapter. Attributes-relative advantage, compatibility, complexity, verifiability and observation. In addition to these attributes, communication channels (media or interpersonal channels), social systems (standards or network connectivity) and change agents can increase the predictability of innovation adoption rates.

2.8.4 Perceived Attributes of Innovation Theory

Understanding the perceived attributes of innovation has become a major focus of DOI research (Valier, McCarthy & Aronson, 2008; Vega, Chiasson& Brown, 2008;Häggman, 2009; Rouibah&Hamdy, 2009; Powelson, 2011). Rogers (2003) noted that"an individual's perception of attributes of innovation, rather than those that are objectively classified by experts or agents of change, influences the speed of their adoption.In his Research, Doi Rogers distilled the perceived attributes of innovation to include relative advantage, compatibility, complexity, verifiability, and observation. These five characteristics of innovation have been shown to influence the level of acceptance in society (Cullen, 2001). Each of the elements of this theory is described as follows:

(a) relative advantage: relative advantage is the extent to which innovations are perceived to be better than current practices. In other words, the degree to which an innovation is perceived to be better than the idea it replaces with a particular group of users. In well-known diffusion studies (Moore and Benbasat, 1991; Rogers, 2003; Venkatesh, Morris, Davis and Davis, 2003), relative advantage has been considered an important innovation attribute that determines the adoption of Information Technology. Often expressed in economic value, social importance, and other useful aspects, the relative advantage is used to measure the sense of improvement attributed to innovation instead of previous ideas (Rogers, 2003). According to Robinson

(2009), it is measured in terms important to these users, such as economic benefit, social prestige, convenience, or satisfaction. There are no absolute rules on what constitutes a "relative benefit". It depends on the specific views and needs of the user group.

(B) compatibility: the extent to which an innovation is perceived to conform to sociocultural values, past ideas and /or perceived needs. An idea / innovation that is incompatible with the values, standards or practices of a potential user will not be accepted as quickly as a compatible innovation. Rogers (2003) defined compatibility as a measure of the perceived degree of consistency attributed to innovation based on the adopter's experience, values, and needs. Emphasizing compatibility as the most important measure of the innovation sign for technology adoption, Rouibah and Hamdy (2009) further calibrated compatibility as a measure of the suitability of the task for which the technology was developed, as well as the culture in which it would be used. In accordance with en (2006), Rouibah and Hamdy (2009) and Powelson (2011), compatibility in the context of this study was assessed by factors including compatibility with values and beliefs, work style, current situation/needs.

(C) complexity: complexity is the extent to which an innovation is perceived as difficult to use and understand. It is assumed to be negatively related to the speed of innovation (Rogers, 1995). Innovations that are easier to understand and use are accepted faster than innovations that require the adopter to develop new skills and knowledge. Analyze the four determinants of C-Commerce adoption: innovation attributes, environment, information sharing culture and organizational readiness, Chong, and more. (2009) highlights the degree of complexity perceived as an important determinant of innovation. While variable complexity is generally associated with a sense of ease of use, it is defined as a consequence of the degree of complexity and simplicity attributed to understanding and using innovation (Rogers, 2003; Chong, Ooi, Linand Raman, 2009; Conrad,2010; Powelson, 2011). Rogers (2003); Chong et al. (2009) and Powelson (2011), as well as the importance of these factors in measuring

complexity, cumbersome use, comprehensibility, implementation, desire, and ease of learning, are considered consistent with the objective of this study.

D) testing: this is the extent to which an innovation can be tested on a limited basis. This is the fourth factor that contributes to the adoption of innovation, allowing the potential user to experience the use of the innovation itself. The consumer has the opportunity to test the technology without having to fully participate in its purchase or deployment. During this period, an invention may occur. This means that the innovation can be modified or modified by a potential adopter. Testing is defined as a measure of the perceived ability to test the use attributed to innovation (Conrad, 2010). Rogers ' definition will be used in the context of this study. Rogers (2003) defines test ability as an indicator of the ability to experiment; knowing where to try, the ability to try, and the ability to adequately try or experiment.

e) observation: This is the extent to which the results of innovation are visible to potential users. The easier it is for people to see the results of innovation, the more likely they are to accept. Visible results reduce uncertainty and encourage peer discussion of a new idea, as friends and neighbors of the adopter often request information about it. Rogers (2003) argues that observativity is the perceived degree of communication or visibility to others, attributed to the use, features or benefits of innovation. In the context of this study, the Rogers (2003) observational values will be applied. Rogers defined observability measurement used for the study of the use of other enterprises, other internal applications, the degree of visibility, and the ease of visualization of other applications of innovation.

According to Rogers, the above characteristics account for 49-87% of the variation in adoption of each new product. These characteristics have also been used by researchers in various fields and have been found to predict innovation among the affected social system. The following section reviews previous research on the innovation attribute in various disciplines.

2.8.5 Previous Studies that Adopted the Attributes of Innovation Theory

Several researchers from different disciplines have used attribute use theories to study and examine why innovations are not accepted (Almobarraz, 2007; Elizet Al., 2010; Stachewicz, 2011; Ntemana and Olatokun, 2012). This section discusses some of the previous research that has used the theory of perceived attributes of innovation to explain how potential followers evaluate innovations based on their perception of the characteristics of innovation.

A study by MinishaMajanja and Kiplangat (2004) explores the spread of ICT in the transmission of agricultural information to agricultural researchers and extension workers in Kenya. The objective of the study was to map and audit ICTs in the public agricultural sector in Kenya, to determine their nature, types, distribution and extent of use in the transmission of agricultural information. It also assessed the demand for ICT and its use by researchers and agricultural advocates in the acquisition and dissemination of knowledge. It examines public and institutional policies and their impact on ICT diffusion in the agricultural sector. It explores the financing, maintenance and sustainability of ICTs in the agricultural sector and identifies knowledge gaps, limitations and challenges resulting from the use of ICTs in the agricultural sector. Using a quantitative approach, the study found that the relative advantage was low among respondents and, in particular, extension workers due to the lack of ICT, which prevented them from acquiring the skills needed to use ICT. The study also showed that the use of ICT is influenced by the behaviours, social and economic factors of respondents. The agricultural researcher also found that ICTs are difficult to use because they lack computer skills and the Internet. The study also found that information education programs are better coordinated at the Institute, where these ICTs are often tested. Finally, observations and discussions from colleagues contributed to the introduction and use of ICTs by agricultural researchers in Kenya.

A study conducted by Lu (2006) aims to study and understand the factors that influence the spread of wireless Internet technology among Ohio university professors. Some aspects of Rogers ' dissemination of innovation provide a theoretical framework for research, such as innovation decision-making, adopter categories, communication channels, institutional factors, and perceived attributes of innovation. The research question related to the innovation attribute perceived by Rogers was: how wireless Internet technology is perceived by Ohio university professors, both masters and non-Masters, in terms of relative advantage, compatibility, complexity, rigidity, and observability. Using a qualitative method, several sources of information were used for data collection: in-depth semi-structured interviews, observations and literature review. The results of the study show that there is a high degree of relative advantage, and wireless technology is easy to use. However, wireless Internet technology is incompatible with the core values and philosophy of learning. There is also a low level of testing and monitoring.

In the study almobarraz (2007), devoted to the idea of integration and dissemination, the theory of innovation, as predictors of the emergence of the Internet among teachers of Imam Muhammad Al-Saud University (IMSU), the following research questions were asked: to what extent do IMSU teachers use the Internet for educational purposes?; are there significant differences in demographic characteristics between those who use the Internet and those who do not use it at IMSU?; how does the administration of the University affect the desire of teachers to use the Internet?; Do all the attributes of innovation (relative advantage, compatibility, complexity, validity, observation, perceived by teachers) predict their use on the Internet? Using a quantitative research method, the study found that 54.7% of IMSU professors use the Internet for research and academic activities twice a month or less, indicating a low level of internet adoption. Statistically significant differences are observed between Foster and non-foster parents in terms of income and English proficiency. Multiple regression analysis

showed that all signs of innovation individually predict internet adoption. The combination of all these characteristics shows that the model can predict the spread of the Internet among teachers.

In the study Chigona and alcohol (chigona and Alcohol, 2008), the diffusion theory of innovation is used to explain the introduction of utilitarian computer tools (CCFS) operating among the urban poor of Cape Town, South Africa. This study examines the five perceived attributes of innovation, the channels of communication, the social system in which innovation is distributed, and the consequences of innovation. Using a qualitative research method, data is collected through observation and interviews. The study notes that PPI explains most of the CFC adoption model: the five attributes of innovation influence PPI adoption. As a result, the study notes that the introduction of CFCs has implications not only for the community, but also for the institution that accepts CFCs.

A study entitled "diffusion of innovation, perceptions and attributes of entry into the Ugandan telecommunications sector" (Muwanga, 2010), whose main objective is to examine the relationship between diffusion of innovation and market penetration in the Ugandan telecommunications sector. The study was conducted with the following objectives in mind; establish the relationship between the diffusion of innovation and the perceived attributes of innovation, analyse the relationship between the perceived attributes of technology and market penetration, and examine the relationship between the diffusion of innovation and market penetration in the Ugandan telecommunications sector. The data were obtained by university students who were deliberately selected. A combination of qualitative and quantitative research design with descriptive, correlation and regression approaches was used. The results showed that there is a moderate positive relationship between all the variables studied. The results of the regression analysis show that the diffusion of innovation, perceived attributes and the social system moderately predict market penetration with an adjusted P-Square of 14.8%, although

the diffusion of innovation does not significantly affect market penetration. There is a significant indirect influence of perceived attributes on the relationship between the spread of innovation and market penetration.

A study conducted by Elgizet Al. (2010) from individual factors affecting the spread of technological innovation in industry to medical services based on Greenhalgh, Robert MacFarlane, BATE &Kiriakidu (2004), which identified eleven factors that affect the spread and sustainability of innovation in medical institutions, including relative advantage, compatibility, complexity, testability and observability, the discovery potential of the study's objective is to determine whether these factors help to understand AI from manufacturing to medical institutions.medical. A qualitative research method was used. Semi-structured interviews were conducted with eight hospital employees who helped identify and implement strategies to Improve Patient Flow in the imaging department. The general conclusion is that computer modeling is based on the execution process, since it helps to evaluate the benefits provided by information based on individual preferences, is easy and user-friendly, allows experimentation, is destructive, can be adapted to the department, can take into account the dynamic nature of the Department's processes, offering minimal risk, is relevant to the country, research and proposed information that can be transferred from one context to another. In fact, the main conclusions of Elgizet al (2010) are that observation, the ability to conduct tests combined with low risk seem to have the greatest impact on individual IPR decisions for research hospitals and innovation.

Stakhevich's research (2011) aims to test the applicability of Rogers ' theory of innovation diffusion, with respect to the measurement of perceived attributes of power switching technological innovation in user interface controls. A quantitative research method was adopted using the Likert scale to collect data on the following innovation ideas: relative advantage,

compatibility, testability, provability, visibility, ease of use, image, volunteerism, risk awareness and these resources, as indicated by Moore and Benbasat (1991); Rogers (1995) and Dupan and Driscoll (2005). The study shows that the results of relative advantage, compatibility, services, image and perceived risk are quite statistically significant, indicating that the user is willing to accept the innovation of a capacitive switch in an industrially developed user interface command, while voluntary, testable, demonstrative, demonstrative, and these tools do not indicate that the user is willing to accept the innovation of a capacitive switch in an industrially developed user interface command . However, all attributes of relative advantage, compatibility, verifiability, provability, visibility, ease of use, image quality, voluntariness, perceived risk, and perceived resources taken together will also prove statistically significant enough to indicate that the user is willing to accept the innovation of a capacitive key.

