APPLICATION OF INFORMATION COMMUNICATION TECHNOLOGY IN TERTIARY INSTITUTIONS AND ACADEMIC LIBRARIES: FUNDING POLICY AND ACQUISITION OF ELECTRONIC INFORMATION RESOURCES AND SERVICES

UNDER SUB-TITLES:

INTERNET AND ITS UTILIZATION AMONG THE STAFF AND STUDENTS OF NUHU BAMALLI POLYTECHNIC, ZARIA, KADUNA- NIGERIA

AN ASSESSMENT OF ELECTRONIC INFORMATION RESOURCES AND SERVICES IN KADUNA STATE UNIVERSITY LIBRARY, KADUNA- NIGERIA

SURVEY OF FUNDING POLICY AND ACQUISITION OF INFORMATION RESOURCES IN FEDERAL COLLEGE OF EDUCATION (FCE) LIBRARY, ZARIA, KADUNA- NIGERIA

APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN MANAGEMENT OF INFORMATION RESOURCES AND SERVICES IN KASHIM IBRAHIM LIBRARY, AHMADU BELLO UNIVERSITY, ZARIA, KADUNA-NIGERIA

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December, 2015

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A Research Dissertation Submitted to the Newcastle College, United Kingdom for PhD Research Degrees

BY

SANI MURTALA RIDWAN

In-partial fulfillment of the requirements for award of Degree of PhD Information Technology (IT)

Under Supervision of: Dr. SHERIF EL BELTAGI
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December, 2015

DECLARATION

I declare that this research is my personal research dissertation. And it was never presented anywhere, either completely or partially, for the purpose of the award of a higher degree programme. All the quotations and sources of information are acknowledged in references

Sani Murtala Ridwan **Signature & Date**

CERTIFICATION

This dissertation has met the requirements for the award of the degree of PhD of Information Technology (IT) under sub-tittles:

1- Internet and its Utilization among the Staff and Students of Nuhu Bamalli Polytechnic, Zaria, Kaduna- Nigeria

2- An Assessment of Electronic Information Resources and Services in Kaduna State University Library, Kaduna- Nigeria

3- Survey of Funding Policy and Acquisition of Information Resources in Federal College of Education (FCE) Library, Zaria, Kaduna- Nigeria

4- Application of Information and Communication Technology in Management of Information Resources and Services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria, Kaduna-Nigeria

And is approved for its contribution to knowledge

SUPERVISOR: **DR. SHERIF EL BELTAGI** **SIGNATOR & DATE**

DEDICATION

I dedicated this works to my beloved parents: Alhaji Murtala Ridwan and Hajiya Hannatu Ashafa'a. Members of BTK family shall ever remain grateful to them for bringing me up in accordance with Allah's injunctions and for teaching us to always worship Allah (SWT) and serving humanity. May Allah (SWT) grant them eternal mercy and peace, amen.

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Internet and Its Utilization among the Staff and Students of Nuhu Bamalli Polytechnic, Zaria, Kaduna- Nigeria

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Abstract

The purpose of research is to discover answers to questions through the application of scientific procedures. Though each research study has its own specific purpose, this study concentrates on the following objectives: finding out the purposes of the use of Internet by staff and students of Nuhu Bamali polytechnic, Zaria, examining the academic use of internet by staff and students of Nuhu Bamali polytechnic, Zaria, evaluating the opinion about internet in promoting teaching and research of Nuhu Bamali polytechnic staff and students, zaria, identifying the problems militating against a full and effective utilization of Internet by the staff and students of Nuhu Bamali polytechnic, Zaria, and to find out the level of academics satisfaction with the available Internet facilities in promoting teaching and research of Nuhu Bamali polytechnic staff and students, Zaria. In the process of the investigation, the researcher gave the general introduction of internet, definition of terminology, a brief background of Nuhu Bamalli Polytechnic, statement of the problems, and the scope and limitation of the study. A qualitative research design is adopted for this study. The method will be appropriate and suitable for the study since the study is descriptive in nature. The populations of the study are Nuhu Bamali polytechnic, Zaria, were academic staff and students of School of Applied Science and School of Management Studies form the sample of the study. The main body of the research consist of the concept of internet, internet in Africa, use of internet in Nigeria, Academic Use of Internet and Social Media, internet for educational purpose, internet as E-learning technology, function of internet, resources available on the internet, impact of internet on library and information services, internet management & security, internet monitoring, Protecting the Internet from threats, the regulation in use of internet, Problems Associated with the use of Internet for Educational purposes. The main body of the research consists of the data presentation, logical Analysis of data and major finding of the research.

CHAPTER ONE

1.0 Explanation of topic selection

Considerations in selecting a research problem help to ensure that the study remains manageable in terms of scope, resources and contributing to knowledge. Internet has revolutionalised the life of the global community in manyways. Apart from transacting businesses of different kinds through the internet, its usefulness seems to manifest greatly in the academic circles too, where students and lecturers use the internet also for research and relaxation. Even though most undergraduate students can pride themselves as being computer literate, the fact remains that some are yet to know how the internet works. Irrespective of their status the need for them to exploit the internet for one purpose or the other cannot be underemphasised. Against this backdrop, the researcher wishes to establish the specific research on internet and its utilization among the staff and students of Nuhu Bamalli Polytechnic, Zaria. In this direction there are many factors that will lead to the researcher for selection a topic, below are some of the reasons:

1) Interest: a research endeavour is usually time consuming, and involves hard work and possibly unforeseen problems. One should select topic of great interest to sustain the required motivation.
2) Magnitude: It is extremely important to select a topic that you can manage within the time and resources at your disposal.
3) Measurement of concepts: Make sure that you are clear about the indicators and measurement of concepts (if used) in your study.
4) Level of expertise: Make sure that you have adequate level of expertise for the task you are proposing since you need to do the work yourself.
5) Relevance: Ensure that your study adds to the existing body of knowledge, bridges current gaps and is useful in policy formulation. This will help you to sustain interest in the study.
6) Availability of data: Before finalizing the topic, make sure that data are available.

7) Ethical issues: How ethical issues can affect the study population and how ethical problems can be overcome should be thoroughly examined at the problem formulating stage.

By the above highlighted reasons for the selection of topic, I depend on items one, four, five and six that are: interest, level of expertise, relevance and availability of data. The researcher has an interest to conduct research on topic due to the availability of data, level of expertise, and it is also relevant to the researcher profession.

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. Kothari, (2004). Observed that collecting data in dealing with any real life problem it is often found that data at hand are inadequate, and hence, it becomes necessary to collect data that are appropriate. There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources at the disposal of the researcher. Primary data can be collected either through experiment or through survey. If the researcher conducts an experiment, he observes some quantitative measurements, with the help of which he examines the truth contained in his hypothesis. But in the case of a survey, data can be collected by any one or more of the following ways: observation, personal interview, telephone interviews, through schedules and mailing of questionnaires the researcher and the respondents do come in contact with each other on this method of survey that will be adopted. The researcher adopted mail questionnaire due to the nature of research and advantage of the instrument.

a) Can be used to collect large amounts of information at a low cost per respondent.

b) Respondents may give more honest answers to personal questions on a mail questionnaire

c) No interviewer is involved to bias the respondent's answers.

d) Convenient for respondent's who can answer when they have time

e) Good way to reach people who often travel (RMPC, n.d.).

Questionnaires are mailed to the respondents with a request to return after completing the same. It is the most extensively used method in various economic and business surveys.

Before applying this method, usually a Pilot Study is been tested the questionnaire is administered which reveals the weaknesses, if any, of the questionnaire. Questionnaire to be used must be prepared very carefully so that it may prove to be effective in collecting the relevant information (Kothari, 2004). The questionnaire is divided into these sections. Section A: Demographic data of the respondents; which includes division, unit, ranks and years of working experience. Section B: the purposes use of Internet by staff and students of Nuhu Bamali polytechnic. Section C: the academic use of internet by staff and students of Nuhu Bamali polytechnic. Section D: opinion about internet in promoting teaching and research of Nuhu Bamali polytechnic staff and students. Section E: problems militaing against a full and effective utilization of Internet by staff and students of Nuhu Bamali polytechnic. Section F: level of academics satisfaction with the available Internet facilities.

CHAPTER TWO

2.0 Identification and Outline of the Research Objectives

2.1 **Objective of the Study**

The purpose of research is to discover answers to questions through the application of scientific procedures. Though each research study has its own specific purpose, this study concentrates on the following objectives:

1) To finds out the purposes behind the use of Internet by staff and students of Nuhu Bamali polytechnic, Zaria.

2) To examine the academic use of internet by staff and students of Nuhu Bamali polytechnic, Zaria

3) To evaluate the opinion about internet in promoting teaching and research of Nuhu Bamali polytechnic staff and students, zaria.

4) To identify the problems militating against the full and effective utilization of Internet by staff and students of Nuhu Bamali polytechnic, Zaria.

5) To find out the level of academics satisfaction with the available Internet facilities in promoting teaching and research of Nuhu Bamali polytechnic staff and students, Zaria.

2.2 **Research Question**

The following research questions will be answered

1) What are the purposes behind the use of Internet by staff and students of Nuhu Bamali polytechnic, Zaria?

2) What is the academic use of internet by staff and students of Nuhu Bamali polytechnic, Zaria?

3) What is your opinion about internet in promoting teaching and research of Nuhu Bamali polytechnic staff and students, Zaria?

4) What are the problems militating against the full and effective utilization of Internet by staff and students of Nuhu Bamali polytechnic, Zaria?

5) What are the level of academics satisfaction with the available Internet facilities in promoting teaching and research of Nuhu Bamali polytechnic staff and students, Zaria?

CHAPTER THREE

3.0 Introduction

The advent of internet and its use in education and training has revamped the scenario. The advancements in its capabilities and innovative styles of using it have generated new opportunities and spaces for students to share their learning experiences, ideas, and research findings through interactions. Such interactions and sharing are carried out through internet technology and the capabilities which facilitate (such interaction/ communications) are referred to social media. Social media is Internet based technology which promotes opportunities to social interaction; among its users. It is enhanced through new communication tools and sites that are called; social networking sites. These internet based tools and technologies have audio and visual capabilities along-with capturing, storing, connecting and retrieving features that include:

a) Blogs that make authors to publish/post their work and invite comments on it.

b) Wikis which have capability to promote and facilitate 'common creation' through joint academic ventures.

c) Social bookmarking is used to enable users for collating, tagging, and sharing websites of their interests

d) Media sharing spaces provide spaces and opportunities to the user community of posting and sharing pictures, podcasts and videos. RSS Feeds extend a variety of information sources to its users immediately on command.

e) Collaborative editing tools extend documents' sharing and editing facility to multiple users

f) Micro-blogging sites such as twitter provide spaces for publishing very short messages

g) Social networking sites or SNS's (face book, LinkedIn, etc.) have capabilities of promoting virtual communities to interact and communicate synchronously or asynchronously.

Currently, the use of internet appears to be in its momentum stage; changing the styles, and patterns of communication at macro, as well as micro levels. The users' trend seems to be increasing and embracing internet for communication and academic purpose. However, the pace of using internet sites appears to be different in different countries and

among various user communities. It is depicted from the Second World Internet Project New Zealand Survey that 83% of the citizens of New Zealand used the internet and out of these users, 80% reported that they checked their e-mails on daily basis, 33% enjoyed instant messaging services, 25% played online games off and on but at least once a week and 50% affirmed to be the members of social networking sites (Smith, P. & et al., 2009).

Bidin, Z. & et al. (n.d.), explained that many people now use the Internet to update themselves with varieties of information. As such, the Internet is called a gateway of information. The Internet also affects the way people learn especially in higher learning institutions (Edmunds, Thorpe, and Conole, 2010). Indeed, to stay relevant, it is imperative for universities to stay abreast with the current technological development in teaching and learning. To enhance the teaching and learning experiences further, many universities have also installed the necessary infrastructure around their campuses. For example, the installation of wireless hotspots have enabled students to access the Internet easily and readily at anytime and anywhere at their convenience. This means that they can use the Internet to search for information, interact with lecturers, access library materials and download notes from their lecturers‟ websites. Learning therefore is no longer restricted to classroom interactions and teaching, but it is extended beyond the normal class schedule (Bidin, Z. & et al., n.d.).

3.1 Internet Terminology

According to Internet Basic (n.d.) to understand how the Internet works, it is a good idea to first be familiar with the terms that are commonly used in connection with the Internet. These terms are discussed in the following subsections.

Client: A client is any computer on the network that requests services from another computer on the network. To be able to request services and access the resources present on some other computer on the network, the client should have adequate access permissions.

Server: A server is a computer that receives requests from client computers, processes these requests, and sends the output to the respective client computers that had placed the requests. The range of services that a server can offer a client is based on the permissions possessed by the client. The server computer defines these permissions.

Client-Server Network: Client-server network is one of the most basic common architectures that is used for computer connectivity. In this type of network, several client computers are connected to the server and also to each other. Client computers request services from the server computer, and the server accepts or rejects these requests. The server computer is also responsible for storing relevant information that is frequently used by the client most suited for a setup that has a large number of clients. In the Internet scenario, each user, typically a client connects to a Web site that is hosted on a server. The user then requests services from this server, and depending on the permissions possessed by the user, the server processes these requests.

Web Server: A Web server is a computer that is dedicated to provide Web services to clients on the Internet. Web services are often provided through Web sites that are hosted on a Web server that is accessed by a client. However, before the clients can access the site, it is preferable to register the domain name at a Domain Name Service.

Browser: To access the content of a Web site, users must have a browser that can help them locate a Web site on the Internet and then view the content of a Web page. Users can also use the browser to download and upload files on the Internet. A few popular browsers that are used worldwide are Internet Explorer, Netscape Navigator, and Opera. To access a Web site, a user needs to specify an address that helps the browser track a particular Web site.

URL: A unique resource locator (URL) is a link that is used to access a Web site on the Internet. A URL is unique to each site, and is typically based on the nature of the site. Without specifying a valid URL, users cannot access a particular site. For example, to access the official Web site for PHP, the user will need to specify the URL www.php.net.

ISP: Internet service providers (ISPs) are companies that help users connect to the Internet for a monthly fee. In return, they provide a username, a password, and telephone number. The username and the password are used to authenticate the user on the Internet. The telephone number is used to establish connection with the dial-up server of the ISP. However, to access the Internet a user (client computer) requires a modem.

Modem: To access the Internet, a user requires a hardware device called a modem. The word modem originated from the words modulator and demodulator. A modem transmits data over

telephone lines as analog signals and then converts them digital signals that can be interpreted by a computer.

Web Page: Any page that is hosted on the Internet is a Web page. AWeb page is viewed by using a browser. The basic framework of Web pages can be designed using a language called Hyper Text Markup Language (HTML).

Web Development: Web development is the process of creating Web pages for a Web site that will be hosted on the Internet. You can use a combination of HTML and other scripting languages to develop interactive Web pages.

Site Hosting: To enable people to access your site, you need to host it. You can either host the site on your own Web server or you can buy space from a Web site–hosting company. In either case, you need a registered domain name. Besides providing space, site-hosting companies also register your domain name. If you don't have adequate funds to host your own site, buying space from a known Web-hosting company would be an intelligent choice.

Access Methods: Access methods refer to the means of accessing sites on the Internet. There are two access methods that you can use to access the Internet. Let's discuss them.

Dial-up Connection: A dial-up connection is the access method that uses telephone lines to connect to the Internet. It is the most common way that individuals who use home computers connect to the Internet. To connect to the Internet by using dial up, the user needs to specify a username, a password, and a telephone number. After the connection is established, the user can start browsing sites on the Internet. Figure 1.2 illustrates a dial-up connection.

Leased Lines: Another popular method of accessing sites on the Internet through leased lines these lines maintains a dedicated connection with the Internet. Unlike dial-up connections, a user need not connect to the Internet using a modem. Leased lines are faster than dial-up connections because they can handle higher data transmission speed.

Bandwidth: Bandwidth refers to the rate of data transfer over the Internet, the higher the bandwidth, the higher the connection speed. Bandwidth is measured in kilobits per second (Kbps) or megabits per second (Mbps). A modem supports bandwidth up to 56 Kbps, whereas leased lines such as a digital subscriber line (DSL) support up to 8 Mbps.

Cross-Browser Compatibility: As discussed earlier, several browsers are available for accessing the Internet. The choice of browser entirely depends on the preference of the user.

Although this increases the availability of options for the users, it also gives way to problems. When Web pages are developed, if they are tested using a single browser, the developer will be unaware of how the Web page will appear when viewed using a different browser. In some cases, a Web page that is displayed perfectly on Internet Explorer might not be displayed properly on Netscape Navigator.

Protocols: Protocols are a set of rules that are followed on a network to facilitate communication between two different computers on a network or different networks. Hyper Text Transfer Protocol (HTTP) is used for communication on the Internet. When you specify a site address, it starts with http; this indicates that HTTP protocol is used to connect to the Internet.

Scripting Languages: is the evolution of the Internet and increasing competition, the need to develop more interactive Web pages arose, Users were no longer interested in viewing the same old non interactive Web pages that were created using HTML. But it was challenging and required a lot of time and expertise to make Web pages more interactive using languages such as C++. Developers started looking for an alternative that would help them develop more interactive Web pages in a shorter time and with ease. This led to the introduction of scripting languages, programming languages that can be embedded within HTML tags to make Web pages more attractive and interactive. Over the past couple of years, several scripting languages have been introduced.

Client-Side Scripting: Client-side scripting languages execute on a client computer. This means that a script executes when a page is downloaded on a client computer or when a link is activated. Client-side scripting was introduced so that the server did not have to handle the entire processing load. There are several advantages of using client-side scripting languages.

Server-Side Scripting: Server-side scripting is just the opposite of client-side scripting. All the scripts are executed on the server side. It is used to perform more complex tasks that require a lot of processing power (Inertnet Basic, n.d.).

3.2 Background of Nuhu Bamalli Polytechnic, Zaria

Ezema, I.J (2008), explained that over the years technical education has contributed in no small measures to the socio-economic growth of Nigeria. The crucial role of

technical education was recognized more with the establishment of Yaba technical institute (now Yaba college of Technology) in 1948. This was a landmark to the foundation of polytechnics in Nigeria. The period of 1970-1980, witnessed proliferation of polytechnics with the enactment of decree no. 33 of 1979 (Federal Republic of Nigeria, 1980).the decree gave birth to another tier of Nigerian Higher Education- the polytechnics. The first generation polytechnics, established by the decree, are those in Akure, Bauchi, Bida, Ida, Ilaro, Yaba and Yola.

According to decree, the function of polytechnics shall include:

1) To provide full and part-time courses of instruction and training in technology applied sciences, commerce, and management; and such other field of applied learning relevant to the needs of development of Nigeria in area of industrial and agricultural production and distribution and for research for development.
2) To arrange conferences, seminars and study relative to the field of learning specified in "1" above and
3) To perform such other function as the opinion of the council may serve to promote the objectives of the polytechnic.

Nuhu Bamalli Polytechnic came into being on the 2nd of February, 1989 wide Kaduna State Edict No. 3 (subsequently amended in 2004). The Edict charged the Polytechnic to among other things provide for training and development of techniques in Applied Science, Engineering and Commerce as well as in other spheres of learning. The Polytechnic courses of instruction (in full-time and Part-time) leading to the award of Diplomas, Certificates and other distinctions of Scientific, Technological and other subjects are available at all times in order to meet the requirements of State and the manpower needs of the Country (NBP website, n.d.). The institution has the following campuses:

1) Main Campus: Former UPE Zaria along Zaria-Kaduna Road
2) School of Applied Science: Former CAS, Gaskiya, Zaria
3) School of Management Studies: Former ERC, Gaskiya, Zaria
4) School of Agric Technology: Samaru Kataf

3.2 Statement of the Problem

Oni, F.A. (n.d.), observed that the developing nations are striving assiduously to catch up with the trend because the efficacy of IT in enhancing educational pursuits and general administration in institutions of higher learning has been widely reported (Chisena, 1995; Salanje, 1995; Bolarinwa, 2001 and Chandrasekharan, 2001). Thus, due to the current demand of information society, the Nigerian institutions of higher learning have been compelled to bridge the gap in the provision and utilization of IT as is the case in the advanced countries. Consequently, various technological institutions have mounted different IT courses and programmes for better appreciation, literacy and adaptability by the students and the entire academic community. Surukat, I.F. (2011), explained that the introduction of the Internet technology has tremendously impacted on service delivery by tertiary institutions in the developed countries. In Nigeria, however, efforts are just being made to strengthen the use of Internet particularly in the institutions of higher learning. In addition, funding made by Governmental agencies such as the National Universities Commission (NUC) and the Education Tax Fund (ETF), some international bodies such as the World Bank/International monetary Fund, corporate bodies (e.g. MTN) and other Non-Governmental Organizations also provide support for ICT and Internet projects on campuses. Scholars, researchers and lecturers are also gradually embracing the Internet due to its numerous advantages.

Azeez, A.L. (2010), explained that the advent of the internet has revolutionalised the life of the global community in all ways. Apart from transacting businesses of different kinds through the internet, its usefulness seems to manifest greatly in the academic circles too, where students and lecturers use the internet also for research and relaxation. Even though most undergraduate students can pride themselves as being computer literate, the fact remains that some are yet to know how the internet works. Irrespective of their status the need for them to exploit the internet for one purpose or the other cannot be underemphasised. Against this backdrop, the researchers wish to establish the specific research on internet and utilization among the staff and students of Nuhu Bamalli Polytechnic, Zaria.

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3.3 Significance of the Study

The study will reveal the extent of internet and utilization among the staff and students of Nuhu Bamalli Polytechnic, Zaria. Though several researches have been carried on IT but not one touches the area of internet, this study is unique in area of internet especially in Nuhu Bamalli Polytechnic, Zaria. Internet is to provide e- resources and e-services to the growing of entire system of Nuhu Bamalli Polytechnic, Zaria. As such the findings of the study will be of great importance to the government and Nuhu Bamalli Polytechnic management functionaries to plan better in order to meet the changing technological needs of their institution. The Internet can facilitate on library service delivery and also teaching and research pursuits. To that extent, it is necessary to investigate how much of Internet facilities are available/accessible in the institutions. It is equally important to examine the actual utilization and impact of the Internet, as well as well as the challenges of providing Internet services. Therefore, it will serve as a guide to Nuhu Bamalli Polytechnic management in the area of planning and establishing their newly center, department, and complex in provide qualitative internet resources and services. In addition, it will serve as a guide for newly created Polytechnics in setting up their plan for acquiring of internet technologies and services in order to meet the changing scenario in the field of interne technology. Finally, it is an important contribution in the field of information technology and knowledge in general.

3.5 Scope of the Study

Any intensive education research and extension education needs the support of systematic institution with information technology and internet services. A well organized and efficiently management of internet resources and services is pre-requisite to any of the above said activities. Therefore, there is a vast scope to a study the various aspects of internet and its utilization among the staff and students of Nuhu Bamalli Polytechnic, zaria. The student's scientists and academicians require the various types of internet facilities, e-resources and e-services according to changing scenario. Hence, it was decided to conduct a research on internet and utilization among the staff and students of Nuhu Bamalli Polytechnic, Zaria. The study will only cover the academic staff, and students of School of Applied Science and

School of Management Studies, Zaria. The research will study the situation associated with internet and services such as availability, use, problem and satisfaction of end users.

3.5 Definition of Terms

The following terms are defined in the context in which they are used in this study:

Server: a computer that provides a service to another computer

Search engine: finds web pages with specific content

Cookie: A file left on your computer by a website's browser containing your **Login/password**, user preferences, and other personalized information

Browser: Software used to "browse" the Internet. Most common examples are Internet Explorer and Netscape Navigator

Domain name: The unique name that identifies an Internet site

Downloading: Copying a file from a remote computer to your computer

Uploading: Copying a file from your computer to a remote computer

Bookmark: Function used to save a webpage location for future reference

Home page: Page your computer will go to when you initially log onto the Internet

Link, hyperlink: Text found on a web page which, when clicked, will take you to another web location

Internet: A computer network consisting of a worldwide network of computer networks that use the TCP/IP network protocols to facilitate data transmission and exchange

Utilization: The act of using "skilled in the utilization of computers"

Information: Knowledge acquired through study or experience or instruction. And it can be a collection of facts from which conclusions may be drawn.

Research: To study something carefully and try to discover new facts about it.

Availability: This is ready access to money with little or no stress to the librarians or purposes during a given period.

Use of Electronic resources: This is the searching, browsing, examining, visiting of an electronic resource, down loading and printing it by the user.

Electronic service: This is an information activity carried out electronically to satisfy the intended users. Electronic information services include e– mail based services, bulletin board for libraries, online public access catalogue (OPACs), portals and gateways and the internet.

Electronic Resources: These are electronic information resources that users access electronically via a computing network. Examples include online databases, e-journals, e-books, CD-ROMs, audio visual multimedia, etc.

Management: This is made up of a team of high level personnel in the library in charge of the responsibility of setting up activities ranging from planning, decision making, organizing, leading and controlling and organizing with the aim of achieving organizational goals and objectives.

Polytechnic: A tertiary institution that promotes technical services, teaching, research and learning established purposely to meet the goals and objectives of the institution.

CHAPTER FOUR

4.0 Research Approach and Planning

According to Kothari, (2004), explained that Qualitative research is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behavior (i.e., why people think or do certain things), we quite often talk of 'Motivation Research', an important type of qualitative research. This type of research aims to discover the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests, sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is especially important in the behavioral sciences where the aim is to discover the underlying motives of human behavior. Through such research we can analyze the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing. It may be stated, however, that to apply qualitative research in practice is relatively a difficult job and therefore, while doing such research, one should seek guidance from experimental psychologists.

A qualitative design will be adopted for this study. The method will be appropriate and suitable for the study since the study is after descriptive of situation of internet and utilization. Therefore, the research will be able to evaluate and survey all the aspect of internet and utilization among the staff and students of Nuhu Bamalli Polytechnic, Zaria, zaria.

4.1 Research strategy

Babbie (1986) explained that survey research strategy is used for descriptive and explanatory purposes. Meaning that a situation is fully described and explained in details base on what is existing. According to Ifidon and Ifidon (2007) a survey research gathers data from a population in order to determine the current statues of that population with respect to one or more variable. It does not focus on individual as an entity but generalizes statistic realized when data are abstracted from a number of individuals cases. It is characterized by selecting samples from a population and findings obtained are used to generalize the population. Survey

research is also directed towards different people to know their feeling, opinion, belief and attitude regarding an issue, policy or service. Ndagi (1984) defines survey research as a research concerned with the collection of data for the purpose of describing and interpreting existing conditions, prevailing practices, beliefs and attitudes on ongoing process.

Yin (1994), Identified five research strategies in social science base on three conditions:

1) Form of research questions
2) Control over behavioral event and
3) Focus on the contemporary events.

These strategies are experiments, surveys, archival analyses, historical and case studies. The survey strategy is most appropriate to this study since the study is after descriptive of the situation of internet and its utilization.

4.2 Population of the study

At an early stage in the planning of any investigation decisions must be made concerning the study population. That is, concerning the population of individual units (whether they are persons, households, etc.) to be investigated. The population under consideration should be clearly and explicitly defined in terms of place, time, and other relevant criteria. If the study population comprises cases of a disease the procedures to be used for case identification should be stated (Degu, G. &Yigzaw, T. 2006).

The population for this study is Nuhu Bamalli Polytechnic, Zaria. The choice of this institution was made because both federal and state institutions have common characteristics of managing the system. The target group for the study will be made up of the Academic Staff and Students of Nuhu Bamalli Polytechnic, Zaria.

4.3 Sample and Sampling Techniques

A Sample is a segment of the population selected to represent the population as a whole. Ideally, the sample should be representative and allow the researcher to make accurate estimates of the thoughts and behaviour of the larger population. According to research

methodology for private circulation (RMPC, n.d) ascertain that designing the sample calls for three decisions:

1) Who will be surveyed? (The Sample) The researcher must determine what type of information is needed and who is most likely to have it.

2) How many people will be surveyed? (Sample Size) Large samples give more reliable results than small samples. However it is not necessary to sample the entire target population.

3) How should the sample be chosen? (Sampling) Sample members may be chosen from the entire population.

The probability sampling (Random sample) will be adapted to this study the researcher selects the easiest and equal population members from which to obtain information.

With regards to the category of the entire population of the study, this is made of Nuhu Bamalli Polytechnic, Zaria. The academic staff, and students of School of Applied Science and School of Management Studies, Zaria, forms the sample of the study. Therefore, with respect to the study, the situation of internet and its utilization among the staff and students will be investigated. Include the situation associated with internet and services such as availability, use, problem and satisfaction of end users.

Table 4.1 distribution of sampled respondents by Nuhu Bamalli Polytechnic, Zaria

S/N	**Type of institution**	**Institution Name**	**Academic Staff**	**Students**	**Total**
1	State	Nuhu Bamalli Polytechnic, Zaria	60	90	150

4.4 Instruments for Data Collection

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. A questionnaire consists of a set of questions presented to a respondent for answers. The respondents read the questions, interpret what is expected and

then write down the answers themselves. Because there are many ways of asking questions, the questionnaire is very flexible. Questionnaire should be developed and tested carefully before being used on a large scale. There are three basic types of questionnaire: Closed – ended, Open-ended and Combination of both (RMPC, n.d.). Combination of both will be used in this study so that it will give the respondents chance to express their opinion.

The researcher feels that the questionnaire is of standard and adequate to provide the data needed for the research. Ihanacho (2004) explained that questionnaire as a survey research instrument is designed in question form to obtain feedback information from subjects with respect to their opinions, attitudes, beliefs and motives regarding a situation. Questionnaire was used to collect the data because of its relevance and the researcher knew that this method could be appropriate for getting information from the staff and the students of Nuhu Bamalli Polytechnic, Zaria. It is set out to gather factual information in an enquiry form through which the respondents answer the questions or respond to statements in writing.

4.4.1 Questionnaire

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. Kothari, (2004), observed that collecting the data in dealing with any real life problem it is often found that data at hand are inadequate, and hence, it becomes necessary to collect data that are appropriate. There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources at the disposal of the researcher. Primary data can be collected either through experiment or through survey. If the researcher conducts an experiment, he observes some quantitative measurements of the data, with the help of which he examines the truth contained in his hypothesis. But in the case of a survey, data can be collected by any one or more of the following ways: observation, personal interview, telephone interviews, through schedules and mailing of questionnaires the researcher and the respondents do come in contact with each other on this method of survey that will be adopted. The research adopted mail questionnaire due to the nature of research and advantage of the instrument. Some of the advantages of mail questionnaire are:

f) It can be used to collect large amounts of information at a low cost per respondent.

g) Respondents may give more honest answers to personal questions on a mail questionnaire

h) No interviewer is involved to bias the respondent's answers.

i) Convenient for respondent's who can answer when they have time

j) Good way to reach people who often travel (RMPC, n.d.).

Questionnaires are mailed to the respondents with a request to return after completing the same. It is the most extensively used method in various economic and business surveys. Before applying this method, usually a Pilot Study is been tested the questionnaire is conduced which reveals the weaknesses, if any, of the questionnaire. Questionnaire to be used must be prepared very carefully so that it may prove to be effective in collecting the relevant information (Kothari, 2004). The questionnaire is divided to these sections. Section A: Demographic data of the respondents; which includes division, unit, ranks and years of working experience. Section B: the purposes use of Internet by staff and students of Nuhu Bamali polytechnic, zaria. Section C: the academic use of internet by staff and students of Nuhu Bamali polytechnic. Section D: opinion about internet in promoting teaching and research in Nuhu Bamali polytechnic staff and students. Section E: problems militate against a full and effective utilization of Internet by staff and students of Nuhu Bamali polytechnic. Section F: level of academics satisfaction with the available Internet facilities.

4.5 Validity of the Instrument

According to Degu, G. &Yigzaw, T. (2006), validity refers to the degree of closeness between a measurement and the true value of what is being measured. Validity addresses the question, how close is the measured value to the true value? To be accurate, a measuring device must be both valid and reliable. However, if one cannot have both, validity is more important in situations when we are interested in the absolute value of what is being measured.

In order to ensure the validity of the questionnaire used in data collection, it would be subjected to validation**.** Kerlinger (1973) asserts that validation by others is an effective method for face validation of any instrument used for research. In this regard, the kind of

validation used was that of making a draft copy of the questionnaire available to experts for checking, observing, correction and amendment. Two thesis supervisors and three other academic staff of Cairo University, Egypt were chosen for the validation of the questionnaire. Mohammed (2005) notes that comments by such experts enables the researcher to review and revise the instrument for greater effectiveness before administering it.

4.6 Reliability of the Instrument

According to Degu, G. &Yigzaw, T. (2006), Reliability on the other hand is more important when it is not essential to know the absolute value, but rather we are interested in finding out if there is a trend, or to rank values. Reliability refers to the repeatability of a measure, i.e., the degree of closeness between repeated measurements of the same value. Reliability addresses the question, if the same thing is measured several times, how close are the measurements to each other?

According to Bryman (2008) reliability of instrument is very important as it deals with consistency, stability and detail treatment of issues using appropriate techniques. The reliability of the instrument was established by conducting a pilot study within two week at the Cairo University, Cairo Egypt. The choice of this university is made because it did not form part of the scope of the study. To ensure that the instrument was reliable, a pre-test was conducted using library staff in the same university (Cairo University) which was not included in the study.

4.6 Procedure for Data Collection

Having decided on how to design the research study, the next methodological design is how to collect information. The most commonly used methods of collecting information (quantitative data) are the use of documentary sources, interviews and self-administered questionnaires. Data collection methods are time consuming and consequently data is collected from smaller numbers of people than would usually be the case in quantitative approaches such as the questionnaire survey. The benefits of using these approaches include richness of data and deeper insight into the phenomena under study (Degu, G. &Yigzaw, T., 2006).

The researcher administered and collected the questionnaires through Email as research assistant to all the respondents. In this process the researcher solicited the cooperation of the staff in authority of Nuhu Bamalli Polytechnic, Zaria, which was done within one week. An additional two weeks were also given to the respondents so as to facilitate completion of the instrument. The administration of the instrument was conducted under strict confidentiality as the respondents were assured that their responses would be treated confidentially and for the purpose of the study alone.

4.7 Procedure for Data Analysis

Kothari, (2004), explained that the data, after collection, has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan. This is essential for a scientific study and for ensuring that we have all relevant data for making contemplated comparisons and analysis. Technically speaking, processing implies editing, coding, classification and tabulation of collected data so that they are amenable to analysis. The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data-groups. Thus, "in the process of analysis, relationships or differences supporting or conflicting with original or new hypotheses should be subjected to statistical tests of significance to determine with what validity data can be said to indicate any conclusions. When a mass of data has been assembled, it becomes necessary for the researcher to arrange the same in some kind of concise and logical order. This procedure is referred to as tabulation. Thus, tabulation is the process of summarizing raw data and displaying the same in compact form (i.e., in the form of statistical tables) for further analysis. In a broader sense, tabulation is an orderly arrangement of data in columns and rows. Tabulation is essential because of the following reasons.

1. It conserves space and reduces explanatory and descriptive statement to a minimum.
2. It facilitates the process of comparison.
3. It facilitates the summation of items and the detection of errors and omissions.
4. It provides a basis for various statistical computations (Kothari, 2004).

Nworgo, (2006) added that analysis of data is a process of infecting, cleaning, transforming and modeling data with the goal of highlighting useful information, suggestion, conclusion and supporting decision making. Data has multiple facts and approach, encompassing diverse technique under a variety of names, in different business, science and social science domains. This research adopted logical analysis method; it is an outline of generalizing causation using flow chat diagram, table, frequencies and percentages. The data would be presented in tabular and chart form to show the responses of each category of respondent.

CHAPTER FIVE

5.0 Theoretical Frame Work and Finding

5.1 **Concept of internet**

Ever since the advent of computers, researchers have indulged in a continuous quest to bring the world closer through computers. This effort gave rise to the Internet. It is through the Internet that today millions of people communicate and share information, regardless of their location. The Internet can be defined as a network of globally connected computers that is decentralized by design. This definition can be broken down into three parts. Let's understand each part of the definition in isolation

1) Is a network: network is a collection of computers. The Internet can also be referred to as a network because it is a collection of millions of computers.
2) Globally connected computers: This means that you can be connected to the internet, regardless of your location. The Internet has brought people in the world closer by connecting computers located in the remotest of locations.
3) Decentralized design: The Internet has a decentralized design. That is, there is no centralized body that controls the way in which the Internet functions.

The Internet does provide online services that are centrally administered, but as a whole, it would not be incorrect to say that the Internet has a decentralized design. Each computer connected to the Internet is called a host. The operator/ user of a particular host can choose from the millions of available Internet services and can also make services available through the Internet (Internet Basics, n.d.).

5.2 Internet in Africa

Surakat, (2011) observed that The World Wide Web is the most widely used applications of the internet even though it was never designed to be a mass information storage retrieval system it has become the leading information retrieval service of the internet. It gives users access to varieties of documents that are connected to each other by means of hypertext or hypermedia links however, one has to use it with care. Hypertext and hyperlinks hypertext allows users to select a word from text and thereby access other documents that contain additional information relating to the word without having to worry about command.

Internationally, reports abound in literature on Internet use by University students. Robinson (2005) examined Internet use among African American college students in US historically Black Colleges and Universities. The findings showed that most of the students (76%) had used the Internet for more than three years, access points being at school for 49% or at home for 47%, an average of two hours per day was spent online and the main purpose of Internet use was to learn and find school resources. Kaur and Manhas (2008) conducted a survey on the use of Internet services and resources by students and teachers in the engineering colleges of Punjab and Haryana states of India and found that all the respondents make frequent use of the Internet because they gained access from either college or at home. More than 75% of the respondents' use the Internet services for educational and research purposes. Google and Yahoo search engines were more widely used than other search engines. Malik and Mahmood (2009) conducted a study on web search behaviour of students of University of the Punjab. The study found that 59.5% of the students used the Internet to search the materials for their nformation needs at home, 25% at university, 15% at both home and University and 0.5 % at some other places. The majority of the students (67.5%) used the Internet daily; 72.5% of the population used the Internet for research, 76.5% for education, 68% for entertainment, 18.5% for sports and 6% for shopping purposes. Google was the most frequently used search engine by 97%, followed by Yahoo's (72%). The constraints faced by the students included slow speed, overload of information, irrelevant information, and poor quality.

According to Sandvine, (2013) report on internet explained that Across Africa, communications service providers (CSPs) are rapidly building out their networks to enhance services and extend coverage into new locations. While engaging in these expansion activities, CSPs must overcome competitive pressures and malicious misuse of the network, as well as demographic challenges including relatively lower disposable income levels and a high percentage of prepaid customers. Sandvine has a proven track record of deploying network policy solutions across Africa, for large multi-national providers and small operators alike, to improve subscriber quality of experience, control operational costs, protect the network from malicious activity, and drive revenue with service innovation and a broad range of use cases. our leading technology (e.g., traffic classification, real-time charging accuracy, and congestion

management), and breadth of solutions (e.g., business intelligence, network security, service innovation) as key reasons for replacing their incumbent vendors with Sandvine. With several recent wins and long-standing customer deployments across the continent, more communications service providers in more African countries are making the switch to Sandvine and because of this Sandvine is the first company to be able to provide detailed insight on the usage patterns of subscribers in the region as part of our Global Internet Phenomena Report (sandvine, 2013).

5.3 Use of internet in Nigeria

The Internet is very useful to tertiary institutions' students and staff in Nigeria because it enables them to have access to timely, accurate and relevant information that cannot be obtained from library shelves. Chan and Fu (2009) noted that Internet searching helps tertiary institutions' students and staff to boost their intellectual development and job preparation. Due to the endless nature of information resources on the Internet, libraries are increasingly investing in provision of Internet services and resources to enable their clients have better access to the information. Lyon (1998) states that Internet connections now constitute a highly visible service in every library, the librarians and their clients have embraced it in their daily work. Academic libraries now run information literacy courses to educate faculty members and students on skills to access, retrieve and evaluate information resources from the Internet. Qunqing (2004) referred to the Internet as 'a large encyclopedia' or 'a library without walls' for its abundant information. In the drive of higher educational institutions to promote the use of information and communications technology (ICT), the role of the Internet cannot be over emphasized as it makes it possible for lecturers, researchers and students to have access to non-traditional information sources from any part of the globe. Tertiary institutions' students and staff browse the Internet to have access to educational materials for research, instruction, and literature searching and to serve as a source of information in meeting other needs (Hannah, 1998). A review of related literature shows that several studies have been conducted on use of Internet resources by students, research scholars and academic staff of academic institutions worldwide, but no in depth study has been reported on the use of Internet in the tertiary institutions' students and staff. This study was

therefore carried out to ascertain the current status of Internet and utilization among the staff and students of Nuhu Bamalli Polytechnic, Zaria.

Jagboro (2003) found that Internet was the fourth most important resources for materials among the postgraduate students with respondents using the Internet to access research materials and for email. The study concluded that the use of Internet for academic activities would improve significantly with more access in departments and faculties. Omotayo (2006) studied Internet use by students of Obafemi Awolowo University, Ile Ife, and found that 89.9% of the students used the Internet, access point being mainly through the cybercafés and the major hindrances to efficient Internet use included slowness of the server and payment for access time. Ojokoh and Asaolu (2005) studied the internet access and usage by students of Federal University of Technology, Akure and found that only 3.4% of the respondents were not using the Internet. Cybercafés were the most frequent source of Internet access, and most of the respondents acquired Internet skills through teaching by friends. Anasi (2006) investigated the pattern of Internet use by students of the University of Lagos and found low use of Internet among students from Law and Education, though Internet use had very high impact on their academic career.

Mishra (2009) studied the use of Internet at the University of Maiduguri, Nigeria. The findings showed that Internet was very important for 60.8% of the respondents, with 74.6% using the Internet for research; 71.5% mentioned Google as their preferred search engine and concludes that necessary facilities should be put in place for faculty and students to make optimal use of information resources available on the Internet.

5.4 Academic Use of Internet and Social Media

Bankole & Babalola, (2012), noted that the education sector was among those that first embraced the use of Internet, and it has continued to broaden the breadth and depth of opportunities within institutions of higher learning worldwide. The Internet serves as a useful tool in support of the various educational activities that ranged from research to teaching. Anderson and Reed (1998) noted that the Internet technology and computers here made it possible for students to be active learners and allowed instructors to be facilitators. Jackson, et al. (2011) remarked that the Internet will level the educational playing field due to its

availability to everyone, everywhere, and any time, irrespective of gender, race/ethnicity, income or other socio-demographic characteristics. Thus, the Internet is a vital tool that will propel University education to greater heights as the world move further into the knowledge-based economy.

Hussain, Gulrez, & Tahirkheli, (2012), remarked that internet and Social media seem to have a greater impact on education; particularly, higher education by creating and promoting virtual learning environments, Learners thus formulate their virtual communities and interact freely with each other They can exchange their learning experiences, research findings and academic opportunities. There are various reasons and styles which seem justifying the use of internet and social media for academic purpose. The internet and social media were exploited by learners in different ways for augmenting and supporting their learning process, promoting opportunities of reflecting & collaborating, sharing and communicating among distributed learners but depending upon the quality and availability of technical infrastructure for having an access to use it, keeping in view the ever increasing use of social media by academicians and learners. Armstrong & Franklin (2008) noted that "Universities will lose their privileged role as a primary producer of knowledge, and gatekeeper to it, as knowledge becomes more widely accessible through other sources and is produced by more people in more ways, in its true sense that the use and benefits of social media particularly for academic gains appears to be an area of interest for many researchers in education and social sciences. Different researchers have addressed different areas of using internet and social media at various academic and social levels. The available literature on social networking media put forward useful ideas for implementing in higher education. It mostly emphasized on creating contents with focusing a little on the way of sharing, interacting and collaborating and socializing through social media sites. Internet and Social media are used for various reasons and purposes in higher education for enhancing the study experiences of learners by providing them with students support services, including e-mentoring, e-resources e-services e-feedback and other e-facilities.

Hussain, et al. (2012) added that Internet and Social media are being used to enhance communication among and between learners and their communities. Academicians can use it in different styles. The Facebook was suggested as a means of communication for

interacting with students. The present era is an information age with opens access to all. The younger generation seems to be inclined towards information through technology and they have their unique mindset. Professional use of social media seems significant for almost all professions but preparing novice teachers for coping with Net Generation/learners having an information age mindset and for working in increasingly digital educational environments is of greater importance, Social media is described to be communication facilitator and learners of the day wish their higher education institutions using social networking media for supporting classroom work .They take initiatives for using social networking sites for academic interactions , In addition, such networking may bridge up the learning gap informally between "digital native" students and "digital immigrant" faculty (Hussain, Gulrez, & Tahirkheli, 2012)

5.5 Internet for Education Purposes

Basically, the Internet offers two main benefits: communication and information (Warren et al., 1998). Internet usage has the potential to improve the quality of education. This is supported by Laurillard (1992) who postulated that computer-based learning can increase understanding of theoretical and critical concepts. Ciglaric et al. (1998) believes that the popularity of the Internet as a teaching-learning tool increased with the introduction of the web browser, which uses a hypertext concept. With text and graphical images, and later video, audio, and animated objects, it became easily distribute on Internet. The value of the Internet for educational purposes was further supported by Charp (2000), who stated that the Internet brought about positive changes to teachers and instructors, who taught students to learn, work, communicate, and play.

The Internet revolution is not just limited to finding information but also to fostering relationships that bring people together. According to Dryli & Kinnaman (1996), the Internet enables students to find information and experts, as well as allowing users to think critically and creatively, become collaborative and cooperative, and solve problems. The comprehensive literature available shows that the Internet has the following functions in education:

1) storehouse of information,

2) communication without boundaries,
3) online interactive learning,
4) electronic/online research,
5) innovation in the new world,
6) improve interest in learning,
7) global education, and
8) Information catalogues.

As the Internet has many potentials and functions, it will be interesting to note the extent to what it is used by undergraduate students for academic purposes. Several studies have been reported in the literature on academic use of Internet by students. George et al. (2006) reported the results of a study on academic use of Internet by graduate students of Carnegie Mellon University in the USA. The study shows that information search at the university is basically through Internet and Intranet facilities. The students generally do Google search (73%), find web pages (68%), journals (50%), citation chaining (48%), and other general searching (47%). Several other studies also show that academic use of the Internet by university students is increasing. This included studies carried out by John Lubans (1998), Matthew Ciolek (1998), and Rena et Al. (2007).