Paulson's (2011) research is based on the early and limited introduction of cloud computing by small business leaders. The objective of this quantitative cross-sectional study is to determine whether there is a relationship between the views of small business leaders on cloud computing, such as compatibility, complexity, observability, relative advantage, visibility of results, validation and volunteerism, and the intention to use cloud computing. The main question of the study was to what extent each attribute of cloud computing is related to the intention of small business leaders to use cloud computing. A sample of 3,897 small business executives was removed from the Commerce administration's mailing list, resulting in 151 comprehensive studies analyzed by regression. Significant correlations were found between the independent variables of compatibility, complexity, observation, relative advantage and provable results, as well as the variable dependent on intent to use cloud computing. However, no significant relationship was found between the voluntary nature of the independent variable and the intention to use. The results can provide new insights into the cloud deployment and

marketing strategies of small business leaders. The implications of positive social changes, including the need to train new skills for staff affected by the introduction of cloud computing, as well as to reduce the environmental impact and policies of cloud computing ecosystem.

Using a quantitative research method, Ntemana and Olatokun (2012) investigated the influence of five attributes of innovation diffusion theory on teachers ' use of ICT. The hypothesis was tested that the five signs of innovation-relative advantage, compatibility, complexity, testability and observability the use of ICT will not have a positive impact on the attitude of teachers to the use of data collection technology using multiple regression methods of a structured questionnaire used to test the five hypotheses formulated. The data obtained suggest that relative benefits, complexity and observational skills have a positive impact on teachers ' attitudes towards the use of ICT, with observation having the most impact.

A facebook Facebook Facebook recognizes and evaluates New Zealand public libraries, as well as motivating factors that motivate New Zealand public libraries to recognize or not to recognize Facebook.A study by NEO and Calvert (2012) on the book on man and the spread of innovation in New Zealand public libraries is based on the fact that New Zealand public libraries are recognised, whereas in New Zealand public libraries have been recognised and evaluated, as well as the motivators of innovation., which make New Zealand public libraries recognize or fail to recognize. Using the quality method used in the interview to collect data, the study found that the five characteristics are important in explaining the decision to adopt Facebook... In particular, it found that relative advantage, compatibility and complexity are the most important factors in explaining adoption, as they have important implications for adoption speed and are motivating factors for accepting / rejecting Facebook... Meanwhile, testing and monitoring the bug turned out to be less important factors in deciding whether to adopt Facebook..

The study by Quinha (2012) focused on the introduction of innovative diffusion, an experimental descriptive Study of the perception of home surveillance systems (HMS) by adults aged 45 to 64 years. The objective of the study is to describe potential adopters by measuring the expected relative benefits, compatibility and complexity of HMS and comparing these responses with the intention to adopt HMS in the future. This study attempts to create a broader context to describe potential adopters based on demographic characteristics and user behavior, such as customer preferences. The existing study has been modified to gather information on the three expected attributes of innovation, as they relate to the intention to adopt HMS as a preventive health behavior. The study modification is theoretically based on a DOI piloted among residents of Chevy chase and Bet'2hesda. Maryland (H = 71). Pearson logistic regression and correlation analysis were used to determine whether perceived relative benefits, compatibility and complexity, and demographic variables were related to the intention to adopt the HMS in the future. The results show that the majority of participants are highly educated, believe that they are in very good health, care for or care for them and intend to adopt HMS in the future. The evidence confirms that dpi variables are positively correlated with intent to take HMS at statistically significant levels ($P < 0.01$ and 0.05). however, the High EPA and 95% wide si warn against using these variables as accurate predictors of innovation, and the small sample size makes it difficult to interpret a purely statistical relationship. Additional results include the ability to use Guardian status as an evaluation variable, and buying GMOs directly from the manufacturer has become an understanding of consumer behavior.

Research conducted by Cutler (2013) on the topic: What is the static of the static class?: research on how innovation, especially science-based learning strategies adopted in the static classroom, aims to examine how educational research, especially science-based learning

strategies (RBI) takes on educational practice, especially in the static Academy Class. Using a systematic approach, changes in classroom teaching practices were studied from the perspective of teachers. Researchers and practitioners are involved in this process, joining forces to improve student learning, which is the main goal of engineering training. The research is divided into 3 stages, and each of them is discussed in a separate manuscript. Manuscript 1 evaluates current teaching practice; manuscript 2 examines static teachers ' use of RBI and perceived barriers to acceptance; and Manuscript 3 evaluates acceptance using execution accuracy. A common set of parallel mixed methods was used for each stage of this study. A quantitative national survey of static teachers (n =166) and 18 qualitative interviews were conducted to study the activities used in the static classroom and familiarize themselves with nine RBI. The results of this study show that teaching is the most common activity in static classes, but not the only one. Other common activities include work examples and students working on issues separately and in groups. As the interview participants discussed, each of Rogers ' characteristics influenced acceptance for different reasons. For example, complexity (the level of complexity in implementing an RBI) is most often defined as an obstacle. His research also evaluated execution accuracy for each RBI and showed that it was higher for less complex RBI (in terms of the number of critical components). It was found that most of the critical components (i.e., well. activities required to perform as described in the literature) statistical differentiation of RBI users and non-users.

A study by Jwaifellandgasaime (2013) entitled "using the theory of diffusion of innovation that explains the degree of an English teacher introducing interactive whiteboards in modern Jordan school systems: a case study", which aims to explain the use of an interactive whiteboard in English, teachers in modern Jordanian school systems . The study explores and reports on teachers ' use of BVI and its characteristics that influence their decisions to adopt it in a modern

school. To achieve the main objective of the study, a study was conducted to answer the following questions:

(1) How is BVI used by English teachers in a modern school?

(2) What are the views of English Language teachers for ivbs in a modern system School?

(3) How do Rogers (2003) ' s key attributes of innovation explain the perception of BVI by English teachers in a modern school?

The study used a qualitative approach to Case Research. Data were collected through semi-structured interviews, document reviews and collaborative observations. The study concludes that the degree of use of IVB teachers is related to their perception of five main attributes: relative benefits, compatibility, simplicity, reality, and observation. Regular use of BVI has shifted the teaching method of teachers from traditional methods of using dialogues, open sources and group work.

Carlet's (2014) research on "understanding the perception and acceptance of green rainwater infrastructure" raised the following research questions:

1. is there a relationship between the following perceived attributes of innovation-relative benefit, compatibility, complexity,verifiability, observability, perceived risk and perceived resources, as described by Miro and Benbasat (1991); Rogers (2003); Dupagne and Driscoll (2005) - and the positive attitude of employees towards the implementation of "green infrastructure"?

2. What factors influence the attitude of municipal officials to the implementation of green rainwater infrastructure? Or

3. What factors have a positive impact on the adoption of green infrastructure planning at the local level? If acceptance is determined by internal characteristics (eg . socio - economic and political status)? The adoption of the law related to external factors (eg .Federal regulations rainwater drainage)?

Based on existing theories of the spread of innovation and technology adoption, the aim of this study is to examine how city officials ' perception of key attributes of green infrastructure affects their attitude towards adoption. In addition, this thesis provides useful information on the relationship between the various green infrastructure tools that support local U.S. jurisdictions through policies or programs, and the factors that influence adoption. A key feature of this study is a national survey of the United States. stormwater management, planners and other government employees, based on responses that were combined with secondary data and analyzed using multiple regression methods. The results suggest that municipal officials ' perception of relative benefits, compatibility, testing capabilities, and memorized resources is an important predictor of adoption-friendly attitudes, while perceived risk negatively affects attitudes. In addition, the level of environmental awareness and support has the greatest impact on the number of green infrastructure strategies adopted by jurisdictions.

All previous studies have taken PATE to study the speed of adoption of certain innovations in a particular environment. This study focuses on ICT skills and the use of Internet resources for academic activities, which is a novelty at Kaduna State University; therefore, the PAIT design will help to understand why the Faculty of Kaduna State University does not use Internet resources for academic activities.

2.9 Conceptual Framework

This is based on the theory of diffusion of innovation (Dpi). The idea of developing ICT skills and using Internet resources is a very important initiative to develop effective and efficient academic activities.

In this regard, it is necessary to use university teaching staff, especially in Kaduna State, with ICT skills and the use of an Internet resource in carrying out their academic activities, so that

they can benefit from our importance. The researchers chose the diffusion of innovations (dpi). This theory has four main elements, namely: innovation, communication channels, time and the social system. In addition to the other variable found by the Council of Europe in the literature, the use of Internet resources for research activities by the Faculty of Kaduna State University is discussed, including: definition and importance of Internet resources, awareness of Internet resources, types of Internet resources for educational activities, skills and ICT skills of University Teachers of Kaduna State, availability of Internet resources by the Faculty of Kaduna State University., factors affecting the use of Internet resources and problems, related to the use of Internet resources for academic activities of Teachers of the teaching staff of Kaduna University. Thus, the use of Internet resources affects innovation and communication channel, awareness of Internet resources, demographic variables, problems with the use of Internet resources for academic activities, as indicated in the conceptual model.

Figure2. The Conceptual

Fig 2 model for ICT skills and use of Internet Resources for academic activities by academic staff of universities in Kaduna State is composed of two components. The first component is communication channel comprised ICT skills, the second component is the use of the Internet Resources for academic activities. Below is the detail of each component.

Innovation: Rogers (2003) defined innovation as any idea, object or practice that is perceived as a new emergence. Therefore, the academic staff can acquire ICT skills in order to improves and enhance his academic activities. With this in mind the academic staff would be prepared to acquired ICT skill and use the Internet Resources for academic activities.

Communication channels: Are medium used to exchange information between community members. In this contented information regarding an innovation needs to be disseminated in order to introduce the innovation Rogers (2003) identifies mass media and interpersonal communication as the two communication channels that are used to communication channels that are used to communicate an innovation from the source to the receiver. With this in mind the academic staff would be prepared to use Internet Resources and also to share this Internet Resources to students.

Demographic variable: this refers to the demographics or characteristics that influence use of the Internet resources by the academic staff, the demographic as highlighted by different researches includes age, educational qualification, gender, income and skill of using computer (Thong, 1999, Teo and Lim, 2000).

ICT skills and competencies: this refers to the basically scientific integration of information technology and communication system for the transmission of information in multi-media formats. In the context of this study ICT skills and competencies refers to where academic staff can acquired the basic Information and Communication Technology (ICT) skills to use Internet resource in order to improve his performance of their academic activities.

Internet resources: Internet resources are carrying resources which made available and accessible to users through the use of computer and similar devices in a networked environment they include e-book, e-journal and online databases. In the context of these study Internet resources refers to all the Internet resources that assist in having relevant and up to date information resources in which the academic staff can use it for his academic activities.

Factors affecting the use of Internet resources for academic activities: this component refers to the set of conditions that helps in achieving the smooth use of the Internet resources in the conduct of academic activities. This component of the conceptual frame covers factors that facilities the use of the Internet resources. For the academic staff to fully appreciate and make use of the Internet resources he should first not be satisfied with the way he is conducting his academic activities because of some short coming which he feels can be address by using another technology, he should also be having the skills and knowledge of how to use the Internet resources, the Internet resources should also be made available to him, and he should be part of decision makers of his institution.

Challenges of using the Internet resources for academic activities: this refers to the problems or difficulties associated with the use of Internet resources for academic

activities by academic staff. This component of the frame work explains how challenges affect the use of any technology. The more the challenges the more likelihood of the academic staff not to use Internet resources. Therefore in as much as the academic are expected to benefit from the use of the Internet resources in the conduct of their academic activities the challenges have to minimize to the barest level.

2.10 Summary of the Review

The reviews provide a higher assessment of the topic of ICT skills and the use of Internet resources for academic activities by Academic Staff of Kaduna universities. In fact, the effective and efficient use of the Internet resources of teachers for teaching activities leads to an increase in productivity. The journal presents several concepts and theories on ICT skills and the use of Internet resources. During this review, various researchers contributed to the relevance of ICT skills and the use of Internet resources, which were widely discussed and highlighted, including the concept and importance of Internet resources in teaching and learning, as well as the awareness of teachers about the use of Internet resources, research skills in the field of ICT, factors that influence the use of Internet resources for teaching and learning, and the challenges associated with the acquisition of ICT skills by teachers., insufficient public awareness of new technologies that require skills and low level of ICT compliance. The poor attitude of teachers towards ICT is also discussed.

In this study, the diffusion theory of innovation (DOI) was adopted as the theoretical basis for guiding the research of several scientific studies from different fields that accept the diffusion of innovation (DOI) as the objective of the study, the methodology of using their results in relation to have been highlighted .in addition, based on the above literature review, no research has addressed issues related to ICT skills and the use of Internet resources for academic activities in Kaduna universities. Although many researchers conducted research in different

areas and came to a consensus that the use of Internet resources is associated with the level of ICT skills. In addition, it is clear from the mentioned studies that some researchers still conduct their academic activities manually at the Kaduna State University of Education, which is why this study was conducted in order to fill the gap.

2.11 Uniqueness of the Study

This a unique study of the fact that our literature has not yet been used to conduct research on the skills of using ICT and Internet resources for academic activities of Teachers of the teaching staff of Kaduna University. It is also unique in that it allows teaching staff at Kaduna universities to learn more about the potential of ICT skills and the importance of using Internet resources for academic activities. The study provides up-to-date literature and research data on ICT use skills and Internet resources for academic activities.

This study also identified a gap that aims to provide ways to fill it. This study also revealed differences in online resources for academic activities.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The study used a quantitative methodology, Cohen, Maninon and Morrison (2000) defined a quantitative research methodology as "explaining phenomena by collecting numerical data that must be analyzed using mathematical methods (in particular, fields). Similarly, according to Dull (2010). Postulate that quantitative research is based on measuring quantity or quantity. Gay, mills and Arrasian (2006) defined quantitative research methodology as "the collection and analysis of numerical data for the purpose of explaining, predicting and / or controlling phenomena of interest. Similarly, Howell (2013) argues that research methodology defines what research activities are, how to conduct them, how to measure progress, and what success is. In this study, the researcher used a quantitative research methodology to collect numerical data from respondents to measure survey variables. The quantitative methodology helps the researcher collect a large amount of data that can be easily organized and processed in analytical reports, and examines the cause-and-effect relationships between variables.

3.1 Research Design

Research design is a blueprint or master plan that defines how data related to a problem should be collected and analyzed (Oconee, 2007). In other words, a research plan is a plan on which various research activities are based. The purpose of the study is to plan empirical data that can be used to answer a question and test a hypothesis.

For the purposes of this study, the researcher used a cross-sectional design that evaluated a program or system that provided useful information to decision makers. Cross-sectional design, according to Cresswell (2008), allows the researcher to collect data at a given time. It also has

the advantage of measuring or evaluating a program, System, current attitude or practice. The design also has the ability to provide information in a short time.

This research project is used because of its simplicity, time and cost savings. It also allows you to make a summary of the entire population.

3.2 Research Setting

At the time of carrying out this research, there are four (4) universities in Kaduna State spread across four Local Government Areas of the state, namely Zaria local Government and Sabon-Gari Local Government Ahamadu Bello University (ABU), Nigerian Igabi local Government Defense Academy (NDA) and Sabon-Gari State University (NDA).

Ahamadu Bello University was established by the Federal Government of Nigeria in 1947 to support the teaching and learning process in the country and Ahamadu Bello University is one of the first generation universities in Nigeria today the university has about 1918 academic staff members Source: Field Response, (2016). Kaduna State University was established by the state government in 2004 to support state marriage teaching and learning. The university has approximately 485 academic staff across two campuses. The next University is the Nigerian Defence Academy (NDA) which was established by the Federal Government of Nigeria in 1964 and has about 200 members of the University's academic staff. The fourth is the National Open University of Nigeria which was established in 1983 to support teaching and learning in the country and has about 74 academic staff in Kaduna Centre alone.

3.2.1 Preliminary Study

In order to determine the population of the study, a preliminary study was considered necessary and was conducted by the researcher. The objective of the preliminary study was to find out:

i. Number of universities in Kaduna state.

ii. Number of academic staff in each institution.

iii. The year of establishment of the institutions.

iv. To establish availability and use of the Internet.

Methodology used for preliminary study

However, the results of a preliminary study show that Kaduna State has a total of four (4) universities with Internet and Internet resources in these universities. This discovery also showed that most teachers at these universities use Internet resources. The discovery also indicates a total number of two thousand six hundred and fifty (2650) teachers in all state universities. In addition, the study identified the name of each university, year of foundation, form of ownership and number of faculty members, as shown in Table 6.1 below.

3.3 Population of the Study

In research, the term "population" refers to the totality of all objects or events of interest to the study .Mugo (2010) notes that the population is a group of people, people. Products or products from which samples are taken for measurement. In addition, Ifidion&ifidion (2007), the definition of a population, as well as any kind, of interest to the researcher, is a collection of all elements corresponding to a designated set of characteristics in the form. Therefore, the target audience of this study is all public universities and the entire teaching staff of these Kaduna universities.

Table 3.1 Population of the Study

S/N	Name of Institution	Ownership	Year of Established	No of Academic Staff
1	Ahamadu Bello University (ABU)	Federal Government	1947	1,918
2	Kaduna State University	Kaduna State Government	2004	458
3	Nigerian Defense Academy	Federal Government	1964	200
4	National Open University of Nigeria	Federal Government	1983	74
Total				**2650**

Source: Field Response, (2019)

3.4 Sampling Techniques and Sample Size

Sampling is the process of selecting specific units of the general population to represent the studied population. A sample is a subset of the general population representing the entire population of a given study., Kurfi, (2008) states that the basis for population sampling is that the entire population cannot be studied due to time and resource constraints. Samples are chosen because it is often very difficult for the researcher to cover the entire study population(Ibrahim, 2013). the sample size for the secondary population is the entire Kaduna State University. Based on a preliminary study conducted in Kaduna, there were a total of four (4) universities with a total of two thousand six hundred and fifty (2650) faculty members. Therefore, this study uses a simple methodological randomized selective study when selecting respondents from any university (primary population). the basic principle of simple random selection methods is to give each element of the population a chance to be part of the sample. Thus, every person in the population has a chance to be afraid, to be elected(Aina, 2004).

As a result, four (4) state universities (average population) participated in the study, as shown in Table 3.2 below.

Table 3.2: Sample of the Study

S/N	SAMPLE UNIVERSITIES	
1.	Kaduna State University (KASU)	458
2.	Nigerian Defense Academy (NDA)	200
3.	Ahamadu Bello University (ABU)	1,918
4.	National Open University of Nigeria	74
TOTAL		**2,650**

3.4.1 Sample Size

To determine the sample size of this study, the researcher used a table provided by the research consultant (2006) with a reliability of 95% and an error of 5%. The table does not give the exact population for this study, but usually the researcher takes the next population, which is 3,500 and comes in a sample of 346. the formula to arrive at the number 346:

$$N= \frac{x^2 \times N \times P(1-P)}{(ME2 \times (N-1)+(x^2 \times P \times (1-p)}$$

Where

N = sample size

X^2 = chi-square for the specified confidence level at 1 degree of freedom

N = population size

P = population proportion (50 in the table)

ME = Desired margin of error (express as proportion).

The researcher also use the formula provided by research adviser (2006) in justifying equality in the distribution of the questionnaire to the sample Universities as can be seen in table:

6.2

$$\frac{PSI}{TSP} \times SR$$

Where

PSI = Population of Sample Institution

TSP = Total Sample Population

SR = Sample Respondents

1. Kaduna State University (KASU)

   $$\frac{458}{2650} \times 346 = 60$$

2. Ahamadu Bello University (ABU)

   $$\frac{1918}{2650} \times 346 = 250$$

3. Nigerian Defense Academy (NDA)

   $$\frac{200}{2650} \times 346 = 26$$

4. National Open University of Nigeria (NOUN)

   $$\frac{74}{2650} \times 346 = 10$$

Table 3.3: Sample Size of the study

S/N	Sample Universities	Number of Academic Staff	Number of Questionnaire Distributed
1.	Kaduna State University (KASU)	458	60
2.	Nigeria Defence Academy (NDA) Kaduna	200	26
3.	Ahamadu Bello University (ABU)	1918	250
4.	National Open University of Nigeria(NOUN)	74	10
TOTAL		**2,650**	**346**

3.5 Instrument for Data Collection

The research tool used to collect data in this study is a questionnaire. The questionnaire is considered a data collection tool that allows the researcher to obtain relevant information from the respondents. Today it is a tool for data collection in research (Kamba, 2012). Similarly, Dan (2010) described the questionnaire as a structured tool for collecting data from a potentially large number of respondents. In this study, the questionnaire is intended for a single group of respondents, namely the academic staff of Kaduna universities in Nigeria.

The document was adopted by Mansour Nalado (2017) the questionnaire consists of six (6) sections (A-f) containing one hundred and four (149) points from all sections, such as:

Section A: contains questions about the curriculum vitae of teaching staff: it consists of six elements. Section B: with thirty-three (33) points, questions were asked about the types of Internet resources and services used for academic activities.

Section C: contains fifty - seven (57) points that ask questions about the skills and competencies of ICT teachers.

Section D: contains twenty - five (25) questions on factors that affect the use of the Internet resource for educational activities.

Section: with thirteen (13) points, questions were asked about the significant relationship between ICT skills and the use of Internet resources for academic activities.

Section f: contains twelve (12) articles that ask questions about the problems of using the Internet for academic activities.

3.6 Validity and Reliability of the Instrument

Research tool, that is, the questionnaire is subject to verification. The questionnaire was first carefully reviewed and determined by the supervisor, and then the project was forwarded to two other research experts from the Department of library and information sciences for review, observation, correction and revision. Finally, their comments and other necessary corrections were used to amend the document.

3.7 Reliability of the Instrument

The researcher believes that it is very important to conduct experimental tests of the tool to determine its reliability. Reliability is the consistency or repeatability of a test or measurement. The tool was applied to a small sample of respondents who were selected from outside the study population. The tool was applied to 30 respondents from Nasarawakefi State University, as it is not part of the research field. The results of the pilot study were used to determine the validity and effectiveness of the questions and the relevance of the data collection questionnaire in the study using SPSS.

3.8 Method of Data Collection

The researcher personally visited the universities to conduct the survey. However, the researcher also asks assistants from the chosen university to help him administer the questionnaire. Respondents had two (2) weeks to complete the questionnaire, while the researcher used another two (2) weeks to complete the questionnaire later.

3.8 Method of Data Analysis

As mentioned above, the data in this study are mainly quantitative. The data obtained from the questionnaire were analyzed using a quantitative analysis of the data. This includes the use of descriptive and final static analysis. Descriptive statistics are a set of tools used to summarize and consolidate data that can be a representation of the set or sample of Sidhu(2007). For the purposes of this study, descriptive statistics using rates and frequencies were used. The variables that would be analyzed are considered an interval in the form of frequency, and the measure used to describe the dataset in the statistical narrative is a measure of the central trend, the hypothesis was tested using the Pearson working time correlation coefficient (PPMC).

Table 3.4 Reliability Test

	Alpha Coefficient	**No. of Items**
AWN	.960	34
UIR	.812	49
ISC	.820	18
FAIR	.928	13
CUIR	.915	12
TOTAL	**. 896**	**126**

Source: Field Response, (2019)

The alpha coefficients in the table were derived from Cronbach's Alpha calculations for reliability, which were performed using a statistical tool. According to secaran (2003), alpha-Kronbach provides information about the inner circumference of the instrument via alpha coefficients.