Selwyn, (2008) observed that higher education institutions continue to devote substantial resources to providing students with access to internet-based information via e-journals, virtual learning environments (VLEs) and other forms of 'e-learning' provision. Most universities now boast high-spec internet connectivity in classrooms, libraries, student accommodation and other public campus areas. Similarly, most degree programmes contain an information literacy component where students are trained to effectively search and critically evaluate internet-based information. All of these efforts are predicated upon an assumption that university students – as young, well-educated and well-resourced individuals – are inherently inclined towards using the internet as a source of information within their day-to-day lives and, it follows, disposed towards academic use of the internet. Indeed, present cohorts of undergraduate students are seen to be drawn from the first generation of 'digital natives' who grew up with the internet (Prensky, 2005) and, therefore, are completely

comfortable with (and perhaps sometimes overly-reliant on) using online sources to meet their information needs (Jones, 2002; McMillan and Morrison, 2006; Weiler, 2005).

Yet whilst the use of new technologies is an increasingly prominent element of many young people's lives, there is a growing sense amongst some academics that this re-orientation of higher education has perhaps been predicated on little more than assumptions about the likely 'educational effectiveness 'of the internet and its supposed universal appeal to students. As

Broad et al. (2004) observe, much of the motivation behind the integration of the internet into higher education over the past decade has been driven by 'internal political pressures' on universities and academic departments rather than by sound educational rationales. From this background, it could be argued that there is a need to gain more detailed understandings of the realities of internet use in university teaching and learning in order to more successfully integrate the internet into university education (Selwyn, 2007).

5.6 Internet as E-Learning Technologies

Oguzor , & Adebola (2011) notes that technology is therefore changing at an unprecedented rate and without proper machinery in place; one stands the risk of being left behind. Adebola (2008) stated that people no longer necessarily go to library to obtain information or knowledge because internet are now available to the user at his/her home, office and cybercafé centers. Bakare (2007) opined that computer assisted learning is one of the realities of today and learners in higher institutions who have more access to computer systems are making new use of them just as Universities are struggling to upgrade, update and install virtual libraries. This is because technology is advancing rapidly and making inroads into our personal, business, academic and social life. Bello et al (2004) in Bakare (2007) commented that the computer revolution and information technology have transformed systems in areas of communication, teaching, storage and retrieval of data. All modern technologies open new doors and various opportunities for teaching and learning at every level (Bakare, 2007). Below are some of The Potential Benefits of Internet as E-Learning Technology:

1. E-Learning is convenient and portable – Kerman (2004) is of the view that online learning does not need physical attendance. Learning is self-spaced. One can study at home, work or on the road, one can read materials online or download them for reading later. Adebola (2008) stated that people no longer necessarily go to the library to obtain information or knowledge because internet are now available to the user at his/her home, office and cyber café centers.
2. Greater Collaboration– Technology tools make collaboration among academicians much easier. Borofield and Akinyede (2005) maintained that since many researches or projects involve collaborative learning, the online environment is far easier and often much comfortable to work in since learners do not have to be in face-to-face setting. This will widen the intellectual horizon of the adult educator with relative ease.
3. Increased Access – With e-learning, user educators of highest caliber can share their knowledge across borders allowing students or learners to attend courses across physical, political and economic boundaries. Recognized experts also have the opportunity of making information available internationally to anyone interested at minimum cost (Borofield and Akinyede, 2005).
4. Developing Skills and Competencies – With the use of e-learning, academic user educators can also develop the skills and competencies needed in their various professions. And to ensure that to have the digital literacy skills required in their disciplines and careers.
5. Human Resources in various Disciplines - With names and address known, specialists in various fields of learning can be found or located in the internet. They may be required to send their papers online or to come physically as a resource person for lecture delivery (Oguzor , & Adebola, 2011).

5.7 Functional of Internet

Should one term be used to describe Internet; it is network. Internet is a global network of computer hosts, telecommunication paths and gateways linking those hosts. The result is a decentralized, global medium of communication - a "cyberspace" - that links people, institutions, corporations and governments around the world. "The Internet is not a physical or tangible entity, but rather a giant network, which interconnects innumerable smaller groups of linked computer networks. It is thus a network of network (Jorgensen,

2001). Internet is open in the sense that no single entity; academic, corporate, governmental or non-profit administers it. There is no centralized storage location, control point, or communication channel and it would not be technically feasible for a single entity to control Internet. Internet allows any person with access to computer and modem to exchange communication. These communications can occur almost instantaneously, and can be directed either to specific individuals, to a group of people or to the world as a whole. Internet facilitates bi-directional communication, where users are both speakers and listeners and allows for a variety of different communication methods. The most common functions can be grouped into six categories (Jorgensen, 2001).

a) One-to-one communication (such as e-mail or chat)
b) One-to-many communication (such as listserv or chat)
c) Many-to-many communication (such as newsgroups or chat)
d) Real time remote computer utilization (such as telnet)
e) Information retrieval (such as ftp, gopher and world wide web)
f) Publishing information (world wide web)

a) One-to-one communication: is provided for by e-mail, which allows users to address and transmit a message to one or more people. E-mail is in principle comparable to sending a letter, but unlike postal mail it is generally not "sealed" and can be accessed or viewed on intermediate computers between sender and recipient, unless the message is encrypted.

b) One-to-many communication: is provided for by listserv, which is automatic mailing list services, allowing for communication about particular subjects of interest to a group of people. Listserv can be open, in the sense that users can add or remove their names from the mailing list, or closed in the sense that "membership" is controlled by an administrator.

c) Many-to-many communication: is possible through distributed message databases; so-called newsgroups. Newsgroups are open discussions on particular topics, where users do not subscribe to a mailing list (as with listserv), but can access the database at any time. Newsgroups can be both open and moderated.

d) One-to-one, one-to-many or many-to-many communication: can also take place through Internet relay chat, which allows two or more users to engage in a real time dialogue

by typing messages that appear immediately on the other participant's computer screen. Some chat conversations are moderated or include channel operators.

e) Telnet provides for real time remote computer utilization, as a method to access and control remote computers in real time. Telnet can for instance be used to connect to and access a remote library's online catalogue. Information retrieval can be done by different methods. Ftp (file transfer protocol) and

f) Gopher is both simple methods to list the names of computer files available on a remote computer, and to transfer the files to a local computer. It is the most well-known and widespread approach.

g) World Wide Web (WWW) is a series of documents stored on different computers all over Internet; a platform through which people and organizations can communicate through shared information. The web uses a "hypertext" formatting language (HTML) and programs that browse the web.

Hyperlinks allow information to be organized and accessed in flexible ways, and allow users to locate and view related information although information is stored on numerous computers all over the world. "These links from one computer to another, from one document to another across the Internet, are what unify the Web into a single body of knowledge, and what makes the Web unique" (Ibid:10). World Wide Web also provides for publishing information; making information available on WWW. Publishing requires that the publisher has a computer with W3C server software connected to Internet, and that the information is formatted according to the rules of the web standard. Web publishing is simple enough that individual users and small organizations can use WWW to publish "home pages", equivalent to individualized newsletters. Web publishers can either make their websites open to all Internet users or make information accessible only to those with advance authorization.

Most publishers choose to keep their sites open to all in order to give their information the widest possible audience. In order to search for particular information among the public sites, search engines are used. The open, decentralized nature of WWW differs essentially from previous information systems, for instance database systems such as Lexis, PolInfo and Dialog, which were closed both in the sense that they required varying access

software (as opposed to the common standard of the web browser) and in the lack of a possibility for inter-linkage of information (Jorgensen, 2001).

5.8 Resources Available on the Internet

Udende & Azeez (2010) observed that the advent of IT and other communication technologies changed all means of information services and sources. The Internet has given the world numerous easy-to-use and inexpensive research tools. Internet is changing the way we view information sources. Information bundled in World Wide Web in the form of structured and non-structured sources create huge problem for professionals who are dealing with information. The shift in publication process takes place as individuals, institutions, publishers, professional associations, business houses and many others are publishing information on Internet. Electronic publishing is considered as the speedy, accurate and effective way of communication among academia and research community, and becoming a favorite idea among information professionals to experiment with. The library and information professionals have a vital role to play in organizing the information and bridging the information gap. Internet has become a part of library environment today. Internet for reference work in the library is gaining popularity. It can be successfully utilized for providing short-range and long-range reference service because various primary and secondary sources of information are available online from many sites. As information professionals, we can arrange the sources on net as we come across, in a structured manner. These can be; E-journals, E-books, Standards, E-TDs, Preprints, Library catalogue, Bibliographical Tools, Share wares, Old books, News papers, Dictionaries, Magazines, Encyclopedias, Databases, Directories, Films, Maps, Technical reports, Audio/Video, Proceedings, Patents, Websites of Companies, Institutions, Organizations, and Associations (Udende & Azeez, 2010).

5.9 Impact of Internet on library & information services

INFLIBNET, (2004) explained that no other recent innovation has impacted the library profession to such a great extent as Internet. Not only is our world becoming an interconnected global community, but this early use of the Internet has changed the fundamental roles, paradigms, and organizational culture of libraries and librarians as well,

which created profound impact on L&IS by offering new modes of information delivery and a vast information source. There is a continuing evolution of the roles and functions of libraries and librarians, which appears to parallel the growth of acceptance and use of the Internet by library professionals. The innovative use of Internet technologies enables us to reach both local and distant users much more easily and effectively than hither to possible. Technologies such as email and Web provide tremendous opportunities for library & Inf. Scientists to deliver the information to the desktops of our users. Web offers significant advantage by integrating different library & information services with a common user interface offered by Web browsers. Realizing the potentials, many libraries are rushing to getting the connectivity (INFLIBNET, 2004).

The following listing will give an idea of which various functions of libraries may take advantage from Internet and Web technologies.

Acquisition: Correspondence with Book seller & Publisher, Reminders, Price verification, Bibliographic details and downloading of bib, records etc Ordering, billing, Bookshops are on-line e.g. amazon.com

Classification: Network resources (in place of conventional sources) available on the net subscribed, free or trial basis such as Dewey Online, Maths, Classification System, Engineering Electronics Lib. Classification Search engines – such as yahoo use DDC.

Collection Development: Ownership vs Access Subscribe in print or e-form, Subscribe in print as well as in e-form, Pay-per-use and Consortia approach

Cataloguing: Cataloguing of network resources, Online Catalogues, WorldCat (OCLC), WebOPAC – web sites, MARC adds 856 field, OCLC Scorpian project, MARC & AACR2, Metadata standards and Dublin core.

Circulation: Remote login, Status check, OPAC access, Reminder to users, User requests, direct borrowing, ILL.

Resource Sharing: Union Catalogue, Access, adding, downloading, Access to databases over networks, Ohionet, ILLINET, WLN, OCLC, BID(UK), full text journals access etc.

Services: ILL, Document Delivery Service e.g. Ariel, Reference / Inf. Services, CAS, Recent additions, Contents pages, SDI, From library collection (Lib. Catalogues), Databases, Internet Sources, OPAC, Database access, Bibliographical, Full text, Many vendors & organizations

are moving to Internet (web) access, Subject Lists/ Gateways (With their own Search engines), Internet Public Library (University of Michigan) EEVL – Engineering, SOSIG – Social Science, OMNI- Medical, ADAM – Arts, Design etc.

Education: Through Email, Through Web Setting Intranet, conference

Preservation & Storage: The Internet is also a medium for the preservation and storage of information. In past, libraries were seen as the main storage facility of information. As society becomes increasingly more digital information resides on the Internet, the focus on storage and preservation is shifting. For example, some academic libraries are now faced with the problem of whether or not to purchase serials that can be just as easily accessed on – line. Preservation of these same media also becomes an issue of economics, not the "just in case" preservation ideology of the past paradigm. Co joined to the function preservation is the destruction of information. Because the Internet can be seen as a medium for preserving information, the process of destruction of information also is affected. As more and more information is created and stored on the Internet, the capacity to store this information is also decreasing (INFLIBNET, 2004).

5.10 Internet Management and Security

The Internet E-Management Framework was developed by Case and Young (2001a). The framework was introduced to serve as a guide in analyzing Internet behavior. The framework was successfully employed in multi-site case study analysis of manufacturing firms Case and Young (2001b). The Internet E-Management Framework utilizes four constructs; these constructs are identified as e-management, enforcement, job necessity, and e-behavior. Each construct is hypothesized to impact productivity. E-management and enforcement are organization-level or macro constructs. E-management is the organization's culture relating to their tendency of being proactive to Internet issue. Possible proactive practices include policy implementation, screening, training, monitoring, or no measures. Enforcement can be stated as the organization's tolerance or reaction to employee Internet misuse. Possible reactions include discipline, dismissal, rehabilitation, or no reaction. Job necessity and predominant e-behavior are employee-level or micro constructs. Job necessity relates to the percentage of time that the Internet is necessary to perform individual job

functions relative to the individual's total work time (daily hours necessary on Internet to perform duties /total hours per day productive). Predominant e-behavior includes dysfunctional behavior such as electronic mail misuse (personal electronic mail, spamming, flaming, sending racist or sexual harassment electronic mail), involvement in non-work related newsgroups, chat room participation, slacking (stocks, surfing, sports, newsgroups), cybersex, pornography, gambling, and security threats (hacking, copyright, transmitting secure data) (Young, Case, 2002)

5.10.1 Internet monitoring

According to GIF, (2011) noted that Internet usage is now ubiquitous in every modern business. When employed properly it can be an extremely efficient and highly effective productivity enhancer. With the Internet, employees can keep tabs on critical changes; perform research and any number of business tasks. Email, another aspect of the Internet, allows for near instantaneous communication of business data. If either is unavailable, even for short periods of time, you can almost hear the grinding of gears as the entire enterprise comes to a halt. System failure is not the only potential problem however, unscrupulous or apathetic employees who choose to forget what the Internet and email are there for, can be just as damaging. There is an increasingly larger number of businesses that monitor what their employees do on the Internet in the workplace, with studies revealing that about half of all corporations routinely use various methods from email monitoring and website blocking to phone tapping and GPS tracking, combined with policy to manage productivity and minimize litigation, security, and other risks. Employers are primarily concerned about inappropriate web surfing, with 66% monitoring Internet connections. A total of 65% of companies use software to block connections to inappropriate websites, especially sites with sexual, romantic, or pornographic content; games; social networking; entertainment; shopping or auction and sports. Others use URL blocks to stop employees from visiting external blogs. Whether or not employers should engage in this practice or not often leads to a serious and spirited debate that puts an individual's right to privacy vs. the organization's right to security at the center of the controversy.

So far, the courts have upheld the right of a business to conduct surveillance and monitoring of what happens in the workplace, and there isn't any indication that this will change. Businesses have been aggressive in protecting themselves and their corporate resources. To date 28% of employers have fired workers for misusing email and nearly one third have fired employees for misusing the Internet, according to the 2007 Electronic Monitoring & Surveillance Survey from American Management Association (AMA) and the e-Policy Institute (GFI, 2011).

5.10.2 Protecting the Internet from threats

Tope, O. (2012) explained Internet security as a branch of computer security specifically related to the Internet. Its objective is to establish rules and measures to use against attacks over the Internet. The Internet represents an insecure channel for exchanging information leading to a high risk of intrusion or fraud, such as phishing. Different methods have been used to protect the transfer of data, including encryption. According to Big-planet, (2004) explained how to know if you have been a victim of an Internet attack, Chances are you are already a victim of an Internet attack and aren't even aware of it. The fact is, over 90 percent of Internet users have spyware lurking on their computers without their knowledge1. To protect yourself, you need to be able to identify the common symptoms associated with an Internet attack. Some symptoms you may presently be experiencing include:

a) Increasing amounts of unsolicited email, this increase in email is a result of personal information collected by cookie programs that is sent back to the cookie originator, and then sold to other online marketing organizations.

b) Unwanted pop-up advertising, the software that causes pop-ups to appear on your computer is a form of spyware, and is loaded on your computer without your knowledge when you visit certain Web sites.

c) Browser homepage changes without your knowledge, Certain Web sites will load cookies onto your computer that automatically change your homepage to their Web site. It is an annoyance that happens frequently to Internet users.

d) Your computer operates slower than it has in the past; Spyware loaded onto your computer uses the same computer memory that is needed to run your more important software

programs. This results in a competition for memory in your computer, causing all of your more critical software programs to run more slowly. The following process, in conjunction with good, comprehensive anti-virus software will help you protect your family and your personal information from these and many other Internet threats.

1) Find out what's already on your computer
2) Get rid of the threats.
3) Build a protective wall around your computer.
4) Filter out the Internet junk.
5) Advanced Protection such as Simple Solution (Big-planet, 2004).

5.10.3 The regulation in use of internet

Tiemo, et al. (n.d.) noted that The Internet has a lot of promises for educational achievements for young people but certain drawbacks such as fraud, currency counterfeiting, theft of intellectual property, pornography, recipes for crime, and infecting systems with virus are also associated with the Internet. Rajani and Chandio (2004) said that youngsters frequently visit pornographic websites and also the tendency of learning abusive languages are common among them due to their online friends. Rumbough (2001) further observed that college students use the Internet to cheat each other and indulge in bad activities. The use of the Internet has intensified the fraudulent act of the fraudsters in ripping people of their hard-earned wealth. As such, cybercafés have been shut down in some part of Lagos in Nigeria as a means of curbing cyber crimes (Tiemo & CharlesIyoha, 2008). They however, argued that closing down cybercafés would do more harm than good. Lazarinis (2010) posited that young people access the Internet from numerous places -- home, libraries, schools, and the Internet cafes. Some studies have shown that there is a number of potential online risks for students using the Internet. Tiemo and Charles-Iyoha (2008) observed that those engaged in the Internet fraud in Nigeria include secondary-school students, and undergraduate and graduate students in universities or other higher institutions. Recently, five undergraduate students of the University of Abuja and University of Port-Harcourt were arrested for allegedly using the Internet to access the sites of some banks and transferring money from other people's accounts into their own (Aborisade, 2009).

Thus, cybercafés, if not registered or adequately regulated, could serve as a means to those bent on committing cyber crimes. The Internet regulation is basically restricting or controlling access to certain aspects of information. The Internet regulation consists of mainly two categories: data censorship and the Internet access control. Most of the Internet regulations are imposed by the government in an effort to protect the best interests of the general public, which is a form of censorship. The other form of the Internet regulation is domain registration, that is, through the Internet Protocol (IP) address control. At the time of purchasing a domain, the webmaster's address has to be registered (123HelpMe.com, 2009). To ensure that computers and the Internet usage are regulated in the library, it requires a login, using a university-assigned email address and personal password. In accordance with the library's mission, computers are provided for the purpose of research and other educational endeavors. Therefore, excessive recreational use of computers (e.g., game-playing) is entirely personal and unrelated to information-gathering (e.g., chat-room and personal email). Using computers in the library for the purpose of private financial gains (e.g. conducting business, eBay) is inappropriate. The Library reserves the right to require, at any time, that a computer user engaged in such activities cease doing so (Oboler Library, 2009). For any library patrons to use the Internet in the library, he or she must have a password to log in for authentication. Authentication is the process of determining the validity of a user. In other words, authorization is the process of determining what resources a user is permitted to access (Shoeb & Sobhan, 2010). Antón (2007) stated the following different authorization methods. The most common and familiar authentication process is login ID and password-based access. Login is also called log on, sign in, or sign on, which identifies oneself to the system in order to obtain access.

The primary use of a computer login procedure is to authenticate the identity of any computer user or computer software attempting to access the computer's services. Another popular authentication process is IP filtering or IP authentication. This process is a packet filter that analyzes TCP/IP packets. That is software routine that analyzes incoming data packets and forwards or discards them based on one or more criteria such as address, range of addresses, and types. Furthermore, the Internet has some negative and as well as positive effects. It has greatly changed research and learning in the developing nations. Ojedokun

(2001) posited that the Internet has many benefits in the academic cycle, including provision of round-the-clock access to a wide variety of information sources globally and the ability to discuss and share experience with colleagues (Tiemo, P.A Bribena, E. & Nwosu, O.,)

5.11 Problems Associated with the use of Internet for Educational purposes

ONI, F. A. (n.d.) observed that the Nigerian institutions of higher learning have been compelled to bridge the gap in the provision and utilization of IT as is the case in the advanced countries. Consequently, various technological institutions have mounted different IT courses and programmes for better appreciation, literacy and adaptability by the students and the entire academic community. Be that as it may, there is general paucity of information on the progress so far made in the adaptation to IT by Nigerian institutions of higher learning in general and the polytechnic institutions in particular. In other words, not much has been reported in terms of the availability, utilization, and the obstacles to IT, among the polytechnic institutions expected to be the pace setters in this direction. Even the case of Kaduna State which prides itself as the nation's "Centre of Learning" is not better either. The absence of information on IT is thus capable of thwarting planning and development efforts in the country since modern development depends heavily on IT. Surakat, (2011) explained that more Academic staff become users of the World Wide Web, there is real potentials for advancement of learning Billions of readily accessed information is available with a choice of free and easy to use search engines viewed in this way the Internet has boundless opportunities for tertiary education. However there is down side with the rapid increase in usage of the Internet by academic staff as well as students, there has also been commensurate rise in a new form of an old ethical problem, "cyber or Internet plagiarism". Educators will need to consider how students are interacting with information technology and how ethical these interactions are unprecedented and unparallel access to information without consideration of its ownership or authenticity provides ongoing concerns for society Cyber Atlas, (1999). Hickman, a Yale graduate of 2000 maintains that online plagiarism is a growing problem. He explains that in a 'few years, academicians and students were able to buy papers on variety of subjects using the Internet Thousands of "hits" are visiting the sites each week.

However, certain undesired outcomes such as fraud, theft of intellectual property, pornography, infecting systems with viruses are also associated with the Internet. Such undesired outcomes have negative effectives on students, especially on heavy users, which can affect their academic performance (Hanson, 2005). Other problems include the following: - Not everything is on the web, only eight percent of journals are on the web. No search or Meta search engine searches the entire web, and what is found is not updated, daily monthly or even weekly. Quality control does not exist on the web. Anybody can put anything on the web. Reading of digital book for more than one hour could be of discomfort. The present computer screen resolution has to be increased tenfold to achieve any form of convenience. Internet is ubiquitous but the facilities are not portable like the book. Users of the Internet are sometimes not willing to have the Internet computers once their time is up. This causes users to quarrel among themselves. Misuse of internet facilities: some sign in for research and end up using the facilities playing games, using chat group sites, access "erotic arts" sites, etc (Surakat, 2011).

5.11.1 Problems Associated with Internet and Electronic resources in library

Kamba, (2008), observed that Nigerian institutions and libraries lack current material. Even when these materials are available, they are difficult to be accessed due to poor records management systems. Yet many Nigerian scholars and researchers largely depend on traditional information sources, particularly print, for their scholastic activities and research. Accessibility to library materials in Nigeria has been constrained by various factors including:

a. Inadequate library collections.

b. High cost of postal service, this makes interlibrary loan and resource sharing almost impossible.

c. High cost of international journals and books.

d. Poor funding of libraries and universities.

e. Inadequate and poor information infrastructure

f. High level of poverty.

g. Devaluation of Nigerian currency against foreign currencies.

h. Negative attitudes by the Government and its agencies towards library development.

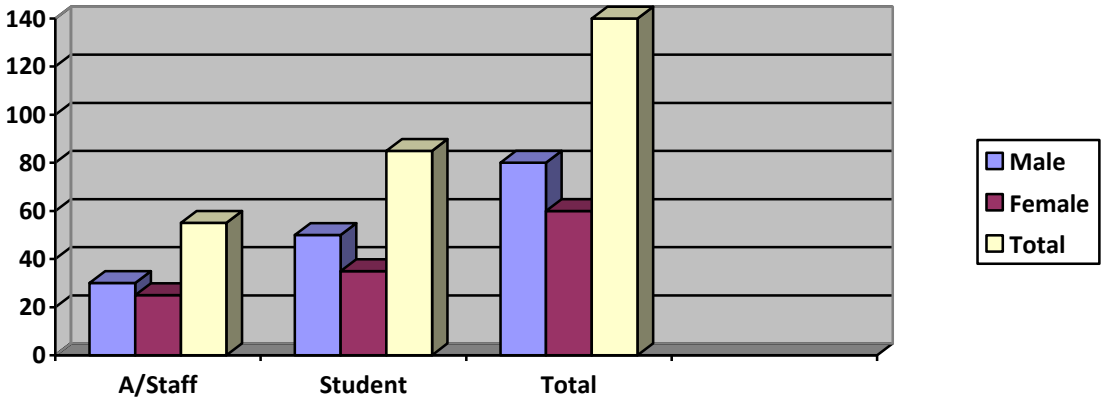
The aforementioned problems have led to an extreme scarcity of books and other information material for research. But today, the advent of information technology is a welcome development; the use of the Internet has the potential to solve all these problems through electronic publishing and digital resource sharing.

5.12 Analysis and Major finding of Research

This chapter deals with the analysis of data collected through the use of questionnaire administered on Internet and its Utilization among the staff and students of Nuhu Bamalli Polytechnic, Zaria. The data gathered were analyzed using tables, frequencies and percentages for better understanding and interpretation of findings. The chapter is also organized according to the research questions and objectives of the study. Out of 150 questionnaires 140 were returned successfully by the respondents, Basic details about the participants in the survey are shown in bellow Tables. The demography of respondents revealed that the ages between 15 – 30 had the highest percent distribution of 50(35.71 percent) respondents; followed by ages 31-40 with 39 (27.85 percent). Ages 41-50 is represented by 30(21.42 percent) respondents and the least representation were the 51 and above years with 21(15 percent) respondents. In terms of marital status, most of the respondents, i e. 81(57.85 percent) were married while 59(42.14 percent) were single. The response on gender type revealed that there were 80(57.14 percent) male respondents whereas female respondents were 60(42.85 percent).

Table 5.1: Status of gender Distribution (participants)

Gender	**Academic Staff**		**Student**		**Total**	
	Frequency	percentage	Frequency	Percentage	Frequency	Percentage
Male	30	21.42	50	35.71	80	57.14
Female	25	17.85	35	25	60	42.85
Total	55	39.28	85	60.71	140	100



As the above table shown that 30 respondents (21.42 percent) were male staff, 25 (17.85 percent) were female staff, 50 (35.71 percent) were male students, while rest of the respondents were female students, 35 (25 percent).

Table 5.2 Adequacy of acquiring internet subscription

Adequacy	**Academic Staff**		**Student**		**Total**	
	Frequency	percentage	Frequency	percentage	Frequency	Percentage
Very adequate	15	10.71	21	15	36	25.71
Adequacy	32	22.85	52	37.14	84	60
Not adequacy	8	5.71	12	8.57	20	14.28
Total	55	39.28	85	60.71	140	100

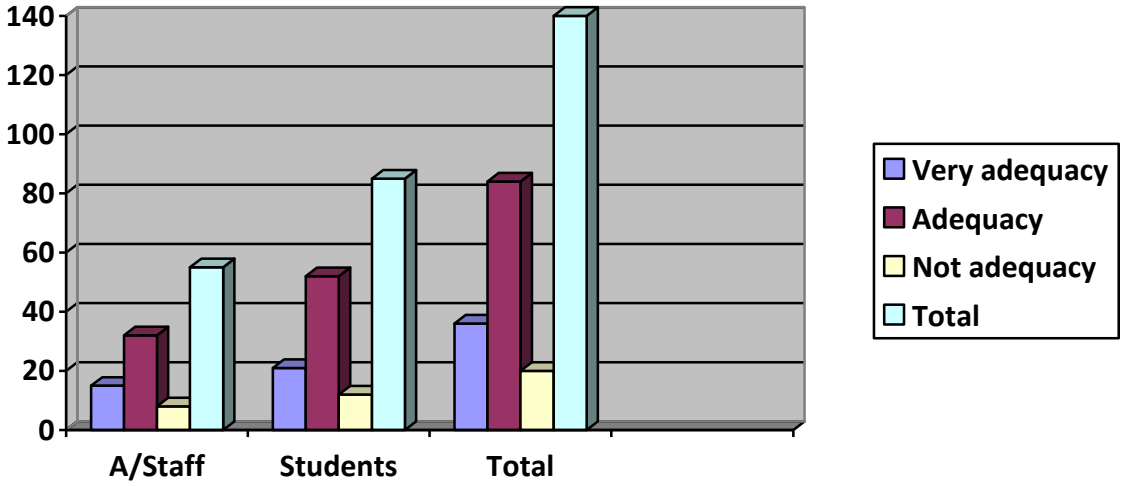
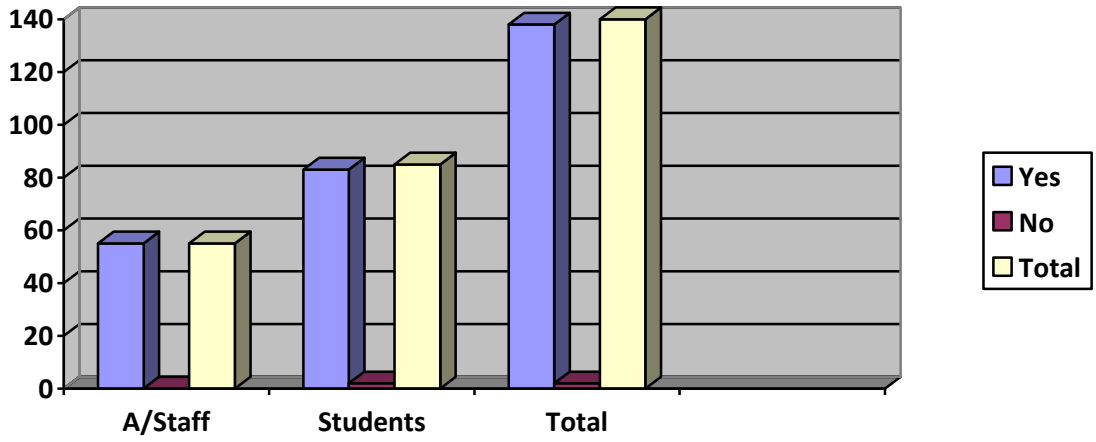


Table 5.2 makes it clear that 84 (60 percent) respondents say there is adequacy of acquiring internet subscription followed by the very adequacy 36 with (25.71percent) respondents, while the respondents say not adequacy 20 with (14.28 percent).

Table 5.3 Existence policy for acquiring internet subscription

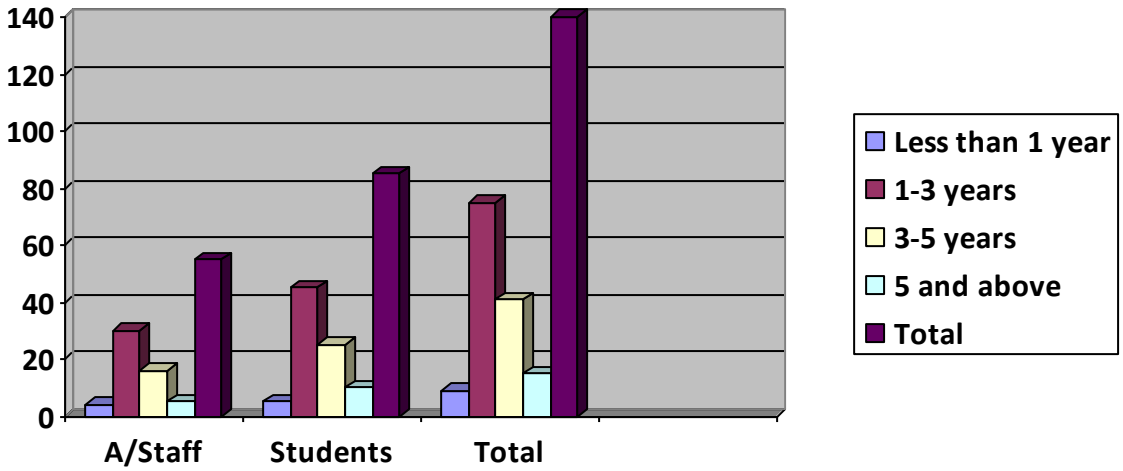
Existing policy	**Academic Staff**		**Students**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Yes	55	39.28	83	59.28	138	98.57
No	00	00	2	1.42	2	1.42
Total	55	39.28	85	60.71	140	100



Participant most of them agree and say yes there is an Existence policy for acquiring internet subscription 138 with (98.57 percent) respondents, while 2 say no with (1.42 percent) respondents.

Table 5.4 Number of years that policy provided for renewal of internet subscription

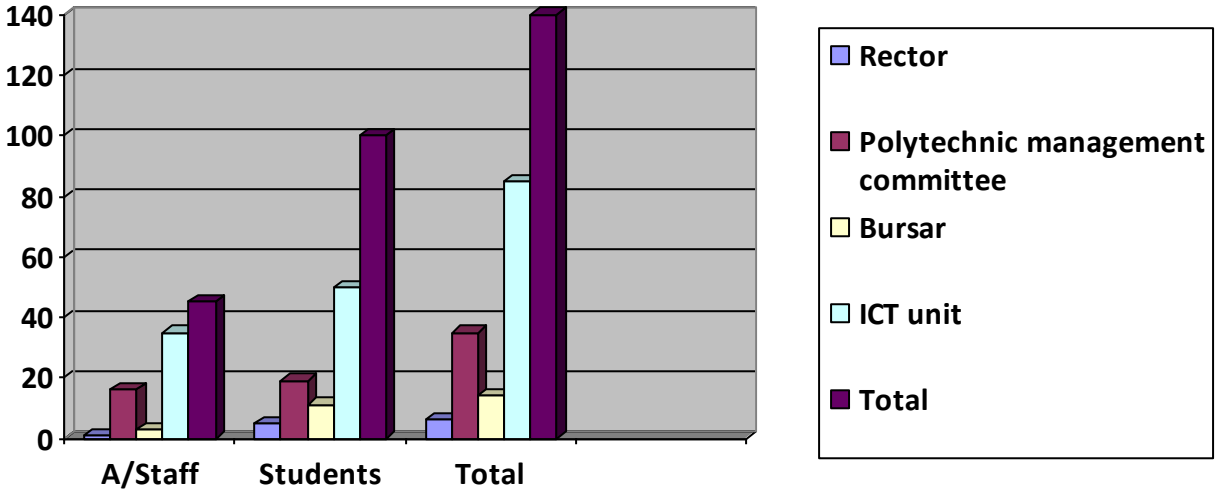
Renewal Of Internet Subscription	**Academic Staff**		**Students**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Less than 1 year	4	2.85	5	3.57	9	6.42
1-3 years	30	21.42	45	32.14	75	51.42
3-5years	16	11.42	25	17.85	41	29.28
Above 5 years	5	3.57	10	7.17	15	10.71
Total	55	39.28	85	60.71	140	100



In order to understand Number of years that policy provided for renewal of internet subscription participants were asked and made the appropriate answer, Table 5.4 makes it clear that 75 (51.42 percent) respondents say there is policy that provide guide for renewal of internet subscription for the one to three years followed by the respondents who say three to five years 41 (29.28percent), while 15 (10.71percent) respondent say 5 and above years, and rest score for less than one year score 9 (6.42 percent).

Table 5.5 Responsible for Renewal of internet subscription

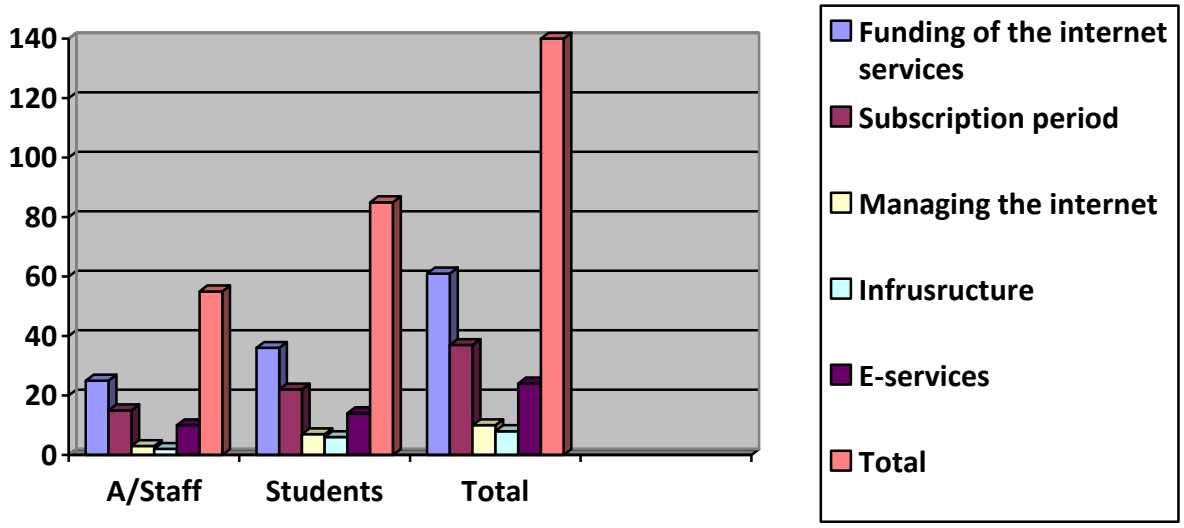
Responsible	**Academic Staff**		**Students**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Rector	1	0.71	5	3.57	6	4.28
Polytechnic management committee	16	11.42	19	13.57	35	25
Bursar	3	2.14	11	7.85	14	10
ICT unit	35	25	50	35.71	85	60.71
Total	55	39.28	85	60.71	140	100



The essence of each and every for Renewal of internet subscription whatever form or pattern is to serve the need of the users towards accomplishing its aims and objectives. From the table 5.5 above it has revealed that the ICT unit has majority respondents in terms of Renewal of internet subscription with frequency 85 and (60.71percent), followed by 35 (25percent) respondents who score for the Polytechnic management committee, while Bursar score 14 (10percent) respondents, and The Rector score 6 with (4.28percent) respondents.

Table 5.6 Items the policy covered

policy covered	**Academic Staff**		**Students**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Funding of the internet services	25	17.85	36	25	61	43.57
Subscription period	15	10.71	22	15.71	37	26.42
Managing the Internet	3	2.14	7	5	10	7.14
Infrastructure	2	1.42	6	4.28	8	5.71
E-services	10	7.14	14	10	24	17.14
Total	55	39.28	85	60.71	140	100



Participants were asked about the area that the policy covered and made the appropriate response. Table 5.6 reveals that respondents who score for Funding of the internet services are the majority with frequency 61 and (43.57percent) followed by, 37 (26.42percent) respondents say Subscription period, while 24 (17.14percent) respondents who say E-services. Managing the Internet scored 10 with (7.14 percent) respondents and Infrastructure score 8 (5.71 percent).

Table 5.7 The academic use of internet by staff and students of Nuhu Bamali polytechnic, Zaria

Use for	**Academic Staff**		**Student**		**Total**	
	Frequency	Percentage	Frequency	percentage	Frequency	Percentage
Research	19	13.57	39	27.85	58	41.42
Publication	11	7.85	20	14.28	31	22.14
Acquisition	9	6.42	6	4.28	15	10.71
E-learning	7	5	8	5.71	15	10.71
Others	9	6.42	12	8.57	21	15

Total	55	39.28	85	60.71	140	100

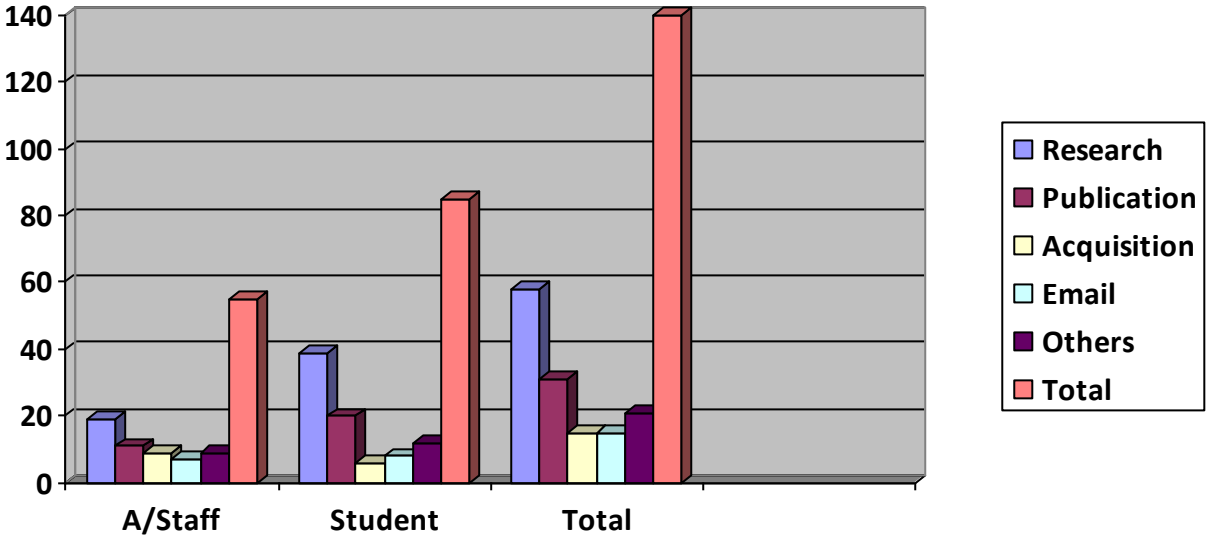
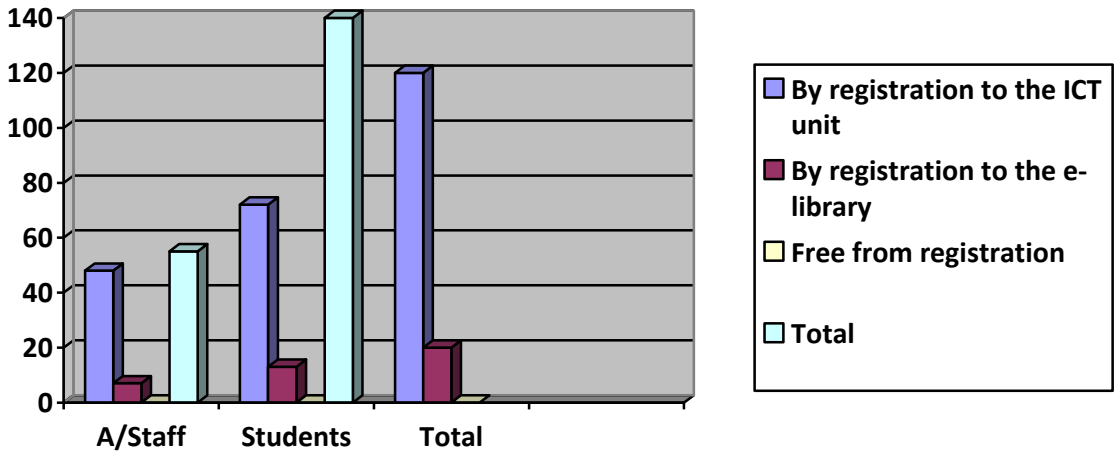


Table 5.7 makes it clear that 58 (41.42percent) respondents (A/Staff & Students) mostly used internet for research purpose to access information followed by Publication 31(22.14 percent) then, 15 (10.71percent) used internet for Acquisition purpose, 15(10.71 percent) used internet as tools for E-learning and last 21 (15 percent) used it for variety of other Academic use respectively.

Table 5.8 Access to internet services

Access to e-library	**Academic Staff**		**Students**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
By registration to the ICT unit	48	34.28	72	51.42	120	85.71
By registration to the e-library	7	5	13	9.28	20	14.28

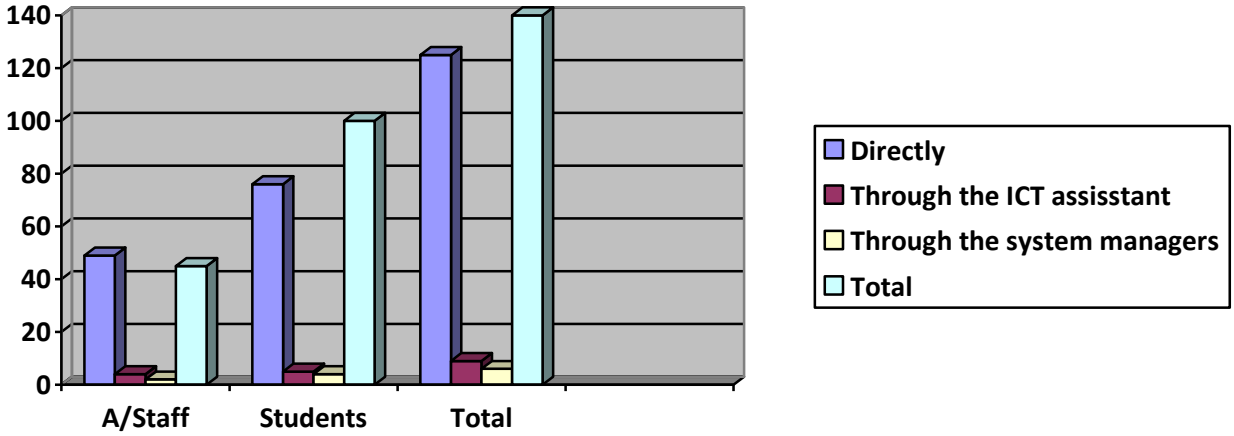
Free from registration	00	00	00	00	00	00
Total	55	39.28	85	60.71	140	100



In order to understand how the users have access to internet services respondents were asked and made appropriate answer. The above result indicate that the users have access to internet services by registration to ICT unit with score of 120 and (85.71percent) respondents, followed by 20 (14.28 percent) respondents who say by registration in the e-library, while free from registration score 0 (0 percent) that means there is no one can have access to the internet services without registration either by ICT unit or e-library

Table 5.9 Access to e-services

Access to e-services	**Academic Staff**		**Students**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Directly	49	35	76	54.28	125	89.28
Through the ICT assistance	4	2.85	5	3.57	9	6.42
Through the system managers	2	1.42	4	2.85	6	4.28
Total	55	39.28	85	60.71	140	100



In order to understand how the users have access to e-services participants were asked and made appropriate answer. The above result indicate that the users have access to e-services directly with score of 125 and (89.28percent) respondents, followed by who say through the ICT assistant with 9 (6.42percent) respondents, while (4.28 percent) for who say through the system managers.