The study conducted a pilot study to determine the reliability of the instrument and ensure that it meets the standards for measuring variables. Table 3.4 shows the reliability result. Looking at the table, you can see that the" awareness and familiarity with teachers 'online resources" presented by the OUN is an alpha factor of 0.960 and has 34 points. This means that the elements are reliable enough to check the variable because the alpha coefficient is higher. The crucial rule underlying Cronbach's alpha reliability test is that every lower variable is.4 doubts that these are unreliable for use. Looking at the second variable, which was "use of Internet resources for academic activities", represented by y, the study found that the variable had an alpha coefficient of 0, 812 and 49 articles. This meant that the articles had internal consistency and were reliable.

Studying the third variable," skills and skills of employees of the University of ICT", presented by the MSK, the study showed that the variable has an internal consistency similar to the alpha coefficient .820, which is higher .5. "factors affecting the use of Internet resources for academic activities" presented by the Fair had an alpha factor of. 928, suggesting that the articles have internal consistency. The study also found that the" problems of using Internet resources in academic activities " represented by skin had an alpha value of 0.915, suggesting that skin elements have internal consistency to test this variable. Looking at the common elements of the instrument, we find that the instrument as a whole is an internal coherence for measuring a set of variables, since it is an alpha coefficient of 0.896, or about 9. According to Cronbach's most important alpha rule, each instrument has an alpha .9, is excellent (Sekaran, 2003).Thus, the tool used in the study is reliable and has internal consistency in its use.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The section presents the data collected and analyzed for the study, the section presents the number of questionnaires that were distributed in the study sample, and the response rate was extracted, which was then used for analysis. After data submission and analysis. A summary of the entire chapter was then presented to summarize the statements. The chapter is presented under the headings

4.1 Introduction

4.2 Response Rate

4.3 Demographic Information of the Respondents

4.4 Awareness of the Internet Resources

4.5 Types of Internet Resources Used by Academic Staff

4.6 Accessibility to Internet Resources

4.7 ICT Skills of Academic Staff

4.8 Factors Affecting the used of Internet Resources

4.9 Challenges Associated with Use of Internet Resources

4.2 Response Rate

The study employed the use of questionnaires to solicit for information from the respondents of the study as such the statistics of the distributed questionnaires are therefore presented. Table 4.1 presents information about the response rate.

Table 4.1: Response Rate

University	Questionnaire Administered	Number of Questionnaire Returned	Percentage(%)
ABU	250	200	72
KASU	60	48	18
NDA	26	20	7
NOUN	10	9	3
Total	**346**	**277**	**100**

Respondents received 346 copies of the questionnaire. 277 were returned, and only 256 were valid, and this was used for analysis.

Table 4.1 shows that of the 346 copies of the questionnaire provided to survey respondents, 256 copies of the questionnaire were returned. The 346 copies of the questionnaire that were published represent 100% of the number of responses, so the 256 questionnaires that were returned represent 74% of the number of responses. This means that respondents who participated in the survey received a high response. The reason for the high response rate is related to the researcher's approach to data collection. According to Eberongba (2014), when a researcher uses a close approach, the response rate is likely to be more than 50%, which is acceptable in the Social Sciences. In this study, the response rate was 74%.

However, the table provides more detailed information on the questionnaires distributed. Of the total number of questionnaires, 69 did not return, or 20% of the total number of responses. Of the returned copies of the questionnaire, 21 copies were filled out incorrectly and some contained incomplete information, which made it difficult for the researcher to decipher the opinions of the respondents. So it created space for an invalid response frequency. 21 the invalid questionnaire represents 6% of the response returned by the field. After removing the

non-returned and invalid questionnaires from the returned questionnaires, 256 questionnaires remained in the survey, representing 74% of the returned questionnaires. Thus, the acceptable response rate in the study was 256. It is important to note that having a high response rate provides a strong perception and perception of a representative sample size of the population(Sekaran, 2003). Therefore, this study was used to analyze 256.

4.2 Demographic Background of Respondents

This section of the analysis present the background information of the respondents which were then presented in different tables for proper understanding. These covers the gender, age, and institution.

Table 4.2Demographic Information of Respondents

Demographic information	**Frequency**	**Percentage %**
Name of University		
ABU	195	76.2
KASU	41	16.0
NDA	10	3.9
NOUN	10	3.9
TOTAL	**256**	**100.00**

Table 4.3 Qualification of Respondents

University	First degree	Master degree	PhD	Total	%
KASU	25	13	10	48	18
ABU	50	170	30	200	72
NDA	-	18	2	20	7
NOUN	2	9	-	9	3
Total				**277**	**100**

Table 4.4 Years of experience of respondents

University	1 – 5	6 – 10	11 – 15	16 – 20	21 – years and above	Total
ABU	20	30	80	50	20	200
KASU	8	12	13	5	10	48
NDA	-	8	5	7	-	20
NOUN	3	3	3	-	-	9

Table 4.5 Age of Respondents

University	18 – 29	30 – 39	40 – 49	50 – 59	Total
KASU	-	10	25	13	48
ABU	-	77	80	43	200
NDA	-	5	12	3	20
NOUN	-	4	4	1	9
TOTAL					**277**

Table 4.6 Gender of Respondents

University	Male	Female
ABU	90	110
KASU	20	28
NDA	10	10
NOUN	2	6
TOTAL	**123**	**154**

Table 4.2 shows the classification of respondents according to the universities where they work, it was found that 200 respondents are from Abu Zari. This means that 72% of respondents, which is the highest rate, are from Abu. Cass had a frequency of 48, or 18% of the response. This means that 48 respondents are from Casa. NDA had a frequency of 20 and a percentage of 7%. This means that 20 out of 256 respondents are NDA employees. Finally, the table shows that 9 respondents are names, which also represents 3% of the total number of responses. The table shows that the study received an excellent response from ahmadu Belo Zaria University, followed by staff from Kadun State University. The response from the Nigerian Defence Academy and the National Open University was the weakest-out of 9 people. Table 4.3 shows that all respondents were qualified, but most of them had a master's degree. This is justified by the frequency of 13 respondents from kasu and 170 from Abu, 18 from NDA and 9 from noun 2. This showed that the majority of respondents had a mastery. Studies have also shown that the candidate has a frequency of 10 objects, 30 from Abu, 2 from NDA and 2 from noun. This means that 32 out of 256 respondents are graduate students. The table again shows that the first degree has a frequency of 25 kasu 50 of Abu and 2 PD names have the lowest frequency.

The study also analyzed the experience of employees at various universities studied. Thus, table 4.4 shows the years of work of employees. It was found that with years of experience between 11-15 years, 80 respondents from Abu had the highest frequency, such as 13 from KASU, 5 from AK and 3 from noun and, respectively, in the range, then an experience between 16-20 years, which had a frequency of 50 respondents from Abu, 5 respondents from KASU and 7 NDA.

After understanding the number of years respondents worked, the study also looked at the age range of respondents. The table also shows the age range of respondents. Looking at the age range of respondents, it was found that the majority of respondents were between 40 and 49 years old and then between 30 and 39 years old, rather than between 50 and 59 years old.

Looking at the sex of the respondents, the table showed that 123 of the 277 respondents were male, while the female respondents were 154. Thus, the result showed that more women than men participated in the study. The result also showed that more women show more interest in the study and diligently fill out questionnaires.

After understanding the background of respondents in the study, the study moved on to the analysis of survey variables. The study began with a study of the teacher's awareness and familiarity with Internet resources.

Awareness and familiarity with the Internet resources

Table 4.7 Awareness of Internet Resources for Academic Activities		
Internet resources awareness	**Frequency**	**Percentage (%)**
Yes	235	100
Total	**235**	**100.0**
Level of Awareness with the Internet Resources		
Very Aware	70	27
Aware	165	73
Not Sure	0	0.0
Not Aware	0	0.0
Total	**235**	**100.0**

According to table 4.7, which examines the issue of awareness and knowledge of respondents using Internet resources, it turned out that 256 university teachers accepted awareness and knowledge of Internet resources. This represents 100% of the 256 acceptable responses.

That is why it became important to understand the level of awareness and knowledge of respondents with these Internet resources. The table also shows the level of awareness of Internet resources, and shows that 70 respondents are very familiar with Internet resources, this number is 27%, and 186 respondents agreed to become familiar with Internet resources 73%.

Types of Internet Resource Used for Academic Activities by the Respondents

Table 4.8 Use of Internet for Academic Activities

Use of Internet Resources	**Frequency**	**Percentage (%)**
Yes	235	100
Total	**235**	**100.0**
Use of e-books		
Highly Used	30	13
Moderate Used	195	83
Low Use	10	4
Total	**235**	**100.0**
Use of e-journal		
Highly Used	60	26
Moderate Use	165	70
Low Use	10	4
Total	**235**	**100.0**
Use of e-newspaper		
Highly Used	80	34
Moderate Use	120	51
Low Use	35	15
Total	**235**	**100.0**
Use of e-thesis/dissertation		
Highly Used	100	43
Moderate Used	95	40
Low Use	40	17

Total	**235**	**100.0**
Use of Indexing and Abstracting database		
Highly Used	55	23
Moderate Used	150	64
Low Used	30	13
Total	**235**	**100.0**
Use of Full Text database		
Highly Used	48	21
Moderate Used	145	62
Low Use	40	17
Total	**235**	**100.0**
Use of Statistical Database		
Highly Used	55	23
Moderate Used	150	64
Low Use	30	13
Total	**235**	**100.0**
Use of Multimedia Resources Usage		
Highly Used	66	28
Moderate Use	127	54
Low Use	42	18
Total	**235**	**100.0**
Open Educational Resources		
Highly used	60	26
Moderate used	118	50

Low use	57	24
Total	**235**	**100.0**
Use of Email services		
Highly Used	102	44
Moderate Used	95	40
Low Use	38	16
Total	**235**	**100.0**
News/Discussions Groups		
Highly Used	73	31
Moderate Used	107	46
Low Use	55	23
Total	**235**	**100.0**
Search engines		
Highly used	104	44
Moderate used	110	47
Low use	21	9
Total	**235**	**100.0**
Digital Libraries		
Highly Used	112	48
Moderate Used	108	46
Low use	15	6
Total	**235**	**100.0**
Reference Database		
Highly Used	81	34

Moderate Used	126	54
Low Use	28	12
Total	**235**	**100.0**

Table 4.8 shows the use of Internet resources by teaching staff for scientific activities. Table 4.8 shows that 235 university employees agreed to use Internet resources for educational activities, or 92% of respondents. Of the 256 respondents, the survey showed that 15 employees do not use Internet resources for their academic activities. This is 6% of respondents. 6 respondents did not express their views on the use of Internet resources for educational activities. At that time, it was 2% of respondents. That is why it is important to understand the level of use of Internet resources available for academic activities.

According to table 4.8, it was found that 30 academic leaders agreed to a high use of e-books, which was 12% at the time. 195 respondents accepted moderate use, or 83%. 10 respondents confirmed low use, while 16 respondents, or 6%, confirmed that they do not use e-books at all for academic activities. This means that universities widely use e-books for their academic activities.

Table 4.8 also shows the level of use of electronic journals by university teachers. According to the table, it was found that 60 employees agreed with a high level of use of electronic journals in their academic activities, and this number was 26%. 165 respondents agreed to moderate use of e-journals, while 10 respondents reported low use of e-journals in their academic activities. Finally, 16 respondents reported that they do not use electronic journals for their academic activities.

It was also found that 80 respondents use the Electronic Journal very well in their academic activities, or 34% of respondents. 120 agreed to use electronic journals sparingly when conducting or conducting research on their academic activities. 35 respondents, representing 14

percent of the total number of respondents, agreed with the low use of e-journals, while 21 people did not use e-journals at all for their academic activities.

Of the 235 respondents, the survey showed from table 4.5 that 100 employees agreed that they use a high electronic thesis / thesis in their academic activities. Then it was 43%. 95 employees accepted moderate use, while 40 employees accepted low use of the essay / electronic essay. 21 of the employees stated that they did not use electronic memory / memory for academic activities.