Table 5.10 The level of use of various internet services

Used of Internet Services	**Academic Staff**		**Students**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Searching service	6	4.28	9	6.42	15	10.71
On-line databases	4	2.85	6	4.28	10	7.14
Online public access catalogues (OPAC)	2	1.42	4	2.85	6	4.28

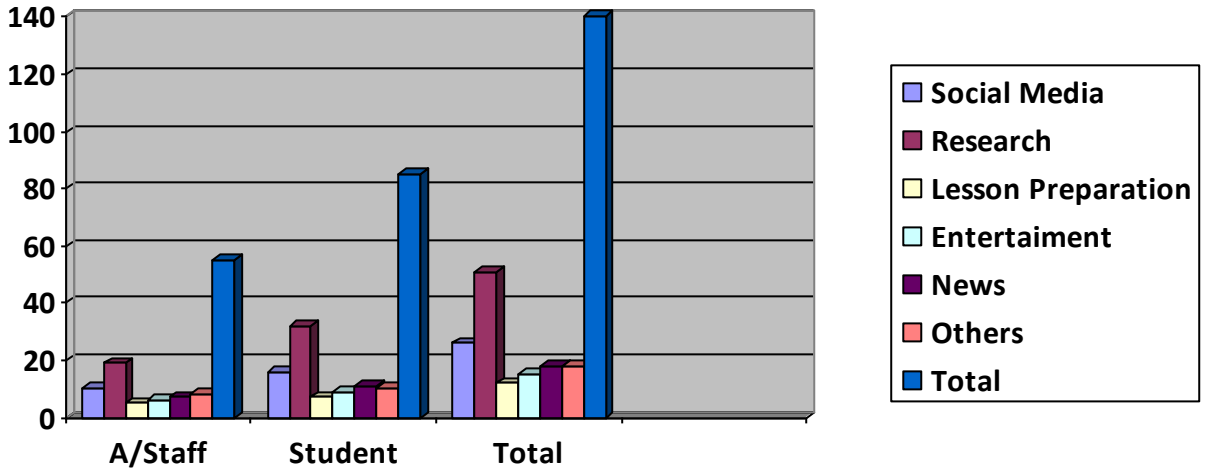
Scholarly websites	12	8.57	14	10	26	18.57
Email	5	3.57	9	6.42	14	10
E-learning	2	1.42	4	2.85	6	4.28
E-conference	2	1.42	5	3.57	7	5
YouTube	9	6.42	15	10.71	24	17.14
Social media (facebook, twitter, LinkedIn, etc)	10	7.14	14	10	24	17.14
News	3	2.14	5	3.57	8	5.71
Total	55	39.28	85	60.71	140	100

Participants were asked to indicate the level of use of various internet services. The results revealed that scholarly website had a score of 26 (18.57percent); you tube and social media each score 24 (17.14percent), searching services score 15 (10.71percent) respondents. Email score 14 (10 percent) respondents, online database scores 10 with (7.14percent) while news scores 8 (5.71percent) respondents. E-conference score 7 with (5 percent) respondents, online public access (OPAC) and E-learning each score 6 (4.28 percent) respondents.

Table 5.11 the purposes use of Internet by staff and students of Nuhu Bamali polytechnic, Zaria

Use	**Academic Staff**		**Student**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Social Media	10	7.14	16	11.42	26	18.57
Research	19	13.57	32	22.85	51	36.42
Lesson preparation	5	3.57	7	5	12	8.57

Entertainment	6	4.28	9	6.92	15	10.71
News	7	5	11	7.82	18	12.85
Other	8	5.71	10	7.14	18	12.85
Total	55	39.28	85	60.71	140	100

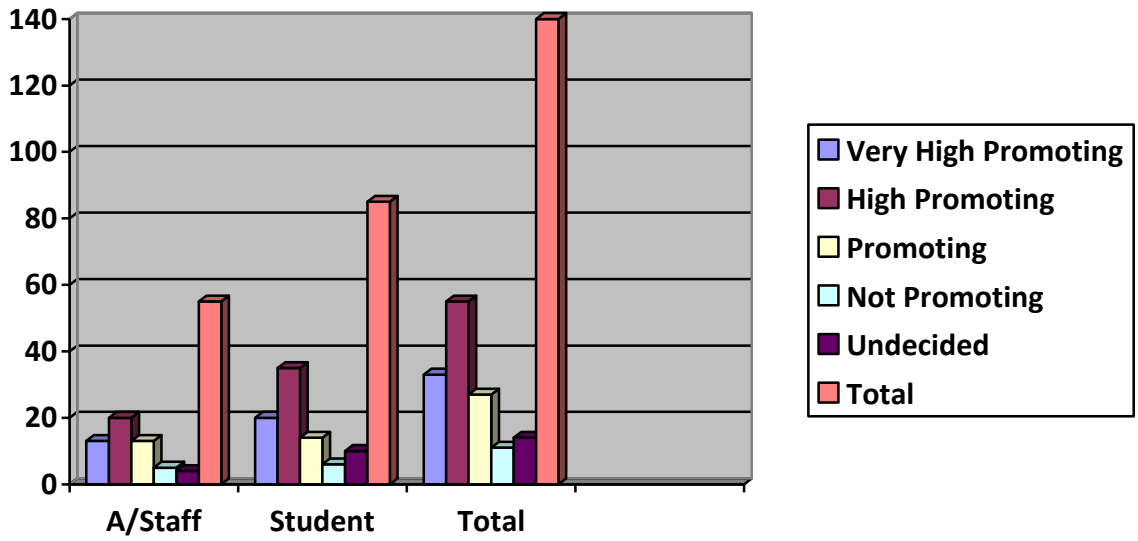


Participants were asked about their specific purposes uses of the Internet. It is clear that 51(36.42percent) respondents use Internet for research purposes, followed by 26 (18.57percent) respondents use for social media, 18 (12.85 percent) respondents use Internet for news, same figure 18 (12.85percent) for other purposes, while 15 (10.71percent) participants use the Internet for entertainment, and rest of 12 (8.57percent) for lesson preparation.

Table 5.12 Opinion about internet in promoting teaching and research

Opinion	**Academic Staff**		**Student**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Very high promoting	13	9.28	18	12.85	31	22.14
High promoting	20	14.28	35	25	55	39.28

Promoting	13	9.28	14	10	27	19.28
Not promoting	5	3.57	8	5.71	13	9.28
Undecided	4	2.85	10	7.14	14	10
Total	55	39.28	85	60.71	140	100

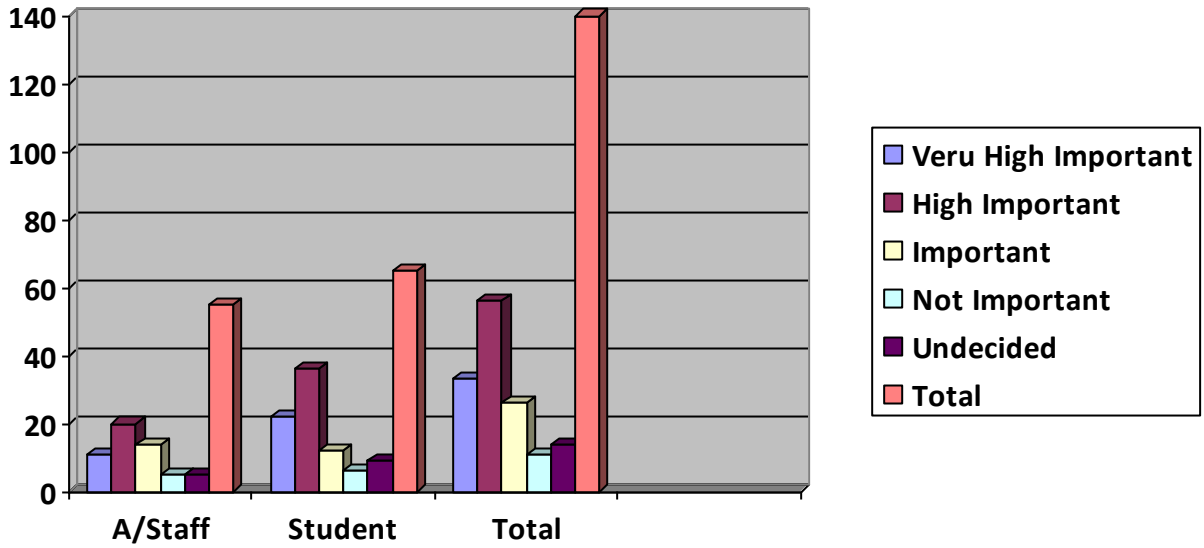


Participants were asked about their Opinion about internet in promoting teaching and research. Table 5.12 reveals that 55 (39.28percent) respondents score for High promoting, while 31 (22.14percent) respondents say that it is very High promoting, followed by 27 (19.28percent) respondents who say it is promoting, while 14(10percent) for undecided respondents, and rest of 13 (9.28percent) respondents who score for not promoting.

Table 5.13 Importance of the Internet by staff and students of Nuhu Bamalli Polytechnic, Zaria

Importance	**Academic Staff**		**Student**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Very High Important	11	7.85	22	15.71	33	23.57

High Important	20	14.28	36	25.71	56	40
Important	14	10	12	8.57	26	18.57
Not Important	5	3.57	6	4.28	11	7.85
Undecided	5	3.57	9	6.92	14	10
Total	55	39.28	85	60.71	140	100

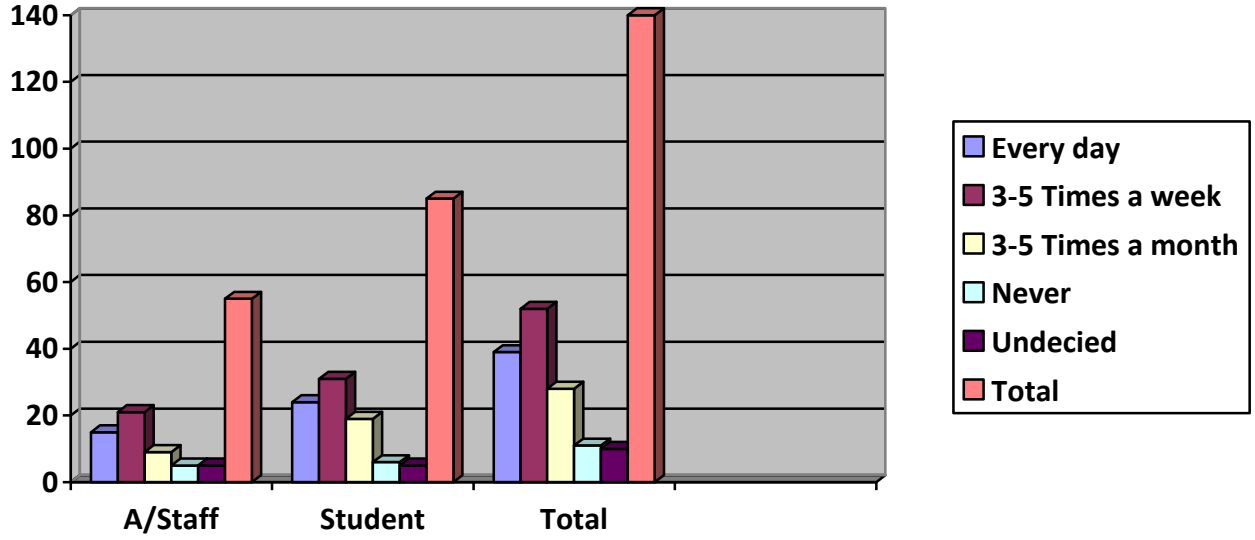


In order to understand the importance of Internet, five options were given to participants. Table 5.13 shows that 56 (40 percent) respondents score for high important, followed by very high important 33(23.57 percent) participants, important score 23 (18.57percent) respondents, while undecided score 14 with (10 percent) and rest score for not important 11 (7.85 percent) respondent.

Table 5.14 Frequency of Internet use among the staff and student of Nuhu Bamalli Polytechnic, Zaria

Times	**Academic Staff**		**Student**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage

Every day	15	10.71	24	17.14	39	27.85
3-5 times a week	21	15	31	22.14	52	37.14
3-5 times a month	9	6.92	19	13.57	28	20
Never	5	3.57	6	4.28	11	7.85
Undecided	5	3.57	5	3.57	10	7.14
Total	55	39.28	85	60.71	140	100



In order to administrate the frequency of Internet use, a time gap was classified into five categories. Table 5.14 reveals that 52 (37.14percent) respondents use Internet three to five times a week, followed by 39 (27.85percent) respondents who use Internet every day, while 28 (20percent) respondents use it three to five times a month, 11 with (7.85percent) respondents do not use the Internet at all, and rest of 10 (7.14 percent) for undecided respondents.

Table 5.15 the problems militating against a full and effective utilization of Internet

Constraints	**Academic Staff**		**Student**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Slow access	12	8.57	21	15	33	23.57
Funding	14	10	27	19.28	41	29.28
Lack of IT Knowledge	10	7.14	13	9.28	23	16.42
Infrastructure	8	5.71	7	5	15	10.71
Management	6	4.28	9	6.92	15	10.71
Security	5	3.57	8	5.71	13	9.28
Total	55	39.28	85	60.71	140	100

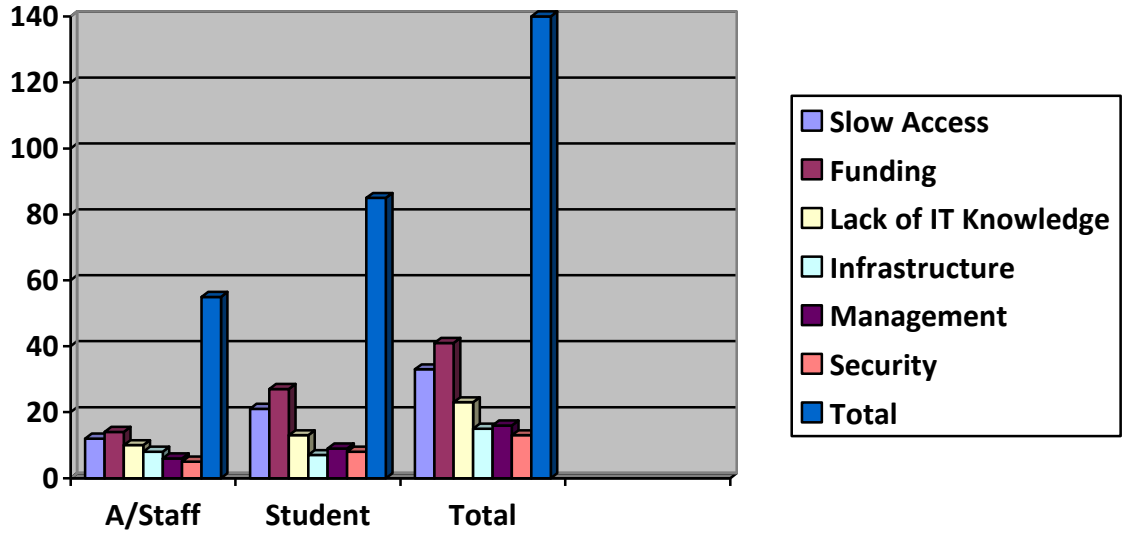
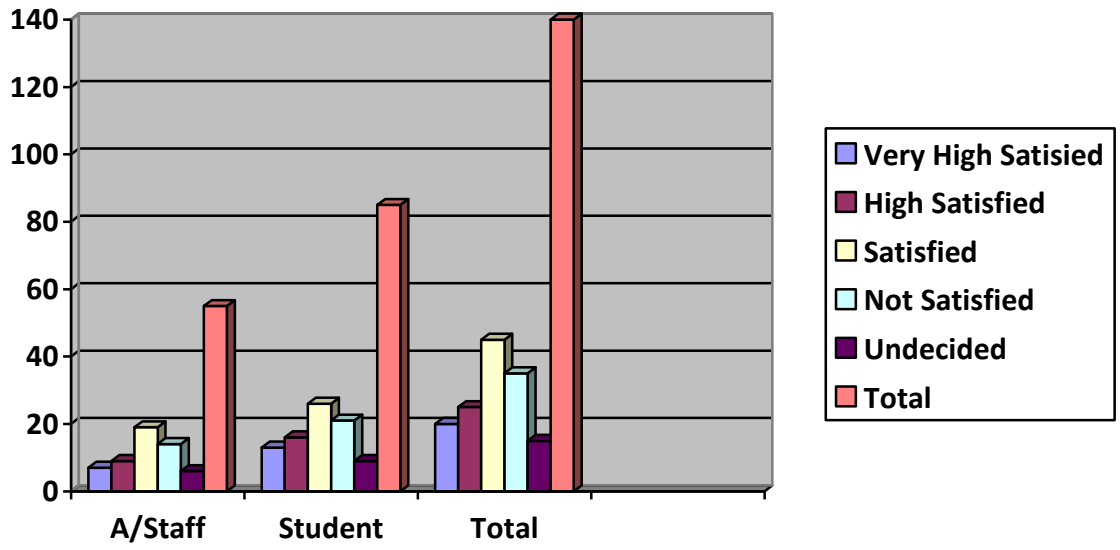


Table 5.15 provides information about problems encountered while using the Internet. 41 (29.28percent) participants in the survey had indicate the problem in funding policy, followed by 33 (23.57percent) respondents who encountered problem with slow access, 23 (16.42percent) respondents indicate lack of IT knowledge, while 14 (10.71percent)

had difficulty on infrastructure and management and rest of 13 (10 percent) respondents who report on Security problems.

Table 5.16 the level of academics satisfaction with the available Internet

Level	**Academic Staff**		**Student**		**Total**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Very High satisfied	7	5	13	9.28	20	14.28
High satisfied	9	6.92	16	11.42	25	17.85
Satisfied	19	13.57	26	18.57	45	32.14
Not satisfied	14	10	21	15	35	25
Undecided	6	4.28	9	6.92	15	10.71
Total	55	39.28	85	60.71	140	100



Respondents who had access to the Internet were asked to indicate their satisfaction with various Internet services. 45 (32.4percent) respondents are satisfied with Internet services, followed by 35 (25 percent) respondents are not satisfied, while 25 (17.85percent) respondents who are high satisfied, 20 (14.28 percent) respondents explained

that they are very high satisfied with Internet services and rest of 15 (10.71percent) respondents remained undecided.

CHAPTER SIX

6.1 Summary of Finding

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, in this study the research found that the demography of respondents ages are between 15 – 30 had the highest percent distribution of 50(35.71 percent) respondents; followed by ages 31-40 with 39 (27.85 percent). Ages 41-50 is represented by 30(21.42 percent) respondents and the least representation were the 51 and above years with 21(15 percent) respondents. In terms of marital status, most of the respondents, i e. 81(57.85 percent) were married while 59(42.14 percent) were single. The response on gender type revealed that there were 80(57.14 percent) male respondents whereas female respondents were 60(42.85 percent).

Table 5.2 makes it clear that 84 (60 percent) respondents say there is adequacy of acquiring internet subscription followed by the very adequacy 36 with (25.71percent) respondents, while the respondents say not adequacy 20 with (14.28 percent). Most of the Participant agree and say yes there is an Existence policy for acquiring internet subscription 138 with (98.57 percent) respondents, while 2 say no with (1.42 percent) respondents.

The Number of years that policy provided for renewal of internet subscription participants were asked and made the appropriate answers were seen, Table 5.4 makes it clear that 75 (51.42 percent) respondents say there is policy that provide guide for renewal of internet subscription for the one to three years followed by the respondents who say three to five years 41 (29.28percent), while 15 (10.71percent) respondent say 5 and above years, and rest score for less than one year score 9 (6.42 percent). The essence of each and every for Renewal of internet subscription whatever form or pattern is to serve the need of the users towards accomplishing its aims and objectives. From the table 5.5 above it has revealed that the ICT unit has majority respondents in terms of Renewal of internet subscription with frequency 85 and (60.71percent), followed by 35 (25percent) respondents who score for the Polytechnic management committee, while Bursar score 14 (10percent) respondents, and The Rector score 6 with (4.28percent) respondents.

Therefore, In order to understand how the users have access to internet services respondents were asked and made appropriate answer. The result indicate that the users have access to internet services by registration to ICT unit with score of 120 and (85.71percent) respondents, followed by 20 (14.28 percent) respondents who say by registration in the e-library, while free from registration score 0 (0 percent) that means there is no one can have access to the internet services without registration either by ICT unit or e-library.

The level of use of various internet services results revealed that scholarly website had a score of 26 (18.57percent); you tube and social media each score 24 (17.14percent), searching services score 15 (10.71percent) respondents. Email score 14 (10 percent) respondents, online database scores 10 with (7.14percent) while news scores 8 (5.71percent) respondents. E-conference score 7 with (5 percent) respondents, online public access (OPAC) and E-learning each score 6 (4.28 percent) respondents. The specific purposes uses of the Internet. It is clear that 51(36.42percent) respondents use Internet for research purposes, followed by 26 (18.57percent) respondents use for social media, 18 (12.85 percent) respondents use Internet for news, same figure 18 (12.85percent) for other purposes, while 15 (10.71percent) participants use the Internet for entertainment, and rest of 12 (8.57percent) for lesson preparation.

Moreover, the opinion about internet in promoting teaching and research, Table 5.12 reveals that 55 (39.28percent) respondents score for High promoting, while 31 (22.14percent) respondents say that it is very High promoting, followed by 27 (19.28percent) respondents who say it is promoting, while 14(10percent) for undecided respondents, and rest of 13 (9.28percent) respondents who score for not promoting. Table 5.15 provides information about problems encountered while using the Internet. 41 (29.28percent) participants in the survey had indicate the problem in funding policy, followed by 33 (23.57percent) respondents who encountered problem with slow access, 23 (16.42percent) respondents indicate lack of IT knowledge, while 14 (10.71percent) had difficulty on infrastructure and management and rest of 13 (10 percent) respondents who report on Security problems.

The level of satisfaction with various Internet services, 45 (32.4percent) respondents are satisfied with Internet services, followed by 35 (25 percent) respondents are not satisfied, while 25 (17.85percent) respondents who are high satisfied, 20 (14.28 percent)

respondents explained that they are very high satisfied with Internet services and rest of 15 (10.71percent) respondents remained undecided.

6.2 Conclusion

Nigerian A/Staff and student must move from traditional to modern practices in order to exploit the benefit and potentials of Information technology. A/Staff can only make a profound achievement and optimally contribute to the development of knowledge by using the Internet to enrich their research and to disseminate their findings. Conclusively, we can agree that most lecturers and student in Nuhu Bamalli Polytechnic, Zaria, Kaduna- Nigeria, use the Internet but they still need to learn how to fully utilize all the features of the Internet for research development. This is an aspect of Internet Literacy they must exploit. The lecturers should therefore take advantage of Internet technology to develop themselves.

Moreover, our investigation showed that the majority of the Nuhu Bamalli Polytechnic, Zaria use the Internet for many purposes; and have realized the benefits the Internet has to offer students in higher school of learning. A large percentage of the students declared that the satisfied with the Internet services and that has impacted greatly on their academic and social life. The students in their response indicated that the Internet when put to proper use offers a great number of benefits. They generally believe it serves as research tools, helps to search for more information on a particular subject, provides avenue to contact relatives and friends, widens knowledge, and gives information on education, politics and social events. It is used for information development, enhances easy communication globally, improves academic performance, gives information about happenings around the world, used as a research tool, provides solution to assignments, gives information on entertainment & education.

6.3 Recommendation

1) The Kaduna state government of Nigeria should tackle the problem of power failure by installing Uninterruptible Power Supply (UPS) devices to ensure steady use of electricity

2) Lecturer should be encouraged to attend regular workshops seminar to update their knowledge on the use of internet facilities for their academic responsibilities.

3) Time management in the utilization of the facilities should be properly done. The users should have enough time. Through proper planning, organizing, directing and controlling of the IT facilities so that the best could be made of the facilities. Restricted access to the facilities will not lead to the attainment of the desired objectives, but at the same time, measures should be put in place to ensure that the facilities are not abused.

4) Government should consider as a matter of urgency development of information policy that will address freedom of information with respect to social aspect of Internet use.

5) More funds should be made available by the authorities of the institutions under study for running and maintaining the Internet facilities. The present situation where by the institutions sometimes install but fail to maintain or paid the service provider on time should be stopped.

CHAPTER SEVEN

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Appendix I

Newcastle College

United Kingdom.

10th April, 2014

Nuhu Bamalli Polytechnic, Zaria

Dear Respondent,

Questionnaire on: Internet and its Utilization among the Staff and Student of Nuhu Bamalli Polytechnic, Zaria, Kaduna-Nigeria.

I am a postgraduate student of the above named institution in Department of Information Technology and conducting research on the above named topic. The research is purely for academic purpose therefore; kindly respond to the attached questionnaire by ticking the appropriate response. You are guaranteed of strict confidentiality of any information provided.

I thank you for the usual cooperation and assistance.

Yours truly,

Sani Murtala Ridwan

Appendix II

SECTION A: Demographic Information

Instruction: Kindly tick the appropriate box {√} where necessary.

1) Name of Institution: ……..
2) What is your designation?
   (a) G/Assistant- Ass/Lecturer { } (b) Lecturer 2-1{ } (c) Senior Lecturer-above { } (d) Student { }
3) What is your highest educational qualification?
   (a)Diploma { } (b) HND { } (c) BSC/BA { } (d) MSC/MA { } (f) PHD { }
   (a) Age
   (b) 15-30 years { } (b) 31-40 years { } (c)41-50 years { } (d) 50 years and above { }

SECTION B: the purposes use of Internet by staff and students of Nuhu Bamali polytechnic, Zaria Instructions: Tick {√} the right answer

4) How adequacy did your internet subscribe?
   (a) Very adequate { } (b) Adequate { } (c) Not adequate { }
5) I s there any existence policy for subscribe internet services? Yes { } No { }
6) If yes, how long has the policy provided for renewal the subscription?
   (a) Less than 1 year { } (b) 1-3 years { } (c) 3-5years { } (d) Above 5 years { }
7) Who is responsible for renewal the subscription?
   (a) Rector{ } (b) Polytechnic management committee { } (c) Bursar{ } (d) ICT unit { }
8) Please, did the policy cover the following?
   a) Funding of the internet services { } (b) Subscription period { } (c.) Managing the Internet { } (d) Infrastructure{ } (e) E-services { }
9) What are the purposes use of Internet by staff and students of Nuhu Bamali polytechnic, Zaria?

Purpose	Academic Staff	Student
Social Media		
Research		
Lesson preparation		
Entertainment		
News		

Other		

SECTION C: the academic use of internet by staff and students of Nuhu Bamali polytechnic, Zaria

10) How do your users have access to your internet services?
    (a) By registration to the ICT unit { } (b) By registration to the e-library{ }
    (c) Free from registration { }
11) How are your users allowed to have access to e-resources?
    (a) Directly { } (b) Through the ICT assistance { } (c) Through the system managers { } (d) Any other please specify……
12) How can you describe the level of use of these internet Services?

1)	Searching services	{ }
2)	On-line databases	{ }
3)	Online public access catalogs (OPAC)	{ }
4)	Scholarly websites	{ }
5)	Email	{ }
6)	E-learning	{ }
7)	E-conference	{ }
8)	YouTube	{ }
9)	Social network (facebook, twitter, LinkedIn, etc)	{ }
10)	News	{ }

13) What is the academic use of internet by staff and students of Nuhu Bamali polytechnic, Zaria?

Academic use	Academic Staff	Student
Research		
Publication		
Acquisition		
E-Learning		
Others		

SECTION D: opinion about internet in promoting teaching and research in Nuhu Bamali polytechnic staff and students, Zaria (Please kindly tick the right option.)

14) What is your opinion about internet in promoting teaching and research in Nuhu Bamali polytechnic staff and students, Zaria?

Opinion	Academic Staff	Student

Very high promoting		
High promoting		
Promoting		
Not promoting		
Undecided		

15) What is the Importance of the Internet by staff and students of Nuhu Bamalli Polytechnic, Zaria?

Importance	Academic Staff	Student
Very High Important		
High Important		
Important		
Not Important		
Undecided		

16) What is the Frequency of Internet use among the staff and student of Nuhu Bamalli Polytechnic, Zaria?

Frequency	Academic Staff	Student
Every day		

3-5 times a week		
3-5 times a month		
Never		
Undecided		

SECTION E: the problems militate against a full and effective utilization of Internet by staff and students of Nuhu Bamali polytechnic, Zaria.

17) What are the problems militate against a full and effective utilization of Internet by staff and students of Nuhu Bamali polytechnic, Zaria?

Problems	Academic Staff	Student
Slow access		
Funding		
Lack of IT Knowledge		
Infrastructure		
Management		
Security		

SECTION F: level of academics satisfaction with the available Internet facilities in promoting teaching and research of Nuhu Bamali polytechnic staff and students, Zaria.

18) What is the level of academics satisfaction with the available Internet facilities in promoting teaching and research of Nuhu Bamali polytechnic staff and students, Zaria?

Level	Academic Staff	Student
Very High satisfied		
High satisfied		
Satisfied		

Not satisfied		
Undecided		

Thank you for your participation.

An Assessment of Electronic Information Resources and Services in Kaduna State University Library, Kaduna- Nigeria

BY

Sani Murtala Ridwan

A Research Dissertation Submitted to the Newcastle College, United Kingdom, for PhD Research Degree

Under Supervision of: Dr. SHERIF EL BELTAGI
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December, 2015

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Abstract

The purpose of research is to discover answers to questions through the application of scientific procedures. Though each research study has its own specific purpose, this study concentrates on the following objectives: evaluating the adequacy of the provision of electronic information resources and services in relation to needs of users among the Kaduna State University library, finding out the problems associated with the electronic information resources and services, identifying the category of available electronic information resources and services, exploring the level of use of various electronic information resources and services, clarifying ease and difficulties regarding retrieving of electronic information resources and services by users. In the process of the investigation, the researcher gave the general introduction of electronic information resources, a brief background of Kaduna State University library, statement of the problems, and the scope and limitation of the study. A qualitative research design is adopted for this study. The method will be appropriate and suitable for the study since the study is descriptive in nature. The populations of the study are Kaduna state university library. The electronic library forms the sample of the study. The main body of the research consists the Concept of Electronic Library, electronic Information Resources, role of Electronic Information Services, Advantages of Electronic Information Services, Electronic Collection Management, The Key Challenge: Ownership versus Access, Interlibrary Loan Model, Universal Borrowing Models, No Fee Electronic Access, Fee-Based Access, World Wide Web, Selection of Information for Electronic Collections, Acquisitions of Electronic Information Resources, Access Agreements on Electronic Resources, Cataloging, Bibliographic Access Tools in an Electronic World, Techniques for Electronic Resource Management, Electronic Resources: Collection Development & Management, Archiving Electronic Information Resources, Systems for Managing and Preserving Electronic Information Resources and Services. The main body of the research consists of the data presentation, logical Analysis of data and major finding of the research.

CHAPTER ONE

1.0 Explanation of topic selection

Considerations in selecting a research problem help to ensure that the study remains manageable in terms of scope, resources and contributing to knowledge. Library in academics institutions can now provide information access to off-campus faculty and students wherever they are located. To meet the ever increasing demands for information availability, academics libraries must now subscribe to electronic resources such as e-books, full text journals and on-line bibliographic database in addition to the print formats. While the availability of these electronic resources enables remote access to needed information, concomitantly, they present issues and challenges (Idowu, 2009).

According to Ali (2005), a sizeable number of users (almost 60%) are facing numerous problems while using electronic information resources, such as lack of knowledge about the resources, lack of trained staff and inadequate terminals. He also identified four barriers to the effective provision of electronic resources in those libraries, namely: lack of strategic planning, lack of adequate or reliable funding, lack of use of Internet to provide information services to users and a lack of consistent training for users in new information and communications technology (ICT) services. Against this backdrop, the researcher wishes to establish the specific research on assessment of electronic information resources and services in Kaduna state University library so that the research can give the actual available electronic information resources and services, level of use, adequacy of provision the resources, problems associated, and satisfaction of users in the library. In this direction there are many factors that will lead to the researcher for selection a topic, below are some of the reason:

8) Interest: a research endeavor is usually time consuming, and involves hard work and possibly unforeseen problems. One should select topic of great interest to sustain the required motivation.
9) Magnitude: It is extremely important to select a topic that you can manage within the time and resources at your disposal.
10) Measurement of concepts: Make sure that you are clear about the indicators and measurement of concepts (if used) in your study.

11) Level of expertise: Make sure that you have adequate level of expertise for the task you are proposing since you need to do the work yourself.

12) Relevance: Ensure that your study adds to the existing body of knowledge, bridges current gaps and is useful in policy formulation. This will help you to sustain interest in the study.

13) Availability of data: Before finalizing the topic, make sure that data are available.

14) Ethical issues: How ethical issues can affect the study population and how ethical problems can be overcome should be thoroughly examined at the problem formulating stage.

By the above highlighted reasons for the selection of topic, I depend on items one, four, five and six that are: interest, level of expertise, relevance and availability of data. The researcher has an interest to conduct research on topic due to the availability of data, level of expertise, and it is also relevant to the researcher profession.

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. Kothari, (2004), observed that collecting data in dealing with any real life problem it is often found that data at hand are inadequate, and hence, it becomes necessary to collect data that are appropriate. There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources at the disposal of the researcher. Primary data can be collected either through experiment or through survey. If the researcher conducts an experiment, he observes some quantitative measurements, with the help of which he examines the truth contained in his hypothesis. But in the case of a survey, data can be collected by any one or more of the following ways: observation, personal interview, telephone interviews, through schedules and mailing of questionnaires the researcher and the respondents do come in contact with each other on this method of survey will be adopted. The researcher adopted mail questionnaire due to the nature of research and advantage of the instrument.

k) Can be used to collect large amounts of information at a low cost per respondent.

l) Respondents may give more honest answers to personal questions on a mail questionnaire

m) No interviewer is involved to bias the respondent's answers.

n) Convenient for respondent's who can answer when they have time

o) Good way to reach people who often travel (RMPC, n.d.).

Questionnaires are mailed to the respondents with a request to return after completing the same. It is the most extensively used method in various economic and business surveys. Before applying this method, usually a Pilot Study is been tested the questionnaire is administered which reveals the weaknesses, if any, of the questionnaire. Questionnaire to be used must be prepared very carefully so that it may prove to be effective in collecting the relevant information (Kothari, 2004).

The questionnaire is divided into these sections. Section A: Demographic data of the respondents; which includes division, unit, ranks and years of working experience. Section B: Adequacy of the Provision of Electronic Information Resources and Services. Section C: Problems Associated with the Electronic Information Resources and Services. Section D: Category of Available Electronic Information Resources and Services. Section E: Level of use of Various Electronic Information Resources and Services section F: Ease and Difficulties regarding retrieving of Electronic Information Resources and Services and Section G: Level of Satisfaction of Electronic Information Resources and Services.

CHAPTER TWO

2.0 Identification and Outline of the Research Objectives

2.1 Objective of the Study

The purpose of research is to discover answers to questions through the application of scientific procedures. Though each research study has its own specific purpose, this study concentrates on the following objectives:

1) To evaluate the adequacy of the provision of electronic information resources and services in relation to needs of users among the Kaduna State University library.
2) To find out the problems associated with the electronic information resources and services in Kaduna state University library.
3) To identify the category of available electronic information resources and services in Kaduna state University library.
4) To explore the level of use of various electronic information resources and services provided by the Kaduna state University library.
5) To clarify ease and difficulties regarding retrieving of electronic information resources and services by users.
6) To find out the level of satisfaction of electronic information resources and services provided by Kaduna State University Library.

2.2 **Research Question**

The following research questions will be answered

1) What is the adequacy of the provision of electronic information resources and services in relation to needs of users among the Kaduna State University library?
2) What are the problems associated with the electronic information resources and services in Kaduna state University library.
3) What is the category of available electronic information resources and services in Kaduna state University library?
4) What is the level of use of various electronic information resources and services provided by the Kaduna state University library?

5) What is the level ease and difficulties regarding retrieving of electronic information resources and services by users?
6) What is the level of satisfaction of electronic information resources and services provided by Kaduna State University Library?

CHAPTER THREE

3.0 Introduction

The use of information technology in Nigerian academic libraries has been profoundly affecting all aspects of information acquisition, storage, and transfer. Its magnificent development has dramatically changed the mode of library operations and information services. Hundreds of thousands of monographic materials, journals, learning resources, databases, etc. are now available in electronic formats, and these materials can now be accessed from the remote corner of any country, thereby increasing the use of information and literature and the efficiency of information services in Nigerian tertiary institution. Users are now more independent than before; they can access to these electronic formats from their home computers and search databases according to their information needs. Students, teachers, researchers, information professionals, and employees are the user categories in tertiary institutions. Their needs vary; their information or literature-seeking behavior also varies, and they need to be cared accordingly. Requirement of an individual needs to be individually addressed in an efficient way. Information resources also need to be accessed by them depending on their requirements – be they print materials and web-based resources. Electronic resources imply information materials that require the use of electronic devices such as personal computers (PCs), laptops, palm-tops, Notebook-laptops, DVD-,VCD-,CD–players, projectors, phones, I-pods, Iphones, I-pads, internet-, WAN-, LAN- networks, etc for their usage. Some of the most used of these resources include flash-drives, memory cards, DVD-, VCD-, CDROMs, DVD-, VCD-, CD-RAMs, DVD-, VCD-, CD-R; DVD-, VCD-, CD-WR; DVD-, VCD-, CD+WR, etc. (Dafiaghor, 2012).

The traditional services rendered by the library include, readers' services, reference services, reprographic services, Current Awareness Services (CAS), Selective Dissemination of Information (SDI) etc. However, the advent of Information Communication Technology (ICT) has expanded the scope of these services and the tools of information delivery. Today we have e-library and virtual library which provide access to electronic books and journals, online references, web-resources, web-catalogues etc. This "Web-eccentricity" poses a lot of challenges to librarians and information scientists as well as the traditional

library users. The challenges are both operational and strategic. The attitudinal challenge is another dimension that needs to be addressed (Idowu, 2009).

Electronic sources of information have introduced changes to the services and operations of modern libraries. Computing trends have enabled low cost digital storage of information, rapid transmission of data across computer networks and sophisticated retrieval, and processing of electronic documents and information. Against this background of increased availability of information and the technological innovations, libraries are developing new and revolutionary methods of providing users with access to ever increasing amount of information. The availability of electronic resources in libraries and their use to retrieve valuable information is the reason for the paradigm shift in the role of the traditional library services to those of an electronic or digital library. A study of electronic information resources and services in library will show the extent to which library are meeting the information needs of users and the extent to which users of digital resources are achieving their goals in doing assignments, teaching and research. (Gwazah, 2011).

To promote electronic information resources and services use, Weingart and Anderson (2000) observed that libraries spend a substantial percentage of their budgets on acquiring and making them available for users. These resources provide access to information far beyond the limits of the libraries' print collections. To effectively use the electronic information resources and services, users must know of their existence. It is the responsibility of libraries that have acquired these resources and offer the services to bring to their customers the awareness of such resources and services. Mutula and Ojedokun (2008) ascertain that digital library resources and services are increasingly being implemented by several agencies – government, private sector, and tertiary institutions, etc because they make research easier for scholars and may ease budgetary constraints associated with the acquisition of print resources. They help to reduce preservation problems or help libraries extend collections into new media. Above all, they help to make information readily available (Gwazah, 2011).

3.1 Background of Kaduna State Library

A library is a repository of knowledge. It is a place where information is collected, processed, stored and disseminated. Writing started centuries ago. An attempt to record and transmit human thoughts and vision led to writing, which is a representation of sound and speech in a meaningful form, from cuneiform to hieroglyphics and presently alphabets. Just as forms evolved, so also the media of transfer over centuries; from clay tablets, to papyrus, then stone, later parchment, after that paper, followed by microforms and now the digital medium. All these achieved within three eras of history- Ancient, medieval and modern times (Idowu, 2009).

The Kaduna State University and university library were established in 2004, during the Ahmad Muhammad Makarfi regime as executive governor of Kaduna state. The university library is the heart of the university academic activities. Its basic purpose is to provide students and staff with information, materials and environment conducive for learning, teaching and research. The e-Library supplements the existing traditional library by adding the ability to share resources from other institutions through subscription to online databases. Not only does it add more resources for students of KASU, it also allows the students to have access to the same resources at the same time without conflict. Furthermore the materials are always intact and don't suffer the risk of accidental tear and damage (KASU website, n.d.).

a) Organizational Structure

The library is organized into three divisions: administration, technical and reader service sections. This arrangement has been designed to cater for immediate acquisition and processing of available library materials and rendering library services. In order to ease the way of determining what the library holding is index cards are devised for the books. In addition, the materials are arranged on the shelves in accordance with the classification scheme of the Library of Congress. Each work is given a class mark, which indicates not only its subject division but also its place on the shelves. The library and e-library are open to all members of the University Community once they are registered.

b) Registration

Eligible staff and students wishing to use the library are expected to fill a registration form which would qualify them to borrow books and have access to the e-library when the library starts lending services. For the students, the registration is valid for the duration of the session (only current university registration status qualifies a student).

c) Loan of Library Books

As far as possible all documents in the library are to be consulted in the library. Textbooks, reference materials and journals consulted in the library should be left on the tables and not to be returned to the shelves. This ensures that books are returned to t heir correct places on the shelves by the library staff. Book loan facilities to students will be introduced later. Meanwhile, photocopying facilities are available at reasonable charges.

d) Care of Library Books

The University will hold the students responsible for any damage to library books or electronic facilities in use by them. Book damage includes marking, writing, and underlining, tearing off of one or more pages, cutting or deliberate mutilation of books or other library materials. Students caught in this act and convicted may be expelled from the University. A student found guilty of converting a library document or book to his/her personal property will be treated as one caught in the act of stealing University property.

e) Seat Reservation

No seat may be reserved for or by any student. The library staff on duty shall clear any seat so reserved with books and other documents. Any loss of item arising from this will be borne by the student who reserved the seat.

f) Discipline in the Library

In the interest of other library users, the following regulations must be strictly observed.

1) A book in great demand may be recalled from a borrower before the expiration of loan period. A book that has been recalled should be returned within twenty-four hours of recall. Failure to return a book that is recalled in accordance with this regulation will attract a fine of a specified extra amount per day from the day of the recall notice. Such defaulters will pay a specified amount per day if they do not return the library material. All overdue books will attract a fine of specified amount per day per book.
2) Any student, who marks, defaces damages or mutilates library books may be expelled from the university if convicted.
3) Students who pilfer any library book will be suspended from the use of the library for one semester. At the end of this suspension period, they will be made to sign an undertaking to be of good behaviour for the rest of their stay in the university.
4) Consistently delinquent borrowers will be suspended from the use of the library. The period of suspension will depend on the nature of the offense.
5) Books lost will be paid for. The cost of each of such books will be five times the unit purchase cost.
6) Orderly conduct should be observed in around the library premises. Strict silence should be observed in the reading area at all times. All GSM handsets must be switched off in the library.
7) Eating, drinking and smoking are not allowed in the library.
8) Briefcases, umbrellas and other similar baggage should be left at the library entrance in the pigeonholes stand. Such items are left behind at owner's risk.
9) All students leaving the library with books and other documents in their possession are required to present them for inspection to the library porter before leaving the library.

The University Librarian may suspend, or exclude from the use of the library, any student who, owing to persistent disregard to these rules and regulations or for any other cause, is considered to be unfit to use the library. The University Librarian may finally report such students to the university authority for appropriate action (KASU website, n.d.).

3.2 Statement of the Problem

In the late 20th and early 21st centuries, library automation and the internet revolutionized information access and library operation around the world. The effect on academic institutions has been profound. It enables users to access library resources from sites hundreds or thousands of miles away. Library in academics institutions can now provide information access to off-campus faculty and students wherever they are located. To meet the ever increasing demands for information availability, academics libraries must now subscribe to electronic resources such as e-books, full text journals and on-line bibliographic database in addition to the print formats. While the availability of these electronic resources enables remote access to needed information, concomitantly, they present issues and challenges (Idowu, 2009).

According to Ali (2005), a sizeable number of users (almost 60%) are facing numerous problems while using electronic information resources, such as lack of knowledge about the resources, lack of trained staff and inadequate terminals. He also identified four barriers to the effective provision of electronic resources in those libraries, namely: lack of strategic planning, lack of adequate or reliable funding, lack of use of Internet to provide information services to users and a lack of consistent training for users in new information and communications technology (ICT) services. Further, Wills (1990) also concur to these problems when he identified insufficient number of terminals available for use despite high demand and inadequate electricity supply; lack of information retrieval skills for exploiting electronic resources, thus making the level of usage of resources by students very low. In his study, he found that 57% of students sampled could not use a computer, that the use of database was poor, due to lack of awareness, lack of access to computers, insufficient training and the high cost of provision.

The problems hindering the availability and access to information resources and services in general and e-resources in partial as observed by the researcher in academic libraries in Nigeria in general, include, absence of ICT training programmes, Provision of ICT obsolete facilities in library and Lack of maintenance culture, others are:

1) Inadequate provision of funds

2) Lack of maintenance of ICT facilities in library
3) Lack of awareness of ICT facilities by library users
4) Negative attitude of supervising authority toward acquisition of current e-information resources
5) Lack of proper planning for funding the library
6) Absence of knowledge of ICT implementation policies
7) Absence of policy to regulate standards of acquisition of e-information resources
8) Inadequate provision of current e-information resources.

By the above highlighted it seem to become necessary to assess the electronic information resources and services in Kaduna state library so that the research can give the actual available electronic information resources, services, level of use, adequacy of provision the resources, and problems associated with the standard of e-resources and services.

3.3 Significance of the Study

The study will reveal the extent to which electronic information resources and services are made available for users in Kaduna state university library. University library is to provide e-information resources and services to the growing of entire information resources to users. As such the findings of the study will be of great importance to the government and University management functionaries to plan better in order to meet the changing technological needs of their library. Also, it will serve as a guide to University library management in the area of planning and establishing acquisition of electronic information resources and services. In addition, it will serve as a guide for newly created university library in setting up their plan for e-information resources and services in order to meet their need. Finally, it is an important contribution in the field of library and information science and knowledge in general.

3.4 Scope of the Study

Any intensive education research and extension education needs the support of systematic library and modern electronic information services. A well organized and efficiently managed library services is pre-requisite to any of the above said activities. Therefore, there is a vast scope to a study the various aspects of electronic information

resources and services in Kaduna state university library. The student's scientists and academicians require the various types of electronic information resources and services according to changing scenario. Hence, it was decided to conduct an assessment of electronic information resources and services provided by Kaduna state university library. The study will only cover the situation associated with electronic information resources and services such as adequacy, availability, use, problem and satisfaction of end users.

3.5 Definition of Terms

The following terms are defined in the context in which they are used in this study:

Assessment: The act of judging or assessing a person or situation or event. It can be also an expert estimation of the quality, quantity, and other characteristics of someone or something.

Information: Knowledge acquired through study or experience or instruction. And it can be a collection of facts from which conclusions may be drawn.

Research: To study something carefully and try to discover new facts about it.

Availability: This is ready access to money with little or no stress to the librarians or purposes during a given period.

Use of Electronic resources: This is the searching, browsing, examining, visiting of an electronic resource, down loading and printing it by the user.

Electronic service: This is an information activity carried out electronically to satisfy the intended users. Electronic information services include e– mail based services, bulletin board for libraries, online public access catalogue (OPACs), portals and gateways and the internet.

Electronic Resources: These are electronic information resources that users access electronically via a computing network. Examples include online databases, e-journals, e-books, CD-ROMs, audio visual multimedia, etc.

Management: This is made up of a team of high level personnel in the library in charge of the responsibility of setting up activities ranging from planning, decision making, organizing, leading and controlling and organizing with the aim of achieving organizational goals and objectives.

University library: A tertiary institution library that promotes teaching, research and learning established purposely to meet the goals and objectives of the institution.

CHAPTER FOUR

4.0 Research Approach and Planning

According to Kothari, (2004), explained that Qualitative research is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behavior (i.e., why people think or do certain things), we quite often talk of 'Motivation Research', an important type of qualitative research. This type of research aims to discover the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests, sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is especially important in the behavioral sciences where the aim is to discover the underlying motives of human behavior. Through such research we can analyze the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing. It may be stated, however, that to apply qualitative research in practice is relatively a difficult job and therefore, while doing such research, one should seek guidance from experimental psychologists.

A qualitative design will be adopted for this study. The method will be appropriate and suitable for the study since the study is after descriptive of situation of electronic information resources and services. Therefore, the research will be able to assess all the aspect of electronic information resources and services in Kaduna state university library.

4.1 Research strategy

Babbie (1986) explained that survey research strategy is used for descriptive and explanatory purposes. Meaning that a situation is fully described and explained in details base on what is existing. According to Ifidon and Ifidon (2007) a survey research gathers data from a population in order to determine the current statues of that population with respect to one or more variable. It does not focus on individual as an entity but generalizes statistic realized when data are abstracted from a number of individuals cases. It is characterized by selecting samples from a population and findings obtained are used to generalize the population. Survey

research is also directed towards different people to know their feeling, opinion, belief and attitude regarding an issue, policy or service. Ndagi (1984) defines survey research as a research concerned with the collection of data for the purpose of describing and interpreting existing conditions, prevailing practices, beliefs and attitudes on ongoing process.

Yin (1994), Identified five research strategies in social science base on three conditions:

4) Form of research questions
5) Control over behavioral event and
6) Focus on the contemporary events.

These strategies are experiments, surveys, archival analyses, historical and case studies. The survey strategy is most appropriate to this study since the study is after descriptive of the situation of electronic information resources and services in Kaduna state university library.

4.2 Population of the study

At an early stage in the planning of any investigation decisions must be made concerning the study population. That is, concerning the population of individual units (whether they are persons, households, etc.) to be investigated. The population under consideration should be clearly and explicitly defined in terms of place, time, and other relevant criteria. If the study population comprises cases of a disease the procedures to be used for case identification should be stated (Degu, G. &Yigzaw, T. 2006).

The population for the study is Kaduna state university library, Kaduna. The choice of this university was made because both federal university and state university have common characteristics of managing the system. The target group for the study will be made up of the system Librarians and professional librarians working in electronic library in the Kaduna state university.

4.3 Sample and Sampling Techniques

A Sample is a segment of the population selected to represent the population as a whole. Ideally, the sample should be representative and allow the researcher to make accurate estimates of the thoughts and behavior of the larger population. According to research

methodology for private circulation (RMPC, n.d) ascertain that designing the sample calls for three decisions:

1) Who will be surveyed? (The Sample) The researcher must determine what type of information is needed and who is most likely to have it.

2) How many people will be surveyed? (Sample Size) Large samples give more reliable results than small samples. However it is not necessary to sample the entire target population.

3) How should the sample be chosen? (Sampling) Sample members may be chosen from the entire population.

The non probability sampling (Convenience sample) will be adapted to this study the researcher selects the easiest population members from which to obtain information.

With regards to the category of the entire population of the study, this is made of Kaduna state university library. The electronic library forms the sample of the study. Therefore, with respect to the study, all the staff that involved in managing electronic information resources and services in the Kaduna state university library will be used. These include the system Librarians and professional librarians. The justification of this subject of study is based on the fact that; the system librarians and professional librarians play a role as the custodians/personnel running the day to day affairs of the electronic information resources and services in library.

Table 4.1 distribution of sampled respondents in Kaduna state university library

S/N	**Type of institution**	**University Library**	**Electronic Librarian**	**Professional librarian**	**Total**
1	State	Kaduna state university library	15	35	50

4.4 Instruments for Data Collection

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. A questionnaire consists of a set of questions presented to a respondent for answers. The respondents read the questions, interpret what is expected and

then write down the answers themselves. Because there are many ways of asking questions, the questionnaire is very flexible. Questionnaire should be developed and tested carefully before being used on a large scale. There are three basic types of questionnaire: Closed – ended, Open-ended and Combination of both (RMPC, n.d.). Combination of both will be used in this study so that will give the respondents chance to express their opinion.

The researcher feels that the questionnaire is of standard and adequate to provide the data needed for the research. Ihanacho (2004) explained that the questionnaire as a survey research instrument is designed in question form to obtain feedback information from subjects with respect to their opinions, attitudes beliefs and motives regarding a situation. Questionnaire was used to collect the data because of its relevance and the researcher knew that this method could only be used for getting information from the staff of the Kaduna state university library. It is set out to gather factual information in an enquiry form through which the respondents answer the questions or respond to statements in writing.

4.4.1 Questionnaire

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. Kothari, (2004), observed that collecting the data in dealing with any real life problem it is often found that data at hand are inadequate, and hence, it becomes necessary to collect data that are appropriate. There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources at the disposal of the researcher. Primary data can be collected either through experiment or through survey. If the researcher conducts an experiment, he observes some quantitative measurements, of the data, with the help of which he examines the truth contained in his hypothesis. But in the case of a survey, data can be collected by any one or more of the following ways: observation, personal interview, telephone interviews, through schedules and mailing of questionnaires the researcher and the respondents do come in contact with each other on this method of survey that will be adopted. The research will be adopted mail questionnaire due to the nature of research and advantage of the instrument. Some of the advantages of mail questionnaire are:

p) It can be used to collect large amounts of information at a low cost per respondent.

q) Respondents may give more honest answers to personal questions on a mail questionnaire

r) No interviewer is involved to bias the respondent's answers.

s) Convenient for respondent's who can answer when they have time

t) Good way to reach people who often travel (RMPC, n.d.).

Questionnaires are mailed to the respondents with a request to return after completing the same. It is the most extensively used method in various economic and business surveys. Before applying this method, usually a Pilot Study is been tested the questionnaire is conduced which reveals the weaknesses, if any, of the questionnaire. Questionnaire to be used must be prepared very carefully so that it may prove to be effective in collecting the relevant information (Kothari, 2004).

The questionnaire is divided these sections. Section A: Demographic data of the respondents; which includes division, unit, ranks and years of working experience. Section B: Adequacy of the Provision of Electronic Information Resources and Services. Section C: Problems Associated with the Electronic Information Resources and Services. Section D: Category of Available Electronic Information Resources and Services. Section E: Level of use of Various Electronic Information Resources and Services section F: Ease and Difficulties regarding retrieving of Electronic Information Resources and Services and Section G: Level of Satisfaction of Electronic Information Resources and Services.

4.5 Validity of the Instrument

According to Degu, G. &Yigzaw, T. (2006), validity refers to the degree of closeness between a measurement and the true value of what is being measured. Validity addresses the question, how close is the measured value to the true value? To be accurate, a measuring device must be both valid and reliable. However, if one cannot have both, validity is more important in situations when we are interested in the absolute value of what is being measured.

In order to ensure the validity of the questionnaire used in data collection, it would be subjected to validation**.** Kerlinger (1973) asserts that validation by others is an effective method for face validation of any instrument used for research. In this regard, the kind of validation used was that of making a draft copy of the questionnaire available to experts for checking, observing, correction and amendment. Two thesis supervisors and three other academic staff of Cairo University, Egypt were chosen for the validation of the questionnaire. Mohammed (2005), notes that comments by such experts enables the researcher to review and revise the instrument for greater effectiveness before administering it.

4.6 Reliability of the Instrument

According to Degu, G. &Yigzaw, T. (2006), Reliability on the other hand is more important when it is not essential to know the absolute value, but rather we are interested in finding out if there is a trend, or to rank values. Reliability refers to the repeatability of a measure, i.e., the degree of closeness between repeated measurements of the same value. Reliability addresses the question, if the same thing is measured several times, how close are the measurements to each other?

According to Bryman (2008) reliability of instrument is very important as it deals with consistency, stability and detail treatment of issues using appropriate techniques. The reliability of the instrument was established by conducting a pilot study within two week at the Cairo University, Cairo Egypt. The choice of this university is made because it did not form part of the scope of the study. To ensure that the instrument was reliable, a pre-test was conducted using library staff in the same university (Cairo University) which was not included in the study.

4.7 Procedure for Data Collection

Having decided on how to design the research study, the next methodological design is how to collect information. The most commonly used methods of collecting information (quantitative data) are the use of documentary sources, interviews and self-administered questionnaires. Data collection methods are time consuming and consequently data is collected from smaller numbers of people than would usually be the case in

quantitative approaches such as the questionnaire survey. The benefits of using these approaches include richness of data and deeper insight into the phenomena under study. (Degu, G. &Yigzaw, T., 2006),

The researcher administered and collected the questionnaires through Email as research assistant to all the respondents. In this process the researcher solicited the cooperation of the authority of the Kaduna state university library, staff, which was done within one week. An additional two weeks were also given to the respondents so as to facilitate completion of the instrument. The administration of the instrument was conducted under strict confidentiality as the respondents were assured that their responses would be treated confidentially and for the purpose of the study alone.

4.8 Procedure for Data Analysis

Kothari, (2004), explained that the data, after collection, has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan. This is essential for a scientific study and for ensuring that we have all relevant data for making contemplated comparisons and analysis. Technically speaking, processing implies editing, coding, classification and tabulation of collected data so that they are amenable to analysis. The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data-groups. Thus, "in the process of analysis, relationships or differences supporting or conflicting with original or new hypotheses should be subjected to statistical tests of significance to determine with what validity data can be said to indicate any conclusions. When a mass of data has been assembled, it becomes necessary for the researcher to arrange the same in some kind of concise and logical order. This procedure is referred to as tabulation. Thus, tabulation is the process of summarizing raw data and displaying the same in compact form (i.e., in the form of statistical tables) for further analysis. In a broader sense, tabulation is an orderly arrangement of data in columns and rows. Tabulation is essential because of the following reasons.

1. It conserves space and reduces explanatory and descriptive statement to a minimum.
2. It facilitates the process of comparison.
3. It facilitates the summation of items and the detection of errors and omissions.

4. It provides a basis for various statistical computations (Kothari, 2004).

Nworgo, (2006) added that analysis of data is a process of infecting, cleaning, transforming and modeling data with the goal of highlighting useful information, suggestion, conclusion and supporting decision making. Data has multiple facts and approach, encompassing diverse technique under a variety of names, in different business, science and social science domains. This research adopted logical analysis method; it is an outline of generalizing causation using flow chat diagram, table, frequencies and percentages. The data would be presented in tabular and chart form to show the responses of each category of respondent.

CHAPTER FIVE

5.0 Theoretical Framework and Finding

5.1 Concept of Electronic Library

According to Sirurmath (n.d.) explained that electronic library is information stored electronically and made accessible to users through electronic systems and networks. One of the central tenets of the electronic library is the delivery of information, whenever required, to the user's desktop, wherever that may be. Library professionals therefore, will increasingly need to provide their services in some electronic form rather than accept face-to-face contact with their users. As academics become more willing and more accustomed to using electronic information on a regular basis, they will become increasingly dependent on technology for information access. An additional factor is that in networked environments, information providers can supply their information directly to the end-user and so bypass the library entirely. Thus the move to an electronic information environment will radically alter the way in which a library operates and interacts with its users, and library professionals will need to consider their own future role as intermediaries. It will form a crucial part of an institution's information service provision and is likely to have a much wider remit than that of the traditional library. Electronic libraries will need to provide a range of new value added services for internally generated and externally acquired academic and scholarly information, and may be involved in the delivery of administrative information as well. However, the primary aim of the electronic library will be to support the institution's learning, teaching, and research, which might change significantly with number of users.

Similarly, Aina (2004) defined Electronic library as a library that consist of materials and services in electronic formats rather than the print format. In another dimension, Shim et al (2001) defined Electronic library as those electronic information resources and services that user's access electronically via a computing network from inside the library or remote to the library. Electronic library resources are invaluable research tools which complement print-based resources in any traditional library; they provide access to information that might be restricted to the user because of geographical location or finances (Sabouri, et al 2010). The emergence of electronic resources has cut the barrier to valuable information resources which until now were difficult to access especially by scholars in the

developing nations of the world. Salaam (2008) attributed the popularity of electronic resources to flexibility in searching than their paper-based counterpart, and that they can be accessed remotely at anytime. Tenopir (2003) in a major survey analyzed the
findings of over 200 studies on the use of electronic resources in libraries that were published between 1995 and 2003. The results revealed that, electronic resources have been rapidly adopted in academic spheres; however behavior varies according to the discipline (Isah, 2010).

5.2 Electronic Information Resources

Choughule, (2007) observed that Libraries are providing information to its user. Earlier it was in the form of reference service which is more concern with provision of information on demand, but information services lays emphasis on providing information in anticipation. In information services emphasis is to provide information rather than providing only document. It is an attempt to provide exact information not just directing to the material. Ultimately, the librarian is not waiting for the user, but goes ahead with the job. With the advent of ICT, libraries implement it in providing information services too, which introduces the concept of 'Digital Information Services'. Digital Information Services in the libraries includes all electronic information resources organized for services, as well as computerized and networked online resources accessed through libraries. Electronic Information Resources includes e-books, e-journals, CDs, DVDs and databases, etc. Computerized and networked online resources – several reputed and authentic sources are available on the Internet. The convenience of accessing remote information through WWW has resulted in popularity for WWW. Hence, most of organizations, publishers, open archive initiatives have come forward to put their information content on web. The convergence of computer, telecommunication, information and multimedia has helped in the development of electronic information services. Electronic information services provides a wide array of services to assist members of the library with organizing collection of material or making them more widely available (Choughule, 2007). Following are some of the electronic information services

a) Electronic Table of content service
b) Full text access to electronic journals

c) Current awareness services
d) Electronic document delivery
e) Externally purchased database
f) CD-ROM Databases
g) Library catalogues
h) Remote Information services
i) Internally published newsletters, reports, journals
j) Bulletin Board Services
k) Discussion groups & forums
l) Newspaper clippings

5.3 Role of Electronic Information Services

A large number of services are offered to users by library and information centers today. While the format of information resources may change, the way of accessing information too may vary and the style of serving the user may be different but still the vision and mission of library will be same. For some users, a major advantage in using an electronic information services is the ability to 'personalize' the information that appears on their desktop or laptop, computer. Library's role is also enhanced where they will have to adapt to the changing environment. Commercial search engines like Google, yahoo, information gateways have assisted the librarians in meeting the information needs of their clientele.

Libraries are no longer bound with their own information resources to provide services as they can easily get access to remote information sources "just-in-time". Libraries are increasingly designing "portals" to facilitate the users access to the available resources. A portal can be defined as an information hub or an n entry point to digital information sources and services available through the Internet and Intranets. To fulfill the mission of the library, it has to provide the traditional reference services, retrieval and dissemination of information and at the same time, It has to stretch its services to information search services, to organize the information resources for easy access, to filter qualitative information from the vast ocean of World Wide Web (Choughule, 2007).

The Main aim of all libraries is to provide right information to right user at right time, whether it is academic library, public library or a special library. Only the difference is in targeted audience. Their information needs are different with different library. Here main focus is on academic libraries.

By going for Digital Information Services the academic library provide speedy access to qualitative information resources.

a) It makes optimum utilization of available resources
b) It saves time of users
c) One can access digital information from anywhere without restriction
d) It available at only one click, away.

Choughule, (2007). Added that in the digital age, the information and knowledge flow become even faster, and the popular value of knowledge necessities as well as the need of academic library or any associate or member will require more quantity and higher quality. Use of electronic information resources is now habitual and they would like to see more provision of information in digital form. They appreciate very many efforts that libraries have made in this area. They recognize that utilizing the content of journals is now much easier than it used to be. Indeed users of corporate libraries want more. Users would like to find everything they need in digital form. Users demand seamless access to a multitude of electronic information services without leaving their desktop computers. They prefer using systems that recognize them when they log on. Academic libraries devote about 30% of their material acquisition budgets to electronic information sources. Traditionally library services were mainly centralized but with the use of IT and networks make delivery of information services more distributed. Electronic information services is must in corporate as they require all information at their ease. By going for electronic library services, the corporate library can provide speedy access to qualitative information resources. Users of academic library are very happy with digital information services which provided by academic libraries. Because in today's information world, librarians digging the information as per their request, their interest etc. Therefore, they don't go while searching the information and they save their valuable time.

5.4 Advantages of Electronic Information Services

a) Ability to make an information source simultaneously available to multiple users through networks: removed the: one source – one user" limitation of the print world.
b) It makes the library collection for global use.
c) It saves the time of the users.
d) It facilitates the effective functioning of the library.
e) It provides the latest and accurate information.
f) Digital Information Services will have no boundaries of time, space, geographical area, and racial discrimination between people for accessing the information. One can access the information from a remote area or from some other country also and at a very cheaper rate.

5.5 Electronic Collection Management

According to Cotter and Koehler (2002) observed that the electronic library has four attributes:

a) Management of resources with a computer

b) The ability to link the information provider with the information seeker via electronic channels

c) The ability for staff to intervene in the electronic transaction when requester by the information seeker and

d) The ability to store, organize, and transmit information to the information seeker via electronic channels." An electronic library utilizes both electronic information resources and electronic means to manage and move those resources.

There are sound reasons for us to consider collection management or as Budd and Harloe (1997) suggest that content management in a networked environment, libraries bring more than organization and intermediation to information collections. They also bring authority. Inclusion in a collection implies pertinence, appropriateness. At the same time, the same information "content" can and will be provided in different "containers."

5.6 The Key Challenge: Ownership versus Access

The move to electronic information management has resulted in a number of debates. "Ownership versus access" has been one of the more important issues. Budd and Harloe (1994) distinguish between the ownership-based and the access-based organization. In the former, collection emphasis is placed on building "on-the-shelf" collections while, in the latter, emphasis is placed on access to resources, regardless of where they are "owned." Value is assessed differently. For the traditional model, the value of a collection is its size. For the access-based library, value is defined as the ability to retrieve useful information. The former library collects "just in case" material is needed; the latter provides it "just in time." Both models contain pitfalls and problems. Keller (1992), for example, has argued that new access instead of ownership paradigm leads ultimately to an environment where 'all is meta information,' with no or few ideas on the shelves." The issue of access also brings in a whole new set of questions regarding archiving and preservation, intellectual property including fair use, as well as conditions for purchase which have moved to a complex set of conditions in licensing in the case of digital material. Buckland (1997) suggests that libraries consider ownership for high demand items and access for those in low demand. Given the spread of digital access, union catalogs, and universal borrowing, it is no longer so important what an information organization contains (owns); rather, the focus is on the services (access) the organization can provide (Ferguson and Kehoe 1993).

5.7 Access Models

"Access" to digital information comes through several modes of access. Each of these forms can be considered as part of the "ownership versus access debate" and impacts the new ways of managing electronic collections. The following describes four models now employed in the digital environment. These are the interlibrary loan model, the universal borrowing model, the no fee model, and the fee-based model. In addition, the World Wide Web, as both a content structure and a delivery mechanism, will be discussed in the context of models of access. The interlibrary loan (ILL) model has been with us for many years. Universal borrowing (UB) is a recent phenomenon first seen in the mid-1990s. The fee-based electronic access model dates to the early 1960s with the advent of electronic database

services like Dialog. Today, a large volume of "no fee" or "free" services are Web-based and emerged as major resources in the mid-1990s (Cotter and Koehler, 2002).

5.8 Interlibrary Loan Model

Interlibrary Loan (ILL) is a process by which one library borrows from other libraries materials it does not hold in order to meet the information needs of its patrons. Interlibrary Loan is not a new concept nor is it one that emerged out of the digital revolution. ILL is however facilitated by various online services including electronic union catalogs (like OCLC's World Cat) and automatic ILL request services attached to OPACs (Online Public Access Catalogs) and online databases. The ILL community has developed a continuing interest in using the Web and other means to facilitate the ILL process. The North American Interlibrary Loan and Document Delivery (NAILDD) Project promotes the development of efficient ILL/DD delivery systems using networked technologies.

NAILDD has identified three areas of primary concern: "comprehensive and flexible management software, improvements in ILL billing and payments, and system interoperability via use of standards." (Jackson 1998). OCLC has played a major role in developing system interoperability, facilitating billing and financial transfers (IFM or ILL Fee Management), and development of management software. A number of international initiatives led by the Research Libraries Group (RLG), the Library Corporation (TLC), Ameritech Library Services (ALS), AGCanada, and others have sought to improve system interoperability and information flows, thus enhancing digital access. OCLC manages an international Interlibrary Loan Service or Global Sharing Group Access Capability (GAC), built upon its union catalog WorldCat. It utilizes a standard Web interface and software (http://www2.oclc.org/oclc/pdf/printondemand/ill.pdf). Many countries have developed model codes for ILL, for example the American Library Association – Reference and User Services Association (ALA-RUSA) Interlibrary Loan Code for the United States (http://www.ala.org/rusa/stnd_lnc.html). ILL exchanges among countries are guided by the International Federation of Library Associations and Institutions (IFLA) International Lending: Principles and Guidelines for Procedure (http://www.ifla.org/VII/s15/pubs/pguide.htm).

The Interlibrary Loan system is guided by a set of standards (ISO 10160 and ISO 10161). These standards were developed to insure interoperability among electronic ILL systems and their application protocols. These standards and protocols are managed by the ILL ISO Maintenance Agency. The National Library of Canada serves as host. Typically, ILL exchanges do not require royalty payments to the copyright holder of exchanged materials. Two principles guide. The first is fair use. The second is the right of the "container" owner to dispose of the container as s/he sees fit, including lending it to others. Fair use doctrine limits the number of copies of a work one can make as well as the number of pages that can be copied from larger works. In general, fair use would permit the copying of a single article from a journal or a single chapter for a book with royalty payment. Multiple copies of copyright holder, one may, however, lend the original copy as often as it is requested. These conditions are noted here because the whole system of access through ILL has been called into question when dealing with digital materials. This is part of the larger intellectual property issues associated with such materials (Cotter and Koehler, 2002).

5.9 Universal Borrowing Models

The Universal borrowing models (UB) allows libraries to treat authorized users from one system to borrow (access collections) from libraries within a consortium. The term "universal" actually refers to providing access to everyone within a defined group, not universal in the sense of totally opened.

In the United States, two examples of UB arrangements for digital access are:

a) Libraries under a common jurisdiction permit intra-jurisdictional lending. For example, in Georgia, public libraries have banded together to form the Public Information Network for Electronic Services (PINES). These libraries are regulated by the Georgia Public Library Service. PINES offers an electronic union catalog and interlibrary borrowing and return services (http://pines.public.lib.ga.us/). The Georgia public and academic libraries also participate in GAILEO, to provide system wide commercial database services.

b) The Association of Research Libraries (ARL) manages the "Reciprocal Faculty Borrowing Program" among its member university libraries. "Conducted under the aegis of the Research Libraries Advisory Committee to OCLC, the intent of this program is to promote

and facilitate scholarly research and communication among faculty members of research universities that are ARL members." Privileges may but do not necessarily include borrowing rights. http://www.pace.edu/library/collection/FacultyBorrowing.html. In the increasingly digital world, the pre-coordinated groups of organizations in consortia have become increasingly active and pervasive due to the need to get the most favorable conditions under licensing agreements. Cost models for publishers of digital information are in serious flux and the need for groups that build collections to work together in their dealings with publishers and in developing access infrastructures for digital collections has become increasingly important.

5.10 No Fee Electronic Access

Cotter and Koehler, (2002), observed that no fee access to digital materials has become increasingly available through the Internet and, thereby, directly to the end user. Materials can be read online or downloaded in a variety of formats, including pdf, Microsoft reader, and html. From the "collection" point of view, providing identification and access to the free sites brings with it a number of issues. Since these are free material and the level of responsibility of the "publishers" vary considerably, collection developers have the difficult challenge of determining whether digital access provides sufficient continuity in their collection development scheme. Maintaining links to free electronic sites is a major collection maintenance challenge for digital collections. Also, because the material is free, most of it is not copyrighted or older out-of-copyright material.

One major source of free material that is rather durable and generally of good provenance is US government material, especially policy and technical documents because US government material cannot be copyrighted. Some sample sites for free material are:

a) Project Gutenberg (http://promo.net/pg/), begun in 1971, permits its users to download books.

b) Online Books (http://onlinebooks.library.upenn.edu/) at the University of Pennsylvania provides portal access to more than 15,000 e-books. It provides pointers to materials in its collection and on the servers of other providers. The text is marked up to provide cross references by hypertext links to material on the same subject in the collection.

c) Subject gateways are comprehensive collections of digital and often Web documents organized around a set of central themes. Examples include the WWW Virtual Library (http://vlib.org/), BUBL LINK (http://bubl.ac.uk/link/), the Internet Guide to Engineering, Mathematics and Computing (http://www.eevl.ac.uk/) WebMD (http://www.webmd.com), /) and so on. Preserving Access to Digital Information or PADI (http://www.nla.gov.au/ padi/) is a subject gateway to digital preservation issues. The Resource Discovery Network (http://www.rdn.ac.uk) is a metagateway, with links to major gateway sites.

d) Governments provide Web based database access to a wide range of information. Examples include Thomas, a Library of Congress gateway to US Congressional documents (http://thomas.loc.gov/) and Edgar, a service of the Security and Exchange Commission (http://www.sec.gov/edgar/searchedgar/ webusers.htm).

e) E-print and pre-print archives -- Los Alamos National Laboratory broke new bibliographic ground when it established an e-print archive (http://arxiv.org/ and mirrored at: http://xxx.lanl.gov/). This archive and others like it have proved invaluable in fields with fast breaking innovation. Two of the major US science agencies, NASA and the Department of Energy, both have free access to large digital report collections. (http://www.osti.gov/ for DOE and http://www.sti.nasa.gov/ for NASA).

There is a major other thrust into free or alternative models of information provision driven by the changing economics of publishing, the increasingly activist user community, and the enabling information technologies around the Internet. This is particularly true in scientific and technical areas where journal costs are fast outpacing libraries' abilities to continue to afford them for their collections. Scholars and universities on the one hand are challenging the journal publication model as too centric and too expensive. Journal publishers on the other hand respond that their costs require economies of scale and higher prices. Some authors are experimenting with self publication on the Web. And a number of e-journals have been created to add structure to the process. The SPARC (Scholarly Publishing and Academic Resources Coalition) Initiative is one such effort to redefine academic publishing and information dissemination (http://www.arl.org/ sparc/home/). It is an organization of universities, research libraries, and organizations "built as a constructive response to market dysfunctions in the scholarly communication system." Launched in 1998, the SPARC mission

is to enhance access to peer reviewed literature and to act as an alternative delivery mechanism to commercial online publishers. Many e-journals and some h-journals (hybrid, or journals published in paper and electronically) offer free access to their articles. These include a number of popular and scholarly journals offered in electronic format without charge or subscription; for example, the venerable Scientific American (http://www.sciam.com/), as well as the information science journals Information Research (http://informationr.net/ir/), D-Lib Magazine (http://www.dlib.org/), FirstMonday (http://www.firstmonday.dk), Ariandne (http://www.ariadne.ac.uk/) and CyberMetrics (http://www.cindoc.csic.es/ cybermetrics/). Many newspapers offer free access to all or parts of their editions. These include El Día, New York Times, Wall Street Journal, Le Monde, Helsingin Sanomat, The Times of India, to name a few (Cotter and Koehler, 2002).

5.11 Fee-Based Access

Fee-based access to information can take several forms. Historically, bibliographic databases were the early entrants into the electronic collection management arena as noted previously. Although the Web initially encouraged free and freely available information, as it is maturing, commercial publishers are actively using it for vending their electronic material. The volume of fee-based access via the Web is only going to continue to increase at an increasingly rapid rate. Examples of the increasing number and variety of resources available as fee-based services include access to bibliographic and fulltext databases, to online journals, and to electronic books.

a) There are a number of electronic databases that provide bibliographic and/or fulltext access to documents. These include services like Dialog, LexisNexis, Westlaw, Ovid, Chemical Abstract's STN, OCLC's ContentsFirst, OCLC's FirstSearch, CARL UnCover, British Library Document Supply Centre Inside Information and Inside Conferences, ISI Current Contents, ISI – The Genuine Article, and the Canada Institute for Scientific and Technical Information (CISTI).

b) There are a number of database providers, like the Thomson Companies, that own a wide array of properties. Their holdings range from the Physicians' Desk Reference, Jane's Warships, and the ISI collections. They also maintain copyright, patent, trademark databases.

c) There are a growing number of publishers providing direct individual or library subscriber access to online e-publications. E-publications either replace or supplement the paper version of the journal. There are a variety of models for the publication of e-publications. These include newspapers, magazines, newsletters, and scholarly journals.

d) E-book providers are Web based vendors of online and for the most part popular books. They are fee-based services charged to the consumer. There are a number of services that provide access to e-books. See, for an example, eBooks (http://www.ebooks.com/). Adobe provides pointers to ebook vendors (http://www.adobe.com/epaper/ebooks/ebookmall/main.html). E-books are typically provided in pdf format one page at a time.

e) E-journals and h-journals provide journal access either by subscription or association membership. These include Science and Nature. The Journal of the American Society for Information Science and Technology is offered to members in either paper or electronic format (or both for an additional fee). Companies like MCB University Press, Woulters Kluwer or Elsevier offer bundles of online journals to libraries and individuals (Cotter and Koehler, 2002).

5.12 World Wide Web

The World Wide Web is complex information medium. It is both a repository for information and a transmission vehicle. It provides free public access and increasingly fee-based access to an immense body of digital material. The Web also supports a wide range of interactive services including banking and securities trading. E-commerce has moved into many other areas and it is now possible to purchase a wide variety of goods and services on line. Amazon.com was among the first businesses to move successfully in the Web environment first by offering books for sale and more recently a wide array of products. The Web was once perceived not only as a supplement for libraries but as a replacement for them. Perhaps Louise Addis is the first information professional, a librarian to appreciate the opportunities the Web can offer as a

transfer medium (Berners-Lee, 1999). to support a variety of disciplines and library needs (Henderson, 2000). It has been fairly well demonstrated that the Web is neither a library nor a substitute for libraries (Koehler 1999). It is one of many resources in the information

environment. The Web offers a number of challenges to the information professional, not the least of which is the ephemeral nature of Web sites and Web pages (Koehler, 2002).

5.13 Selection of Information for Electronic Collections

Lyman and Varian (2000) clarify that there are many sources from which information can be drawn. And there continues to be a need to effectively evaluate those resources. Libraries have long functioned as one of the chief mechanisms for information and evaluation of quality and relevant information sources. If we take to heart Birdsall's (1994) conception of "library" as process or service rather than "place," libraries must put added focus on how to manage collections. Electronic collection development must be consistent with the mission and an overall collection development plan. At the same time, collection development plans should take into account the electronic resources now available to libraries (Gessesse, 2000). It becomes easier or more efficient to move electronic and physical objects from a collection repository to the end users, the logic of maintaining redundant collections declines. Through selective collections policies, scarce resources can be used to broaden collections rather than to duplicate them. There are a number of online aids to assist librarians in collection development for either electronic or "traditional" materials. Librarians have discovered that the online booksellers like Amazon provide both a vehicle for purchasing but also offer useful reviews. With quality and permanence caveats in mind, the Web can be a source for collection development (Lee 2000). Web material should be subjected to the same scrutiny that any other resource should be subjected to and more so. There are a number of guides on evaluation of Web resources. Matthew Ciolek (1996) and Hope Tillman (2000) have produced excellent Web resource guidance. Stability or permanence is cited as one key criterion for collection selection. There is growing evidence that Web site and page stability can be predicted with some degree of probability (Koehler 2002, Bar-Ilan and Peritz 1999). There are Web resources that meet quality and stability tests. Some of these are the e-journals that have begun to proliferate. If efforts like SPARC prove successful, the number of independently published e-journals will no doubt increase. University and government based Web sites provide extensive information. The United States government is seeking to migrate

its publicly accessible documents from paper to electronic format. As these trends increase not only should libraries consider these as appropriate for collection, they will have to.

The Web may also serve as a viable substitute for expensive online databases and some traditional collections. Susan Lewis-Somers (2001) has found that there are a number of legitimate high quality free online resources that can be used in place of Westlaw or Lexis for legal research. Indeed, one can draw on Thomas and a multiplicity of other government e-publications and services to meet niche requirements. The Web is sometimes seen as a "free" resource that can be "incorporated" into library collections without regard to collection objectives. In some senses of the word perhaps the Web is a free resource, but the process of evaluation, incorporation, and maintenance of that part of the collection is both complex and expensive. Finally, Keller (1992a) makes the very important observation that despite the metadata and sophisticated access systems, access is for the most part a question of "to what" rather than "how." Libraries must maintain good, current, and appropriate collections – however constructed – to meet the needs of their users. In order to maintain those collections, Peggy Johnson (1997) argues persuasively for formal electronic collection policies that reflect the changing landscape and that provide information workers with the guidance and a decision framework. As we have seen, in an Internet world, the need to discover and select quality relevant materials is as important as in the "print" world but it is as yet very difficult to do. Guidelines, such as those provided by Tillman (2000) or Ciolek (1996) are critical and should be employed with rigor.

5.14 Acquisitions of Electronic Information Resources

According to Cotter, G. & Koehler W. (2002), explained that Information can be acquired through a variety of means, library historians may recall that the acquisition policy of the first library at Alexandria was very straightforward – by law any manuscript entering Ptolemaic Egypt had to be deposited at the library so that it could be copied and incorporated into the collection. Copyright and fair use practices no longer permit such direct taking of the intellectual and physical property of others. A number of principles and laws have been developed that regulate the use of information. In a paper-based world, the intellectual property had a physical form and, therefore, only one person could possess or use it at a time.

Acquisition was the purchase of a commodity. Certainly, with the advent of photocopying machines, issues arose on the premise of one copy, one possession. To deal with this, copyright has traditionally been balanced by the fair use doctrine. Fair use regulates the rights and privileges of information users to access and use the intellectual property of others.

Moreover, these fair use rights range from quotation, citation, copying, and perhaps in cyber-documentation to hypertext linking of one Web page to another. As technology has advanced, limits have been placed on fair use doctrine. For example, one such limit was established by the Texaco case (American Geophysical Union v. Texaco, Inc., 60 F.3d 913 (2d Cir. 1995). Texaco spoke to the "one legal copy" principle and found that wholesale photocopying of journals was a copyright violation. Thus, the principles of fair use were tested and interpreted for collections builders. In the electronic world, when digital reproduction was effortless and limitless, the issues of fair use became very important for publishers. They saw the need for additional limits. With the Ticketmaster v Microsoft (United States District Court for the Central District of California, Civil Action Number 97-3055DPP 1997) case we find that the "capture" of someone else's Web page or trademark within a frame may constitute an unfair taking. However, in ACLU of Georgia v. Miller (43 U.S.P.Q.2d 1356, 1996), the court may have recognized a right to link.

A principal related to fair use; i.e., the "principle of first sale", means that the purchaser of an "information container" may transfer ownership of the container to whomever and whenever that owner wishes to do so. The principle, however, does not extend to all uses of the "contents" of that container. Copyright serves to protect the information proprietary interests of the copyright holder who sometimes may be the original creator of the work, but more often is the publisher. The combination of these two principles is currently being tested in institutions building e-collections and e-services. Because of the economic implications for these intellectual property issues in the digital environment, in recent years, information suppliers have begun to move away from the sale of information to the licensing of information. The digital revolution has significantly changed the ways in which information can be packaged. It need no longer be offered within "physical packages." It can now be transmitted from producer to publisher to end user. That may well render the principle of first sale moot because information containers need not be used. It also means that limits are placed

on the ability of the licensee to transfer or transmit information to third parties. For example, libraries can participate in Inter-Library Loan consortia because these libraries own the information packages they are lending. Under most licenses, this lending practice is either prohibited or restricted. An e-book licensed by an academic library from an e-vendor cannot be "lent" to another library for use by its patrons. To restate, when a book, CD, journal, DVD, videotape, or magazine is put in a digital collection, the institution buys the container together with certain rights of access to the content therein.

The rights of the user are limited by copyright and other legal constraints. However, the owner of the container retains the right to access the information so long as s/he owns the container and retains the right to transfer ownership and associated rights to someone else. In the online world, even these concepts are challenged by the definitions of containers as well as by other provisions in licensing agreements restricting what uses can be made of the material. With this background in mind, organizations may follow an ownership or an access path. Whichever they choose, they must develop acquisitions policies. Acquisitions of electronic or digital materials often entail a set of decisions that differ somewhat from paper (Pinfield 2001). Some of these decisions entail organizational questions. Are electronic acquisitions treated as an intrinsic part of the library collection or are they categorized as "other resources." As Stephen Pinfield has shown (2001), electronic acquisitions are not without their costs. These costs include the cost of the document (usually in the form of license). These services are offered using a variety of pricing models – individual subscriptions, bundled subscriptions, joint print and e-journal subscriptions, maximum number of users, and so on. The negotiations between library purchaser and licensor vendor can be time- consuming and complex.

However, Acquisition involves acquiring and securing ownership of electronic resources such as databases, e-books and journals through license. Subscribed electronic resources are stored on a remote server hosted by the vendor and made accessible to a target community after authentication and authorization. Digital collections of information resources involve selection and organization based on an explicit collection development policy that addresses the information needs of a particular community. Storage and retrieval of digital resources for a virtual library is exclusively dependent on computers and electronic-network

systems, hence in selecting materials, basic information on the hardware and software needed to access the resources and existing technology within the library must be taken into consideration.

A virtual library collection is based on an established collection development and acquisition policy which takes into account the shift from owning information resources to licensing information and the aggregation of information in multidisciplinary databases. The difficulty of evaluating and comparing electronic resources makes it necessary to have an electronic collections selection team. Pettijohn and Neville (2003) suggest that members of electronic selection team should possess both functional and subject area expertise. Free web-based, open access, and fee-based resources which require acquiring and securing ownership of of digital content through license should be part of a virtual library collection, however, Pitschmann (2001) posits that open access Internet sites are fundamentally different from commercially produced resources. Therefore, these collections require their own practices, policies, and organizational model (Gbaje, 2007).

A library is acquiring e-journals as part of package from e-resources aggregator, such as EBSCO, the librarian needs to know which journals are covered by the package and for what period of time; ideally, the librarian would have the option to pay one lump sum for the entire package or to pay separately for each title. Furthermore, the print and electronic format may be lined in such way that cancellation of the print format would invalidate the license agreement for electronic format. Another issue is how to handle the distribution of a payment between the licensor of the package and one or more interface providers. In UK, for example, a library can obtain inspect from the IEE and access it through an interface from UK data center such as EDINA or MIMAS a service for which a fee is levied (Sadeh & Ellingsen, 2005).

5.15 Access Agreements on Electronic Resources

Now that acquisitions have taken the form of licenses rather than purchases, there are critical differences between traditional and electronic acquisitions. Licenses represent permission or authorization for one party to use the property of another under a prescribed set of conditions. These licenses may limit the number of users for a database at any given time,

they may limit the range of authorized users, and they place a temporal limit on access. Typically, full text providers, particularly e-book databases, place a limit on the number of users at any given time. This is analogous, they argue, to the traditional model. There can be only as many users of a print book as there are copies of the book at any given time. Many national and international associations have been developing guidance to help information managers negotiate licenses or to better understand their implications for libraries and other users (for example, the American Library Association, the American Association of Law Libraries, the Association of Research Libraries, the Australian Library and Information Association, the Canadian Library Association, the Colegio de Bibliotecarios de Chile, the European Bureau of Library, Information and Documentation Associations to list a few.) These concerns have sometimes resulted in a number of very specific agreements, as for example the International Federation of Reproduction Rights Organizations (IFRRO)--International Group of Scientific,

Technical and Medical Publishers (STM) Joint Statements on Electronic Storage of STM material of 1992 (http://www.ifrro.org/papers/stmjoint.html) and 1998 (http://www.ifrro.org/papers/stmjoint2.html). There are also a number of symposia and other training offered on digital copyright and associated issues. Some examples include the International Summer School on the Digital Library in the Netherlands (http://cwis.kub.nl/~ticer/summer02/) sponsored by Tilburg University and the Libraries in the Digital Age Conferences held annually in Dubrovnik, Croatia (http://www.ffzg.hr/infoz/lida/).

In addition, many professional organizations provide guidance on access, digital content, copyright, and related issues. Examples include:

a) Association of Research Libraries (http://www.arl.org/scomm/licensing/)

b) Copyrightlaws.com (http://www.copyrightlaws.com/index2.html)

c) International Coalition of Library Consortia (http://www.library.yale. edu/consortia/)

d) International Federation of Library Associations and Institutions, Licensing Principles (2000) (http://www.ifla.org/V/ebpb/copy.htm)

e) Stanford University Libraries, Copyright & Fair Use (http://fairuse. stanford.edu/)

f) Yale Library, Licensing Digital Information: A Resource for Librarians

(http://www.library.yale.edu/~llicense/) Lesley Ellen Harris (2002) has prepared a guide to digital licensing under the American Library Association imprint. Her book provides a series of checklists and commentary. For example, she advises her readers to avoid verbal agreements in favor of the written; in part, because of the potential for future misunderstanding (Harris 2002, xv). Harris (2002, p.100) also makes important distinctions between the sale, the assignment, and the licensing of rights. An assignment of rights, unlike a sale of rights, is the non-exclusive permanent transfer of rights of access to item under considerations. Licenses are less permanent and are analogous to renting rather than buying the object. A license or an assignment may specify the conditions under which copyrighted material may or may not be used. Each licensing and assignment agreement is unique. Some may be negotiated between the buyer and the seller. In some cases buyers or sellers may be constrained by prior agreements or institutional regulations that preclude certain arrangements (Cotter and Koehler, 2002).

5.16 Cataloging

Information cataloging and indexing lie at the heart of collection management and bridges the gap between the collection and many of the service functions. Various cataloging standards were developed with two primary purposes in mind: to describe the collection and to support retrieval of information from that collection. The digital revolution has impacted cataloging needs as the nature of collections has been changing and going digital. Joan Swanekamp (2000) observes that the cataloging profession has been changed significantly and that there are major technological and volume challenges to original cataloging capacity in an electronic environment. New and changing technologies and retrospective cataloging have forced libraries to examine management systems and planning processes (Stamm 2000). As new hardware and software come available for library systems, there will be an inevitable impact on library services as adaptations are made. Consortial agreements also have a place in the development and application of metadata. Libraries long ago began to move away from doing all their cataloging in house to outsourcing some or all of the function to centralized facilities like OCLC or the Library of Congress. Electronic bibliographic information facilitates this move to electronic cataloging utilities. OCLC now serves as a center for

cataloging for its member libraries. It is the provider of major cataloging systems like PRISM and WorldCat. Participating libraries contribute to the Online Union Catalog and share cataloging records. The Program for Cooperative Cataloging (PCC) provides core-level standard cataloging. A core record represents a minimum acceptable number of fields to allow participating libraries to adopt the record without significant editing or addition (US Library of Congress 1999). OCLC has also developed a program -- the Cooperative Electronic Resource Description (CORC). CORC is used by participating libraries to describe Web and other Internet resources. Like PCC, CORC participants perform core-level cataloging. CORC software can harvest metadata from metatags (header) and XML markup (body) to populate catalog records. This facilitates the cataloging effort by populating the appropriate Dublin Core or MARC fields. These locally cataloged records become part of the CORC database to be shared among CORC participating libraries. Calhoun and Riemer, (2001). CORC records can be and are incorporated in library OPACs, thereby providing catalog access to "unowned but accessible" external resources. It has been well established that Web pages and sites undergo frequent change including disappearance. CORC periodically rechecks the integrity of URLs and of page content for its member libraries (Cotter and Koehler, 2002).

5.17 Bibliographic Access Tools in an Electronic World

"Metadata" is a relatively new term building on an old concept of cataloging or bibliographic control as a tool for identifying and locating information. Metadata means "data about data." Librarianship has traditionally used the terms "bibliographic control," "cataloging," and "indexing" for "metadata." With the advent of electronic collections, digital libraries, and the Internet, and the increasing availability of numeric and textual databases, information classifiers and catalogers have begun addressing the bibliographic management of distributed databases. The term "metadata" has been adopted to reflect this broader application and bibliographic control of a wide range of information products. Historically, card catalogs typically were limited to no more than three access points (author, title, subject), two more than the earliest catalogs. OPACs, because of the speed and "agility" of computers, support multiple access points. Computer scientists, and now Internet entrepreneurs, have developed metadata systems for digital libraries and Web search engines. These include systems to

automatically capture and harvest imbedded metadata like PICS and Dublin Core as well as the various XML-based mark up systems. These indexes resemble classic indexing structures. Many search engines, for example, follow inverted indexing principles, while many of the search directories are based on faceted chain-indexing models. A proliferation of metadata and metametadata tools is being developed to provide access to digital information. Metadata issues need also to be understood as information professionals build collections with materials in a growing number of formats, for often different format implies different metadata. A separate paper in this volume addresses metadata systems in more detail (Cotter and Koehler, 2002).