Table 4.8 then shows the level of use of database indexing and abstraction for academic activities. Out of 235 employees, the study found that 55 of them make extensive use of database indexing and abstraction. 150 employees use a moderate database of indexing and abstraction for academic activities. Of the 256 employees, 30 agreed with low utilization, while 21 of them, representing 7% of the total responses, do not use the indexing and abstraction database for academic activities.

From the table, it became clear that only 48 employees used the full-text database. 145 employees use the text database moderately, while 40 employees use it poorly, and 21 of them do not use the full text database at all for their academic activities.

Thus, Table 6 shows the level of use of the statistical database for academic activities. The study found that only 28 respondents did not use the statistical database for their academic activities. 30 employees use it poorly and 150 use a moderate statistical database for academic activities. 48 employees make significant use of the database of their academic activities, accounting for 19 percent of respondents.

The level of use of multimedia resources (video, images, audio) for training activities is indicated in Table 4.19. it was found that 49 employees use multimedia resources heavily, while 127, accounting for 50%, use multimedia resources moderately. 42 employees did not use resources, while 38 of them did not use multimedia resources for academic activities.

University teams agreed to use free educational resources for academic activities. 54 (21%) of them agreed with high use, 118 (46%) with moderate use, 57 (22%) with low use and 27 (11%) did not use free educational resources for academic activities at all.

Of the 235 respondents participating in the survey, 102 respondents actively use email for their academic activities. This is only 40% of respondents. However, 118 employees agreed to limit the use of postal services for their work. 30 made low use of email and 6 did not use email for their academic activities.

73 respondents, or 28%, agreed with the high use of focus groups for their academic activities. 107 of the respondents used moderate news groups for his academic work. 40 employees use very little media, while 36 employees do not use news/discussion groups at all for their academic activities.

It is important to understand the level of use of search engines, as such, table 4.22 shows the result. It found that 106 employees, representing 41 percent, agreed to widely use search engines for academic activities. 110 employees use moderate search engines, while 21 employees use multiple search engines for academic activities. Finally, 19 employees do not use search engines at all for their academic activities.

University officials have agreed to use electronic libraries, and 112 of them have made extensive use of this environment for academic activities. 114 employees use a moderate average environment and 15 employees use a low average environment. 15 employees agreed not to use electronic libraries for academic activities.

The study also found that employees used the reference database for training activities: 85 employees used the reference database heavily, while 126 employees used the reference database moderately in their academic activities. 28 employees accepted low use of the environment, while 17 employees agreed not to use the reference database at all for their academic activities.

The study looked at gadgets and places that respondents used primarily to access Internet resources for academic activities. Thus, table 4.6 represents the result:

Table 4.9 Frequency of use of Internet resources for academic activities

Frequency of Internet resources	**Frequency**	**Percentage (%)**
Daily	171	73
Weekly	36	15
Two times a week	28	12
Monthly	0	0.0
Yearly	0	0.0
Total	**235**	**100.0**
Hours on average on Internet resources		
30 minutes – 1 hour	60	26
1 hour – 3 hours	139	59
3 hours – 5 hours	20	9
5 hours – 6 hours	10	4
More than 6 hours/day	6	2
Total	**235**	**100.0**
Accessing Internet resources	**Mean**	**Std. Dev.**
Laptop	1.8796	.18632
Desktop	1.8235	.18632
Commercial Café	1.8235	.16344
e-Library	1.0721	.16322
IPod	1.0345	.42712
Phone	1.2467	.34761

Purpose of Accessing the Internet resources		
For teaching	1.9234	.48722
For research	1.9989	.49821
Student assignment	1.9023	.46235
Preparing lectures	1.8432	.47179
Help student learn	1.9675	.37573
Professional development	1.9934	.47764
Publishing research work	1.9211	.40999
Communication with other people	1.8794	.47685
Recreational activity	1.0000	.40642
Downloading of film, music, etc	1.5234	.34549
Online shopping	1.8711	.32672
Playing games	1.6687	.35835
Getting relevant information	1.7896	.34251
Social networking	1.7896	.43134
Professional network	1.5689	.42662

Table 4.9 shows that approximately 171 respondents use the Internet on a daily basis, while 36 respondents agree to use the Internet on a weekly basis. This is because professors use the Internet for Academic Purposes and research they do every day. This study continued to examine the number of hours respondents spend using Internet resources. Thus, the result is presented in Table 4.9.

Table 4.9 shows that approximately 60 respondents use Internet resources from 30 minutes to 1 hour. It was found that 139 technologies used the Internet for 1-3 hours. The rest belongs to the third category and uses the Internet from 3 to 5 hours a day. Those who used the Internet, 5 to 6

hours, were only two, and 6 admitted that they used the Internet more than 6 hours a day. The study went further to understand the extent to which Internet resources are used for various types of academic activities.

From the table, he realized that the iPod is the least used gadget for academic activities, which means an average of 1.0345 and an annual IMA gap of about 42%. Respondents agreed that the use of an electronic library and commercial coffee shops ranked second and third in terms of the use of academic activities. It was found that the use of phones for educational activities is accompanied by an average value of 1.2467 and a deviation from 0.34761. This means that the phone call is the fourth largest. The study found that a laptop and a desktop computer are on the Internet resource devices most frequently used for academic activities at various universities.

When reviewing the table, it was found that respondents pay more attention to the use of Internet resources for research purposes. This is obviously an average of 1.9989, and a variation of. 49821. The second variable is that respondents agreed to use Internet resources for academic purposes. Determine that respondents decided to help students learn through online resources. This was justified with an average of 1.9675 and a gap of 0.3773. The study also found that the professional network was also evaluated by scientists for academic purposes. The question of the lowest average value is transferred to the outbreak of films and music. This is justified by an average of 1.0000 and a standard deviation of 34549 .

Level of ICT skills of academic staffs

Table 4.10 literate in ICT skills

Literacy in ICT Skills	**Frequency**	**Percentage**
Yes	235	100
Total	**235**	**100.0**
Places where ICT skills are acquired	**frequency**	**percentage**
In-house/Seminar/Workshop in the university	50	21
ICT workshops/Training organized by other bodies	80	34
Training/guidance from library staff	35	15
Formal education and training in ICT	40	17
Distance learning training on ICT	30	13
Through colleagues/friends	-	-
TOTAL	**235**	**100.00**
Level of ICT Staff on Internet Resources		
MS word	1.9991	.42345
MS excel	1.9991	.42345
MS access	1.9913	.26294
MS PowerPoint	1.9913	.26294
General computer operations	1.2542	.24562
Sending an email message	1.4756	.27573
Using electronic library	1.2322	.14834
Taking part in online discussions/chats	1.2922	.47652
Video conferencing/meetings	1.1102	.32552

Sending attachment with an email	1.4325	.76452
Downloading file from the Internet	1.6723	.78234
Saving an image or graphic from a www page	1.3786	.34352
Using search engines to find information	1.4536	.56473
Using more advanced searching techniques to find information from the Internet	1.5467	.33241
Searching online database	1.8934	.47892

Therefore, in order to understand the level of literacy of employees in relation to their ICT skills, a question was asked during their research. Therefore, their response is presented in Table 4.31. it was found that 235 employees agreed to be literate with their ICT skills. 15 were not literate and 6 did not know where they were at the time of the study.

In the table above, you can see that the majority of teachers agreed to acquire their ICT skills at trainings and seminars held at universities for employees. This is justified by an average of 1.6873. Respondents also agreed to gain knowledge through formal education, as they had the second highest average of 1.5892. Distance education, training and orientation of teachers had the least impact on staff, since they have the lowest funds-1.0000.

The study analyzed the corresponding qualification level of respondents in the field of ICT.

From the table above, the study found that the majority of respondents have a high level of MS office knowledge, which includes word, excellence, access and food points, as they all had the highest averages of 1.9991 and 1.9913, respectively. The study also found that the lowest level of tool skills are general computer operations, which have the lowest average of 1.2322.

The survey went further to understand respondents ' level of internet search skills

Factors affecting the use of Internet resources for academic activities

Table 4.11 Absence of Internet use policy in the university

Absence of Internet use policy	**Frequency**	**Percentage**
Strongly agree	22	10
Agree	207	88
Disagree	3	1
Strongly disagree	3	1
Total	**235**	**100.0**
Lack of access to good academic websites		
Strongly agree	20	8
Agree	204	87
Disagree	4	2
Strongly disagree	7	3
Total	**235**	**100.0**
Lack of motivation		
Strongly agree	18	7
Agree	209	89
Disagree	4	2
Strongly disagree	4	2
Total	**235**	**100.0**

According to table 4.7, 207 respondents agree that the lack of internet policy is one of the main factors that affect the use of the Internet for academic activities. 22 respondents strongly agreed, while 4 disagreed and 7 strongly disagreed. This showed that most believe that when

there is no Internet use policy, there will be an inability to use the Internet for academic activities.

It was also found that the lack of access to good university sites is a major factor affecting the use of Internet resources at the University. 204 university officials agreed that the lack of access to good university sites reduces the use of Internet resources, and 20 fully agreed with them. 14 the seat disagreed and 15 disagreed. I'm not sure it's 5. However, based on a high response to the level of consent, the study found that lack of access to good university sites is a serious problem.

Employees agree that lack of motivation is also a major factor affecting the use of Internet resources by the teacher. Table 4.7 shows that 4 employees strongly disagree with the fact that lack of motivation is a factor that reduces the use of Internet resources. However, 18 respondents strongly agree, and 209 agree that lack of motivation plays a role in reducing the use of Internet resources for academic activities.

It was important to understand the problems related to the use of Internet resources for academic activities, such as those presented in Table 4.9;

Challenges associated with the use of Internet resources

Table 4.12Challenges associated with the use of Internet resources for academic activities

	Mean	**Std. Deviation**
Too much information on the Internet	1.0977	.29743
Lack of credible information on the Internet	1.0977	.29743
Inability of the libraries to subscribe to good academic database	1.0312	.17433
Erratic power supply	1.0312	.17433

According to table 4.8, it was found that among all the problems presented to respondents, these are the problems with the highest average, which means that they are the most relevant problems when using Internet resources for educational activities. The study found that too much information on the Internet is a serious problem for professors, as it is not easy for them to search for what they need with a ton of wrong information. This is justified by an average of 1.0977 and a standard deviation of 0.29743. Thus, the study also showed that employees believe that information on the Internet is unreliable as such, it becomes difficult to understand what information is reliable or not.

The study also found that "the inability of libraries to subscribe to the academic database and unstable nutrition" are the least significant problems that affect the use of Internet resources in universities. This may be because school libraries are trying to subscribe to a foreign and viable library, and have generators or solar systems to power the school in the event of a power outage.

This study then examined whether there was a link between ICT skills and academic achievement in universities. The results are presented in Table 4.13.

4.3 Test of hypothesis

The hypothesis was tested to determine whether there is a link between ICT skills and academic achievement. Testing hypotheses will also allow you to draw conclusions. The results are presented in Table 4.13.

Table 4.13: Correlation between ICT skills and Internet resources

Variables	X	SD	R	R' crit	P
ICT Skills	1.4501	1.2042	.60	.54	.003
Use of Internet Resources	1.4799	1.2165	.60	.58	.003

Looking at Table 4.13, the study showed that there is a positive relationship between the level of ICT skills of a professor and the use of internet resources of universities. This was justified by a coefficient of 0.060. This means that as the teacher's ICT skills increase, the level of academic activity will decrease. This is due to the fact that most universities in Nigeria lag behind in using ICT to disseminate academic activities. The table also shows that it has an average of 1.4501 and 1.4799. This means that the mean of the sample obtained from the study is a representative mean for the study population. If we look at the table, we can see that there is a standard deviation of 1.2042 in ICT skills and 1.2165 in the use of Internet resources. This means that the average value of the sample does not change, since the average value is the approximate representation of the population. It was then found that the entire studied Association was significant with a P-value of 0.003 . This result is justified by the fact that the price P is lower .005.

The hypothesis test was designed to determine whether there is a link between ICT skills and Internet use, and whether the results can be inferred for the majority of the population. This

finding shows a positive and significant relationship between ICT skills and the use of Internet resources.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter deals with a summary of the study that summarizes the entire study. Entire chapters of the study were summarized in a summary to give the reader an idea of the study. It was preceded by a summary of the findings. Summary of research results discusses the results of the study and provides a summary of them for easy understanding. This was followed by the conclusion of the study, which presented the conclusions drawn from the results of this study. The chapter then presents the study's recommendations, which propose recommendations for further action. Finally, the Chapter presented additional research areas.

5.1 Summary of the Study

The research was conducted on ICT skills and the use of Internet resources for academic activities by the teaching staff of Kaduna universities. The study examined how the ICT skills and Internet resources available in these universities were used by university teaching staff. To achieve this goal, the study is divided into five (5) chapters, starting with the first and fifth.

The first chapter of the study presents the history of the study, which gave a brief introduction to research variables and how they interact with each other to achieve academic achievement. After the context of the study, the chapter went to the outline of the problem, who discussed the problem related to the study and identified the gaps that the study filled in the end. After the problem was posed, the chapter moved on to describe the research questions in the study that presented questions related to the problem presented by the study. This was followed by the research objectives of the study, which represented the main and specific objectives that the study intended to discover. It was followed by a discussion on the importance of the study, and discussed the importance of the study, as well as the beneficiaries of the study and how they would benefit. The value of the study was followed by the scope of the study, which examined

the scope of the study. Finally, the chapter provides a definition of the key terms used in the study. This section fully covers the keywords used in the study.

The second chapter of the study provided a literature review for this study, which began with a conceptual review. The concept review examined research concepts, namely the concept of ICT skills, the concept of Internet resources and the concept of academic activities. This gave an idea of the opinion of scientists about the concept. After a conceptual review, the study presented an empirical review that discussed the literature and conclusions of other scientists on the subject. The study made it possible to identify gaps in previous studies and fill them with this study. The empirical study followed the theoretical basis of the study. This section deals with the theory of study. This was followed by a summary of the chapter that summarized the entire chapter of the study.

The third chapter of the study presented the research methodology. The chapter began with the introduction of the chapter, followed by the research plan of the study. The research project of the study is the design and installation of research, followed by a discussion of the description of the universities studied. The study population followed, and she discussed the study population and how the study reached that population. This was followed by sampling methods and a sampling method. This section discusses the different methods used to obtain a sample and how the tool is distributed. Then the tool used for research was discussed, and then the Chapter presented the validity and reliability of the tool used. The method used for data collection was also discussed, followed by the methods used for data analysis.

The fourth chapter began with the introduction of the chapter and its sections. This was followed by a presentation of the study data, which discussed the data collected, and then a data analysis, which discussed how the data was analyzed and the different tools used in data analysis. The study looked at the descriptive statistics of the study and then the relationship between the variables of the study. The chapter then described the summary of the head.

The fifth chapter of the study provided an introduction to this chapter, discussing the sections of this chapter. The introduction was followed by a brief study covering entire chapters of the study. A summary of the results of the study was then presented and the results of the study were briefly discussed. This was followed by the conclusion of the study, which presented the conclusions drawn from the results of this study. This was followed by research recommendations, and then guidelines for further research were discussed.

5.2 Summary of Findings

University teaching staff are familiar with online resources for academic activities.

Teachers-the teaching staff of universities, uses all resources provided by the Internet, which includes e-books, e-magazines, e-newspapers, electronic theses / theses, indexing and synthesis databases and all texts, databases, catalog databases, statistical databases, online multimedia, open educational resources, e-mail and other information.,

The teaching staff of the university has access to Internet resources through the library, cafes and personal computers.

University teaching staff in ICT development

The study also showed that the factors influencing the use of Internet resources are the lack of Internet use policies in all universities. Lack of access to good university websites and lack of motivation are factors that have affected the use of Internet resources by university teachers.

The study also showed that the problems that employees face when using Internet resources are the lack of reliable information on the Internet. The study also found that the inability of libraries to subscribe to a good academic database and an unstable diet are the weakest problems faced by university staff.

The study found that there is a negative correlation between academic performance and a teacher's level of ICT skills.

5.3 Conclusion

5.4 Recommendations

Based on the conclusions of the study, the following recommendations were therefore made.

- The study recommends that there should be proper awareness campaign on the importance of Internet resources for academic activities especially in the 21st century.
- The study recommends that there should be policies that will encourage the use of Internet resources amongst academic staffs of the universities. This could be done by creating a training session that introduces the staffs to the use of ICT for both lecturing and assessing of assignment, test and projects. This process will not only create an easy process but will give the opportunity to store data that can always be retrieved for academic quality check.
- The study recommends that the managements of universities should provide several means of accessing the Internet resources for academic activities. This could be done when the universities sign up and subscribe for academic web site which will motivate the lecturer to use the Internet resources
- The study also recommends that the universities' managements should provide in-house training and workshop on ICT skills and the use of Internet resources for academic activities this will help academic staff to acquire modern ICT skills.
- The study recommends that the management of the universities should providedInternet policies, motivations and training which will help to reduce some factors affecting the used of Internet resources for academic activities.

- The study recommends that the managements of the universities should provide credible information by registering with good academic website and libraries should subscribe creatable data base and provide sources of power to support academic activities within the university.
- The study also recommends that the management of the universities should encourage their staffs to engage in e-lecturing through the use of the available Internet resources. This could be done when the universities sign up and subscribe for good academic websites which will motivate the lectures to visit and get useful knowledge that they will use for their academic activities.
- The study also recommends that the staff of the universities need to be taught the importance of e-books and e-journals. This could be done by providing them with electronic gadgets and teaching them how to store e-books and e-journals for the academic activities of the school.
- The study also recommends that the lecturers showed endeavor to make use of Internet resources when lecturing the students. This could be achieved when the school is able to put Internet resources in the lecture halls and equip them with electronic boards.

5.5 Areas for Further Research

a. The study was limited to ICT skills and use of Internet resources for academic activities by academic staff of universities. The study concentrated on the universities in Kaduna state; however, studies could be conducted in universities across some states in the North and then comparison can be done among the findings of the studies.

b. The study also looked at the ICT skills and use of Internet resources for academic activities, other studies can look at the impact of ICT skills on the non-academic staffs of the universities.
c. The study was conducted in the universities, so other studies can be done in other sectors like the banking sector and the manufacturing sectors.

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APPENDIX I

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCES

FACULTY OF EDUCATION

BAYERO UNIVERSITY, KANO

BUK/DLS/216 2nd August, 2017

.....

.....

.....

.....

Dear Sir,

LETTER OF INTRODUCTION

This is to introduce **HARUNA TINAU AHMED** with the University Registration Number **SPS/14/MLS/0002O** who is a Master student of the Department of Library and Information Sciences. He is conducting a piece of research **TITLED: ICT SKILL AND USE OF THE INTERNET FOR ACADEMIC PURPOSE AMONG ACADEMIC STAFF IN TERTIARY INSTITUTIONS OF HIGHER LEARNING IN KADUNA STATE.**

Please accord him all necessary assistance.

Thank you.

Dept. Of Library & Information Sciences
Faculty Of Education
University, Kano
3011

Prof. S. O. Bello
Head of Department

APPENDIX 2

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE BAYERO UNIVERSITY KANO

QUESTIONNAIRE ONICT SKILLS AND USE OF INTERNET RESOURCES FOR ACADEMIC ACTIVITIES BY ACADEMIC STAFF IN UNIVERSITIES IN KADUNA STATE

Instruction: Please tick as the applicable to you [ ]

Section A: Background Information of Respondents

1. Indicate your gender Male [ ] Female [ ]
2. Name of the University you work with _____
3. Name of your Department/ Unit----------
4. What is your highest education qualification? (tick one please)
   (a) First Degree [ ]
   (b) Postgraduate Diploma [ ]
   (c) Master Degree [ ]
   (d) PhD [ ]
   (e) Other Please Specify_____
5. How long have you been working with the University?
   (a) 1-5 years [ ]
   (b) 6-10 years [ ]
   (c) 11-15 years [ ]
   (d) 16-20 years [ ]
   (e) 21 years and above [ ]
6. What is your age range
   (a) 18-29 years [ ]
   (b) 30-39 years [ ]
   (c) 40-49 years [ ]
   (d) 50-59 years [ ]
   (e) 60 years and above [ ]

Section B: Awareness ofInternet Resources for Academic Activities.

7. As an Academic Staff in the University, are you aware of Internet resources.

Yes☐

No☐

8. Kindly indicateyour level of Awarenesswith the following Internet Resources.

Variable	**Fully Aware**	**Aware**	**Somewhat Aware**	**Not Aware**
E-books				
E-journals				
E-Newspapers				
E-thesis/dissertations				
Indexing and Abstracting Databases				
Full text databases				
Reference Databases				
Statistical databases				
Multimedia Resources(video, image and audio)				
Open Educational Resources(OER)				
Email services				
News/Discussion Forums				
Web Search Engines				
Presentation slides				

9. Kindly indicate your level of awareness of theInternet Resources?

Internet Resources	**Very Familiar**	**Familiar**	**Somewhat Familiar**	**Not Familiar at all**
E-books				
E-journals				
E-Newspapers				
E-thesis/dissertations				
Indexing and Abstracting Databases				
Fulltext databases				
Reference Databases				
Statistical databases				
Online Multimedia Resources(video,image and audio)				
OpenEducational Resources(OER)				
Email services				
News/Discussion Forums				
Web Search Engines				
Presentation slides				

Section C: Use of Internet Resources for Academic Activities.

10. As an academic staff, do youmake use of Internet resources in your academic activities?(Tick as appropriate)
    a) Yes
    b) No
11. If yes, indicate the level at which you use the Internet resources for your academic activities

Variable	Highly used	Moderate use	Low use	Not used
E-books				
E-journals				
E-Newspapers				
E-thesis/dissertations				
Indexing and Abstracting Databases				
Full text databases				
Reference Databases				
Statistical databases				
Multimedia Resources (video, image and audio)				
Open Educational Resources(OER)				
Email services				
News/Discussion groups				
Search Engines				
Digital libraries				

12. How frequently do you use Internet Resources in your academic activities? Please Tick.

(a) Daily

(b)Weekly

(c) Two times a week

(d) Monthly

(e) Yearly

(f) Not Sure

13. How many hours, on average, do you spend in using the Internet resources for your academic activities?

a) 30 minutes-1 hour a day
b) 1hr-3 hrs a day
c) 3hrs-5hrs aday
d) 5hrs-6hrs a day
e) More than 6hrs a day
f) Not Sure

14. ACCESSABILITY OF INTERNET RESOURCES

Where do you usually access the Internet Resources for your Academic Activities? Please Indicate

S/N	Variables	Always	Sometimes	Never
1	Through my Laptop			
2	Desktop Computer			
2	Through Commercial Café			
3	Through the e-library			
4	Through my iPod			
5	Through my phone			

15. Indicate the purpose of using the Internet resources for academic activities.(Tick as many as are applicable to you)

S/N	Variables	Yes	No
1	I use Internet resources for teaching		
2	I use Internet resources for Research		
3	I give assignments to students		
4	I use Internet resources to prepare lecture notes/handouts		
5	I use Internet resources to help students to learn		

6.	For my professional development		
7.	I use Internet to publish my research works		
6	I use Internetto communication with other people		
7	Using Internet for recreational activities		
8	Send/receive email		
9	Using Internet to download films, music, file etc		
10	Using Internet for online shopping		
11	Using Internet for playing games		
12	I Use Internet resources to get relevant information on the web		
13	For social networking		
14	I use Internet for professional networking		

Section D: ICT skills and Competencies of Academic Staff.