5.18 Techniques for Electronic Resource Management

Two decades after the advent of electronic journals and databases, librarians are still grappling with ways to best manage these resources in conjunction with their print resources. In addition, economic pressures at many institutions of Higher Education are resulting in librarians having to justify their spending on collections and resource management. Furthermore, e-books are becoming yet another stream of purchasing and management with the added complexity of patron driven acquisitions. All of these issues result in the need to codify the management of electronic resource management more than ever. Techniques for Electronic Resource Management (TERMS) are a project to encourage open peer commentary and crowd sourcing of areas of best practice for each of the stages of the e-resources lifecycle. The project aims to become a reference point for those who are new to e-resource management and for those who may want to implement its recommendations of best practice.

a) Investigating New Content for Purchase/Addition Purchase /Addition

Standard rules applied to print acquisition are no longer sufficient, The selection of purchasing models in themselves now play a role in how and why specific content is selected for inclusion with any given collection of library material Some basic guidelines to consider when making selections decisions for content: Know what you want to achieve, Write your specification document, Get the right team, Desk top review of market/ literature and trial set up, Talk to suppliers/vendors, and Making your choice

b) Acquire new content

Acquiring resources once they are selected can be very straight forward or very complicated depending upon the resource to be purchased. The following acquisitions steps usually occur when acquiring new content and services: Comparing specifications, Negotiate terms of contract and purchasing, Check the license, Re-negotiation of licensing terms, Signing of the agreement, Record administrative, and Metadata.

c) Implement

Any new e-resource will need to be implemented, while this may be relatively straightforward for smaller resources, larger resources and new services may take a few months to get just right, No matter how big the resource, it will need to be tested and set up in order to embed it into the collection. Training and awareness sessions for staff and users will help, as will a definite launch date that can be used to market the new resources to the intended audience.

d) Evaluation and ongoing access

Many resources take a year before they become embedded into the curriculum or research process and user feedback may not be positive from the onset of provision, The best evaluation of a product or service happens within a three to five year time frame, Track downtime/availability by saving email alerts/ messages from the producer of scheduled downtime/ maintenance and tally these up annually. Keep a file on each resource provider that includes all pertinent correspondence that has occurred along with notifications of routine maintenance, and specific troubleshooting problems that have arisen.

e) Annual review

In times of fiscal constraint it is very important to make sure all resources, whether established or recent acquisitions are providing value for money. Value for money can be calculated in a number of ways, the most obvious being cost per download, other factors should be taken into account, such as: Renewal date, Currency exchange rate,

Transferred/added titles, Usage, Coverage changes, Access queries, Cancellation policy, and License changes, Compile a report for your staff; it is not enough to compile a report of raw data, give subject teams a background to the usage of the resource and check key performance indicators in order to allow them to make quick and accurate decisions on what to do next.

f) Cancellation and replacement review

With ever-changing program offerings and a shift in usage of resources, some resources will need to be cancelled. Once the decision has been made to cancel and replace a resource, notify the patrons of the change, Begin evaluation of replacement product and do not forget that there may be Open Access alternatives; the next phase is then to start the process all over again (TERMS n.d.).

5.19 Electronic Resources: Collection Development & Management

Avasia, (n.d.), explained that Electronic resources are revolutioning academic libraries. Many librarians believe that these resources have changed the principles of selection radically; some believe that they will virtually eleminate selection. Although, it is true that the art of selection is undergoing profound change, the selection of materials is still crucial for libraries. The four basic criteria for selection - quality, library relevancy, aesthetic and technical aspects, and cost remain the same in the electronic era of information. What they mean and how they are used has changed. Though the electronic resources offer ease of use, wider access, more rapid updating, cost saving over local maintenance and storage, the librarians are finding it difficult to define issues related to policy of Collection Development and Archiving of Electronic Resources. The electronic resources require continuing management to a far greater degree than print resources do. Librarians are confronted with the following issues:

a) Budget

b) Quality of the product

c) Technological Obsolence

d) Access (licensing)

e) Copyright

f) Human resources

g) Data migration

h) Ownership

i) Archiving of e-resources

a) Budget:

Acquisition of electronic resources involves allocation for budget not only for the content but also for the access which is technology dependant. Various options of the e-resources are available viz. remote on-line, local (tepeloaded) on-line and CD- ROM options. With ease to update, these resources are updated regularly. In view of the continually shrinking budgets, it is becoming more difficult for librarians to accommodate the licensing/purchasing costs of e-resources. Librarians are faced with challenges in making decision in choosing the most cost-effective electronic format which are updated regularly. All these, involve provision of additional budgetary regularly.

b) Quality of the Product:

Quality, not the specific medium, should be the primary consideration in choosing the product. However, with the newest publishing trend, www has become the principal platform for today's newest publishing initiatives. Researchers and users have come to expect immediate information from a range of electronic resources that offer convenient searching functionality. This has resulted in birth of several journals which appear in the Web before they have been peer reviewed and it is difficult to judge Quality of the product.

c) Technological Obsolescence:

It is a crucial issue for all the librarians. The hardware related concerns include: reliability, upgrade-ability, maintenance, compatibility with peripherals, flexibility for other uses/networking, security from theft and tampering. Technological obsolescence is the result of the evolution of technology; as newer technology appears; older ones cease to be used. For e.g. CD-ROM workstation, hardware specification and configuration are constantly changing as well as operating systems. The new media for storing digital information rapidly replacing

older media and reading devices for these older media become no longer available. Newer versions of software constantly render older versions obsolete and the hardware required for this software also changes overtime. Consequently, information which relies in obsolete technologies becomes inaccessible.

d) Access (licensing):

Most publishers of information in electronic format will restrict the use of their products through the use of license agreements. These agreements need to be carefully reviewed by library staff before the product is purchased. Frequently, especially with software, the license agreement is written on the product and by breaking the seal, the user agrees to accept the license as stated. This is often referred to as a "shrink-wrap" license. The provisions of licenses will vary from very restrictive to very liberal. Many of these agreements will go well beyond the scope of the protection provided by the Copyright Act. By accepting the license agreement the user is contractually bound to these restrictions. However, in some circumstances, there are overriding rights to any software agreement in favor of the purchaser. These include the right to make an archival copy, the right of a library to make the software available as part of a public service (this may not be the case in corporate libraries not governed by educational fair use doctrine), and the right to make adaptations in the program in order to run a program. These rights do not apply to all information products in electronic format. CD-ROMs, videodiscs and tapes, video games, and other products frequently can't be copied for archival purposes. Items Generally Addressed in the License:

1) Restrictions on the use of the data in regard to the copying, printing, or downloading from the database.

2) Restrictions on the number of simultaneous users, or the use of the product in local (LAN) and wide (WAN) area networks. If a system can accommodate multiple users frequently extra costs are involved.

3) Different methods of access, such as dial up access/leased line or dedicated line to Internet.

4) Conversion of the database to other media.

5) Limits on use to internal/non-commercial activities.

6) Limits on the ability to transfer, resell, or reassign the product.

7) For software, limiting the program to use on one machine by one user at a time.

8) Restrictions that limit access to the subscriber's patrons and staff.

9) Requirements that the library guarantee the integrity of circulating copies of full text items.

e) Copyright:

The field of electronic publishing is changing rapidly and the issues of how the current copyright laws impact all aspects of this industry are not absolutely clear. The fair use doctrine applies to information in electronic format as it applies to printed materials. Fair use allows the downloading or copying of information for educational and research purposes. Guidelines for printed materials have been established to define the percentage of a work that may be copied for educational purposes. It is not clear where the line is drawn as to what constitutes fair use of information in electronic format. For most purposes, libraries already place limits on the use of electronic information that generally fall within fair use guidelines. Because of high demand, most CD-ROM use and on-line searching is limited to small intervals that do not give the user the opportunity to download amounts of information that become more prevalent this informal control is lost and it may become necessary for libraries in educational settings to clearly display messages in these systems informing users of what constitutes fair use of the information available in the system

f) Human Resources:

Due to the constant changes caused by the information and communication infrastructures, the postmodern library professionals face distinction between world of print and postmodern digital world. These distinctions involve resources services, facilities, users and human resources and skills associated with librarianship. Further, the volatile and pervasive natures of technological changes present library professionals with unprecedented challenges. The librarians need to respond to the changes and acquire skills in locating, organizing, manipulating, filtering and presenting information. The library staff needs to

constantly upgrade skills and knowledge, learn about using new technologies and employ new techniques.

g) Data Migration:

Strategies for dealing with technological obsolescence include: migration of digital information to technologies from which they are accessible, the emulation of obsolete systems, and the preservation of obsolete technologies. While loss of data associated with the deteriotion of storage media (CD-ROM, DAT Tapes, etc.) is important, the main issue is that both hardware and software become rapidly obsolete. Data from first Voyager Mission (early 1970s) are now lost because they were stored on electronic media : the Jet Propulsion Lab has the media, but they can no longer read the data. Much of the old NASA data has been lost because it was stored on tape that has deterioted. Devices and processes used to record store and retrieve digital information now have a life cycle of between 2-5 years. Far less than some of the most fragile physical materials they are secking to preserve. The practice known as “refreshing" digital information by copying it onto new media, Not simply copying it, but moving it from one technology to another, whether hardware technologies and software technologies, so that information is useable at a later date, even though, the technology that created the information may have disappeared or be unavailable. However, this is very costly because of the massive task of moving information through the technologies.

h) Ownership:

The library is gradually moving away from the ownership in the electronic era preferring remote access via Internet and www etc. The ownership issue of such products is still more crucial as most of the vendors/publishers do not permit the libraries to archive and do not guarantee maintaining archival copies of such products. Though, some professional societies and publishers take the responsibilities of data archiving, there are no standards addressing preservation of electronic media yet.

i) Archiving of E-Resources:

Paper, for all its drawbacks has one big advantage over electronic media - it can last for thousands of years. Whereas, digital media is fragile and have limited shelf life, In addition, new devices, processes and software are replacing the products and methods used to record, store and retrieve digital information rapidly within 2-5 years. Archivists and Librarians are faced with three technological challenges viz. Medium preservation, technology preservation and migration of information, which will be explained more. (Avasia, no date).

5.20 Archiving Electronic Information Resources

Hodge, (2002) ascertain that Preservation and permanent access begin outside the purview of the archive with the producer or the creator of the electronic resource. This is where long-term archiving and preservation must begin. Information that is born digital may be lost if the producer is unaware of the importance of preservation. Practices used when electronic information is produced will impact the ease with which the information can be digitally archived and preserved. Several key practices are emerging involving the producers of electronic information. First, the archiving and preservation process is made more efficient when attention is paid to issues of consistency, format, standardization and metadata description before the material is considered for archiving. By limiting the format and layout of certain types of resources, archiving is made easier. This is, of course, easier for a small institution or a single company to enforce than for a national archive or library. In the latter cases, they are faced with a wide variety of formats that must be ingested, managed and preserved. In the case of more formally published materials, such as electronic journals, efforts are underway to determine standards that will facilitate archiving, long-term preservation and permanent access. The Andrew J. Mellon Foundation has funded a study of the electronic journal mark-up practices of several publishers. The study concluded that a single SGML document type definition (DTD) or XML schema can be developed to support the archiving of electronic journals from different subject disciplines and from different publishers with some loss of special features (Inera, Inc. 2001). Such standardization is considered key to efficient archiving and preservation of electronic journals by third-party

vendors. The DTD developed by PubMed Central for deposit of biomedical journals is being considered as a generalizable model for all journals.

The Archiving and Interchange DTD Suite is based on an analysis of all the major DTDs that were being used for journal literature, regardless of the discipline. The suite is a set of XML building blocks or modules from which any number of DTDs can be created for a variety of purposes including archiving. Using the Suite, NLM created a Journal Archiving and Interchange DTD as the foundation for the PubMed Central archive. In addition, a more restrictive Journal Publishing DTD has been released which can be used by a journal to mark up its content in XML for submission to PubMed Central. Several publishers and projects, such as JSTOR, the Public Library of Science, High Wire Press and CSIRO, are analyzing or planning to use the Journal Publishing DTD (Beck, 2003). In the case of less formally published material such as web sites, the creator may be involved in assessing the long-term value of the information. In lieu of other assessment factors, the creator's estimate of the long-term value of the information may be a good indication of the value that will be placed on it by members of its designated community or audience in the future. The Preservation Office at the National Library of Medicine has implemented a "permanence rating system" (Byrnes 2000). The rating is based on three factors: integrity, persistent location, and constancy of content. These factors have been combined into a scheme that can be applied to any electronic resource. At the present time, the ratings are being applied to NLM's internal Web sites, and guidelines have been developed to assist creators in assigning the ratings to their sites. This information will be used to manage the ongoing preservation activities and to alert users about a Web site's long-term stability.

Another aspect of the creator's involvement in preservation is the creation of metadata. The best practice is for metadata to be created prior to incorporation into the archive, i.e., at the producer stage. However, most of the metadata continues to be created "by hand" and after-the-fact. Unfortunately, metadata creation is not sufficiently incorporated into the tools for the creation of most objects to rely on the creation process alone. However, as standards groups and vendors move to incorporate XML and other architectures into software products, such as word processors, the creation of metadata should become easier and more automatic.

The Open Archival Information System Reference Model (CCSDS 2001) provides high level data and functional models and a consistent terminology for discussing preservation. The reference model was originally developed by the Consultative Committee on Space Data Systems (CCSDS) to support the archiving of data among the major space agencies. However, it has become the de facto standard for the development of digital archives. It is used by most major projects including those in Australia, the United Kingdom, the Netherlands, and the United States. The OAIS Reference Model became a formal ISO standard in June 2002.

5.21 Systems for Managing and Preserving Electronic Information Resources and Services

Hodge, (2004) observed that Archiving and preservation require special metadata elements to track the lineage of a digital object (where it came from and how it has changed over time), to detail its physical characteristics, and to document its behavior in order to reproduce it on future technologies. Each of the major preservation projects – Cedars, PANDORA, NEDLIB, the Harvard Library Project, etc., had its own set of metadata that it considered important for preservation. Below are some of the systems that involved managing and preserving electronic information resources:

a) DSpace Institutional Digital Repository System

The DSpace Institutional Digital Repository System began as a joint project of the MIT Libraries and Hewlett-Packard Co. The architecture for the system is based on a number of preceding projects including those at Cornell, CERN, OCLC, LC and OAIS. DSpace 1.1 was released in November 2003 via an open source license (available from Source Forge). The MIT Libraries' implementation of DSpace defines various levels of support for different input formats. For example, "Supported" means that the format is recognized and the institution is confident that it can make the format useable in the future through whatever technique is desirable (emulation, migration, etc.). Note that there is no attempt to dictate the preservation method. "Known" means that the format is recognized and the institution will preserve the bit stream as-is, without a complete guarantee that it will be able to render the object completely

in the long-term future. In addition to these components of DSpace that are specifically preservation oriented, the DSpace suite includes search and browse capabilities and support for the Open Archives Initiative Protocol for Metadata
Harvesting (OAI-PMH). This allows DSpace sites to harvest metadata from several sources and to offer services based on the metadata that is harvested (Hodge, 2002).

b) Digital Information Archive System

The Digital Information Archive System (DIAS) is a commercially available system, originally developed to handle the electronic deposit of electronic documents and multimedia files for the Koninklijke Bibliotheek (KB) (the National Library of the Netherlands) (IBM, 2003). It is based on the results of the various NEDLIB Projects led by the KB over the last several years. In the current DIAS system, IBM addressed the initial ingest, transformation, storage and metadata creation. The technical issues related to long-term access are being studied by IBM and are not a part of the December 2002 implementation. The DIAS system was implemented as KB's Deposit of Netherlands Electronic Publications (DNEP) system in December 2002, making it the first system of its kind (IBM, 2003b). KB's initial implementation is for e-journal publishers to deposit e-journals, but the plan is to extend this to other types of e-materials such as e-books. In May 2003, the KB announced that it had signed an agreement with Kluwer to archive electronic journals featured on Kluwer Online Web Site. As of May, this contained 235,000 articles from 670 journals.

The collection from Kluwer is expected to grow by more than 70,000 additional articles. The KB is seeking to enter into similar agreements with other publishers. Currently, the users (members of the public) must access the system from within the library because of copyright issues. In 2003 the KB started a joint project with IBM to develop the preservation subsystem of DIAS. The work began with a series of studies around key preservation issues such as authenticity, media migration management, archiving of web publication, and a proof of concept of the Universal Virtual Computer. This subsystem will consist of a preservation manager, a preservation processor and tool(s) for permanent access. The Preservation Manager will manage and control the long-term durability of the digital objects using technical metadata. This is considered to be an essential part of the DIAS solution, since

technical metadata will allow a future hardware environment to take the software bit stream and the content bit stream and provide access to the content. The problem that remains to be addressed is the obsolescence of the hardware of the rendering environment. Two major approaches are emulation and the use of a basic virtual computer.

The aim is to have the turnkey system able to be generalized to other libraries and archives. Therefore, the system must be independent of the either of these preservation strategies.

c) OCLC Digital Archive

As an outgrowth of the preservation services that OCLC has provided to its member libraries for many years, OCLC has developed the OCLC Digital Archive. It provides long-term access, storage and preservation for digital materials, or "objects." The system is based on the OAIS. Records can also be ingested in batch. Currently the OCLC Digital Archive can ingest text and still images in formats such as PDF, HTML, TEXT, JPEG, BMP, GIF and TIFF. The goal is to accept more input formats in the future. This system is connected to OCLC's Connexion cataloging system, and the cataloger begins by creating a WorldCat record for the object, followed by a record that includes the preservation metadata. The preservation metadata is based on the early RLG/OCLC work in this area. These two records are linked (OCLC 2004). In principle, it follows the Metadata Encoding and Transmission Standard (METS) structure, providing for descriptive, administrative, technical and structural metadata. The system also includes an Administration Module that allows the user to modify existing records. The Administrator can also set privileges for a variety of functions so that various pieces of the metadata creation ingest and dissemination processes can be assigned to different people with proper security. The Administration Module also allows the administrator to create collections and user groups for specific end-user access to the metadata and the content. Virus and fixity checks are run and results are reported through both the Administration and the cataloging (Connexion) modules.

d) PANDORA Digital Archiving System (PANDAS)

The PANDAS (PANDORA Digital Archiving System) has been operational since June 2001 (NLA 2003). The second version was installed in August 2002. Prior to the

development of its own system, PANDORA tried to buy an archiving management system. From the response to the Request for Information, it became apparent that there was no affordable system on the market that met the requirements and so NLA decided to build the system in-house. PANDAS enabled PANDORA to increase the efficiency of capturing and maintaining the archived Australian online publications and therefore, PANDORA's productivity. It also provides PANDORA's partners, primarily the state libraries, with more effective Web-based software for contributing to PANDORA. The NLA has received a number of requests for access to the PANDAS software, since the current software options to support the creation and management of digital archives are limited. UKOLN recommended use of PANDAS for pilot web archiving projects it proposed for both Welcome Trust and JISC (Day 2003). In response, PANDORA will soon make available an evaluation module, which will allow interested parties to have trial access to PANDAS.

e) Lots of Copies Keep Stuff Safe (LOCKSS)

LOCKSS (Lots of Copies Keep Stuff Safe) is an automated, decentralized preservation system developed by Stanford University to protect libraries against loss of access to digital materials (LOCKSS n.d.). LOCKSS development is supported by the National Science Foundation, Sun Microsystems, and the Mellon Foundation. LOCKSS software, which is free and open-source, is designed to run as an "Internet appliance" on inexpensive hardware and to require minimal technical administration. LOCKSS has been operational at Stanford for five years and the production version of the software was released in April 2004. LOCKSS creates low-cost, persistent digital "caches" of authoritative versions of http-delivered e-journal content at institutions that subscribe to that content. LOCKSS uses the caching technology of the web to collect pages of journals as they are published, but unlike normal caches, the cached pages are never flushed. The LOCKSS server runs an enhanced web cache that collects new issues of the e-journal and continually compares its contents with other caches via a peer-to-peer polling system. If damage or corruption is detected in an institution's cache it can be repaired from the publisher or from another cache. LOCKSS safeguards the institution's access to the content while enforcing the publisher's access control systems and, the LOCKSS model generally does not harm the publisher's business model

since it is based on the original subscription to the e-journal. LOCKSS is moving toward becoming a self-sustaining alliance. "The LOCKSS Alliance will provide a small core of central support for technology, collections, and community services. In addition to a range of specific services, the Alliance will transfer knowledge, skills and responsibility for the LOCKSS Program from
Stanford University" (Hodge & Frangakis 2004).

f) Fedora™ (Flexible Extensible Digital Object Repository Architecture)

The University of Virginia Library has teamed with Cornell University's Digital Library Group to develop Fedora, an open-source digital repository architecture on which a variety of digital library implementations can be based (University of Virginia Library 2003). Similar to DSpace, Fedora is focused currently on repository development and management. However, it will eventually include preservation services. Fedora 1.0 was released as open source software (Mozilla Public License) in May 2003. Release 1.2 was made available in December 2003 (Johnston 2003). The first phase production repository based on Fedora will be launched in 2004. However, all the functionality described in the original design proposal will not be completed until 2005. The largest implementation of Fedora is at the University of Virginia Library's Central Digital Repository. A 2001 Mellon Foundation grant allowed for joint development of a production-quality system by Cornell and the University of Virginia. The system currently includes XML objects, text (full text and page images of e-books) and images in multiple resolutions (Payette 2003). A number of other institutions and organizations are using or evaluating Fedora, including The British Library, the National Library of Portugal and the Thailand Office of Defense Resources. Fedora is a component of the DSpace architecture.

5.22 Data Analysis and Major Finding of the research

This chapter deals with the analysis of data collected through the use of questionnaire administered on assessment of electronic information resources and services in Kaduna state university library. The data gathered were analyzed using tables, frequencies and percentages for better understanding and interpretation of findings. The paper is also

organized according to the research questions and objectives of the study. Out of 50 questionnaires 45 were returned successfully by the respondents, Basic details about the participants in the survey are shown in bellow Tables. The demography of respondents revealed that the ages between 15 – 30 had the highest percent distribution of 50(35.71 percent) respondents; followed by ages 31-40 with 39 (27.85 percent). Ages 41-50 is represented by 30(21.42 percent) respondents and the least representation were the 51 and above years with 21(15 percent) respondents. Below are the details of the result:

Table 5.1 Number of years working with the university library

Working experience	**Frequency**	**Percentage**
1-5 years	26	57.77
6-10 years	19	42.22
11-15 years	00	00
16-20 years	00	00
20 years and above	00	00
Total	45	100

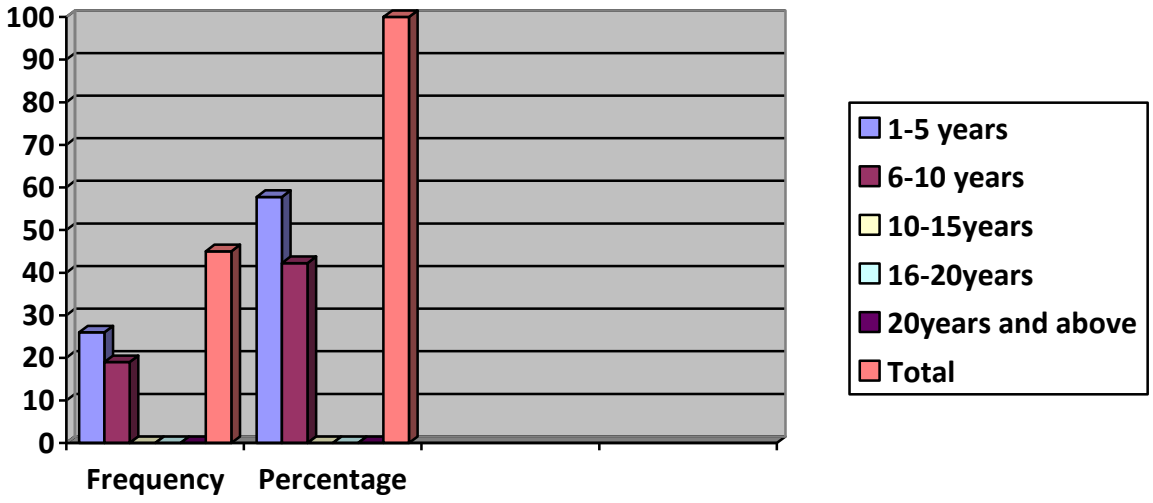
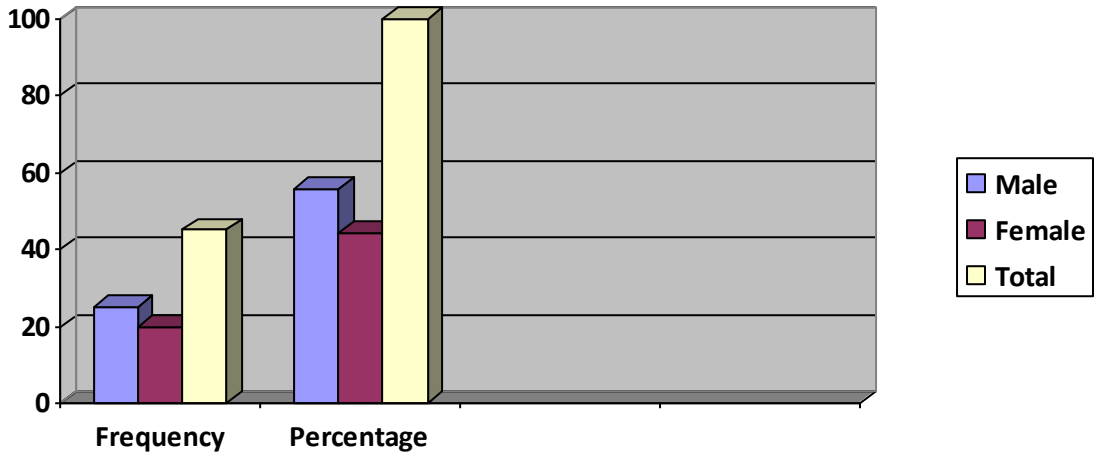


Table 5.1 shown respondents who are working with the university library between one to five years are the majority with 26 (57.77percent) while who have being working with library between five to ten years are 19 (42.22 percent) respondents. Ten to fifteen years, fifteen to twenty years, twenty to above year scored nothing that due to the establishment of the university library in 2004.

Table 5.2 Gender Status of respondents

Gender	**Frequency**	**Percentage**
Male	25	55.55
Female	20	44.44
Total	45	100



As the above table shown that 25 respondents (55.55 percent) were male staff, while 20 respondents (44.44 percent) were female staff.

Table 5.3 Adequacy of acquiring Electronic Information Resources to the e-library

Adequacy	**Frequency**	**Percentage**
Very adequate	12	26.66
Adequacy	19	42.22

Not adequacy	14	31.11
Total	45	100

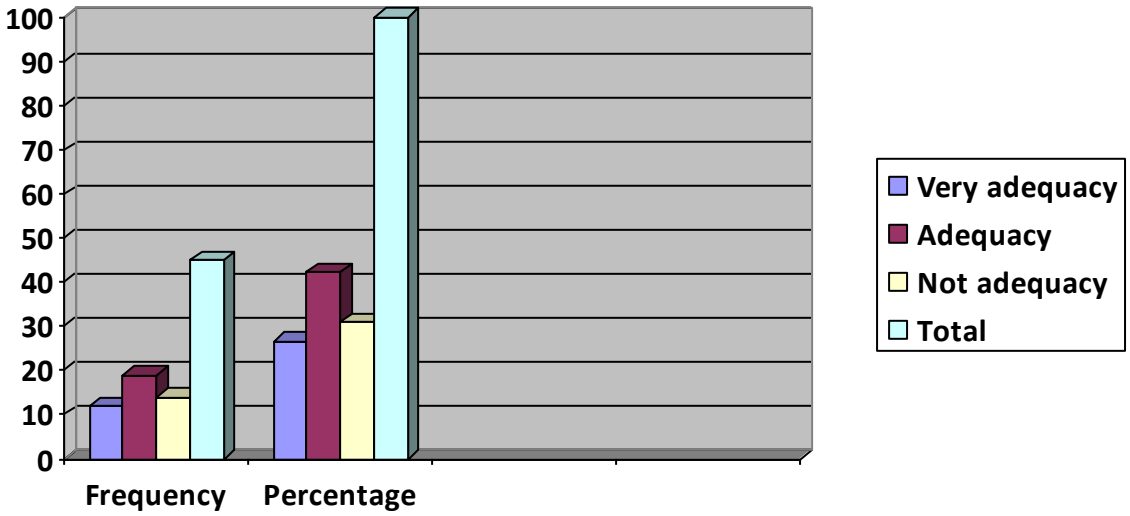
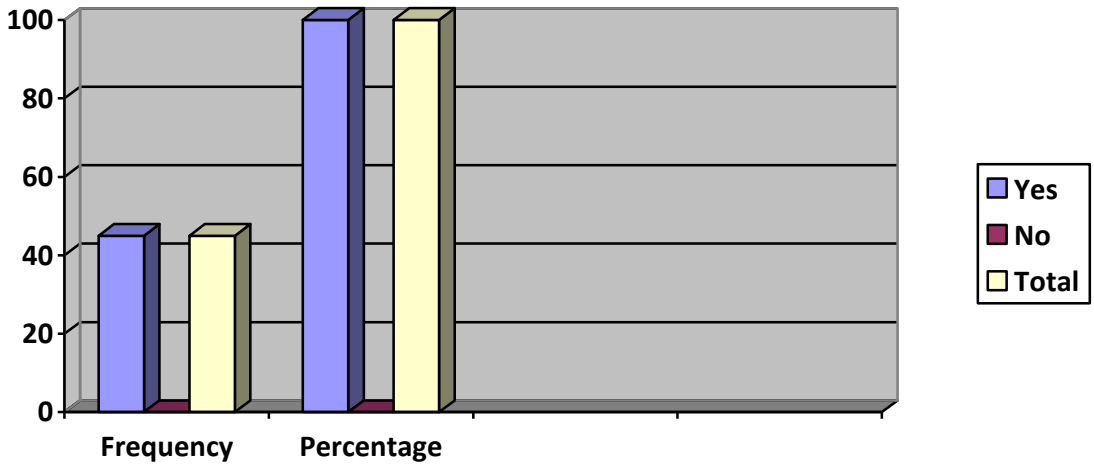


Table 5.3 makes it clear that 19 (42.22percent) respondents say there is adequacy of acquiring Electronic Information Resources to the e-library followed by the respondents say not adequacy 14 with (31.11percent), while very adequacy 12 with (26.66 percent) respondents.

Table 5.4 Existence policy for acquisition of Electronic Information Resources

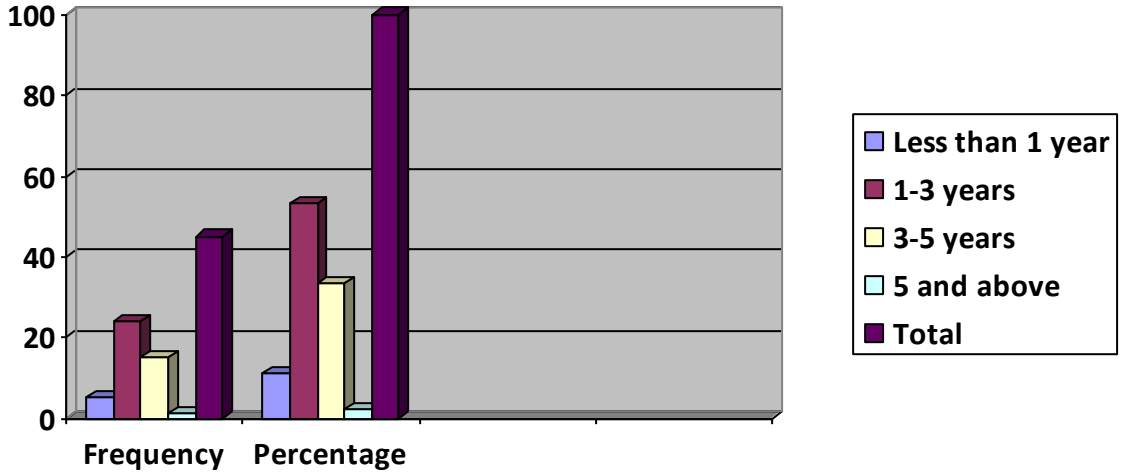
Existing policy	**Frequency**	**Percentage**
Yes	45	100
No	00	00
Total	45	100



Participant all agree and say yes there is an existing policy for acquisition of Electronic Information Resources 45 with (100 percent) respondents.

Table 5.5 Number of years that policy provided for acquiring newly Electronic Information Resources

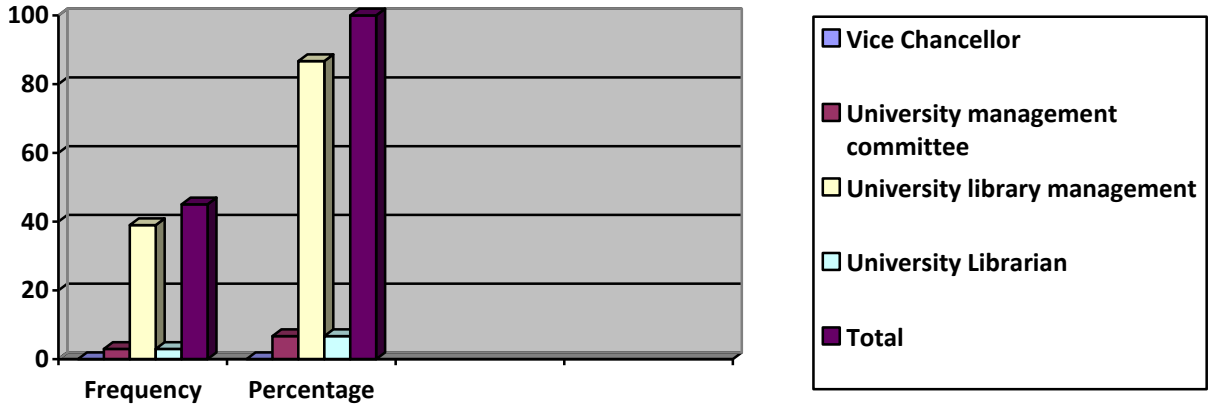
Updating resources	**Frequency**	**Percentage**
Less than 1 year	5	11.11
1-3 years	24	53.33
3-5years	15	33.33
Above 5 years	1	2.22
Total	45	100



in order to understand the number of years policy provided for acquiring newly electronic information resources participants were asked and made the appropriate answer, Table 5.4 makes it clear that 24 (53,33percent) respondents say that policy provide guide for acquiring newly electronic resources for the one to three years followed by the respondents who say three to five years 15 (33.33 percent), while people who say less than one year score 5 (11.11percent). 1(2.22 percent) respondent say 5 and above years.

Table 5.6 Responsible for selection and acquisition of Electronic Information Resources

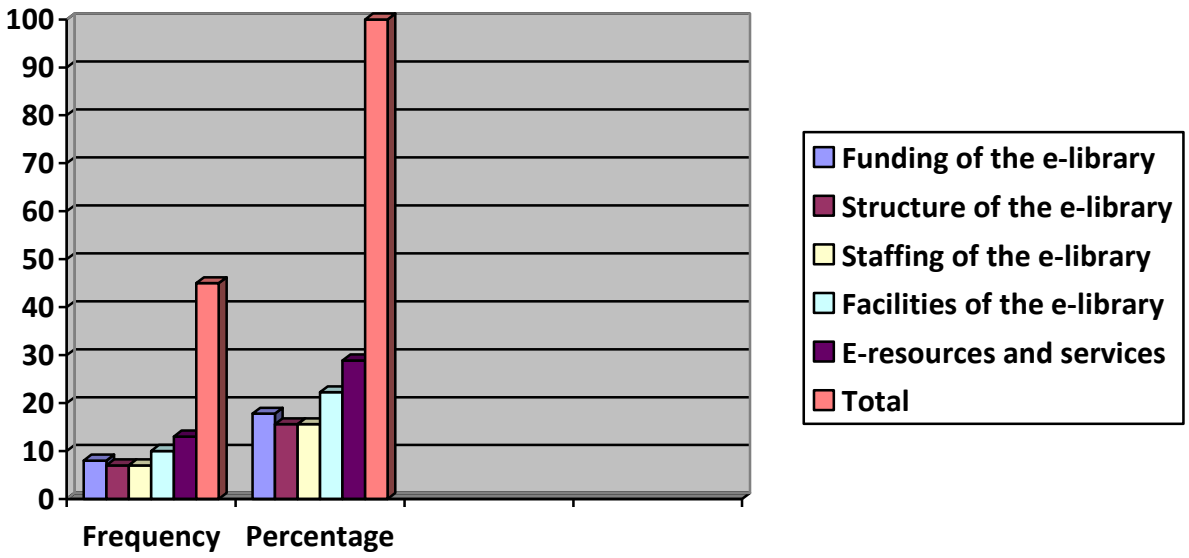
Responsible	**Frequency**	**Percentage**
Vice Chancellor	00	00
University management committee	3	6.66
University library Management	39	86.66
University Librarian	3	6.66
Total	45	100



The essence of each and every for selection and acquisition of Electronic Information Resources in whatever form or pattern is to serve the need of the users towards accomplishing its aims and objectives. From the table 5.6 above it has revealed that the university library management has majority respondents in terms of selection and acquisition of electronic information resources with frequency 39 and (86.66 percent), while 3 (6.66 percent) respondents for each who score for the university librarian and university management committee. The vice chancellor scored zero as above table indicated.

Table 5.7 Items the policy covered

policy covered	**Frequency**	**Percentage**
Funding of the e-library	8	17.77
Structure of the e-library	7	15.55
Staffing of the e-library	7	15.55
Facilities of the e-library	10	22.22
E-Resources and services	13	28.88
Total	45	100



Participants were asked about the area that the policy covered and made the appropriate response. Table 5.7 reveals that respondents who scored for e-resources and services are the majority with frequency 13 and (28.88percent) followed by, 10 (22.22 percent) respondents say facilities of the e-library, while 8 (17.77 percent) respondents who say funding of the e-library. Structure of the e-library and staffing of the e-library each scored 7 with (15.55 percent) respondents.

Table 5.8 Problem associated with the standard of Electronic Information Resources and Services

Problems	**Very high problem**		**high problem**		**Problem**		**Not problem**		**Undecided**		**Total**	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
E-library patron	8	17.77	11	24.44	23	51.11	2	4.44	2	4.44	45	100
Funding	28	62.22	10	22.22	5	11.11	00	00	1	2.22	45	100
Lack of IT	21	46.66	12	26.66	9	20	0	00	3	6.66	45	100

Knowledge												
Infrastructure	9	20	10	22.22	11	24.44	8	17.77	7	15.55	45	100
Management	5	11.11	7	15.55	5	11.11	23	51.11	5	11.11	45	100
Security	13	28.88	5	11.11	15	33.33	7	15.55	5	11.11	45	100

In order to understand the Problem associated with the standard of Electronic Information Resources and Services participants were asked and the above table made it clear that 23 (51.55 percent) respondents say there is problem E-library patron, followed by 11 (24.44 percent) for high problem, while 8 (1.77 percent) for some that score for very high problem, rest of the option that are not problem and undecided each score 2 (4.44 percent) respondents. On the Funding issues, 28 (62.22 percent) respondents score very high problem, followed by 10 (22.22 percent) respondents who score to high problem. Problem score 5 (11.11 percent) respondents while undecided score 1 (2.22 percent) and rest of not problem score 0 (0 percent). Lack of IT knowledge 21 (46.66 percent) respondents score very high problem, followed by 12 (26.66 percent) respondents who score for high problem, while 9 (20 percent) respondents score to problem, undecided score 3 with (6.66 percent) respondent and rest of not problem score 0 (0 percent). Infrastructure 11 respondents (24.44 percent) score for problem, followed by 10 (22.22 percent) respondents who score to high problem. Very high problem score 9 (20 percent) respondents, while not problem score 8 (17.77 percent) respondents, rest of the option that is undecided score 7 (15.55 percent) respondents. Management 23 respondents (51.11 percent) score for not problem followed by 7 (15.55 percent) respondents who score to high problem. Undecided, problem and very high problem each score 5 (11.11 percent) respondents. Security 15 respondents (33.33 percent) score for problem followed by 13 (28.88 percent) respondents who score to very high problem. Not problem score 7 (15.55 percent) respondents while rest of undecided and high problem each score 5 (11.11 percent) respondents.

Table 5.9 Electronic Information Resources and Services Available in e-library

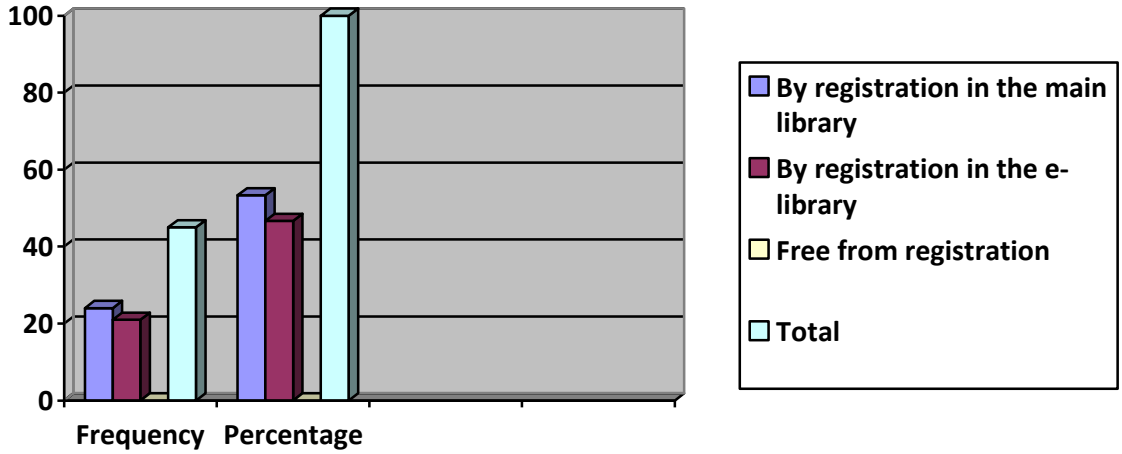
Available resource & services	**Frequency**	**Percentage**
E-books	5	11.11
E-Journals	6	13.33
E-dissertations	1	2.22
CD-ROM Searching service	1	2.22
Current Awareness Services (CAS)	1	2.22
Selective Dissemination of Information (SDI)	1	2.22
On-line databases	5	11.11
Online public access catalogues (OPAC)	5	11.11
Full- text databases	4	8.88
Scholarly websites	5	11.11
Photocopy, printing & scanning	5	11.11
Multimedia	1	2.22
Almanacs	1	2.22
Bibliographies	1	2.22
Directories	2	4.44
Institutional Repository	2	4.44
Total	45	100

Respondents were asked to indicate the electronic information resources and services available. The results revealed that e-journals had a score of 6(13.33 percent); e-books, online database, online public access (OPAC), Scholarly websites, and photocopy, printing and scanning each score 5 (11.11 percent) respondents. The result reveals that full text databases score 4 (8.88 percent) while directories and institutional repository each score 2 (4.44 percent) respondents. Rest of the resources and services that are CD-ROM Searching service, Current Awareness Services (CAS), Selective Dissemination of Information (SDI), Multimedia, e-dissertation, Almanacs and Bibliographies each score 1 (2.22 percent). This low

score might be as a result of lack of awareness about electronic resources and services provided by e-library due to ineffective methods of communication.

Table 5.10 Access to e-library

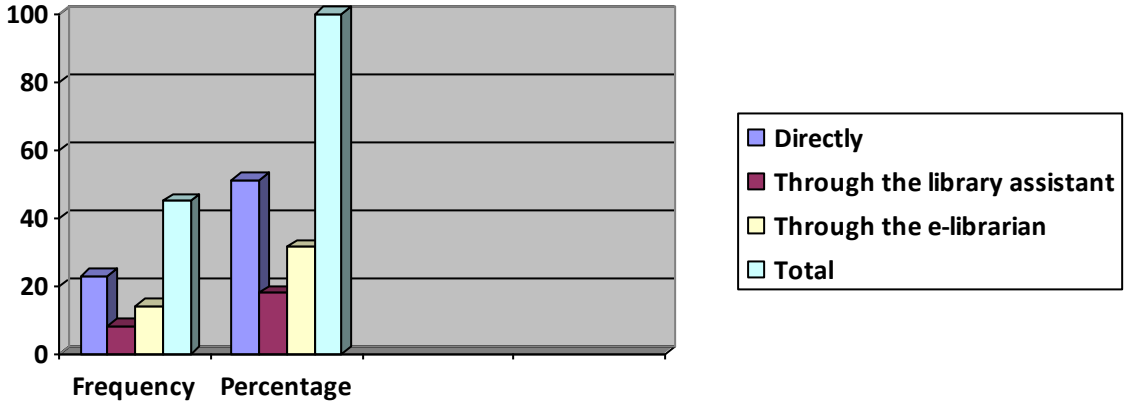
Access to e-library	**Frequency**	**Percentage**
By registration in the main library	24	53.33
By registration in the e-library	21	46.66
Free from registration	00	00
Total	45	100



In order to understand how the users have access to e-library respondents were asked and made appropriate answer. The above result indicate that the users have access to e-library by registration in the main library with score of 24 and (53.33 percent) respondents, followed by 21 (46.66) respondents who say by registration in the e-library, while free from registration score 0 (0 percent) that means there is no one can have access to the e-library without registration either by main library or e-library.

Table 5.11 Access to e-resources

Access to e-resources	**Frequency**	**Percentage**
Directly	23	51.11
Through the library assistance	8	17.77
Through the e- librarian	14	31.11
Total	45	100



In order to understand how the users have access to e-resources participants were asked and made appropriate answer. The above result indicate that the users have access to e-resources directly with score of 23 and (51.11 percent) respondents, followed by who say through the e- librarian with 14 (31.11percent) respondents, while 8 (17.77 percent) for who say through the library assistance.

Table 5.12 The level of use of various Electronic Information Resources and Services

Available resource & services	**Frequency**	**Percentage**
E-books	6	13.33
E-Journals	4	8.88
E-dissertations	1	2.22
CD-ROM Searching service	0	00

Current Awareness Services (CAS)	1	2.22
Selective Dissemination of Information (SDI)	1	2.22
On-line databases	3	6.66
Online public access catalogues (OPAC)	4	8.88
Full- text databases	5	11.11
Scholarly websites	5	11.11
Photocopy, printing & scanning	8	17.77
Multimedia	1	2.22
Almanacs	1	2.22
Bibliographies	1	2.22
Directories	1	2.22
Institutional Repository	3	6.66
Total	45	100

Participants were asked to indicate the level of use of various electronic information resources and services. The results revealed that photocopy, printing and scanning had a score of 8 (17.77 percent); e-books score 6 (13.33 percent), full text databases and scholarly websites each score 5 (11.11) respondents. E-journals and online public access (OPAC) each score 4 with (8.88 percent) while online database and institutional repository each score 3 (6.66 percent) respondents. Current awareness services, selective dissemination of information, directories, e-dissertations, multimedia, almanacs, and bibliographies each score 1 with (2.22 percent) respondents, while CD-ROM Searching service score 0 (0 percent).