16. Are you literate in ICT Skills

a)Yes

b) No

How / where did you Acquired your ICT Skills

Please Tick the Appropriate Option

S/N	Place	Yes	No
1	In house training /seminars/Workshops on ICT at the University		
2	ICT Workshop/ Training organized by other bodies		
3	Training organized by the library		
4	Formal Education and Training in ICT		

5	Distance Learning Training on ICT		
6	Through Friends / Colleagues		
7	Personal Development through Reading / Self Training		
8	Others (Specify		

17. What is your level of ICT skills to use Internet Resources

S/N	ICT Skills	High	Medium	Low	None
1	MS Word				
2	MS Excel				
3	MS Access				
4	MS Power Point				
5	General computer operations				
6	Sending an e-mail message				
8	Using Electronic library tools e.g. CDROM, OPAC, Subject gateways etc				
9	Taking part in online discussions/ chats				
10.	Video conferencing/meetings etc				
11.	Sending attachment with an e-mail message				
12	Downloading file from the Internet or www e.g. music, games				
13	Saving an image or graphic from a www page				
14	Using search engines to find information e.g. Yahoo, Google, MSN etc				
15	Using more advanced searching techniques to find information from the Internet.				
17	Searching online databases				

Section E: Factors affecting the use of Internet resources for academic activities.

18. To what extent do you agree that the following factors affects the use of Internet resources for Academic Activities

S/N	Factor affecting the use of Internet resources for academic activities	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure
1.	Lack of ICT skills					
2.	Lack of willingness to learn new skills					
3.	Inadequate ICT Skills Training programs in the university					
4.	Poor Internet search skills					
5.	Lack of motivation					
6.	Lack of awareness of the Internet resources					
7.	Lack of the necessary Internet infrastructure					
8.	Age related issues					
9.	Lack of access to good academic websites					
10.	Genders Issues					
11.	Absence of Internet use					

	policy in the Institutions					
12.	Cost related issues					
13.	Negative Attitude towards ICTs					

Section F: Challenges to the use of Internet resources in academic activities

19. What Challenges do you encounter in the use of Internet resources foracademic activities?(Please Tickasmany as applicable to you)

S/NO	**Challenges in the use ofInternet resources**	**Yes**	**No**
1.	Poor Internet search skill		
2.	Erratic Power supply		
3.	Irrelevant information in the Internet		
4.	Too much information in the Internet		
5.	Too much time wasted on the Internet		
6.	Lack of credibility of information on the Internet		
7.	Slow Internet speed		
8.	Lack of technical support		
9.	Lack of subject guides		
10.	Insufficient computers for students learning		
11.	High cost of data		
12.	Inability of the library to subscribe to good academic databases		
13.	Others(Specify)----------		

RESEARCH ADVISOR TABLE

Required Sample Size†

Population Size	Confidence = 95% Margin of Error				Confidence = 99% Margin of Error			
	5.0%	3.5%	2.5%	1.0%	5.0%	3.5%	2.5%	1.0%
10	10	10	10	10	10	10	10	10
20	19	20	20	20	19	20	20	20
30	28	29	29	30	29	29	30	30
50	44	47	48	50	47	48	49	50
75	63	69	72	74	67	71	73	75
100	80	89	94	99	87	93	96	99
150	108	126	137	148	122	135	142	149
200	132	160	177	196	154	174	186	198
250	152	190	215	244	182	211	229	246
300	169	217	251	291	207	246	270	295
400	196	265	318	384	250	309	348	391
500	217	306	377	475	285	365	421	485
600	234	340	432	565	315	416	490	579
700	248	370	481	653	341	462	554	672
800	260	396	526	739	363	503	615	763
1,000	278	440	606	906	399	575	727	943
1,200	291	474	674	1067	427	636	827	1119
1,500	306	515	759	1297	460	712	959	1376
2,000	322	563	869	1655	498	808	1141	1785
2,500	333	597	952	1984	524	879	1288	2173
3,500	346	641	1068	2565	558	977	1510	2890
5,000	357	678	1176	3288	586	1066	1734	3842
7,500	365	710	1275	4211	610	1147	1960	5165
10,000	370	727	1332	4899	622	1193	2098	6239
25,000	378	760	1448	6939	646	1285	2399	9972
50,000	381	772	1491	8056	655	1318	2520	12455
75,000	382	776	1506	8514	658	1330	2563	13583
100,000	383	778	1513	8762	659	1336	2585	14227
250,000	384	782	1527	9248	662	1347	2626	15555
500,000	384	783	1532	9423	663	1350	2640	16055
1,000,000	384	783	1534	9512	663	1352	2647	16317
2,500,000	384	784	1536	9567	663	1353	2651	16478
10,000,000	384	784	1536	9594	663	1354	2653	16560
100,000,000	384	784	1537	9603	663	1354	2654	16584
300,000,000	384	784	1537	9603	663	1354	2654	16586

APPENDIX 3

```
RELIABILITY
  /VARIABLES=AWN1 AWN2 AWN3 AWN4 AWN5 AWN6 AWN7 AWN8 AWN9 AWN10 AWN11
AWN12 AWN13 AWN14 AWN15 AWN16 AWN17 AWN18 AWN19 AWN20 AWN21 AWN22
AWN23 AWN24 AWN25 AWN26 AWN27 AWN28 AWN29 AWN30 AWN31 AWN32 AWN33
AWN34
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability
Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.960	34

```
RELIABILITY
  /VARIABLES=UIR1 UIR2 UIR3 UIR4 UIR5 UIR6 UIR7 UIR8 UIR9 UIR10 UIR11
UIR12 UIR13 UIR14 UIR15 UIR16 UIR17 UIR18 UIR19 UIR20 UIR21 UIR22
UIR23 UIR24 UIR25 UIR26 UIR27 UIR28 UIR29 UIR30 UIR31 UIR32 UIR33
UIR34 UIR35 UIR36 UIR37 UIR38 UIR39 UIR40 UIR41 UIR42
UIR43 UIR44 UIR45 UIR46 UIR47 UIR48 UIR49
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability
Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.812	49

```
RELIABILITY
  /VARIABLES=ISC1 ISC2 ISC3 ISC4 ISC5 ISC6 ISC7 ISC8 ISC9 ISC10 ISC11
ISC12 ISC13 ISC14 ISC15 ISC16 ISC17 ISC18
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.820	18

```
RELIABILITY
  /VARIABLES=FAIR1 FAIR2 FAIR3 FAIR4 FAIR5 FAIR6 FAIR7 FAIR8 FAIR9
FAIR10 FAIR11 FAIR12 FAIR13
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.928	13

```
RELIABILITY
  /VARIABLES=CUIR1 CUIR2 CUIR3 CUIR4 CUIR5 CUIR6 CUIR7 CUIR8 CUIR9
CUIR10 CUIR11 CUIR12
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability
Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.915	12

```
RELIABILITY
  /VARIABLES=AWN1 AWN2 AWN3 AWN4 AWN5 AWN6 AWN7 AWN8 AWN9 AWN10 AWN11
AWN12 AWN13 AWN14 AWN15 AWN16 AWN17 AWN18 AWN19 AWN20 AWN21 AWN22
AWN23 AWN24 AWN25 AWN26 AWN27 AWN28 AWN29 AWN30 AWN31 AWN32 AWN33
AWN34 UIR1 UIR2 UIR3 UIR4 UIR5 UIR6 UIR7 UIR8 UIR9
UIR10 UIR11 UIR12 UIR13 UIR14 UIR15 UIR16 UIR17 UIR18 UIR19 UIR20
UIR21 UIR22 UIR23 UIR24 UIR25 UIR26 UIR27 UIR28 UIR29 UIR30 UIR31
UIR32 UIR33 UIR34 UIR35 UIR36 UIR37 UIR38 UIR39 UIR40 UIR41 UIR42
UIR43 UIR44 UIR45 UIR46 UIR47 UIR48 UIR49 ISC1 ISC2 ISC3
ISC4 ISC5 ISC6 ISC7 ISC8 ISC9 ISC10 ISC11 ISC12 ISC13 ISC14 ISC15
ISC16 ISC17 ISC18 FAIR1 FAIR2 FAIR3 FAIR4 FAIR5 FAIR6 FAIR7 FAIR8
FAIR9 FAIR10 FAIR11 FAIR12 FAIR13 CUIR1 CUIR2 CUIR3 CUIR4 CUIR5 CUIR6
CUIR7 CUIR8 CUIR9 CUIR10 CUIR11 CUIR12
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.896	126

Frequencies

Statistics

		DEMO1	DEMO2	DEMO3	DEMO4	DEMO5	DEMO6
N	Valid	256	256	256	254	256	256
	Missing	0	0	0	2	0	0

Frequency Table

Indicate your gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	122	47.7	47.7	47.7
	Female	134	52.3	52.3	100.0
	Total	256	100.0	100.0	

Name of the University you work with

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ABU	195	76.2	76.2	76.2
	KASU	41	16.0	16.0	92.2
	NDA	10	3.9	3.9	96.1
	NOUN	10	3.9	3.9	100.0
	Total	256	100.0	100.0	

Name of your Department/Unit

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accounting	33	12.8	12.8	16.8
	Agriculture	32	12.5	12.5	25.4
	Business Administration	43	16.7	16.7	33.6
	Clinical Pharmacy	4	1.5	1.5	44.5
	Computer Science	27	10,5	10.5	
	Economics	17	6.6	6.6	
	Islamic Studies	1	.3	.3	42.6
	Maths& Computer Science	1	.3	.3	43.0
	Pharmaceutical & Med	4	1.5	1.5	44.5
	Physics	18	7.0	7.0	51.6
	Political Science	9	3.5	3.5	55.1
	Sociology	2	.7	.7	55.9
				.	
			.		
			.	.	
	Total	256	100.0	100.0	100.0

What is your highest qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First degree	12	4.7	4.7	4.7
	Postgraduate Diploma	11	4.3	4.3	9.1
	Master Degree	211	82.4	83.1	92.1
	PhD	20	7.8	7.9	100.0
	Total	254	99.2	100.0	
Missing	System	2	.8		
Total		256	100.0		

How long have you been working with the University

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 Years	162	63.3	63.3	63.3
	6-10	41	16.0	16.0	79.3
	11-15	36	14.1	14.1	93.4
	16-20	15	5.9	5.9	99.2
	21 and above	2	.8	.8	100.0
	Total	256	100.0	100.0	

What is your age range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-29	35	13.7	13.7	13.7
	30-39	57	22.3	22.3	35.9
	40-49	103	40.2	40.2	76.2
	50-59	61	23.8	23.8	100.0
	Total	256	100.0	100.0	

Frequencies

Statistics

Awareness and Familiarity

N	Valid	256
	Missing	0

Awareness and Familiarity with Internet resources by academic staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	228	89.1	89.1	89.1
	No	21	8.2	8.2	97.3
	3.00	7	2.7	2.7	100.0
	Total	256	100.0	100.0	

Descriptive

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AWN1	256	1.00	3.00	1.1367	.41640
AWN2	256	1.00	3.00	1.8516	.37761
AWN3	256	1.00	3.00	1.9180	.36125
AWN4	256	1.00	3.00	1.9297	.34717
AWN5	256	1.00	4.00	1.9648	.41860
AWN6	256	1.00	4.00	2.0000	.37573
AWN7	256	1.00	4.00	1.9844	.40554
AWN8	256	1.00	4.00	1.9492	.45305
AWN9	256	1.00	4.00	1.9414	.40642
AWN10	256	1.00	4.00	1.9219	.34549
AWN11	256	1.00	4.00	1.9766	.46803
AWN12	256	1.00	3.00	1.8711	.35835
AWN13	256	1.00	4.00	1.9727	.41919
AWN14	256	1.00	4.00	1.9453	.43039
AWN15	256	1.00	4.00	1.9258	.41345
AWN16	256	1.00	4.00	1.8945	.39681
AWN17	256	1.00	3.00	1.9102	.37013
AWN18	256	1.00	3.00	1.9180	.33884
AWN19	256	1.00	4.00	1.9766	.43322
AWN20	256	1.00	4.00	2.0156	.45131
AWN21	256	1.00	4.00	2.0234	.42408
AWN22	256	1.00	4.00	2.0156	.43358
AWN23	256	1.00	4.00	2.0039	.43834
AWN24	256	1.00	4.00	1.8867	.38458
AWN25	256	1.00	4.00	1.9766	.44218
AWN26	256	1.00	4.00	1.8633	.40688
AWN27	256	1.00	4.00	1.9375	.44721
AWN28	256	1.00	4.00	1.9258	.37359
AWN29	256	1.00	4.00	1.8555	.45006
AWN30	256	1.00	2.00	1.1953	.39722
AWN31	256	1.00	2.00	1.0078	.08821
AWN32	256	1.00	2.00	1.0273	.16340
AWN33	256	1.00	2.00	1.0352	.18454
AWN34	256	1.00	2.00	1.0352	.18454
Valid N (listwise)	256				

Frequencies

Statistics

Use of Internet resources

N	Valid	253
	Missing	3

Do you make use of Internet resource in your academic activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	247	96.5	97.6	97.6
	No	6	2.3	2.4	100.0
	Total	253	98.8	100.0	
Missing	System	3	1.2		
Total		256	100.0		

Frequencies

Frequency Table

Level of use of E-books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	214	83.6	83.6	83.6
	Moderate Use	35	13.7	13.7	97.3
	Low use	4	1.6	1.6	98.8
	Not used	3	1.2	1.2	100.0
	Total	256	100.0	100.0	

Use of e-journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	205	80.1	80.1	80.1
	Moderate Use	46	18.0	18.0	98.0
	Low use	2	.8	.8	98.8
	Not used	3	1.2	1.2	100.0
	Total	256	100.0	100.0	

Use of e-newspapers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	200	78.1	78.1	78.1
	Moderate Use	45	17.6	17.6	95.7
	Low use	7	2.7	2.7	98.4
	Not used	4	1.6	1.6	100.0
	Total	256	100.0	100.0	

Use of e-thesis/Dissertation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	194	75.8	75.8	75.8
	Moderate Use	50	19.5	19.5	95.3
	Low use	9	3.5	3.5	98.8
	Not used	3	1.2	1.2	100.0
	Total	256	100.0	100.0	

Use of indexing and abstracting databases

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	57	22.3	22.3	22.3
	Moderate Use	183	71.5	71.5	93.8
	Low use	9	3.5	3.5	97.3
	Not used	7	2.7	2.7	100.0
	Total	256	100.0	100.0	

Use of full text databases

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	48	18.8	18.8	18.8
	Moderate Use	198	77.3	77.3	96.1
	Low use	5	2.0	2.0	98.0
	Not used	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Use of statistical databases

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	48	18.8	18.8	18.8
	Moderate Use	197	77.0	77.0	95.7
	Low use	6	2.3	2.3	98.0
	Not used	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Use of multimedia resources(video, image and audio)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	49	19.1	19.1	19.1
	Moderate Use	195	76.2	76.2	95.3
	Low use	9	3.5	3.5	98.8
	Not used	3	1.2	1.2	100.0
	Total	256	100.0	100.0	

Use of open educational resources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	54	21.1	21.1	21.1
	Moderate Use	189	73.8	73.8	94.9
	Low use	11	4.3	4.3	99.2
	Not used	2	.8	.8	100.0
	Total	256	100.0	100.0	

Use of email services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	52	20.3	20.3	20.3
	Moderate Use	194	75.8	75.8	96.1
	Low use	5	2.0	2.0	98.0
	Not used	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Use of news/discussion groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	73	28.5	28.5	28.5
	Moderate Use	178	69.5	69.5	98.0
	Low use	3	1.2	1.2	99.2
	Not used	2	.8	.8	100.0
	Total	256	100.0	100.0	

Use of search engines

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	60	23.4	23.4	23.4
	Moderate Use	190	74.2	74.2	97.7
	Low use	3	1.2	1.2	98.8
	Not used	3	1.2	1.2	100.0
	Total	256	100.0	100.0	

Use of digital libraries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	62	24.2	24.2	24.2
	Moderate Use	189	73.8	73.8	98.0
	Low use	3	1.2	1.2	99.2
	Not used	2	.8	.8	100.0
	Total	256	100.0	100.0	

Use of reference databases

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly used	85	33.2	33.2	33.2
	Moderate Use	162	63.3	63.3	96.5
	Low use	4	1.6	1.6	98.0
	Not used	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Frequencies

Statistics

ISC

N	Valid	256
	Missing	0

Are you literate in ICT skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	211	82.4	82.4	82.4
	No	34	13.3	13.3	95.7
	4.00	11	4.3	4.3	100.0
	Total	256	100.0	100.0	

Frequencies

Frequency Table

Use of MS Word

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	210	82.0	82.0	82.0
	Medium	44	17.2	17.2	99.2
	Low	2	.8	.8	100.0
	Total	256	100.0	100.0	

Use of MS Excel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	206	80.5	80.5	80.5
	Medium	45	17.6	17.6	98.0
	Low	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Use of Access

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	199	77.7	77.7	77.7
	Medium	50	19.5	19.5	97.3
	Low	5	2.0	2.0	99.2
	None	2	.8	.8	100.0
	Total	256	100.0	100.0	

Use of Power point

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	164	64.1	64.1	64.1
	Medium	89	34.8	34.8	98.8
	Low	3	1.2	1.2	100.0
	Total	256	100.0	100.0	

Use of General computer operations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	162	63.3	63.3	63.3
	Medium	88	34.4	34.4	97.7
	Low	5	2.0	2.0	99.6
	None	1	.4	.4	100.0
	Total	256	100.0	100.0	

Use of sending emails

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	123	48.0	48.0	48.0
	Medium	133	52.0	52.0	100.0
	Total	256	100.0	100.0	

Use of electronic library tools

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	87	34.0	34.0	34.0
	Medium	150	58.6	58.6	92.6
	Low	15	5.9	5.9	98.4
	None	4	1.6	1.6	100.0
	Total	256	100.0	100.0	

Taking part in online discussions/charts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	94	36.7	36.7	36.7
	Medium	146	57.0	57.0	93.8
	Low	14	5.5	5.5	99.2
	None	2	.8	.8	100.0
	Total	256	100.0	100.0	

Video conferencing/meetings

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	78	30.5	30.5	30.5
	Medium	152	59.4	59.4	89.8
	Low	19	7.4	7.4	97.3
	None	7	2.7	2.7	100.0
	Total	256	100.0	100.0	

Sending attachment with an email message

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	115	44.9	44.9	44.9
	Medium	134	52.3	52.3	97.3
	Low	5	2.0	2.0	99.2
	None	2	.8	.8	100.0
	Total	256	100.0	100.0	

Downloading file from the Internet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	91	35.5	35.5	35.5
	Medium	154	60.2	60.2	95.7
	Low	6	2.3	2.3	98.0
	None	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Saving an image or graphic from a web page

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	96	37.5	37.5	37.5
	Medium	153	59.8	59.8	97.3
	Low	4	1.6	1.6	98.8
	None	3	1.2	1.2	100.0
	Total	256	100.0	100.0	

Using search engines to find information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	80	31.3	31.3	31.3
	Medium	172	67.2	67.2	98.4
	Low	2	.8	.8	99.2
	None	2	.8	.8	100.0
	Total	256	100.0	100.0	

Using more advanced search techniques to find information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	84	32.8	32.8	32.8
	Medium	168	65.6	65.6	98.4
	Low	2	.8	.8	99.2
	None	2	.8	.8	100.0
	Total	256	100.0	100.0	

Searching online databases

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	68	26.6	26.6	26.6
	Medium	179	69.9	69.9	96.5
	Low	2	.8	.8	97.3
	None	7	2.7	2.7	100.0
	Total	256	100.0	100.0	

Frequencies

Frequency Table

Lack of ICT skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	43	16.8	16.8	16.8
	agree	207	80.9	80.9	97.7
	strongly agree	6	2.3	2.3	100.0
	Total	256	100.0	100.0	

Lack of willingness to learn new skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	28	10.9	10.9	10.9
	agree	216	84.4	84.4	95.3
	disagree	4	1.6	1.6	96.9
	strongly agree	8	3.1	3.1	100.0
	Total	256	100.0	100.0	

Inadequate ICT skills training programs in the university

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	32	12.5	12.5	12.5
	agree	214	83.6	83.6	96.1
	disagree	5	2.0	2.0	98.0
	strongly agree	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Poor Internet search skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	27	10.5	10.5	10.5
	agree	217	84.8	84.8	95.3
	disagree	5	2.0	2.0	97.3
	strongly agree	7	2.7	2.7	100.0
	Total	256	100.0	100.0	

Lack of motivation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	18	7.0	7.0	7.0
	agree	226	88.3	88.3	95.3
	disagree	5	2.0	2.0	97.3
	strongly agree	7	2.7	2.7	100.0
	Total	256	100.0	100.0	

Lack of awareness of the Internet resources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	21	8.2	8.2	8.2
	agree	219	85.5	85.5	93.8
	disagree	10	3.9	3.9	97.7
	strongly agree	6	2.3	2.3	100.0
	Total	256	100.0	100.0	

Lack of necessary Internet infrastructure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	27	10.5	10.5	10.5
	agree	219	85.5	85.5	96.1
	disagree	5	2.0	2.0	98.0
	strongly agree	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Age related issues

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	20	7.8	7.8	7.8
	agree	216	84.4	84.4	92.2
	disagree	15	5.9	5.9	98.0
	strongly agree	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Lack of access to good academic websites

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	29	11.3	11.3	11.3
	agree	220	85.9	85.9	97.3
	disagree	2	.8	.8	98.0
	strongly agree	5	2.0	2.0	100.0
	Total	256	100.0	100.0	

Gender issues

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	17	6.6	6.6	6.6
	agree	212	82.8	82.8	89.5
	disagree	17	6.6	6.6	96.1
	strongly agree	10	3.9	3.9	100.0
	Total	256	100.0	100.0	

Absence of Internet use policy in the institutions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	22	8.6	8.6	8.6
	agree	224	87.5	87.5	96.1
	disagree	7	2.7	2.7	98.8
	strongly agree	3	1.2	1.2	100.0
	Total	256	100.0	100.0	

Cost related issues

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	33	12.9	12.9	12.9
	agree	216	84.4	84.4	97.3
	disagree	3	1.2	1.2	98.4
	strongly agree	4	1.6	1.6	100.0
	Total	256	100.0	100.0	

Negative attitude towards ICTs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	30	11.7	11.7	11.7
	agree	208	81.3	81.3	93.0
	disagree	11	4.3	4.3	97.3
	strongly agree	7	2.7	2.7	100.0
	Total	256	100.0	100.0	

Descriptive

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Poor Internet search skill	256	1.00	3.00	1.1055	.32025
Erratic power supply	256	1.00	2.00	1.0312	.17433
Irrelevant information in the Internet	256	1.00	2.00	1.0937	.29205
Too much information in the Internet	256	1.00	2.00	1.0977	.29743
Too much time wasted on the Internet	256	1.00	2.00	1.0859	.28082
Lack of credibility of information on the Internet	256	1.00	2.00	1.0977	.29743
Slow Internet speed	256	1.00	2.00	1.0352	.18454
Lack of technical support	256	1.00	2.00	1.0586	.23532
Lack of subject guides	256	1.00	2.00	1.0664	.24948
Insufficient computers for student s learning	256	1.00	2.00	1.0625	.24254
High cost of data	256	1.00	2.00	1.0352	.18454
Inability of the library to subscribe to good academic databases	256	1.00	2.00	1.0312	.17433
Valid N (listwise)	256				

Correlations

Correlations

		UIR	ISC
UIR	Pearson Correlation	1	-.060
	Sig. (2-tailed)		.345
	N	253	253
ISC	Pearson Correlation	-.060	1
	Sig. (2-tailed)	.345	
	N	253	256