Table 5.13 The easier level in use of Electronic Information Resources and Services

Easy	**Very High Easier**		**high Easier**		**Easier**		**Not Easier**		**Undecided**		**Total**	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Competent with the Internet.	12	26.66	18	40	23	51.11	1	2.22	1	2.22	45	100
Competent with search engines e.g. Google, Altavista, yahoo etc.	7	15.55	14	31.11	15	33.33	5	11.11	4	8.88	45	100
Competent with online databases	13	28.88	11	24.44	19	42.22	1	2.22	1	2.22	45	100
Competent with navigating web links	**7**	15.55	8	17.77	17	37.77	11	22.22	2	4.44	45	100
Competent with mailing list	14	31.11	12	26.66	12	26.66	4	8.88	3	6.66	45	100

From the above table it can be seen that 23 (51.11 percent) respondents say there is an easier competent with the Internet, followed by 18 (40 percent) for high easier, while 12 (26.66 percent) for some that score for very high easier, rest of the option that are not easier and undecided each score 1 (2.22 percent) respondents. On the Competent with search engines, 15 (33.33 percent) respondents score for easier, followed by 14 (31.11 percent) respondents who score for high easier. Very high easier score 7 (15.55 percent) respondents while not easier score 5(11.11 percent), rest of respondent that is undecided score 4 (8.88 percent). Competent with online databases 19 (42.22 percent) respondents say is easier, followed by 13 (28.88 percent) who score for very high easier, while 11 (24.44 percent) respondents score for high easier, rest of the respondents score 1 (2.22 percent) for each not

easier and undecided. Competent with navigating web links, 17 (37.77 percent) respondents score for easier, followed by 11 (22.22 percent) respondents who say not easier. High easier score 8 (17.77) respondents, while very high easier score 7 (15.55 percent) respondents, rest of the option that is undecided score 2 (4.44) respondents. Competent with mailing list, 14 (31.11 percent) respondents score for very high easier, followed by 12 (26.66 percent) respondents for each high easier and easier. Not easier score 4 (8.88 percent) respondents while undecided score 3 (6.66 percent) respondents.

Table 5.14 The difficult level in use of Electronic Information Resources and Services

Difficult	**Very high Difficult**		**high Difficult**		**Difficult**		**Not Difficult**		**Undecided**		**Total**	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
The use of computers	1	2.22	1	2.22	2	4.44	38	84.44	3	6.66	45	100
use of data bases	1	2.22	2	4.44	3	6.66	36	80	3	6.66	45	100
Formulating search queries	1	2.22	2	4.44	2	4.44	35	77.77	5	11.11	45	100
Online navigating techniques	3	6.66	6	13.33	14	31.11	20	44.44	2	4.44	45	100
Online acquisition techniques	2	4.44	2	4.44	8	17.77	30	66.66	3	6.66	45	100

From the above table it can be seen that 38 (84.44 percent) respondents say there is not Difficult in use of computers, followed by 3 (6.66 percent) for undecided, while 2 (4.44 percent) for some that score for difficult, rest of the option that are very high difficult and high difficult each score 1 (2.22 percent) respondents. On the use of data bases, 36 (80 percent)

respondents score not difficult, followed by 3 (6.66 percent) respondents for each score to difficult and undecided. High difficult score 2 (4.44 percent) respondents while very high difficult score 1(2.22 percent). Formulating search queries 35 (77.77 percent) respondents say there is not difficult followed by 5 (11.11 percent) who score for undecided, while 2 (4.44 percent) respondents for each score to difficult and high difficult, rest of very high difficult score 1 with (2.22 percent) respondent. Online navigating techniques 20 (44.44 percent) respondents score for not difficult, followed by 14 (31.11 percent) respondents who say difficult. High difficult score 6 (13.33 percent) respondents, while very high difficult score 3 (6.66 percent) respondents, rest of the option that is undecided score 2 (4.44 percent) respondents. Online acquisition techniques 30 (66.66 percent) respondents score for not difficult followed by 8 (17.77 percent) respondents who say difficult. Undecided score 3 (6.66 percent) respondents while each of high difficult and very high difficult score 2 (4.44 percent) respondents.

Table 5.16 The Level of Satisfaction of Electronic Information Resources and Services

Level of satisfaction	**Frequency**	**Percentage**
E-books	6	13.33
E-Journals	5	11.11
E-dissertations	4	8.88
CD-ROM Searching service	0	00
Current Awareness Services (CAS)	1	2.22
Selective Dissemination of Information (SDI)	1	2.22
On-line databases	3	6.66
Online public access catalogs (OPAC)	3	6.66
Full- text databases	5	11.11
Scholarly websites	4	8.88
Photocopy, print & Scanning	6	13.33
Multimedia	1	2.22

Almanacs	1	2.22
Bibliographies	2	4.44
Directories	1	2.22
Institutional Repository	3	6.66
Total	45	100

The above table shows that the respondents were asked to indicate the level of satisfaction of electronic information resources and services. The results revealed that e-books and photocopy, printing and scanning each score 6 (13.33 percent) respondents; e-journals and full text databases each score 5 (11.11 percent), E-dissertations and Scholarly websites each score 4 (8.88 percent). The result reveals that online data base, online public access and institutional repository each score 3 (6.66 percent) respondents, while bibliographies score 2 (4.44 percent) respondents. Rest of the resources and services that are directories, current awareness services (CAS), selective dissemination of information (SDI), multimedia , and almanacs each score 1 (2.22 percent). CD-ROM Searching service score 0 (0 percent), This low score might be as a result of lack of awareness about electronic resources and services provided by e-library due to ineffective methods of communication.

CHAPTER SIX

6.1 Summary of finding

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, in this study the research found that The respondents who are working with the university library between one to five years are the majority with 26 (57.77percent) while who have being working with library between five to ten years are 19 (42.22 percent) respondents. Ten to fifteen years, fifteen to twenty years, twenty to above year scored nothing that due to the establishment of the university library in 2004.

Table 5.3 makes it clear that 19 (42.22percent) respondents say there is adequacy of acquiring Electronic Information Resources to the e-library followed by the respondents say not adequacy 14 with (31.11percent), while very adequacy 12 with (26.66 percent) respondents. Participant all agree and say yes there is an existing policy for acquisition of Electronic Information Resources 45 with (100 percent) respondents. Number of years policy provided for acquiring newly electronic information resources participants were asked and made the appropriate answer, Table 5.4 makes it clear that 24 (53,33percent) respondents say that policy provide guide for acquiring newly electronic resources for the one to three years followed by the respondents who say three to five years 15 (33.33 percent), while people who say less than one year score 5 (11.11percent). 1(2.22 percent) respondent say 5 and above years.

Therefore, the University library management has majority respondents in terms of selection and acquisition of electronic information resources with frequency 39 and (86.66 percent), while 3 (6.66 percent) respondents for each who score for the university librarian and university management committee. The vice chancellor scored zero as above table indicated. the Problem associated with the standard of Electronic Information Resources and Services participants were asked and the above table made it clear that 23 (51.55 percent) respondents say there is problem E-library patron, followed by 11 (24.44 percent) for high problem, while 8 (1.77 percent) for some that score for very high problem, rest of the option that are not problem and undecided each score 2 (4.44 percent) respondents. On the Funding issues, 28

(62.22 percent) respondents score very high problem, followed by 10 (22.22 percent) respondents who score to high problem. Problem score 5 (11.11 percent) respondents while undecided score 1 (2.22 percent) and rest of not problem score 0 (0 percent). Lack of IT knowledge 21 (46.66 percent) respondents score very high problem, followed by 12 (26.66 percent) respondents who score for high problem, while 9 (20 percent) respondents score to problem, undecided score 3 with (6.66 percent) respondent and rest of not problem score 0 (0 percent). Infrastructure 11 respondents (24.44 percent) score for problem, followed by 10 (22.22 percent) respondents who score to high problem. Very high problem score 9 (20 percent) respondents, while not problem score 8 (17.77 percent) respondents, rest of the option that is undecided score 7 (15.55 percent) respondents. Management 23 respondents (51.11 percent) score for not problem followed by 7 (15.55 percent) respondents who score to high problem. Undecided, problem and very high problem each score 5 (11.11 percent) respondents. Security 15 respondents (33.33 percent) score for problem followed by 13 (28.88 percent) respondents who score to very high problem. Not problem score 7 (15.55 percent) respondents while rest of undecided and high problem each score 5 (11.11 percent) respondents.

Moreover, respondents indicate the electronic information resources and services available. The results revealed that e-journals had a score of 6(13.33 percent); e-books, online database, online public access (OPAC), Scholarly websites, and photocopy, printing and scanning each score 5 (11.11 percent) respondents. The result reveals that full text databases score 4 (8.88 percent) while directories and institutional repository each score 2 (4.44 percent) respondents. Rest of the resources and services that are CD-ROM Searching service, Current Awareness Services (CAS), Selective Dissemination of Information (SDI), Multimedia, e-dissertation, Almanacs and Bibliographies each score 1 (2.22 percent). This low score might be as a result of lack of awareness about electronic resources and services provided by e-library due to ineffective methods of communication. The level of use of various electronic information resources and services, the results revealed that photocopy, printing and scanning had a score of 8 (17.77 percent); e-books score 6 (13.33 percent), full text databases and scholarly websites each score 5 (11.11) respondents. E-journals and online public access (OPAC) each score 4 with (8.88 percent) while online database and institutional repository

each score 3 (6.66 percent) respondents. Current awareness services, selective dissemination of information, directories, e-dissertations, multimedia, almanacs, and bibliographies each score 1 with (2.22 percent) respondents, while CD-ROM Searching service score 0 (0 percent).

In terms of ease and difficulty the result reveal that 38 (84.44 percent) respondents say there is not Difficult in use of computers, followed by 3 (6.66 percent) for undecided, while 2 (4.44 percent) for some that score for difficult, rest of the option that are very high difficult and high difficult each score 1 (2.22 percent) respondents. On the use of data bases, 36 (80 percent) respondents score not difficult, followed by 3 (6.66 percent) respondents for each score to difficult and undecided. High difficult score 2 (4.44 percent) respondents while very high difficult score 1(2.22 percent). Formulating search queries 35 (77.77 percent) respondents say there is not difficult followed by 5 (11.11 percent) who score for undecided, while 2 (4.44 percent) respondents for each score to difficult and high difficult, rest of very high difficult score 1 with (2.22 percent) respondent. Online navigating techniques 20 (44.44 percent) respondents score for not difficult, followed by 14 (31.11 percent) respondents who say difficult. High difficult score 6 (13.33 percent) respondents, while very high difficult score 3 (6.66 percent) respondents, rest of the option that is undecided score 2 (4.44 percent) respondents. Online acquisition techniques 30 (66.66 percent) respondents score for not difficult followed by 8 (17.77 percent) respondents who say difficult. Undecided score 3 (6.66 percent) respondents while each of high difficult and very high difficult score 2 (4.44 percent) respondents. The level of satisfaction of electronic information resources and services the results revealed that e-books and photocopy, printing and scanning each score 6 (13.33 percent) respondents; e-journals and full text databases each score 5 (11.11 percent), E-dissertations and Scholarly websites each score 4 (8.88 percent). The result reveals that online data base, online public access and institutional repository each score 3 (6.66 percent) respondents, while bibliographies score 2 (4.44 percent) respondents. Rest of the resources and services that are directories, current awareness services (CAS), selective dissemination of information (SDI), multimedia , and almanacs each score 1 (2.22 percent). CD-ROM Searching service score 0 (0 percent), This low score might be as a result of lack of awareness

about electronic resources and services provided by e-library due to ineffective methods of communication.

6.2 Conclusion

E-Library technology is becoming an essential enabler of library services. With the advent of technology, especially e-reference, e-journals, e-books, current awareness, online database, full text data base and online public access, the possibilities seem limitless but it is no ways diminishes the role of human interaction rather enhances it. Librarians now a day play the role of information selectors, organizers and teachers. The goal of electronic information resources and services is to provide the information sought by the user. Information services should anticipate as well as meet user needs. The library should make available user aids in appropriate formats to help the users identify items in the collection relevant to their interests and needs. The e-library should develop reference & information services consistent with the goals of the institution or community it serves .The e-library should participate in consortia and networks to obtain access to information sources and services it cannot provide on its own. The e-librarian should arrange information services according to a logical plan, taking into account ready accessibility to users. The libraries should regularly evaluate its information services to ensure that the service fulfils the institution's goals.

Electronic information services have become increasingly important in providing assistance and reference services to the users in Kaduna state University Library. The traditional functions of the Reference –desk service are still provided But taking advantage of the other new technologies, many changes are certainly going to occur in the coming times for e-library because the electronic environment is so fluid, digital reference services will require ongoing adaptations in the way the librarians work. There are of course huge financial implications associated with the emerging technology based services in electronic libraries like infrastructure costs, hardware and software technology support and staff training and also subscription cost to electronic resources. That why Kaduna state University Library takes the challenge to develop strategic plans for harnessing technology to offer viable services in a cost effective manner within the dynamic technology environment.

6.3 Recommendation

1) It is recommended that academic librarian at various levels should encourage and enhance the acquisition of skills required for the use of e-resources. Also, universities should instill in their students the concepts and importance of e-resources usage.

2) University library should provide access to subscribe electronic resources, free web based resources, locally digitized resources and open access resources. To help address the cost electronic resources and proprietary software, the Kaduna state government of Nigeria should encourage the use of open source software and open access electronic resources.

3) There should be specific annual budgetary allocation within university e-library for developing and maintaining ICT infrastructure in university. University should develop sustainable strategies for financing the development and operation of automated information systems and services.

4) In order to improve the on-the-job performance of the automated services and electronic information resources personnel, regular training of staff through seminars, workshops, conferences, refresher courses and in-service training should be institutionalized as part of the development plan for electronic information resources personnel.

5) Periodic formative and summative evaluation of electronic information resources and services should be institutionalized within the university library in order to continually improve the implementation, operation and cost-effectiveness of electronic information resources and services in consonance with evolving global technological opportunities for university education.

6) Strategies for maintaining of ICT resources and electronic information resources and services should be given adequate attention in the planning and implementation of ICT programmes and projects. University should implement and monitor strategies for promoting good system maintenance practices.

7) In view of the slow and haphazard development of electronic information resources and services in the university, ICT planners and administrators in the universities should give top priority to implementing special projects for catalyzing and sustaining the automation of their university library.

CHAPTER SEVEN

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Appendix I

Newcastle College

United Kingdom.

10th April, 2014

University Library,

Kaduna State University, Kaduna-Nigeria

Dear Respondent,

Questionnaire on: An Assessment of Electronic Information Resources and Services in Kaduna State University Library, Kaduna-Nigeria

I am a postgraduate student of the above named institution in Department of Information Technology and conducting research on the above named topic. The research is purely for academic purpose therefore; kindly respond to the attached questionnaire by ticking the appropriate response. You are guaranteed of strict confidentiality of any information provided.

I thank you for the usual cooperation and assistance.

Yours truly,

Sani Murtala Ridwan

Appendix II

SECTION A: Demographic Information

Instruction: Kindly tick the appropriate box {√} where necessary.

19) Name of Institution: ……..

20) What is your designation?

(b) Electronic librarian { } (b) System librarian { } (c) Professional librarian { }

21) What is your highest educational qualification? (a)Dip in Computer Science { } (b) Dip in Lib & Inf. Science { } (c) HND Computer Science { } (d) HND Lib &Inf. Science { } (e) BSC Computer Science { } (f) BSC Library Science { } (g) MLS { } (h) PHD{ }

22) How long have you been working with the university library?

(c) 1-5 years { } (b) 6-10 years { } (c)11-15 years { } (d) 16-20 years { } (e)20 years and above { }

SECTION B: Adequacy of the Provision of Electronic Information Resources and Services. Instructions: Tick {√} the right answer

23) How adequacy did your e-library acquire Electronic Information Resources?

(b) Very adequate { } (b) Adequate { } (c) Not adequate { }

24) I s there any existence policy for acquisition of Electronic Information Resources? Yes { } No { }

25) If yes, how long has the policy provided for acquiring newly Electronic Information Resources?

(a) Less than 1 year { } (b) 1-3 years { } (c) 3-5years { } (d) Above 5 years { }

26) Who is responsible for selection and acquisition of Electronic Information Resources?

(a)Vice Chancellor { } (b) University management committee { } (c) University library Management { } (d) University Librarian { }

27) Please, did the policy cover the following?

b) Funding of the e-library { } (b) Structure of the e-library { } (c.) Staffing of the e-library { } (d) Facilities of the e-library { } (e) Electronic Information Resources and services { }

c)

SECTION C: Problems Associated with the Electronic Information Resources and Services

28) Is there any problem associated with the standard of your Electronic Information Resources and Services?

Problems	Very high problem	high problem	Problem	Not problem	Not sure	Total
E-library patron						
Funding						
Lack of IT Knowledge						
Infrastructure						
Management						
Security						

SECTION D: Category of Available Electronic Information Resources and Services**.** (Please kindly tick the right option.)

29) Which of these Electronic Information Resources and Services Available in your e-library?

1) E-books	{ }
2) E-Journals	{ }
3) E-dissertations	{ }
4) CD-ROM Searching service	{ }
5) Current Awareness Services (CAS)	{ }
6) Selective Dissemination of Information (SDI)	{ }
7) On-line databases	{ }
8) Online public access catalogs (OPAC)	{ }
9) Full- text databases	{ }
10) Scholarly websites	{ }
11) Photocopy, print & scanning	{ }
12) Multimedia	{ }
13) Almanacs	{ }
14) Bibliographies	{ }
15) Directories	{ }
16) Institutional Repository	{ }

SECTION E: Level of use of Various Electronic Information Resources and Services

30) How do your users have access to your e-library?

(b) By registration in the main library { } (b) By registration in the e-library{ } (c) Free from registration { }

31) How are your users allowed to have access to e-resources?

(b) Directly { } (b) Through the library assistance { } (c) Through the system librarian { } (d) Any other please specify……

32) How can you describe the level of use of these Electronic Information Resources and Services?

11) E-books	{ }
12) E-Journals	{ }
13) E-dissertations	{ }
14) CD-ROM Searching service	{ }
15) Current Awareness Services (CAS)	{ }
16) Selective Dissemination of Information (SDI)	{ }
17) On-line databases	{ }
18) Online public access catalogs (OPAC)	{ }
19) Full- text databases	{ }
20) Scholarly websites,	{ }
21) Photocopy, print & scanning	{ }

22) Multimedia { }
23) Almanacs { }
24) Bibliographies { }
25) Directories { }
26) Institutional Repository { }

SECTION F: Ease and Difficulties regarding retrieving of Electronic Information Resources and Services**.**

33) How easier your level in use of Electronic Information Resources and Services?

S/N	ITEM	OPTION				
		Very High Easier	High easier	Easier	Not Easier	Undecided
1	Competent with the Internet.					
2	Competent with search engines e.g. Google, Altavista, yahoo etc.					
3	Competent with online databases					
4	Competent with navigating web links					
5	Competent with mailing list					

34) How difficult your level in use of Electronic Information Resources and Services?

S	Items	Options				
N		Highly difficult	Very difficult	difficult	Not difficult	Undecided
1	The use of computers					
2	use of data bases					
3	Formulating search queries					
4	Online navigating techniques					
5	Online acquisition techniques					

SECTION G: Level of Satisfaction of Electronic Information Resources and Services

35) How Level of your Satisfaction of these Electronic Information Resources and Services?

1) E-books { }
2) E-Journals { }
3) E-dissertations { }
4) CD-ROM Searching service { }
5) Current Awareness Services (CAS) { }
6) Selective Dissemination of Information (SDI) { }

7) On-line databases { }
8) Online public access catalogs (OPAC) { }
9) Full- text databases { }
10) Scholarly websites, { }
11) Photocopy, print & scanning { }
12) Multimedia { }
13) Almanacs { }
14) Bibliographies { }
15) Directories { }
16) Institutional Repository { }

Survey of Funding Policy and Acquisition of Information Resources in Federal College of Education (FCE) Library, Zaria, Kaduna- Nigeria

BY

Sani Murtala Ridwan

A Research Dissertation Submitted to the Newcastle College, United Kingdom, for PhD Research Degree

Under Supervision of: Dr. SHERIF EL BELTAGI
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Cairo-Egypt.
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December, 2015

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Abstract

The purpose of research is to discover answers to questions through the application of scientific procedures. Though each research study has its own specific purpose, this study concentrates on the following objectives: finding out the policy of acquisition of information resources in federal college of education library, zaria, exploring the resources of funding information resources among the federal college of education library, zaria, finding out the provision is made available in funding policy on acquisition of information resources in federal college of education library, zaria, determining the adequacy of the provision of funding information resources in federal college of education library, zaria, discovering the level of satisfaction on acquisition information resources in federal college of education library, zaria. In the process of investigation the researcher gave the general introduction of Academic library and Funding models for academic libraries in Nigeria, a brief background of federal college of education, zaria, statement of the problems, scope and limitation of the study. A qualitative research design is adopted for this study. The method will be appropriate and suitable for the study since the study is descriptive in nature. The populations of the study are federal college of education library, Zaria. The college librarian, professional librarian and system librarian forms the sample of the study. The main body of the research consists of the concept of Academic library, funding college library, main sources of funding college library, alternative sources of funding college library, adequacy of funding college library, fund utilization and management, problem of funding in college library, concept of information resources, types of information resources, print information resources, non-print information resources, acquisition of print materials, acquisitions of electronic information resources, access agreements on electronic resources, budget and funding for college library materials. The main body of research consists of the data presentation, logical Analysis of data and major finding of the research.

CHAPTER ONE

1.0 Explanation of topic selection

Considerations in selecting a research problem help to ensure that the study remains manageable in terms of scope, resources and contributing to knowledge. The importance of funding in providing quality library service cannot be overemphasized. It is the glue that holds the building, collection and staff together and allows the library to attain its goals. As such, money can be considered the soul of the library. Inadequate funds impede the effectiveness of any library (Anafulu, 1997). However, despite the not so encouraging situation in funding in Nigerian Academic Libraries in Nigeria as reported in the literature, (Abba, 2008; Faboki, 2005; Etimi, 2006; Ani et al, 2005). The Academic Libraries made series of attempt to adopt the technologies for improved services. In this report very little success has been recorded as a lot still need to be done (Abubakar, 2011).

There are many factors that will lead to the researcher for selection a topic, below are some of the reasons:

1) Interest: a research endeavor is usually time consuming, and involves hard work and possibly unforeseen problems. One should select topic of great interest to sustain the required motivation.

2) Magnitude: It is extremely important to select a topic that you can manage within the time and resources at your disposal.

3) Measurement of concepts: Make sure that you are clear about the indicators and measurement of concepts (if used) in your study.

4) Level of expertise: Make sure that you have adequate level of expertise for the task you are proposing since you need to do the work yourself.

5) Relevance: Ensure that your study adds to the existing body of knowledge, bridges current gaps and is useful in policy formulation. This will help you to sustain interest in the study.

6) Availability of data: Before finalizing the topic, make sure that data are available.

7) Ethical issues: How ethical issues can affect the study population and how ethical problems can be overcome should be thoroughly examined at the problem formulating stage.

By the above highlighted reasons for the selection of topic, I depend on items one, four, five and six that are: interest, level of expertise, relevance and availability of data. The researcher has an interest to conduct research on topic due to the availability of data, level of expertise, and it is also relevant to the researcher profession.

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. Kothari, (2004). Observed that collecting data in dealing with any real life problem it is often found that data at hand are inadequate, and hence, it becomes necessary to collect data that are appropriate. There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources at the disposal of the researcher. Primary data can be collected either through experiment or through survey. If the researcher conducts an experiment, he observes some quantitative measurements, with the help of which he examines the truth contained in his hypothesis. But in the case of a survey, data can be collected by any one or more of the following ways: observation, personal interview, telephone interviews, through schedules and mailing of questionnaires the researcher and the respondents do come in contact with each other on this method of survey will be adopted. The researcher adopted mail questionnaire due to the nature of research and advantage of the instrument.

u) Can be used to collect large amounts of information at a low cost per respondent.

v) Respondents may give more honest answers to personal questions on a mail questionnaire

w) No interviewer is involved to bias the respondent's answers.

x) Convenient for respondent's who can answer when they have time

y) Good way to reach people who often travel (RMPC, n.d.).

Questionnaires are mailed to the respondents with a request to return after completing the same. It is the most extensively used method in various economic and business surveys. Before applying this method, usually a Pilot Study is been tested the questionnaire is

administered which reveals the weaknesses, if any, of the questionnaire. Questionnaire to be used must be prepared very carefully so that it may prove to be effective in collecting the relevant information (Kothari, 2004).

The questionnaire is divided into these sections. Section A: Demographic data of the respondents; which includes division, unit, ranks and years of working experience. Section B: Funding policy in College Library. Section C: Acquisition Policy in College Library. Section D: Adequacy of the provision of Funding on Acquisition. Section E: Sources of Funding information resources and section F: Satisfaction of Acquisition Information Resources.

CHAPTER TWO

2.0 Identification and Outline of the Research Objectives

The purpose of research is to discover answers to questions through the application of scientific procedures. Though each research study has its own specific purpose, this study concentrates on the following objectives:

1) To find out the policy of acquisition of information resources in federal college of education library, zaria.
2) To explore the resources of funding information resources among the federal college of education library, zaria.
3) To find out the provision is made in funding policy on acquisition of information resources in federal college of education library, zaria.
4) To determine the adequacy of the provision on funding information resources in federal college of education library, zaria.
5) To discover the level of satisfaction on acquisition information resources and services by users in federal college of education library, zaria.

In light of the above objectives the following research questions will be answered

2.1 Research Question

1) What is the policy of acquisition of information resources in federal college of education library, zaria?
2) What are the resources of funding information resources among the federal college of education library, zaria?
3) What provision is made in funding policy on acquisition of information resources in federal college of education library, zaria?
4) What is the adequacy of the provision on funding information resources and services in relation to needs of users among the federal college of education library, zaria?
5) What is the level of satisfaction of acquisition information resources and services by users in federal college of education library, zaria?

CHAPTER THREE

3.0 Introduction

The advent of information and communication technology has accelerated availability and usage of Information resources among Nigerian academic libraries. This development has posed challenges to the libraries and in their attempt to meet information needs of users. Libraries are required to heavily on information resources especially, the e-resources such as e-journals, e-references, internet services, e-books, and information on CDs. This development is noticeable in the developing nation of world such Africa and other developing nations who are still struggling to bridge the digital divide that is preventing them from the full benefits of electronic era.(Rosenberg, 2008).

The Federal Government of Nigeria through the National University Commission (NUC) initiated various programmes designed to lunch Nigerian universities into information global society; among the project include automation of University Libraries using Management Information System (MIS) and Nigerian University Network (NUNET). NUNET aimed at developing a viable local and wide area network in the institutions (Nok, 2006). Nigerian Virtual Library Initiative is another step by Federal Government of Nigeria to provide higher institution with relevant and current information resources (Fabunni, 2009).

The tertiary education sector in Nigeria is made up of three categories of institutions (JAMB, 2012). These are Universities, Polytechnics/Colleges of Technology and Colleges of Education (CoE). Various legislative enactments have established distinct roles for each of these higher institutions. The Universities produce highly-skilled manpower in diverse disciplines at the undergraduate and graduate levels while Colleges of Education specifically train teachers for pre-primary, primary and junior secondary schools. On the other hand, Polytechnics were originally established to provide middle-level manpower to drive the economy and further the country's technological-cum-scientific aspirations. Liberalization of Nigeria's tertiary education sector has brought about an unprecedented increase in the number of post-secondary educational institutions arising from the involvement of Federal and State Governments, as well as, private organizations. Presently, Nigeria has 108 Universities, 81 Polytechnics, and 109 Colleges of Education approved by various regulatory agencies (JAMB, 2012).

As with other climes, tertiary educational institutions in Nigeria are involved in several degrees of teaching, research, dissemination of knowledge and community development. These tasks are accomplished, largely, through various institutional libraries (popularly called academic libraries), lecture halls, laboratories and workshops. Fafunwa (1994) sees libraries in tertiary institutions as crucial centers in the educational development of man and his environment. This, perhaps, explains why the National Universities Commission (NUC), National Board for Technical Education (NBTE), and National Commission for Colleges of Education (NCCE), which supervise the three arms of the tertiary education sector in Nigeria, insist on the provision of purpose-built, well-equipped, information resource-rich and adequately staffed libraries, as a pre-condition for approval of these institutions and accreditation of courses offered in them (Nnadozie, 2013).

Academic libraries are those attached to universities, polytechnics, college of educations and other similar institutions of higher learning. The importance of funding in providing quality library service cannot be overemphasized. It is the glue that holds the building, collection and staff together and allows the library to attain its goals. As such, money can be considered the soul of the library. Inadequate funds impede the effectiveness of any library (Anafulu, 1997).

Funding models for academic libraries vary greatly, depending on whether the institution is private or public, a particular state's budgetary regulations and funding formulas for higher education and the overall budgetary situation of each university. American Library Association (2006) stated that Academic Library budgets are allocated by the central University Administration based on historic formulas or outdated needs, and libraries follow their institutional policies and mandates regarding budgets. Occasionally, an institution provides funding for its library through individual colleges and departments instead of centrally setting the library budget. In that case, each department or University' unit decides whether or not to fund the library each year based on satisfactory library services as well as need. In most cases, academic library budgets are not allocated separately from the University budgets. For some libraries, budget is allocated partially for acquisition, while other aspects such as staff and furniture are part of the University budget. This arrangement does not meet the library needs (Hisle, 2002).

Nigerian academic and research libraries derive the major part of their financial support from the government. Ifidon (1990) found that academic libraries derive the greatest part of their funds from their universities, whose major sources of financial support is the government. Of all the different types of libraries in Nigeria, only academic libraries have a clearly- defined policy on funding. They are allocated 10 percent of the recurring annual budget of their parent institutions, a result of the Federal Government and Academic Staff Union of Universities agreement of 1992 (Okiy, 2005). Funds for library and information services are traditionally derived from the library proprietor. The extent of such revenue varies from fixed fraction of received grant to ad-hoc arrangement (Edoka, 1992). The 2013 budget allocation made by the federal ministry of education shown that the federal college of education, zaria has received a reasonable amount witch wasn't enough to sustain the library needs. The budget has a code 0517019019 with MDA federal college of education, zaria, total personnel cost ₦3,531,412,199, total overhead cost ₦93,464,530, total recurrent ₦3,624,876,729, total capital ₦244,285,714, and total allocation ₦3,869,162,444. Which means the library will receive the sum of ₦33775024.5 that is the ten percent of ₦337750245 after deduction of the personnel cost out of the total allocation (FME Budget, 2013).

The research would contribute in improving the consciousness of funding college library in dealing with information resources, acquisition, services and safety management. It would also enable the college library to improve the quality in acquisition of information resources in order to motivate their patrons into the qualitative services.

3.1 Background History of the College of Education

The Federal college of Education Zaria, formerly known as the Advanced Teachers' College, Zaria, the town of Zaria lies between latitude 11.07 and 12 degrees North and longitude07.44 and 8 degrees East. Located at a distance of about 962Km from Atlantic Ocean, it is about 80 kilometers North of Kaduna, the capital of Kaduna State.

In April 1959, the Federal Ministry of Education, realized the cardinal importance of educational development to a nation newly attaining political independence, appointment a commission under the chairmanship of Sir Eric Ashby, master of Clare College, Cambridge, to investigate the needs of Nigeria significantly entitled "Investment in Education", the

government of Nigeria in 1961 presented to the white paper for saw a possible increase in the enrolment of existing secondary schools and the building of 600 new ones, with an annual intake of pupils rising from 12,000 to 45,000. In order to meet this rapid expansion, four new Advanced Teachers Training Colleges were recommended: One in Lagos and one in each of the three regions; Zaria, Owerri and Ondo. For the colleges to take off, four requests for assistance were made to the then United Nations Special Fund which later became the United Nations Development Programme, special Fund component.

Therefore, acting on the recommendation of the Ashby commission, the Government of the former Northern region established a Northern Secondary Teachers "College" in Zaria. The Northern Region al Government through the federal Government, requested the United Nations Special Fund for assistance. The request was granted and a plan of operation was drawn up, which was formally signed in March 1963 by the Federal Government of Nigeria, the United Nations Special fund and UNESCO. Authorization to start operations was given in May 1963, but the College was formally opened on 1st November, 1962 with an initial intake of 150 Students. The project was originally envisaged for five year duration. Subsequent revisions to the original plan of operation extended this for about three years. The name of the College was later changed to Zaria Teachers' College (FCE, n.d.).

a) Objectives of the College:

Briefly, the aims and objectives for establishing the College, at the take off, can be summarized as follows:

1) To provide professionally qualified non-graduate teachers of the Northern origin to man secondary and Teacher Training Colleges in the region.

2) To provide professionally qualified Assistant inspectors for primary schools.

3) Through the products or graduates of the college, to be able to gradually northernism the entire staff of all secondary schools and Teacher Training Colleges in the region.

The college was temporarily situated in the present site of the Kaduna State Polytechnic (Annex Campus) along Gaskiya Road, Zaria, opposite the institute of Education, ABU annex. Within a short time, the building became inadequate for the need of an Advanced Teachers' College. In January 1973, the College finally moved to its present site by old Jos

road, opposite the institute of Administration (Kongo Campus), Ahmadu Bello University, Zaria. The administrative fortune of the College has somehow been bound up with the political vicissitude of the federation. With the creation of more states in the Federation, the College became the property of the former six northern states. The duty of administering the college, in the interest of all the six northern states, first fell on the interim Common Services Agency (ICSA), which in 1970 specifically requested the Institute of Education, Ahmadu Bello University Zaria, to take over the administrative control of the college for the following reasons:

b) To minimize administrative inconveniencies.

c) To cut down and also streamline the cost of managing the policy making body.

d) To encourage staff and student participation in the formation of policies affecting the college.

When the Institute of Education's take- over the admission of students was virtually on the quota basis; which ensured there was almost equal representation from each of the Northern States. Each state was responsible for sponsoring of its own candidates. After the take-over on 1st January 1970 the institute of Education was responsible for the following:

1) Development of curriculum and standardization of syllabi.
2) Examination and certification of NCE candidates.
3) Admission qualifications policies and selection students.
4) Liaison with state ministries of Education and
5) Recruitment of teaching and administrative staff.

The National Commission for Colleges of Education (NCCE) became the funding and policy agency of the colleges as from 1st January 1990. The commission was established by the federal Government through Decree 3 in an official gazette published on 17th January, 1989. A decree promulgated by the Federal Government changed the name of the college from Advanced Teachers' College Zaria, to Federal College of Education, Zaria, along with other colleges of Education in Kano and Ondo. (See Federal Republic of Nigeria Official gazette No. 16 of 14th May, 1991 vol. 78 Decree No. 12 Federal College of education (Amendment Decree 1991). The first governing councils of the three colleges were inaugurated in Lagos on Friday, 29th May, 1992. Federal College of Education, Zaria, had a total of 15 members on its

first council. Therefore, in order the newly college to provide a good and proper services, the college has to support the existing library accompany with the college, in terms of funding, acquisition for print and non-print materials (FCE website, n.d.).

3.2 Statement of the Problem

Academic libraries are those attached to universities, polytechnics, college of educations and other similar institutions of higher learning. The importance of funding in providing quality library service cannot be overemphasized. It is the glue that holds the building, collection and staff together and allows the library to attain its goals. As such, money can be considered the soul of the library. Inadequate funds impede the effectiveness of any library (Anafulu, 1997). Funding models for academic libraries vary greatly, depending on whether the institution is private or public, a particular state's budgetary regulations and funding formulas for higher education and the overall budgetary situation of each university.

American Library Association (2006) stated that Academic Library budgets are allocated by the central University Administration based on historic formulas or outdated needs, and libraries follow their institutional policies and mandates regarding budgets. Occasionally, an institution provides funding for its library through individual colleges and departments instead of centrally setting the library budget. In that case, each department or University' unit decides whether or not to fund the library each year based on satisfactory library services as well as need. In most cases, academic library budgets are not allocated separately from the University budgets. For some libraries, budget is allocated partially for acquisition, while other aspects such as staff and furniture are part of the University budget. This arrangement does not meet the library needs (Hisle, 2002).

Nigerian academic and research libraries derive the major part of their financial support from the government. Ifidon (1990) found that university libraries derive the greatest part of their funds from their universities, whose major sources of financial support is the government. Of all the different types of libraries in Nigeria, only university libraries have a clearly- defined policy on funding. They are allocated 10 percent of the recurring annual budget of their parent universities, a result of the Federal Government and Academic Staff

Union of Universities agreement of 1992 (Okiy, 2005). Funds for library and information services are traditionally derived from the library proprietor. The extent of such revenue varies from fixed fraction of received grant to ad-hoc arrangement (Edoka, 1992).

Education Trust Fund (formerly Education Tax Fund) also came into existence as a result of ASUU/FG negotiations of 1992. The fund was established under Education Tax Act No. 7 of 1993 and amended by Act No 40 of 1998, with the objective of using funds that accrue to it to improve the quality of education in Nigeria (Saidu, 2006). Companies are mandated by law to pay 2 percent of their profit before tax to ETF. The body has been managing the fund for developmental projects and library acquisitions at various educational levels in the nation. ETF gave universities a free hand to acquire textbooks and other materials according to their needs. Each university library would submit its selection list and the publisher's catalogue for approval at ETF Head Office in Abuja. University libraries also have a free hand to choose their procurement agents or vendors. Thereafter, 80 percent of the money approved by ETF for each university library per annum will be given to it as part-payment and after auditing by ETF officials, the 20 percent balance would be paid to the procurement agent. (Akindojutimi, 2010)

However, despite the not so encouraging situation in funding in Nigerian Academic Libraries in Nigeria as reported in the literature, (Abba, 2008; Faboki, 2005; Etimi, 2006; Ani et al, 2005). The Academic Libraries made series of attempt to adopt the technologies for improved services. In this direction very little success has been recorded as a lot still need to be done (Abubakar, 2011). By the above background the researcher tempt to conduct a research on funding policy and acquisition of information resources in federal college of education, zaria, so that the research would be revealed the actual fund made in provision to acquisition of information resources in federal college of education, zaria.

3.3 Significance of the Study

The study will reveal the extent to which funding are made available for acquisition of information resources in federal college of education library, zaria. College library is to provide information resources and services to the growing of entire information

resources to users. As such the findings of the study will be of great importance to the government and college management functionaries to plan better in order to meet the changing technological needs of their college library. Also, it will serve as a guide to college library management in the area of planning and establishing their acquisition of information resources and services. In addition, it will serve as a guide for newly created federal college of education in setting up their plan for acquisition of information resources and services in order to meet their need. Finally, it is an important contribution in the field of library and information science and knowledge in general.

3.4 Scope of the Study

Any intensive education research and extension education needs the support of systematic library and modern information services. A well organized and efficiently managed of funding library for acquisition of information is pre-requisite to any of the above said activities. Therefore, there is a vast scope to a study the various aspects of funding and acquisition of information resources in federal college of education library, zaria. The student's scientists and academicians require the various types of information resources and services according to changing scenario. Hence, it was decide to conduct the survey of funding policy and acquisition of information resources and services provided by federal college of education library, zaria. The study will only cover the situation associated with funding and acquisition policy in federal college of education library, zaria.

3.4 Definition of Terms

The following terms are defined in the context in which they are used in this study:

Survey: Scientific Methods of Research – theoretical and empirical approaches

Policy: A plan of action adopted by an individual or social group, i.e. "it was a policy of Acquisition"; "a politician keeps changing his policies"

Acquisition: The act of contracting or assuming or acquiring possession of something or the cognitive process of acquiring skill or knowledge.

Information: Knowledge acquired through study or experience or instruction. And it can be a collection of facts from which conclusions may be drawn.

Research: To study something carefully and try to discover new facts about it.

Funding: This is an act of providing money for a particular purpose

Funds Utilization: Money available to be spent in a better way

Availability: This is ready access to money with little or no stress to the librarians.

Budget: Budget is used to denote the financial allocation for a specific purpose or purposes during a given period.

Electronic Resources: These are electronic information resources that users access electronically via a computing network. Examples include online databases, e-journals, e-books, CD-ROMs, audio visual multimedia, etc.

Management: This is made up of a team of high level personnel in the library in charge of the responsibility of setting up activities ranging from planning, decision making, organizing, leading and controlling and organizing with the aim of achieving organizational goals and objectives.

College library: A tertiary institution library that promotes teaching, research and learning established purposely to meet the goals and objectives of the institution.

CHAPTER FOUR

4.0 Research Approach and Planning

According to Kothari, (2004), explained that Qualitative research is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behavior (i.e., why people think or do certain things), we quite often talk of 'Motivation Research', an important type of qualitative research. This type of research aims to discover the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests, sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is especially important in the behavioral sciences where the aim is to discover the underlying motives of human behavior. Through such research we can analyze the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing. It may be stated, however, that to apply qualitative research in practice is relatively a difficult job and therefore, while doing such research, one should seek guidance from experimental psychologists.

A qualitative design will be adopted for this study. The method will be appropriate and suitable for the study since the study is after descriptive of situation of funding and acquisition policy of information resources. Therefore, the research will be able to evaluate and survey all the aspect of funding situation and acquisition of information resources in federal college of education library, zaria.

4.1 Research strategy

Babbie (1986) explained that survey research strategy is used for descriptive and explanatory purposes. Meaning that a situation is fully described and explained in details base on what is existing. According to Ifidon and Ifidon (2007) a survey research gathers data from a population in order to determine the current statues of that population with respect to one or more variable. It does not focus on individual as an entity but generalizes statistic realized when data are abstracted from a number of individuals cases. It is characterized by selecting

samples from a population and findings obtained are used to generalize the population. Survey research is also directed towards different people to know their feeling, opinion, belief and attitude regarding an issue, policy or service. Ndagi (1984) defines survey research as a research concerned with the collection of data for the purpose of describing and interpreting existing conditions, prevailing practices, beliefs and attitudes on ongoing process.

Yin (1994), Identified five research strategies in social science base on three conditions:

1) Form of research questions
2) Control over behavioral event and
3) Focus on the contemporary events.

These strategies are experiments, surveys, archival analyses, historical and case studies. The survey strategy is most appropriate to this study since the study is after descriptive of the situation of funding and acquisition policy.

4.2 Population of the study

At an early stage in the planning of any investigation decisions must be made concerning the study population. That is, concerning the population of individual units (whether they are persons, households, etc.) to be investigated. The population under consideration should be clearly and explicitly defined in terms of place, time, and other relevant criteria. If the study population comprises cases of a disease the procedures to be used for case identification should be stated (Degu, G. &Yigzaw, T. 2006).

The population for this study is federal college of education, Zaria. The choice of this college was made because both federal colleges have common characteristics of funding. The target group for the study will be made up of the college librarian, system librarians and professional librarians in the federal college of education, Zaria.

4.3 Sample and Sampling Techniques

A Sample is a segment of the population selected to represent the population as a whole. Ideally, the sample should be representative and allow the researcher to make accurate estimates of the thoughts and behavior of the larger population. According to research

methodology for private circulation (RMPC, n.d) ascertain that designing the sample calls for three decisions:

1) Who will be surveyed? (The Sample) The researcher must determine what type of information is needed and who is most likely to have it.

2) How many people will be surveyed? (Sample Size) Large samples give more reliable results than small samples. However it is not necessary to sample the entire target population.

3) How should the sample be chosen? (Sampling) Sample members may be chosen from the entire population.

The non probability sampling (Convenience sample) will be adapted to this study the researcher selects the easiest population members from which to obtain information.

With regards to the category of the entire population of the study, this is made of federal college of education, Zaria. The college library forms the sample of the study. Therefore, with respect to the study, all the staff that involved in the management and budgeting for acquisition of information resources in the federal college of education will be used. These include the College Librarian, system Librarians and professional librarians. The justification of this subject of study is based on the fact that; college librarian system librarians and professional librarians play a role as the custodians/personnel running the day to day affairs of the acquisition information resources and services in library. While the inclusion of the college librarian as part of the respondents is simply based upon their judicious roles as the chief administrators of the college library. They are also aware of funding situation and managers of the information resources.

Table 4.1 distribution of sampled respondents by college library

S/N	**Type of College**	**College Library**	**College Librarian**	**System Librarian**	**Professiona l librarian**	**Total**
1	Federal	College Library, FCE, Zaria.	1	9	20	30

4.4 Instruments for Data Collection

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. A questionnaire consists of a set of questions presented to a respondent for answers. The respondents read the questions, interpret what is expected and then write down the answers themselves. Because there are many ways of asking questions, the questionnaire is very flexible. Questionnaire should be developed and tested carefully before being used on a large scale. There are three basic types of questionnaire: Closed – ended, Open-ended and Combination of both (RMPC, n.d.). Combination of both will be used in this study so that it will give the respondents chance to express their opinion.

The researcher feels that the questionnaire is of standard and adequate to provide the data needed for the research. Ihanacho (2004) explained that questionnaire as a survey research instrument is designed in question form to obtain feedback information from subjects with respect to their opinions, attitudes beliefs and motives regarding a situation. Questionnaire was used to collect the data because of its relevance and the researcher knew that this method could only be used for getting information from the staff of the Federal College of Education library, Zaria. It is set out to gather factual information in an enquiry form through which the respondents answer the questions or respond to statements in writing.

4.4.1 Questionnaire

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. Kothari, (2004), observed that collecting the data in dealing with any real life problem it is often found that data at hand are inadequate, and hence, it becomes necessary to collect data that are appropriate. There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources at the disposal of the researcher. Primary data can be collected either through experiment or through survey. If the researcher conducts an experiment, he observes some quantitative measurements, of the data, with the help of which he examines the truth contained in his hypothesis. But in the case of a survey, data can be collected by any one or more of the

following ways: observation, personal interview, telephone interviews, through schedules and mailing of questionnaires the researcher and the respondents do come in contact with each other on this method of survey that will be adopted. The research will be adopted mail questionnaire due to the nature of research and advantage of the instrument. Some of the advantages of mail questionnaire are:

z) It can be used to collect large amounts of information at a low cost per respondent.

aa) Respondents may give more honest answers to personal questions on a mail questionnaire

bb) No interviewer is involved to bias the respondent's answers.

cc) Convenient for respondent's who can answer when they have time

dd) Good way to reach people who often travel (RMPC, n.d.).

Questionnaires are mailed to the respondents with a request to return after completing the same. It is the most extensively used method in various economic and business surveys. Before applying this method, usually a Pilot Study is been tested the questionnaire is conduced which reveals the weaknesses, if any, of the questionnaire. Questionnaire to be used must be prepared very carefully so that it may prove to be effective in collecting the relevant information (Kothari, 2004).

The questionnaire is divided these sections. Section A: Demographic data of the respondents; which includes division, unit, ranks and years of working experience. Section B: Funding policy in College Library. Section C: Acquisition Policy in College Library. Section D: Adequacy of the provision of Funding on Acquisition. Section E: Sources of Funding information resources and section F: Satisfaction of Acquisition Information Resources.

4.5 Validity of the Instrument

According to Degu, G. &Yigzaw, T. (2006), validity refers to the degree of closeness between a measurement and the true value of what is being measured. Validity addresses the question, how close is the measured value to the true value? To be accurate, a measuring device must be both valid and reliable. However, if one cannot have both, validity

is more important in situations when we are interested in the absolute value of what is being measured.

In order to ensure the validity of the questionnaire used in data collection, it would be subjected to validation**.** Kerlinger (1973) asserts that validation by others is an effective method for face validation of any instrument used for research. In this regard, the kind of validation used was that of making a draft copy of the questionnaire available to experts for checking, observing, correction and amendment. Two thesis supervisors and three other academic staff of Cairo University, Egypt were chosen for the validation of the questionnaire. Mohammed (2005) notes that comment by such experts enable the researcher to review and revise the instrument for greater effectiveness before administering it.

4.6 Reliability of the Instrument

According to Degu, G. &Yigzaw, T. (2006), Reliability on the other hand is more important when it is not essential to know the absolute value, but rather we are interested in finding out if there is a trend, or to rank values. Reliability refers to the repeatability of a measure, i.e., the degree of closeness between repeated measurements of the same value. Reliability addresses the question, if the same thing is measured several times, how close are the measurements to each other?

According to Bryman (2008) reliability of instrument is very important as it deals with consistency, stability and detail treatment of issues using appropriate techniques. The reliability of the instrument was established by conducting a pilot study within two week at the Cairo University, Cairo Egypt. The choice of this university is made because it did not form part of the scope of the study. To ensure that the instrument was reliable, a pre-test was conducted using library staff in the same university (Cairo University) which was not included in the study.

4.7 Procedure for Data Collection

Having decided on how to design the research study, the next methodological design is how to collect information. The most commonly used methods of collecting information (quantitative data) are the use of documentary sources, interviews and self-

administered questionnaires. Data collection methods are time consuming and consequently data is collected from smaller numbers of people than would usually be the case in quantitative approaches such as the questionnaire survey. The benefits of using these approaches include richness of data and deeper insight into the phenomena under study. (Degu, G. &Yigzaw, T., 2006),

The researcher administered and collected the questionnaires through Email as research assistant to all the respondents. In this process the researcher solicited the cooperation of the authority of the college of education library staff, which was done within one week. An additional two weeks were also given to the respondents so as to facilitate completion of the instrument. The administration of the instrument was conducted under strict confidentiality as the respondents were assured that their responses would be treated confidentially and for the purpose of the study alone.

4.8 Procedure for Data Analysis

Kothari, (2004), explained that the data, after collection, has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan. This is essential for a scientific study and for ensuring that we have all relevant data for making contemplated comparisons and analysis. Technically speaking, processing implies editing, coding, classification and tabulation of collected data so that they are amenable to analysis. The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data-groups. Thus, "in the process of analysis, relationships or differences supporting or conflicting with original or new hypotheses should be subjected to statistical tests of significance to determine with what validity data can be said to indicate any conclusions. When a mass of data has been assembled, it becomes necessary for the researcher to arrange the same in some kind of concise and logical order. This procedure is referred to as tabulation. Thus, tabulation is the process of summarizing raw data and displaying the same in compact form (i.e., in the form of statistical tables) for further analysis. In a broader sense, tabulation is an orderly arrangement of data in columns and rows. Tabulation is essential because of the following reasons.

1. It conserves space and reduces explanatory and descriptive statement to a minimum.

2. It facilitates the process of comparison.

3. It facilitates the summation of items and the detection of errors and omissions.

4. It provides a basis for various statistical computations (Kothari, 2004).

Nworgo, (2006) added that analysis of data is a process of infecting, cleaning, transforming and modeling data with the goal of highlighting useful information, suggestion, conclusion and supporting decision making. Data has multiple facts and approach, encompassing diverse technique under a variety of names, in different business, science and social science domains. This research adopted logical analysis method; it is an outline of generalizing causation using flow chat diagram, table, frequencies and percentages. The data would be presented in tabular and chart form to show the responses of each category of respondent.

CHAPTER FIVE

5.0 Theoretical Frame Work and Finding

5.1 The College Library as Academic Library

The tertiary education sector in Nigeria is made up of three categories of institutions (JAMB, 2012). These are Universities, Polytechnics/Colleges of Technology and Colleges of Education (CoE). Various legislative enactments have established distinct roles for each of these higher institutions. The Universities produce highly-skilled manpower in diverse disciplines at the undergraduate and graduate levels while Colleges of Education specifically train teachers for pre-primary, primary and junior secondary schools. On the other hand, Polytechnics were originally established to provide middle-level manpower to drive the economy and further the country's technological-cum-scientific aspirations. Liberalization of Nigeria's tertiary education sector has brought about an unprecedented increase in the number of post-secondary educational institutions arising from the involvement of Federal and State Governments, as well as, private organizations. Presently, Nigeria has 108 Universities, 81 Polytechnics, and 109 Colleges of Education approved by various regulatory agencies (JAMB, 2012).

As with other climes, tertiary educational institutions in Nigeria are involved in several degrees of teaching, research, dissemination of knowledge and community development. These tasks are accomplished, largely, through various institutional libraries (popularly called academic libraries), lecture halls, laboratories and workshops. Fafunwa (1994) sees libraries in tertiary institutions as crucial centres in the educational development of man and his environment. This, perhaps, explains why the National Universities Commission (NUC), National Board for Technical Education (NBTE), and National Commission for Colleges of Education (NCCE), which supervise the three arms of the tertiary education sector in Nigeria, insist on the provision of purpose-built, well-equipped, information resource-rich and adequately staffed libraries, as a pre-condition for approval of these institutions and accreditation of courses offered in them (Nnadozie, 2013).

Academic libraries are those attached to universities, polytechnics, college of educations and other similar institutions of higher learning. The importance of funding in providing quality library service cannot be overemphasized. It is the glue that holds the

building, collection and staff together and allows the library to attain its goals. As such, money can be considered the soul of the library. Inadequate funds impede the effectiveness of any library (Anafulu, 1997).

5.2 Funding College Library

Funding models for academic libraries vary greatly, depending on whether the institution is private or public, a particular state's budgetary regulations and funding formulas for higher education and the overall budgetary situation of each university. American Library Association (2006) stated that Academic Library budgets are allocated by the central University Administration based on historic formulas or outdated needs, and libraries follow their institutional policies and mandates regarding budgets. Occasionally, an institution provides funding for its library through individual colleges and departments instead of centrally setting the library budget. In that case, each department or University' unit decides whether or not to fund the library each year based on satisfactory library services as well as need. In most cases, academic library budgets are not allocated separately from the University budgets. For some libraries, budget is allocated partially for acquisition, while other aspects such as staff and furniture are part of the University budget. This arrangement does not meet the library needs (Hisle, 2002).

Contemporary economic realities clearly show that the challenge of diminished funding is exacerbated by inflationary spirals which have diminished the purchasing power of libraries worldwide (Ananwu and Akanwa, 2001). This is in the midst of increasing output of published, unpublished and digitized information sources, as well as, Information and Communication Technology (ICT). As a result, the cost of scholarly information held by academic libraries to support teaching, research and publication continues to increase at an exponential rate. This dwindling library vote, nay, reduced purchasing power, is exacerbated in the developing countries, by an alarming external debt profile (CBN, 1996, and Kalu, 1999), the ongoing devaluation of their national currencies and other austerity measures (Anyanwu and Akanwa, 2001). Added to the foregoing is Ford's (1991) time-honoured reminder that in the higher education sector, academic libraries compete with teaching departments, administrative services and students union for share of their institutions' budget.

The present financial strait into which Nigerian Academic Libraries has fallen is a sharp contrast with the situation during the oil boom era 1in the 1970s. During the oil boom decade, adequate fund was made available to academic and other libraries in the country from revenue that was flowing into the country's treasury through crude oil sales. This reflected in construction of imposing library buildings; increased frequency of acquisitions; as well as, quality and quantity of new books, journals; and other scholarly publications. However, the decline of Nigeria's economy, which became evident from the early 1980s, naturally took enormous tolls on the funding of these libraries. As governmental financial receipts declined, the once booming economy nose-dived and, as a consequence, it became increasingly difficult to access ample funds for libraries, education and other social services. The decline in the funding of Nigerian Academic Libraries has not improved significantly since the country's economic crises of the early 1980s (Anyanwu and Akanwa, 2001).

For libraries in Nigeria's tertiary institutions to discharge, creditably, their unique and vital roles, adequate funds must be made available. The reality, which is rather disappointing, is that most of those academic libraries receive far less funding than the percentage usually approved for them by both overseeing government ministry/department and the educational institutions under which these libraries operate. Various efforts to arrest the declining financial fortunes of academic and other libraries in Nigeria are replete in the country's library literature (Anafulu, 1997; Zakari, 1997; Okiy, 2005, Akpohonor, 2005, etc). Worthy of note is the fact that some of these suggestions come from outside the library community (Yabani, 1997 and Fafunwa, 1998). For instance, the allocation of 10% of the recurring annual budget of Nigeria's tertiary education institutions for library services was championed by Universities. This funding arrangement was concretized in a 1992 agreement between the Academic Staff Union of Universities (ASUU) and the Federal Government (Okiy, 2005). The policy has now been adopted by Polytechnics and Colleges of Education which make up the other strata of Nigeria's tertiary education sector. However, the inability of most executives of these tertiary institutions to adhere strictly to this policy continues to constrict and erode the capacity of their libraries to access funds for their services, as well as, recurrent and capital projects. This regrettable situation was captured succinctly in a memo which showed that the 10% of the country's Polytechnic recurrent grant set aside annually for

funding of libraries, procurement of equipment and collection development; has not been implemented by most institutions (Yabani, 1995). More than a decade later, this unsatisfactory funding regime, which cuts across the different categories of academic libraries in Nigeria, has not changed (Akporhonor, 2005). There are also instances where library funds are diverted to non-library projects by chief executives without the consent of the management of their institution's libraries (Zakari, 1997).

Besides, the extensive financial interventions of the Education Trust Fund (ETF) now Tertiary Education Trust Fund (TET-Fund) have not been enough to singularly revive the fortune of Nigeria's Academic Libraries. This accounts for the present situation in which "…journal subscriptions have been halted while the collections can no longer support the research and teaching needs of the faculty and students (Bassi, Camble and Merimon, 2007). In an era of information explosion, Nigerian Academic Libraries lack the enormous financial outlay unsatisfactory funding regime, which cuts across the different categories of academic libraries in Nigeria, has not changed (Akporhonor, 2005). There are also instances where library funds are diverted to non-library projects by chief executives without the consent of the management of their institution's libraries (Zakari, 1997). Besides, the extensive financial interventions of the Education Trust Fund (ETF) now Tertiary Education Trust Fund (TET-Fund) have not been enough to singularly revive the fortune of Nigeria's Academic Libraries. This accounts for the present situation in which "…journal subscriptions have been halted while the collections can no longer support the research and teaching needs of the faculty and students (Bassi, Camble and Merimon, 2007). In an era of information explosion, Nigerian Academic Libraries lack the enormous financial outlay required to provide scholars and researchers a wide range of communication technologies necessary for quick retrieval of information from immediate and remote databases. They cannot design modern information services, maintain the buildings, service equipment, train staff and pay electricity bills, amongst other recurrent expenditures. Inadequate funding is also responsible for the inability of most academic libraries in the country to install telecommunications facilities like computers, Internet, V-SAT and other gadgets required for the execution of library networking, resource-sharing and consortium initiatives (Nnadozie, 2013).

5.3 Main Sources of Funding College Library

Nigerian academic and research libraries derive the major part of their financial support from the government. Ifidon (1990) found that academic libraries derive the greatest part of their funds from their universities, whose major sources of financial support is the government. Of all the different types of libraries in Nigeria, only academic libraries have a clearly- defined policy on funding. They are allocated 10 percent of the recurring annual budget of their parent institutions, a result of the Federal Government and Academic Staff Union of Universities agreement of 1992 (Okiy, 2005). Funds for library and information services are traditionally derived from the library proprietor. The extent of such revenue varies from fixed fraction of received grant to ad-hoc arrangement (Edoka, 1992). The 2013 budget allocation made by the federal ministry of education shown that the federal college of education, zaria has received a reasonable amount witch wasn't enough to sustain the library needs. The budget has a code 0517019019 with MDA federal college of education, zaria, total personnel cost ₦3,531,412,199, total overhead cost ₦93,464,530, total recurrent ₦3,624,876,729, total capital ₦244,285,714, and total allocation ₦3,869,162,444. Which means the library will receive the sum of ₦33775024.5 that is the ten percent of ₦337750245 after deduction of the personnel cost out of the total allocation (FME Budget, 2013).

Education Trust Fund (formerly Education Tax Fund) also came into existence as a result of ASUU/FG negotiations of 1992. The fund was established under Education Tax Act No. 7 of 1993 and amended by Act No 40 of 1998, with the objective of using funds that accrue to it to improve the quality of education in Nigeria (Saidu, 2006). Companies are mandated by law to pay 2 percent of their profit before tax to ETF. The body has been managing the fund for developmental projects and library acquisitions at various educational levels in the nation. ETF gave universities a free hand to acquire textbooks and other materials according to their needs. Each university library would submit its selection list and the publisher's catalogue for approval at ETF Head Office in Abuja. University libraries also have a free hand to choose their procurement agents or vendors. Thereafter, 80 percent of the money approved by ETF for each university library per annum will be given to it as part-payment and after auditing by ETF officials, the 20 percent balance would be paid to the procurement agent (Akindojutimi, 2010).

5.4 Alternative Sources of Funding College Library

There is no doubt that the Nigerian economy is not as developed and buoyant as those of the big industrialized countries. This underdeveloped economy, undoubtedly, affects the volume of funds available to manage academic libraries in the country. However, prudent management of available financial resources, efficient fund administration and fiscal discipline can help generate the funds required for library services in Nigerian tertiary educational institutions. The failures of existing funding arrangements call for radical fund-raising measures. A few of these alternative sources of funds, which are recommended in the ensuing paragraphs, might appear weird. But, such unconventional but practical funding options, if considered and implemented, hold bright prospects for the provision of the enormous financial resources required for qualitative library services in Nigerian higher educational institutions. Although the proprietors of tertiary institutions in Nigeria have not funded their academic libraries adequately (Ubogu and Okiy, 2011), the present precarious financial state of these libraries is also a clear indication that heads of libraries have not effectively harnessed these libraries' revenue-yielding potentials. This means that there are several money-spinning ventures which have not been appropriated by the managers Nigerian Academic Libraries. A few instances will suffice: Nigerian Academic Libraries can generate sizeable revenue by establishing well-equipped, properly-managed and profit-oriented bindery services. If managers (i.e. Head Librarian) of these academic libraries are pro-active, they can lobby and influence the leadership of their parent institutions to generate a policy mandating all graduating students to bind their project reports, theses or dissertations in the bindery of their institution's library. An efficient bindery operated by an academic library can also generate additional revenue through patronage from outside the institution. The revenue-yielding potential of well-managed bindery services in an academic library is enormous considering the large number of primary patron i.e graduating students. Its success, however, depends on the creativity of the Head Librarians, as well as, strong policy back-up from the parent institution.

Launching of Endowment Funds is another source of income which has not been tapped by academic libraries in Nigeria. Endowments are a form of benefaction in which

philanthropic individuals and corporate organizations provide a permanent means of financial support for a particular project. Heads of these academic libraries can borrow a leaf from industrialized Western societies where funds have been specifically endowment for the development of academic libraries. Although this practice has not gained grounds in Nigeria, its rarity does not diminish the success stories of endowments made to specific academic libraries in different parts of Africa (Ifidon and Ifidon, 2007: 123 – 124). Resourceful academic libraries in Nigeria can, therefore, reach-out to both local and foreign well-to-do individuals, corporate bodies and nongovernmental organizations (NGOs). Through targeted lobbying and sensitization, these groups could be persuaded or encouraged to endow a significant proportion of their wealth to support the services of specific libraries in tertiary institutions of learning. The reprographic/photocopying services found in almost all academic libraries in Nigeria can be redesigned to make it easier to determine the amount or receipts accruing from the venture. The point is that it is possible for libraries to break away from the usual piecemeal receipts from reprographic services. The space/accommodation for reprographic/photographic services can be leased to private operators for an agreed fee payable at predetermined intervals.

Henceforth, Under this novel arrangement, revenue received by academic libraries from the lease of space for photocopying service would come as lump sums at agreed intervals which can be re-invested in specific projects or services. This makes for accountability because the income would be both steady and easily verifiable. Besides, managers of these academic libraries are saved the headache of staff supervision, incessant breakdown of machines, funding of repairs and sundry hassles that accompany photocopying services, especially in the midst of staff shortages. Heavy fines should be levied on overdue books to serve both as deterrent for other defaulters, as well as, boost the revenue base of these academic libraries. Charges can also be imposed on outside borrowers and other users who are neither staff nor students of the institution to which the library belongs. Another potential source of income which managers of academic libraries should explore is charging of fixed amounts for the use of the libraries' electronic databases and special collections like reserve books, historical collections (incunabular) and core reference materials. Specific levies can also be imposed on the use of project reports, theses, dissertations and related unpublished but

vital primary sources of data in the holdings of Nigerian Academic Libraries. This policy has enormous potential for revenue-generation since these unpublished materials are, unarguably, among the most sought-after in these libraries.

Furthermore, management and staff of Nigerian Academic Libraries can attract funds from the public by sensitizing religious groups (especially, Christians and Moslems) and philanthropic organizations/individuals on the centrality of libraries in tertiary education and the need to contribute to their funding and sustenance, through cash donators, grants and bequeaths. This should be achieved using sustained publicity in both print and electronic media. There is no doubt that effective mobilization will ignite public interest in academic libraries and spur kindhearted rich individuals to donate to improve services of academic libraries.

An Emergency Educational Infrastructure Intervention (EEII) Fund Act is hereby proposed for enactment by the Nigeria's National Assembly. The EEII Fund would be different from the Tertiary Education Trust Fund (TET-Fund) in the sense that while the later is permanent, the former would be an ad-hoc levy that would last for a period not less than 5 years but not more than 10 years. Besides, unlike the TET-Fund, contributions to the EEII Fund would be drawn from specific sectors of the Nigerian economy. This bold recommendation is clearly on the understanding that serious problems require radical approaches for their solution. To actualize the EEII Fund, companies in the telecommunications, banking, insurance, mining and construction sectors, as well as, the Customs and Excise Service, would be required to contribute 2% of their gross profit annually to the pool for the period of the emergency. To avoid multiple taxation which is a disincentive to investment, firms in the nation's oil and gas sector, which are already contributing to the Petroleum Development Trust Fund (PDTF), would be exempted from the envisaged EEII Fund. While the general intention is to use the EEII Fund solely for the development of infrastructure in Nigeria's educational institutions, the specific objective is that five percent (5%) of the Fund would be dedicated to library services in each of Universities, Polytechnics and Colleges of Education, respectively. Implementation of this proposal would bring about a remarkable improvement in the funding situation in Nigerian Academic Libraries. This will result in 15% of the EEII Fund being dedicated solely to academic libraries in government-

approved tertiary institutions which will alleviate the financial difficulties of these libraries if prudently utilized. Besides, the statutory allocations which the TET-Fund gives to academic libraries in the country's public tertiary schools should be reviewed upwards to reflect the prevailing economic realities, as well as, enable these libraries undertake bigger capital projects in the discharge of their core mandate. It is obvious that an overwhelming percentage of the manpower needs of the Organized Private Sector (OPS) in Nigeria are supplied by indigenous tertiary institutions of learning (Ohuabunwa, 2013). A relationship, therefore, exists which can be leveraged by a pro-active head of an academic library to the advantage of his library. In that case, the OPS in Nigeria could be mobilized to contribute towards the funding of library services in the country's tertiary institutions. Through sustained sensitization, advocacy and collaborations, an effective arrangement could be worked out, through which the OPS would either set up permanent endowment funds or make periodic financial grants to sustain library services in Nigerian Universities, Polytechnics and Colleges of Education. A special Library Development Fee (LDF), payable annually, should be levied on every student in Nigerian tertiary education institutions. This yearly levy of N2000 per student is subject to review every five years to reflect prevailing economic realities. To avoid unnecessary administrative bottlenecks and sundry issues likely to obstruct easy access to the money by library administrators, students should pay the proposed LDF into a dedicated account of their respective institutional libraries. This account should be managed by either of University, Polytechnic or College Librarians, as the case may be. Since knowledge of lobbying techniques is useful in promoting library needs in the midst of competing priorities (Meraz, 2002).

Administrators of Nigerian Academic Libraries should device ways of securing funds through beneficial collaborations and establishment of specific roles for each of alumni associations, philanthropists and even, Students' Union Governments (SUG). Helmsmen of these academic libraries, who go the extra mile to sensitize their institutions' Parent's Association, and other critical stakeholders of the central role of library services, can also raise substantial amounts of fund for library services.

The Public Procurement Act, enacted by the Federal Government of Nigeria, should be amended. The proposed amendment should to insert a clause compelling companies

executing contracts or other businesses in Nigerian tertiary institutions, to donate a stipulated fraction or percentage of their net profit from such transactions, for library services in the benefactor-institutions. In addition to the normal professional competence, the size of contract/business could be tied to the volume of financial assistance which the contractor is willing to give for the institution's library services. This is a sure way of making the concept of Corporate Social Responsibility (CSR) relevant to the provision and funding of library services in various tertiary educational institutions in the country. Although the Petroleum Technology Development Fund (PTDF) was established, originally to, among other things, accelerate the development of indigenous manpower for Nigeria's vital oil and gas industry, it can, nevertheless, carve out a role for itself in the funding of Nigerian Academic Libraries. The PTDF can do this by making funds available to libraries in tertiary educational institutions that offer programmes in petroleum and engineering-related disciplines. Such assistance could be in the form of periodic financial grants, defrayal of procurement cost of study materials, installation of ICT components and purchase of other library equipments. In the conventional tertiary institutions, the PTDF can intervene in the purchase of science books and journals or tie any financial assistance to the procurement of these science-based information materials (Nnadozie, 2013).

5.5 Adequacy of Funding College Library

Nnadozie, (2013), explained that the Federal Government of Nigeria evidently recognizes the important roles library play in education and research through provision of information services as recommended by the National Universities Commission (NUC), hence it recommends that a minimum of 10% of each university's recurrent budget be spent on the development of their libraries. The instrument further stipulates that 60% of the allocation be committed to the purchase of books and journals, while 40% is set aside for personal emoluments and purchase of goods and services in the library. The fund is expected to be paid into a separate account from the normal universities funds (Omoregbe, 1998).

However, Stephen (1999) observed that there was no full compliance with these financial guidelines. This is obvious when it is realised that only 2% of the national budget is allocated to education as against 26% recommended by the UNESCO. While the Federal

government sponsors and finances federal universities, the state-owned universities are financed by the State Governments. Ifidon (2006) remarked that state university libraries are more cash strapped than their federal counterparts. In view of this appalling situation, the Federal government has in the past sought the assistance of foreign multilateral organizations such as the World Bank for credit facilities to improve education in the country. One of them was the $120 million loan secured from the World Bank for the development of federal owned universities in 1989 out of which $37.1 million was allocated for the acquisition of library books and subscription journals. Similarly, between 2001 and 2002, some of the proceeds from the oil sector as initiated by the Petroleum (Special) Trust Fund (PTF) were spent on purchase of books for libraries. In 1993 the Federal government extended the intervention to the State universities through the European Economic Commission (EEC) agency to increase the quality of state-owned university library resources. However, while the World Bank Loan (WBL) was confirmed to be truly an effective lifeline to the federal university libraries, Odusanya and Osinulu (2004) regretted that the EEC intervention project to the state universities failed as a result of political logjam in the nation.

Consequently, the failure of donor agencies and government constant neglect of library development owing to low budgetary allocation informed the Academic Staff Union of Universities to demand for urgent intervention from the government. This gave birth to the Education Trust Fund (ETF) now changed to Tertiary Education Trust Fund (TETF). Funding agencies are bodies established either by the government, individuals or nongovernmental organizations (NGO) to render assistance to people/organizations to alleviate poverty or suffering in one area or the other that require immediate attention. Ifidon (2006) classified these agencies into national and international. An example of a national donor agency is the Tertiary Education Trust Fund (TETFUND) which is the focus of this paper. The antecedent of the agency can be traced to the 1992 agreement between the Academic Staff Union of Universities (ASUU) and the Federal Government to enhance financial input into the educational system and improve the quality of education in Nigeria. The Education Trust Fund (ETF) recently rechristened Tertiary Education Trust Fund was set up under the Education Tax Act No. 7 of 1993 as amended by Act No. 40 of 1998. It has the mandate and objective of using funding with project management to improve the quality of education in Nigeria. The

law setting up the fund stipulates that 2% education tax be imposed on the profits of all registered companies and banks in Nigeria (Nnadozie, 2013). Its specific objectives include the following:

a) provision of funding for educational facilities and infrastructural development;
b) promotion of creative and innovative approaches to education;
c) stimulating support and enhancing improvement of activities in educational foundation and library development;

Agunbiade (2006) highlights various library projects that have been funded by the TETF under its library development programme to include the following:

a) Computerization of libraries;
b) Provision of books, journals and reading materials;
c) Provision of equipment, e.g. binding materials and bindery equipment etc., and
d) Provision of library buildings in some cases (Osinulu & Daramola, 2013).

5.6 Fund Utilization and Management

Nnadozie, (2013), suggested that Since the main sources of funding has clear ways in managing by the library management, but these alternative sources of funds, should be accepted by relevant authorities in Nigeria, and strictly implemented by managers of academic libraries. It is only then that these funding options would engender a reasonably steady inflow of revenue into Nigerian Academic Libraries. Whilst this is the desired outcome, the attendant challenge of efficient and prudent fund husbandry should not be overlooked. It is, therefore, necessary to set up a clear mechanism. For accountability and other aspects of fund management in these academic libraries, there is certainly no exaggerating the fact that fund management is as important as its generation. Receipts from the proposed EEII Fund should be paid into a central pool/account, to be domiciled in a commercial bank to attract interest. A Management Committee would be established to, among other things, oversee the EEII Fund, work out equitable sharing formulae for all academic libraries in the country and ensure that release of the allotment of each beneficiary-library is made as when due. Each beneficiary-academic library is expected to create a functional Accounts Unit/Desk and open a dedicated

account into which receipts from the EEII Fund and other funding options (i.e. PTDF, OPS, LDF, SUG, etc) would be paid. Although funds for these academic libraries would be directly controlled by library administrators, there would be close monitoring by management of their parent institutions to ensure effective application, and periodic retirement, of such funds.

As part of the foregoing regulatory framework, an annual audited account of funds received by these academic libraries should be submitted to the Executive Secretaries of National Universities Commission NUC), National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE). Respectively through various Vice Chancellors/Presidents, Rectors and Provosts, Administrators or heads of academic libraries in Nigeria should provide for their benefactors, detailed report of projects on which financial grants and other cash donations received from them were expended. Further receipt of funds and financial assistance from statutory government agencies should be tied to successful retirement of funds already received. The retirement of funds must be made within a stipulated timeframe. Such feedback mechanism and openness in fund administration would engender confidence between both parties with the potential for more monetary assistance in future. Legislation should be enacted with provisions making delays in release of approved votes, as well as, misapplication of such funds, a punishable economic offence. Such infractions should be investigated and prosecuted in courts by the Economic and Financial Crimes Commission (EFCC), Independent Corrupt Practices and Related Offences Commission (ICPC) and Code of Conduct Bureau (CCB) which are Nigeria's anti-corruption agencies. These strict measures would ensure that funds appropriated for library services in Nigerian tertiary institutions are used for the intended purposes. Besides, heads of these libraries would have both direct access to their funds and a reasonable measure of autonomy in fund administration (Nnadozie, 2013).

5.7 Problem of Funding in College Library

Academic Libraries in Nigeria is not adequately funded. The fate of academic libraries is not different as funding for this library, which comes largely from their parent institutions and ETF, now TET-Fund, has not been sufficient. As the purchasing power of revenue accruing to different levels/tiers of government in Nigeria continues to diminish,

responsibilities and obligations of these governments continue to expand. This has severely limited the amount of money available for the capital and recurrent expenses of the country's academic libraries, amongst other educational and social services. It is, therefore, very clear, as captured in Nigerian library literature that academic libraries in the country cannot continue to rely on the present sporadic and insufficient budgetary allocations by government through their parent institutions. In line with the foregoing, some income-generating ventures have been identified, which if implemented, would yield the additional financial resource required to meet the increasingly complex demand of library services in 21st Century tertiary institutions (Nnadozie, 2013).

5.8 Concept of Information Resources

Kulani, (2011), explained Information as data presented in a comprehensible form and which makes meaning to the recipient. In other words, it is a message conveyed by the use of a medium of communication or expression. Information can be referred to as facts, conclusion, and ideas creative works of human intellect and imagination which might have been communicated formally or informally in any form. Reitz (2004) refers information as opinion provided or received during the course of daily life.

Ray Prytherch (2000) defined resource development as: "the process of planning a stock acquisition programme not simply to carter for the immediate needs, but to build coherent and reliable resources over a number of years to meet the objective of services" Librarians usually build or assemble their collections or resources through a combination of strategies.

5.8.1 Types of Information Resources

Information resources are the tools with which library services are performed. They include books, microforms, tapes, computers and dairies among others. The importance of library materials can be seen from the fact that if they are removed, the library ceases to exist as what will be left is only a building. The library is made up of both the building and the materials and none of them can function effectively without the other. There are many types of

information resources available for use in libraries. They are usually categorized into two forms of print and non-print materials (Kulani, 2011)

5.8.1.1Print Information Resources

Print information resources in the library are those items that are printed on paper which appear in book form. The uses of these materials must be able to read as that is the only way print materials can be used. Print materials consist of the following:

a) Book: A book is a print material printed and often bound in one or more volumes. It may be written by one or more individual persons or corporate bodies.

b) Dictionary: This is another reference material and it lists words or terms of general or particular subject, profession, usually providing certain basic information about them. Dictionaries are also arranged in an alphabetical order. Some of the basic information which a dictionary provides are words and terms include their meanings, spellings, origin, pronunciation, use and abbreviations among others. There are both general and subject dictionaries. Examples include: Advanced Learners Dictionary, Longman Contemporary English Language Dictionary.

c) Directory: is a reference material that lists persons, companies, institutions and organizations giving their names and addresses. There are directories for telephone services, government parastatals, trade and business, example Nitel Telephone Directory.

d) Almanacs and year books: are yet other types of reference book. These two perform the same function or role of covering activities and events within a period of one year and presenting them in descriptive and or statistical form. Topics covered are politics, economy, business, culture, education, music, science and sports statesman's yearbook, Whitaker's Almanac and Nigerian year book are examples of Almanacs and year books.

e) Handbooks and manuals: are reference books that provide relevant information in a concise form on different aspects of knowledge. An example includes Guinness Book of World Records. Other types of reference books include abstracts, indexes, gazettes, gazetteers, biographies and bibliographies.

f) Serials/ Periodicals: These are information resources published in successive parts (daily, weekly, monthly, quarterly or annually) and intended to be continued indefinitely, serials are also called periodicals and they are considered essentials in libraries. Examples of serials include journals, newspapers and magazines.

g) Government Publications: These include all official documents published by all levels of government (local, state and federal). In addition to these are documents emanating from international organizations such as the United Nations and its agencies, African Union (AU), Economic Community of West African States (ECOWAS), Organization of Islamic Countries (OIC) and Organization of Petroleum Exporting Countries (OPEC). Documents ranked as government publications are published laws, acts of parliament. Military decrees, state edicts, by-laws, constitutions of countries, correspondences between the three arms of government, books are pamphlets emanating from government.

h) Maps and Atlases: These are another type of print resources available in libraries; maps are drawings and illustrations of the earth's surface usually showing countries, rivers, seas, lakes and mountains. On the other hand an atlas is a collection of maps.

i) Pamphlets and Clippings: A pamphlet or a piece of writing appearing with soft covers that deals with an issue of current interest. It is usually less than 50 pages. Clippings which are pieces of paper cut out from newspapers or magazines. Clippings which are also called cuttings contain very important information of current interest such as job advertisement.

j) Manuscripts: These are books or paper writing by hand or with a typewriter intended for publication. It is from a manuscript that books are subsequently published.

5.8.1.2 Non-print Information Resources

These are library materials that are not printed on paper. They come in forms other than in book form and are also called non-book materials or audio-visual materials. Some of them are listened to, some are viewed while others can be both listened to and viewed. Non-print information resources being products of the new information technology cannot be used on their own like books, rather they require certain equipment to facilitate their use. The non-print information resources include electronic resources, audio, visual and audiovisual.

b) Electronic Information Resources: Libraries are providing information to its user. Earlier it was in the form of reference service which is more concern with provision of information on demand, but information services lays emphasis on providing information in anticipation. In information services emphasis is to provide information rather than providing only document. It is an attempt to provide exact information not just directing to the material. Ultimately, the librarian is not waiting for the user, but goes ahead with the job. With the advent of ICT, libraries implement it in providing information services too, which introduces the concept of 'Digital Information Services'. Digital Information Services in the libraries includes all electronic information resources organized for services, as well as computerized and networked online resources accessed through libraries.

Electronic Information Resources includes e-books, e-journals, CDs, DVDs and databases, etc. Computerized and networked online resources – several reputed and authentic sources are available on the Internet. The convenience of accessing remote information through WWW has resulted in popularity for WWW. Hence, most of organizations, publishers, open archive initiatives have forward to put their information content on web. The convergence of computer, telecommunication, information and multimedia has helped in the development of electronic information services. Electronic information services provides a wide array of services to assist members of the library with organizing collection of material or making them more widely available (Choughule, 2007). Following are some of the electronic information services

1. Electronic Table of content service
2. Full text access to electronic journals
3. Current awareness services
4. Electronic document delivery
5. Externally purchased database
6. CD-ROM Databases
7. Library catalogues
8. Remote Information services
9. Internally published newsletters, reports, journals

10. Bulletin Board Services
11. Discussion groups & forums
12. Newspaper clippings

c) Audio Information Resources: These are information resources that can only be listened to but cannot be viewed or read. Examples include audio tapes or cassettes, phonon discs and other sound recordings. The use of these information resources requires good listening skill which is the only way to receive the information contained in them. Most of them require a radio-cassette medium or record player for their use.

d) Visual Information Resources: These are those that can only be used by viewing as they do not have any sound and cannot be heard. There are many library materials in use today that fall into this category: Examples include:

1. Transparencies: These are those with images that are seen only when light is passed through them. They include filmstrips and slides.
2. Microforms: These are information resources that contains information in greatly reduced form .Microform is composed of microfilms, micro, microfiche and micro cards, microfilm has become a great space saver for uncomputerized libraries as it is used to store back stock of newspapers with minimal space. Transparencies require a projector in order to operate while microforms must be backed up with what is known as a Reader. This is equipment that enlarges and displays the words or pictures contained in the microforms.

e) Audio-Visual Information Resources: These are materials that combine both the audio and visual effects in the transmission of information. The full benefit of these information resources is received when the user implores both his listening and viewing skills. Resources that are audio-visual in nature include television, motion pictures (sound film), veiled films and video disks. In addition to the above examples, advanced technology has provided other audio-visual materials such as computer aided compact disks (CD) and video compact dices (VCD). Equipment required using these materials include film projectors, video players, compact disks players and computers.

5.9 Acquisition of Print Materials

Having selected the appropriate information resources for a library, the next step is to acquire them into the library. This is done through a variety of ways. These include purchase, gifts, exchanges and legal deposits. Acquisition through purchase applies if the library pays for the books. The purchase could be through an agent or a bookshop or direct from publishers. Acquisition by gift is a situation where a library receives donation of books or resources from individuals or corporate bodies. It may also be in form of bequest which is a gift given to the library by means of a will when the donor dies. Information resources are acquired by exchange when two or more libraries agree to exchange some of the materials. Under normal circumstances, libraries acquire larger part of their information resource through purchase but this situation here change especially for libraries in the developing countries. Due to inadequate funding, many of them now depend on gifts; there is the tendency to become dumping ground of irrelevant and outdated materials. In Nigeria, a comprehensive bibliography is not available due to the fact that, authors and publishers do not fully comply with the legal deposit law (Kulani, 2011).

5.10 Acquisitions of Electronic Information Resources

Cotter & Koehler, (2002), explained that Information can be acquired through a variety of means as was discussed in the previous sections. Library historians may recall that the acquisition policy of the first library at Alexandria was very straightforward – by law any manuscript entering Ptolemaic Egypt had to be deposited at the library so that it could be copied and incorporated into the collection. Copyright and fair use practices no longer permit such direct taking of the intellectual and physical property of others. A number of principles and laws have been developed that regulate the use of information. In a paper-based world, the intellectual property had a physical form and, therefore, only one person could possess or use it at a time. Acquisition was the purchase of a commodity. Certainly, with the advent of photocopying machines, issues arose on the premise of one copy, one possession. To deal with this, copyright has traditionally been balanced by the fair use doctrine. Fair use regulates the rights and privileges of information users to access and use the intellectual property of others.

Moreover, these fair use rights range from quotation, citation, copying, and perhaps in cyber-documentation to hypertext linking of one Web page to another. As technology has advanced, limits have been placed on fair use doctrine. For example, one such limit was established by the Texaco case (American Geophysical Union v. Texaco, Inc., 60 F.3d 913 (2d Cir. 1995). Texaco spoke to the "one legal copy" principle and found that wholesale photocopying of journals was a copyright violation. Thus, the principles of fair use were tested and interpreted for collections builders. In the electronic world, when digital reproduction was effortless and limitless, the issues of fair use became very important for publishers. They saw the need for additional limits. With the Ticketmaster v Microsoft (United States District Court for the Central District of California, Civil Action Number 97-3055DPP 1997) case we find that the "capture" of someone else's Web page or trademark within a frame may constitute an unfair taking. However, in ACLU of Georgia v. Miller (43 U.S.P.Q.2d 1356, 1996), the court may have recognized a right to link.

Cotter & Koehler, (2002), added that the principal related to fair use; i.e., the "principle of first sale", means that the purchaser of an "information container" may transfer ownership of the container to whomever and whenever that owner wishes to do so. The principle, however, does not extend to all uses of the "contents" of that container. Copyright serves to protect the information proprietary interests of the copyright holder who sometimes may be the original creator of the work, but more often is the publisher. The combination of these two principles is currently being tested in institutions building e-collections and e-services. Because of the economic implications for these intellectual property issues in the digital environment, in recent years, information suppliers have begun to move away from the sale of information to the licensing of information. The digital revolution has significantly changed the ways in which information can be packaged. It need no longer be offered within "physical packages." It can now be transmitted from producer to publisher to end user. That may well render the principle of first sale moot because information containers need not be used. It also means that limits are placed on the ability of the licensee to transfer or transmit information to third parties. For example, libraries can participate in Inter-Library Loan consortia because these libraries own the information packages they are lending. Under most licenses, this lending practice is either prohibited or restricted. An e-book licensed by an

academic library from an e-vendor cannot be "lent" to another library for use by its patrons. To restate, when a book, CD, journal, DVD, videotape, or magazine is put in a digital collection, the institution buys the container together with certain rights of access to the content therein.

The rights of the user are limited by copyright and other legal constraints. However, the owner of the container retains the right to access the information so long as s/he owns the container and retains the right to transfer ownership and associated rights to someone else. In the online world, even these concepts are challenged by the definitions of containers as well as by other provisions in licensing agreements restricting what uses can be made of the material. With this background in mind, organizations may follow an ownership or an access path. Whichever they choose, they must develop acquisitions policies. Acquisitions of electronic or digital materials often entail a set of decisions that differ somewhat from paper (Pinfield 2001). Some of these decisions entail organizational questions. Are electronic acquisitions treated as an intrinsic part of the library collection or are they categorized as "other resources." As Stephen Pinfield has shown (2001), electronic acquisitions are not without their costs. These costs include the cost of the document (usually in the form of license). These services are offered using a variety of pricing models – individual subscriptions, bundled subscriptions, joint print and e-journal subscriptions, maximum number of users, and so on. The negotiations between library purchaser and licensor vendor can be time- consuming and complex (Cotter & Koehler, 2002).

However, Acquisition involves acquiring and securing ownership of electronic resources such as databases, e-books and journals through license. Subscribed electronic resources are stored on a remote server hosted by the vendor and made accessible to a target community after authentication and authorization. Digital collections of information resources involve selection and organization based on an explicit collection development policy that addresses the information needs of a particular community. Storage and retrieval of digital resources for a virtual library is exclusively dependent on computers and electronic-network systems, hence in selecting materials, basic information on the hardware and software needed to access the resources and existing technology within the library must be taken into consideration.

A virtual library collection is based on an established collection development and acquisition policy which takes into account the shift from owning information resources to licensing information and the aggregation of information in multidisciplinary databases. The difficulty of evaluating and comparing electronic resources makes it necessary to have an electronic collections selection team. Pettijohn and Neville (2003) suggest that members of electronic selection team should possess both functional and subject area expertise. Free web-based, open access, and fee-based resources which require acquiring and securing ownership of of digital content through license should be part of a virtual library collection, however, Pitschmann (2001) posits that open access Internet sites are fundamentally different from commercially produced resources. Therefore, these collections require their own practices, policies, and organizational model (Gbaje, 2007).

A library is acquiring e-journals as part of package from e-resources aggregator, such as EBSCO, the librarian needs to know which journals are covered by the package and for what period of time; ideally, the librarian would have the option to pay one lump sum for the entire package or to pay separately for each title. Furthermore, the print and electronic format may be lined in such way that cancellation of the print format would invalidate the license agreement for electronic format. Another issue is how to handle the distribution of a payment between the licensor of the package and one or more interface providers. In UK, for example, a library can obtain inspect from the IEE and access it through an interface from UK data center such as EDINA or MIMAS a service for which a fee is levied (Sadeh & Ellingsen, 2005).

5.11 Access Agreements on Electronic Resources

Cotter and Koehler, (2002), explained that acquisitions have taken the form of licenses rather than purchases; there are critical differences between traditional and electronic acquisitions. Licenses represent permission or authorization for one party to use the property of another under a prescribed set of conditions. These licenses may limit the number of users for a database at any given time, they may limit the range of authorized users, and they place a temporal limit on access. Typically, full text providers, particularly e-book databases, place a limit on the number of users at any given time. This is analogous, they argue, to the traditional

model. There can be only as many users of a print book as there are copies of the book at any given time. Many national and international associations have been developing guidance to help information managers negotiate licenses or to better understand their implications for libraries and other users (for example, the American Library Association, the American Association of Law Libraries, the Association of Research Libraries, the Australian Library and Information Association, the Canadian Library Association, the Colegio de Bibliotecarios de Chile, the European Bureau of Library, Information and Documentation Associations to list a few.) These concerns have sometimes resulted in a number of very specific agreements, as for example the International Federation of Reproduction Rights Organizations (IFRRO)--International Group of Scientific,

Technical and Medical Publishers (STM) Joint Statements on Electronic Storage of STM material of 1992 (http://www.ifrro.org/papers/stmjoint.html) and 1998 (http://www.ifrro.org/papers/stmjoint2.html). There are also a number of symposia and other training offered on digital copyright and associated issues. Some examples include the International Summer School on the Digital Library in the Netherlands (http://cwis.kub.nl/~ticer/summer02/) sponsored by Tilburg University and the Libraries in the Digital Age Conferences held annually in Dubrovnik, Croatia (http://www.ffzg.hr/infoz/lida/).

In addition, many professional organizations provide guidance on access, digital content, copyright, and related issues. Examples include:

g) Association of Research Libraries (http://www.arl.org/scomm/licensing/)

h) Copyrightlaws.com (http://www.copyrightlaws.com/index2.html)

i) International Coalition of Library Consortia (http://www.library.yale. edu/consortia/)

j) International Federation of Library Associations and Institutions, Licensing Principles (2000) (http://www.ifla.org/V/ebpb/copy.htm)

k) Stanford University Libraries, Copyright & Fair Use (http://fairuse.stanford.edu/)

l) Yale Library, Licensing Digital Information: A Resource for Librarians (http://www.library.yale.edu/~llicense/) Lesley Ellen Harris (2002) has prepared a guide to digital licensing under the American Library Association imprint. Her book provides a series of checklists and commentary. For example, she advises her readers to avoid verbal agreements in favor of the written; in part, because of the potential for future

misunderstanding (Harris 2002, xv). Harris (2002, p.100) also makes important distinctions between the sale, the assignment, and the licensing of rights. An assignment of rights, unlike a sale of rights, is the non-exclusive permanent transfer of rights of access to item under considerations. Licenses are less permanent and are analogous to renting rather than buying the object. A license or an assignment may specify the conditions under which copyrighted material may or may not be used. Each licensing and assignment agreement is unique. Some may be negotiated between the buyer and the seller. In some cases buyers or sellers may be constrained by prior agreements or institutional regulations that preclude certain arrangements (Cotter and Koehler, 2002).

5.12 Budget and Funding for College Library Materials

Muazu, R. B (2011) explained that budget is a formal document that quantifies an organization's plan for achieving its goals through allocation or provision of fund. Budget contains description of expenditure and expected income for a particular period and it spelt out the intentions behind the allocation and the decision to add to or subtract from the provision made in the period. Budget is also used to denote the financial allocation for a specific purpose or purposes during a given period. Prentice (2001) in his contribution stated that budget is a document that sets out the spending limits for each area of library expenditure. The way in which these costs are defined is usually fairly simple, for example, books, periodicals, binding, online searching and audio-visual material.

Another way of looking at the purpose of budget is to set off more specific objectives. It fixes the amount to be spent, authorize future expenditure, provides a base for controlling expenditure and income, assists policy making and provides a yardstick for measuring policy implementation. So, Smelser and Baltes (2001) see it as a system of making minor changes or marginal increases over the existing budget for next year estimates. It items details under headings and subheadings in accordance with the object such as salaries, allowances, services and special expenditure. It adopts the process of incremental budgeting starting off with the previous year's budget and increasing or decreasing by a specified percentage. Once the budget has been set, it remains fixed and acts as a reference point to guide expenditure during the year. Budget is a statement or plan consisting of a number of

targets which are to be achieved by managers and departments in a Company. Gribbs (1999) defined budget as "the expression in financial and quantitative terms of a business plan for defined period of time". If all these targets are achieved, then the performance will be in line with the budget. Budget differs from forecast which is merely an assessment of future events which are likely to occur. He argued that forecast "are a necessary preliminary to budget preparation. But it is only when the existing trends have been extrapolated and modified to take account of changes conditions that it becomes possible to take decisions about the actions necessary to alter the forecast results and to establish a budget plan". In developing a budget there is the need to collect a lot of data on the past and present, and future changes to portray an accurate picture of the state of the resources and collection." Plans depend upon the existence of alternatives and then discussions have to be made regarding what to do, how to do it, when to do it and by whom it is to be done, planning budget need early preparation, this is because budgeting is a back room activity and can take a lot of time".

Budget request usually go through series of stages, therefore the early it is started the better. Public relation also matter a lot in planning the budget as the library needs to establish good rapport with people that matters and who can help in seeing that request for funding scale through. Mbanefoh (1999) notes that budgeting is a management tool which aids in the allocation of available resources to satisfy needs of the organization. However, budgeting today has attained multi-faced dimensions as it is a key instrument of policy making in organization. American Association of School Librarians (1998) observes that with a strong stable budget, the library and information centre will have. New technology, current collection of resources, attractive and inviting library media centre facilities. Similarly, ALA (2007) states that the standard for budget provision in libraries includes preparation, justification and management of finances based on libraries objectives. Budget should meet the expectation of the users and must be in line with institutional needs. Libraries should utilize financial resources efficiently and effectively following financial regulations of their funding organization including authority to apportion funds and to initiate expenditure.

However, the lack of stable budget will be a major constraint on the present and future library and information centre programs. Therefore, for any organization to perform creditably, budget and budgeting is required to facilitate effective utilization of available

funds, improves decision – making, provides a bench mark to measure and control performance, increases general communication and analysis within the organization and establish understanding between managers about goals and objectives. Therefore, the success of any budget lies in its implementation and this suggest the need for a specific check points to be fixed that will allow effective control of budget implementation. The tool to be used will allow measurement to be made and also allows comparison to be made between the actual results obtained from the implementation with planned or budgeted goals.

Similarly, Wildavsky,A (2002), on the other hand defines budget as "a document containing words and figures which proposes expenditure for certain items and purposes. The words describe items of expenditure as salary, equipment, travel; or purpose as improving mental health, providing low income housing and the figures are attached to each item or purpose. In the most general purpose, "budgeting concerned with the translation of financial resources into human purposes". While, Cox, L.W. (2000), observed that budget and budgeting processes help build commitment by individuals or groups of individuals to achieving time bases results that move the organization in the desired direction. He noted that the principle is to obtain commitment to a result and not necessarily to the way through which this result is to be achieved. This aspect is the source of great misuse of budgets in that many organizations confuse commitment to the use of resources as agreed upon for commitment to results, often the source of confusion is due to a combination of lack of trust on the part of the supervisor and lack of self confidence on the part of the subordinate.

Considering this vital role that a budget plays it is therefore very crucial to optimum utilization of funds. More so, as finance is a scarce resource

Managers of every organization are it profit seeking or nonprofit making one should endeavor to have a budget. The budgetary procedure in academic libraries starts with the bursar who sends out a notice to the librarian asking for preliminary budgets estimates. When the librarian receives this notice, he and the various sectional heads of the library meet and draw up the budget estimate which is then sent to the bursar. Funds for library and information services are traditionally derived from the library's proprietor. The extent of such revenue varies from fixed fraction of received grant to ad-hoc arrangement (Edoka, 1992).

Hisle (2002) pointed out that: academic libraries in developing countries depend mainly on government funding and they do not show any interest or experience in well organized fundraising for several reasons:

1) Citizens used to give donations to other types of libraries, mainly public libraries.
2) Lack of flexible administrative systems.
3) No clear responsibility for organizing fundraising campaign is assigned, either to librarians or university administrators. Library funds are accumulated from a mixture of local, state, federal, and other sources.

The bursar integrates and collates the various estimates from the various departments. The estimates are then channeled through and defended, at the following six levels:

1) Library committee: the librarian presents and explains his budget estimate.
2) Development and Estimate committee, the librarian defends his budget estimate.
3) Finance and general purposes committee.
4) The university/college council.
5) The National University commission/commission of higher Education.
6) Ministry of finance and education Development- through the ministry of education (Ubogu & Okiy, 2011).

5.13 Data Analysis and Major Finding of the Research

This chapter deals with the analysis of data collected through the use of questionnaire administered on survey of funding policy and acquisition of information resources in federal college of education library, Zaria. The data gathered were analyzed using tables, frequencies and percentages for better understanding and interpretation of findings. The chapter is also organized according to the research questions and objectives of the study. Out of 30 questionnaires 20 were returned successfully by the respondents, Basic details about the participants in the survey are shown in bellow Tables. The demography of respondents revealed that the ages between 41-50 had the highest percent distribution of 8 (40 percent) respondents; followed by ages 31-40 with 6 (30 percent). Ages 15 – 30 is represented by 4 (20 percent) respondents and the least representation were the 51 and above years with 2(10

percent) respondents. In terms of marital status, most of the respondents, i e. 12 (60 percent) were married while 8(40 percent) were single. The response on gender type revealed that there were 11(55 percent) male respondents whereas female respondents were 9(45 percent).

Table 5.1 Number of years working with the college library

Working experience	**Frequency**	**Percentage**
1-5 years	1	5%
6-10 years	2	10%
11-15 years	3	15%
16-20 years	5	25%
20 years and above	9	45%
Total	20	100%

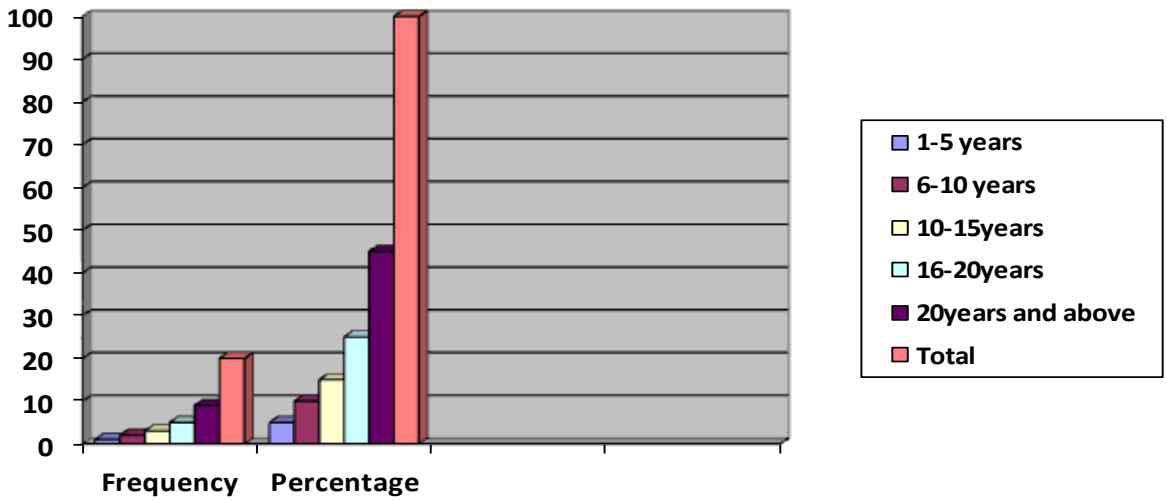
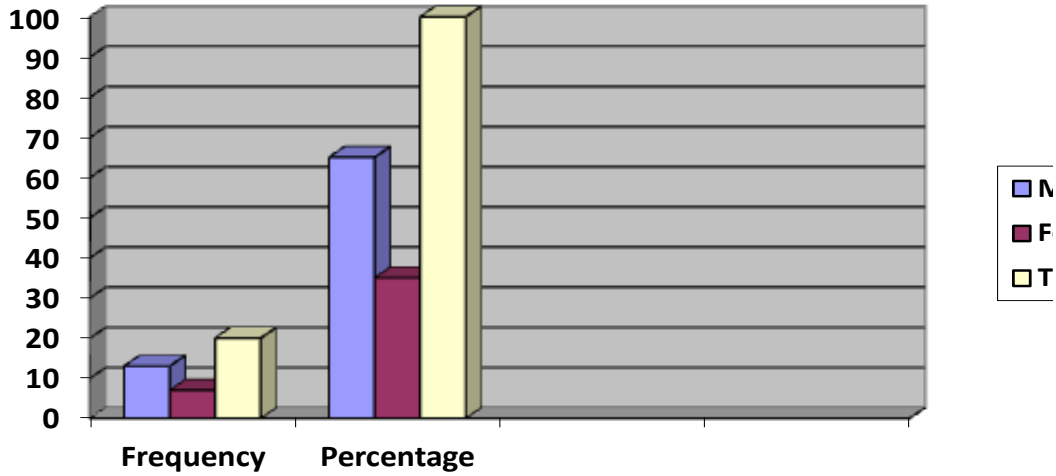


Table 5.1 shown respondents who are working with the college library between twenty years and above are the majority with 9 (45 percent) respondents, followed by who have being working with library between sixteen to twenty years 5 (25 percent) respondents. Eleven to fifteen years score 3(15 percent) respondents, while six to ten years score 2 (10 percent) respondents, and rest of one to five years score 1(5 percent) respondent.

Table 5.2 Gender Status of respondents

Gender	**Frequency**	**Percentage**
Male	13	65%
Female	7	35%
Total	20	100%

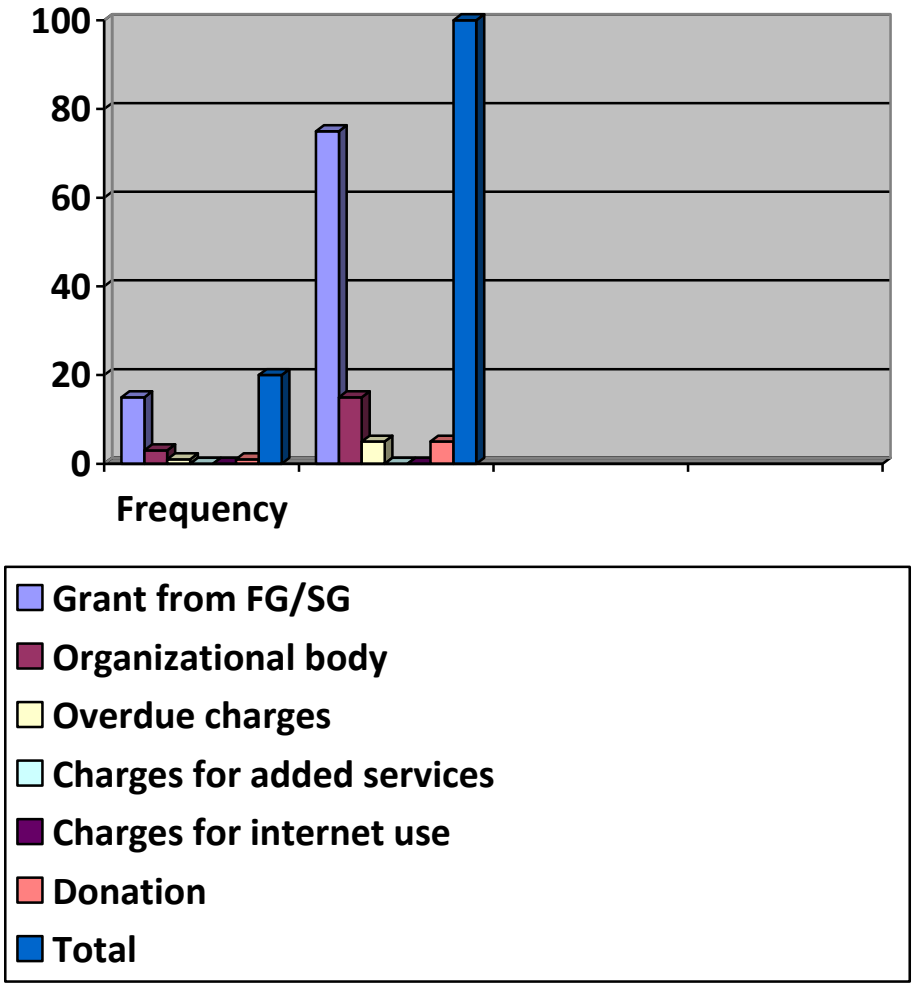


As the above table shown that 13 respondents (65 percent) were male staff, while 7 respondents (35 percent) were female staff.

Table 5.3 how the library is funded

Funding policy	**Frequency**	**Percentage**
Grant from FG/SG	15	75%
Grant from the allocation of organizational body	3	15%
Fund raising organized by the library	0	0
Overdue charges and fines collected by the library	1	5%
Charges for added services such as photocopying and printing of soft copies of electronic	0	0

documents		
Charges for internet use	0	0
Donation	1	5%
Total	20	100%

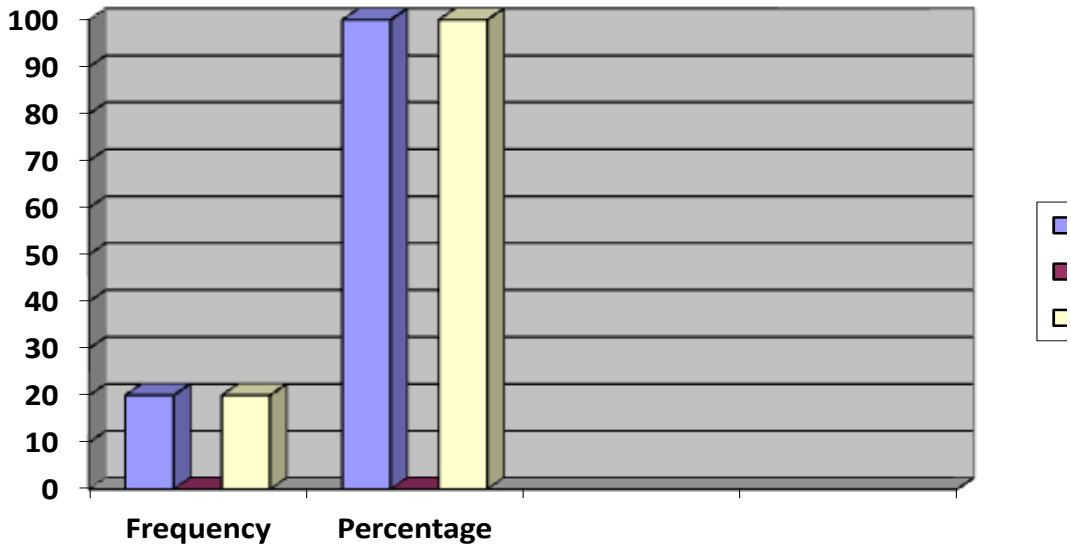


In order to understand how the library is funded participant were asked and made the appropriate answer, the above result reveal that college library have being funded by grant from FG/SG with 15 (75 percent) respondents, followed by Grant from the allocation of organizational body 3 (15 percent) respondents while Overdue charges and fines collected by the library and Donation score 1 for each with (5 percent) respondent, and rest of Fund raising

organized by the library and Charges for added services such as photocopying and printing of soft copies of electronic documents score 0 (0 percent) that means there is no Fund raising organized by the library and Charges for added services such as photocopying and printing of soft copies of electronic documents being collected for these purposes.

Table 5.4 Existence written financial (budget) policy

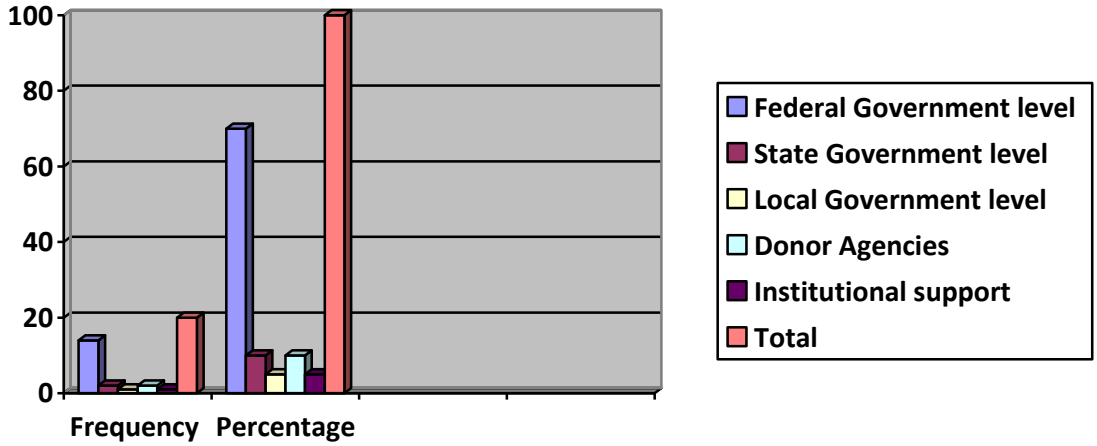
Existing policy	**Frequency**	**Percentage**
Yes	20	100%
No	00	0
Total	20	100%



Participant all agree and say yes there is an Existence written financial (budget) policy 20 with (100 percent) respondents.

Table 5.5 Levels of financial support does college Library get for Library development

Levels of Financial Support	**Frequency**	**Percentage**
Federal Government level	14	70%
State Government level	2	10%
Local Government level	1	5%
Donor Agencies	2	10%
Institutional support	1	5%
Total	20	100%

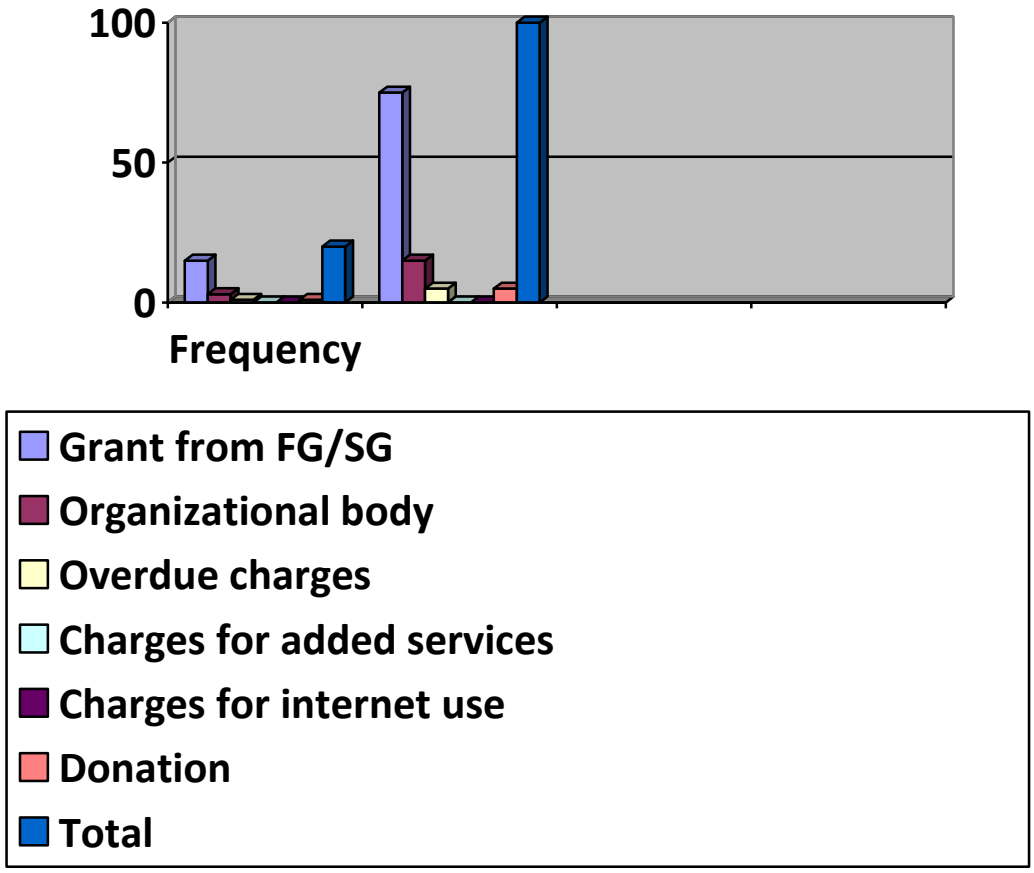


Participant were asked about the Levels of financial support does college Library get for Library development and made the correct answer, the result reveal that college library received financial support from Federal Government level 14 (70 percent) respondents, followed by State Government level and Donor Agencies 2 for each with (10 percent)

respondents, while rest of Local Government level and Institutional support each score 1 with (5 percent) respondent.

Table 5.6 Sources of funding information resources in college library

Funding policy	**Frequency**	**Percentage**
Grant from FG/SG	15	75%
Grant from the allocation of organizational body	3	15%
Fund raising organized by the library	0	0
Overdue charges and fines collected by the library	1	5%
Charges for added services such as photocopying and printing of soft copies of electronic documents	0	0
Charges for internet use	0	0
Donation	1	5%
Total	20	100%



In order to understand the sources of funding information resources in college library participant were asked and made the appropriate answer, the above result reveal that the sources of funding information resources is grant from FG/SG with 15 (75 percent) respondents, followed by Grant from the allocation of organizational body 3 (15 percent) respondents, while Overdue charges and fines collected by the library and Donation score 1 for each with (5 percent) respondent, and rest of Fund raising organized by the library and Charges for added services such as photocopying and printing of soft copies of electronic documents score 0 (0 percent) that means there is no Fund raising organized by the library and Charges for added services such as photocopying and printing of soft copies of electronic documents being collected for these purposes.

Table 5.7 Adequacy of funding received for library resources and services

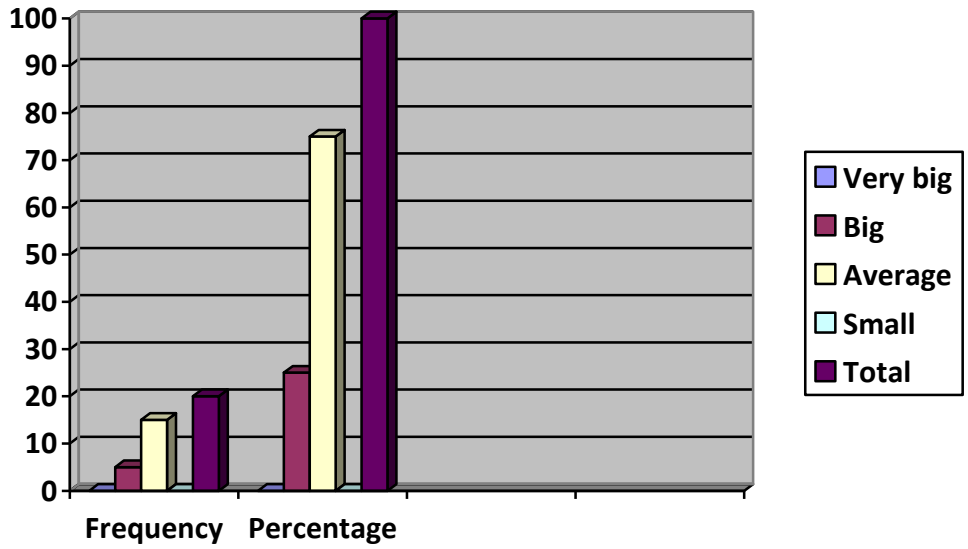
Adequacy	Very high adequacy		high adequacy		Adequacy		Not adequacy		Undecided		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Grant from FG/SG	5	25%	4	20%	11	55%	0	0	0	0	20	100%
Funding Grant from the allocation of organizational body	0	0	0	0	6	30%	7	35%	7	35%	20	100%
Fund raising organized by the library	0	0	0	0	0	0	14	70%	6	30%	20	100%
Overdue charges and fines collected by the library	0	0	0	0	5	25%	13	65%	2	10%	20	100%
Charges for added services such as photocopying and printing of soft copies of electronic documents	0	0	0	0	5	25%	14	70%	1	5%	20	100%

Charges for internet use	0	0	0	0	0	0	18	90%	2	10%	20	100
Donation	0	0	1	5%	8	40%	5	25%	6	30%	20	100%

In order to understand the Adequacy of funding received for library resources and services participants were asked and the above table make it clear that 11 (55 percent) respondents say there is adequacy on Grant from FG/SG, followed by 5 (25 percent) for very high adequacy, while 4 (20 percent) for some that score for high adequacy, rest of the option that are not adequacy and undecided each score 0 (0 percent) respondents. On the Funding Grant from the allocation of organizational body, 7 (35 percent) respondents score each for not adequacy and undecided, followed by 6 (30 percent) respondents who score to adequacy, very high adequacy and high adequacy each score 0 (0 percent). Fund raising organized by the library 14 (70 percent) respondents score for not adequacy, followed by 6 (30 percent) respondents who score for undecided, while 0 (0 percent) respondent each for very high adequacy, high adequacy and adequacy. Overdue charges and fines collected by the library 13 respondents (65 percent) score for not adequacy, followed by 5 (25 percent) respondents who score to adequacy, while undecided score 2 (10 percent) respondents, very high adequacy and high adequacy each score 0 (0 percent) respondents. Charges for added services such as photocopying and printing of electronic documents, 14 respondents (70 percent) score for not adequacy, followed by 5 (25 percent) respondents who score to adequacy while undecided score 1 (5 percent) respondent, very high adequacy and high adequacy each score 0 (0 percent) respondents. Charges for internet use 18 respondents (90 percent) score for not adequacy, followed by 2 (10 percent) respondents who score to undecided while rest of very high adequacy, high adequacy and adequacy each score 0 (0 percent) respondents. Donation 8 respondents (40 percent) score for adequacy, followed by 6 (30 percent) respondents who score for undecided, not adequacy score 5 (25 percent) respondents, while high adequacy scores 1 (5 percent) respondent and rest of very high adequacy score 0 (0 percent) respondents.

Table 5.8 how will you describe your college library?

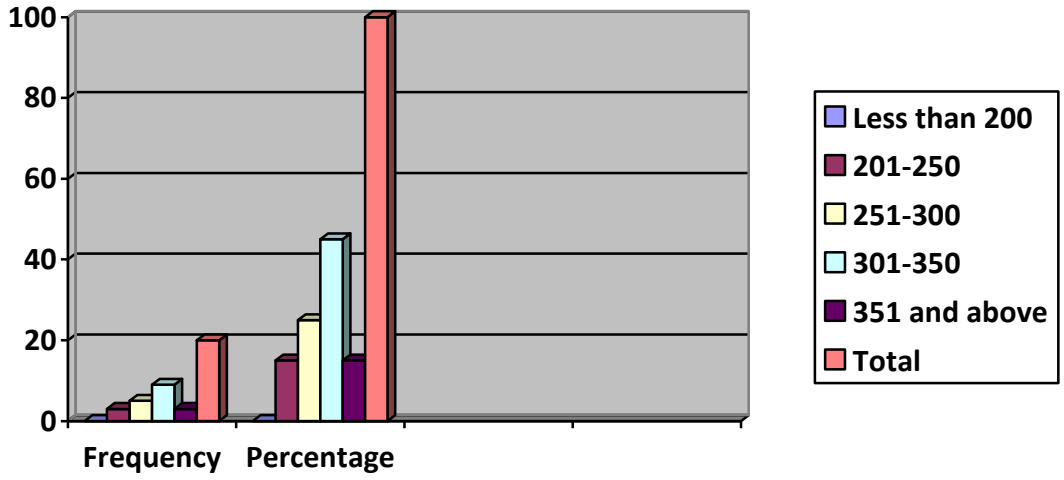
Describing	**Frequency**	**Percentage**
Very big	0	0
Big	5	25%
Average	15	75&
Small	0	0
Total	20	100%



Participants were asked on how they describe the college library and made the appropriate answer, the result indicate that the college library is average with 15 (75 percent) respondents, followed by some that score for big with 5 (25 percent) respondents, while rest of very big and small each score 0 (0 percent) respondents.

Table 5.9 Seating capacity of college library

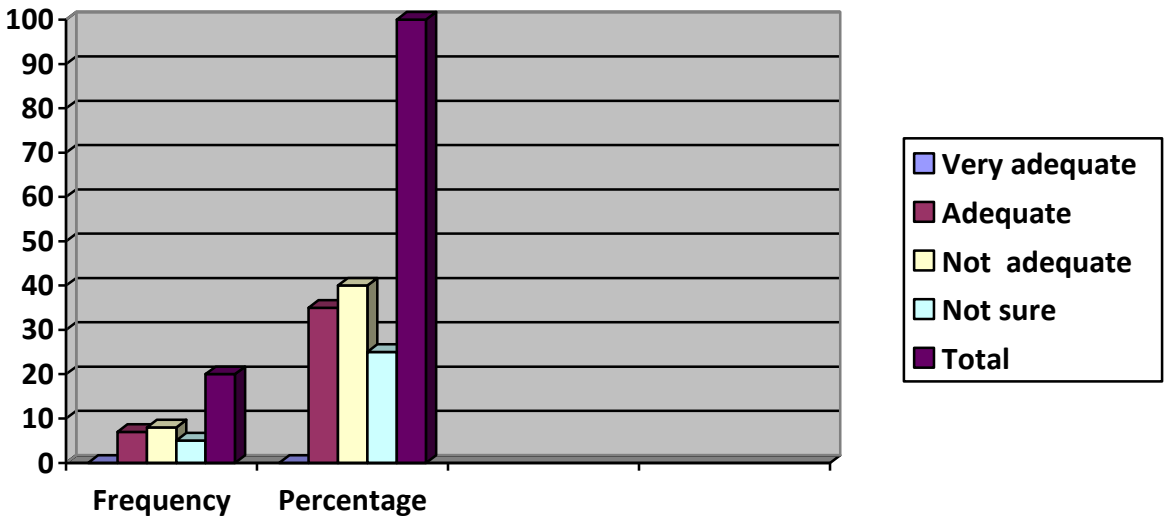
Seating capacity	**Frequency**	**Percentage**
Less than 200	0	0
201-250	3	15%
251-300	5	25%
301-350	9	45%
351 and above	3	15%
Total	20	100%



The above table indicate that the seating capacity in college library are between 301-350 with frequency 9 and (45 percent) respondents, followed by 251-300 with frequency 5 and (25 percent) respondents, while 201-250 and 351 and above each score 3 (15 percent) respondents, and rest of less than 200 score 0 (0 percent) respondent.

Table 5.10 adequate funding made for e-resources, building and services

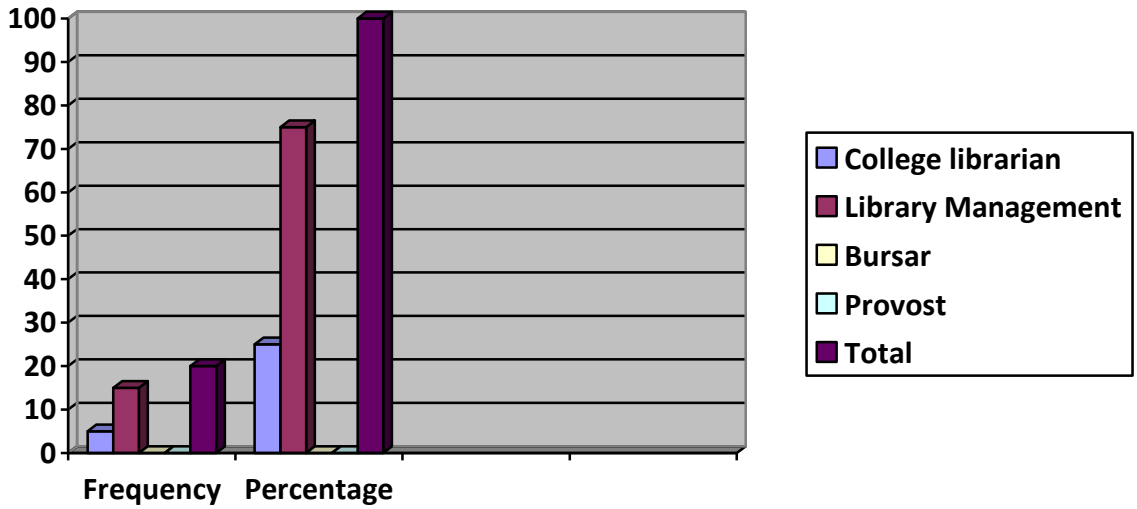
Adequacy	**Frequency**	**Percentage**
Very adequate	0	0
Adequate	7	35%
Not adequate	8	40%
Not sure	5	25%
Total	20	100%



The above table indicate that adequate funding made for e-resources, building and services are not adequate with 8 frequency and (40 percent) respondents, followed by adequate with 7 frequency and (35 percent) respondents, while not sure score 5 with (25 percent) respondents and very adequate score 0 (0 percent) respondents.

Table 5.11 Prepare budget in College library for Acquisition

Who prepare budget	**Frequency**	**Percentage**
College librarian	5	25%
Library Management	15	75%
Bursar	0	0
Provost	0	0
Total	20	100%

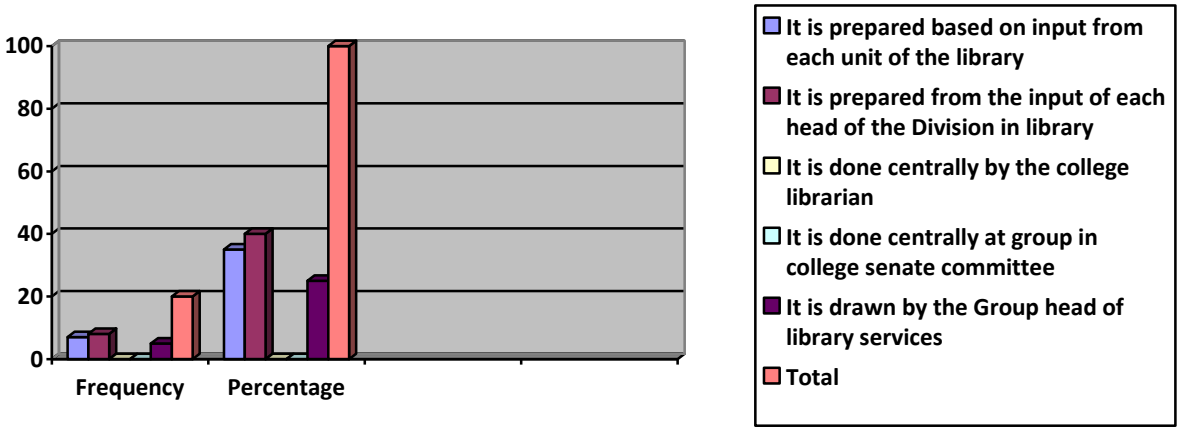


Participants were asked on whom Prepare budget in College library for Acquisition and the correct answer, result reveals that Library Management is majority in terms of budget preparation with frequency 15 (75 percent) respondents, followed by college librarian with frequency 5 (25 percent) respondents, while bursar and provost each score 0 (0 percent) respondents.

Table 5.12 how the budgets are being prepared in your College library

How prepare budget	**Frequency**	**Percentage**
It is prepared based on input from each unit of the library	7	35%

It is prepared from the input of each head of the Division in library	8	40%
It is done centrally by the college librarian	0	0
It is done centrally at group in college senate committee	0	0
It is drawn by the Group head of library services	5	25%
Total	20	100%



The result indicate that the budgets are being prepared in College library from the input of each head of the Division in library with frequency 8 (40 percent) respondents, followed by 7 (35 percent) respondents who score for based on input from each unit of the library, It is drawn by the Group head of library services score 5 (25 percent) respondents, while It is done centrally by the college librarian and It is done centrally at group in college senate committee each score 0 (0 percent) respondents.

Table 5.13 which of these Services are available in your current acquisition to your library?

Items	**Available**		**Not Available**		**Total**	
	Freq.	**%**	Freq.	**%**	Freq.	**%**
E-books	0	0	20	100%	20	100%

E-Journals	0	0	20	100%	20	100%
E-dissertations	0	0	20	100%	20	100%
CD-ROM Searching service	0	0	20	100%	20	100%
DVDs	0	0	20	100%	20	100%
Audio/video cassettes	0	0	20	100%	20	100%
On-line databases	0	0	20	100%	20	100%
Online public access catalogs (OPAC)	0	0	20	100%	20	100%
Full- text databases	0	0	20	100%	20	100%
Scholarly websites	0	0	20	100%	20	100%
print archives	15	75%	5	25%	20	100%
Bulletin boards	13	65%	7	35%	20	100%
Almanacs	19	95%	1	5%	20	100%
Bibliographies	20	100%	0	0	20	100%
Directories	19	95%	1	5%	20	100%
Blogs	0	0	20	100%	20	100%
References	20	100%	0	100%	20	100%
Documents	20	100%	0	0	20	100%
Pamphlet	14	70%	6	30%	20	100%
Report	9	45%	11	55%	20	100%

Multimedia	0	0	20	100%	20	100%
Podcast	0	0	20	100%	20	100%
Books	20	100%	0	0	20	100%
Journals	20	100%	0	0	20	100%

Participants were asked about the services are available in current acquisition to college library and made the appropriate answer, the result indicate that the services available include bibliographies, references, documents, books and journals services, each score 20 with (100percent) respondents, followed by almanacs and directories with frequency 19 and (95 percents) respondents, print archives score 15 (75 percent), pamphlet score 14 (70 percent), bulletin boards score 13 (65 percent), and report score 9 (45 percent) respondents. in terms of non available services in college library current acquisition include e-books, e-journals, e-dissertations, CD-ROM searching service, DVDs, audio/video cassettes, on-line databases, online public access catalogues (OPAC), full- text databases, and scholarly websites, each score 20 with (100 percent) respondents, followed by report with 11 and (55 percent) respondent, bulletin boards score 7 (35 percent), print archives score 5 (25 percent), while rest of almanacs and directories each score 1 (5 percent) respondents.

Table 5.14 in which area are you challenged in the course of managing the library Materials?

Challenge	**Very high Challenge**		**high Challenge**		**Challenge**		**Not Challenge**		**Undecided**		**Total**	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Library patron	1	5%	1	5%	4	20%	9	45%	5	5%	20	100%
Funding	15	75%	2	10%	1	5%	0	0	2	10%	20	100%
Lack of IT Knowledge	1	5%	1	5%	9	45%	5	25%	4	20%	20	100%

Lack of professional Staff	1	5%	1	5%	7	35%	6	30%	5	25%	20	100%
Management	2	10%	3	15%	8	40%	5	25%	2	10%	20	100%
Security	4	20%	5	25%	7	35%	1	5%	3	15%	20	100%

In order to understand in which area challenged in the course of managing the library Materials participants were asked and the above table made it clear that 9 (45 percent) respondents say there is not challenge on library patron, followed by 5 (25 percent) for undecided, while 4 (20 percent) for some that score for challenge, very high challenge and high each score 1(5 percent) respondents. On the Funding issues, 15 (75 percent) respondents score very high challenge, followed by 2 (10 percent) respondents who score for each high challenge and undecided, challenge score 1 (5 percent) respondents while rest of not challenge score 0 (0 percent). Lack of IT knowledge 9 (45percent) respondents score for challenge, followed by 5 (25percent) respondents who score for not challenge, while 4 (20 percent) respondents score to undecided, very high challenge and high challenge each score 1 with (5 percent) respondent. Lack of professional Staff 7 respondents (35 percent) score for challenge, followed by 6 (30 percent) respondents who score for not challenge, undecided score 5 (25 percent) respondents, while very high challenge and high challenge each score 1 with (5 percent) respondents. Rest of the option that is undecided scores 7 (35 percent) respondents. Management 8 respondents (40 percent) score for challenge, followed by 5 (25 percent) respondents who score for not challenge, while high challenge score 3 (15 percent) respondents and rest of very high challenge and undecided each score 2 (10 percent) respondents. Security 7 respondents (35percent) score for challenge followed by 5 (25 percent) respondents who score to high challenge, very high challenge score 4 (20 percent) respondents while undecided score 3 (15 percent) respondents and rest of not challenge score 1 (5 percent) respondent.

Table 5.15 Services are satisfied in college library services

Satisfaction of Acquisition	**Frequency**	**Percentage**
E-services	0	0
Reference services	4	20%
Virtual reference services	0	0
Support services for teaching	4	20%
Student help desk	1	5%
Journals services	3	15%
Internet services	0	0
Scanning	2	10%
Photocopying	2	10%
Video and audio services	1	5%
Printing services	3	15%
Total	20	100%

The services are satisfied in college library; the above table result indicate that the reference and support services for teaching each have the highest score with frequency 4 (20 percent) respondents, followed by 3 (15 percent) respondents for each journals services and printing services, while scanning and photocopying each score 2 (10 percent) respondent, student help desk and video and audio services each score 1 (5 percent) respondents, and rest of e-services, virtual reference services and internet services each score 0 (0 percent) respondents. That means there is absent of all kind of electronic services in college library.

CHAPTER SIX

6.1 Summary of finding

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, in this study the research found that the demography of respondents ages are between 41-50 had the highest percent distribution of 8 (40 percent) respondents; followed by ages 31-40 with 6 (30 percent). Ages 15 – 30 is represented by 4 (20 percent) respondents and the least representation were the 51 and above years with 2(10 percent) respondents. In terms of marital status, most of the respondents, i e. 12 (60 percent) were married while 8(40 percent) were single. The response on gender type revealed that there were 11(55 percent) male respondents whereas female respondents were 9(45 percent).

Table 5.1 shown respondents who are working with the college library between twenty years and above are the majority with 9 (45 percent) respondents, followed by who have being working with library between sixteen to twenty years 5 (25 percent) respondents. Eleven to fifteen years score 3(15 percent) respondents, while six to ten years score 2 (10 percent) respondents, and rest of one to five years score 1(5 percent) respondent. In order to understand how the library is funded participant were asked and made the appropriate answer, table 5.3 reveal that college library have being funded by grant from FG/SG with 15 (75 percent) respondents, followed by Grant from the allocation of organizational body 3 (15 percent) respondents while Overdue charges and fines collected by the library and Donation score 1 for each with (5 percent) respondent, and rest of Fund raising organized by the library and Charges for added services such as photocopying and printing of soft copies of electronic documents score 0 (0 percent) that means there is no Fund raising organized by the library and Charges for added services such as photocopying and printing of soft copies of electronic documents being collected for these purposes. Participant all agree and say yes there is an Existence written financial (budget) policy 20 with (100 percent) respondents.

Therefore, The Levels of financial support does college Library get for Library development table 5.5 reveal that college library received financial support from Federal Government level 14 (70 percent) respondents, followed by State Government level and

Donor Agencies 2 for each with (10 percent) respondents, while rest of Local Government level and Institutional support each score 1 with (5 percent) respondent. Table 5.6 reveal that the sources of funding information resources in college library as the result indicates is grant from FG/SG with 15 (75 percent) respondents, followed by Grant from the allocation of organizational body 3 (15 percent) respondents, while Overdue charges and fines collected by the library and Donation score 1 for each with (5 percent) respondent, and rest of Fund raising organized by the library and Charges for added services such as photocopying and printing of soft copies of electronic documents score 0 (0 percent) that means there is no Fund raising organized by the library and Charges for added services such as photocopying and printing of soft copies of electronic documents being collected for these purposes. the Adequacy of funding received for library resources and services table 5.7 make it clear that 11 (55 percent) respondents say there is adequacy on Grant from FG/SG, followed by 5 (25 percent) for very high adequacy, while 4 (20 percent) for some that score for high adequacy, rest of the option that are not adequacy and undecided each score 0 (0 percent) respondents. On the Funding Grant from the allocation of organizational body, 7 (35 percent) respondents score each for not adequacy and undecided, followed by 6 (30 percent) respondents who score to adequacy, very high adequacy and high adequacy each score 0 (0 percent). Fund raising organized by the library 14 (70 percent) respondents score for not adequacy, followed by 6 (30 percent) respondents who score for undecided, while 0 (0 percent) respondent each for very high adequacy, high adequacy and adequacy. Overdue charges and fines collected by the library 13 respondents (65 percent) score for not adequacy, followed by 5 (25 percent) respondents who score to adequacy, while undecided score 2 (10 percent) respondents, very high adequacy and high adequacy each score 0 (0 percent) respondents. Charges for added services such as photocopying and printing of electronic documents, 14 respondents (70 percent) score for not adequacy, followed by 5 (25 percent) respondents who score to adequacy while undecided score 1 (5 percent) respondent, very high adequacy and high adequacy each score 0 (0 percent) respondents. Charges for internet use 18 respondents (90 percent) score for not adequacy, followed by 2 (10 percent) respondents who score to undecided while rest of very high adequacy, high adequacy and adequacy each score 0 (0 percent) respondents. Donation 8 respondents (40 percent) score for adequacy, followed by 6 (30 percent) respondents who

score for undecided, not adequacy score 5 (25 percent) respondents, while high adequacy scores 1 (5 percent) respondent and rest of very high adequacy score 0 (0 percent) respondents.

Moreover, table 5.10 show that the funding made for e-resources, building and services are not adequate with 8 frequency and (40 percent) respondents, followed by adequate with 7 frequency and (35 percent) respondents, while not sure score 5 with (25 percent) respondents and very adequate score 0 (0 percent) respondents. The table 5.12 result indicate that the budgets are being prepared in College library from the input of each head of the Division in library with frequency 8 (40 percent) respondents, followed by 7 (35 percent) respondents who score for based on input from each unit of the library, It is drawn by the Group head of library services score 5 (25 percent) respondents, while It is done centrally by the college librarian and It is done centrally at group in college senate committee each score 0 (0 percent) respondents.

Participants were asked about the services are available in current acquisition to college library and made the appropriate answer, the result indicate that the services available include bibliographies, references, documents, books and journals services, each score 20 with (100percent) respondents, followed by almanacs and directories with frequency 19 and (95 percents) respondents, print archives score 15 (75 percent), pamphlet score 14 (70 percent), bulletin boards score 13 (65 percent), and report score 9 (45 percent) respondents. in terms of non available services in college library current acquisition include e-books, e-journals, e-dissertations, CD-ROM searching service, DVDs, audio/video cassettes, on-line databases, online public access catalogues (OPAC), full- text databases, and scholarly websites, each score 20 with (100 percent) respondents, followed by report with 11 and (55 percent) respondent, bulletin boards score 7 (35 percent), print archives score 5 (25 percent), while rest of almanacs and directories each score 1 (5 percent) respondents. In order to understand in which area challenged in the course of managing the library Materials participants were asked and the above table made it clear that 9 (45 percent) respondents say there is not challenge on library patron, followed by 5 (25 percent) for undecided, while 4 (20 percent) for some that score for challenge, very high challenge and high each score 1(5 percent) respondents. On the Funding issues, 15 (75 percent) respondents score very high challenge, followed by 2 (10

percent) respondents who score for each high challenge and undecided, challenge score 1 (5 percent) respondents while rest of not challenge score 0 (0 percent). Lack of IT knowledge 9 (45percent) respondents score for challenge, followed by 5 (25percent) respondents who score for not challenge, while 4 (20 percent) respondents score to undecided, very high challenge and high challenge each score 1 with (5 percent) respondent. Lack of professional Staff 7 respondents (35 percent) score for challenge, followed by 6 (30 percent) respondents who score for not challenge, undecided score 5 (25 percent) respondents, while very high challenge and high challenge each score 1 with (5 percent) respondents. rest of the option that is undecided score 7 (35 percent) respondents. Management 8 respondents (40 percent) score for challenge, followed by 5 (25 percent) respondents who score for not challenge, while high challenge score 3 (15 percent) respondents and rest of very high challenge and undecided each score 2 (10 percent) respondents. Security 7 respondents (35percent) score for challenge followed by 5 (25 percent) respondents who score to high challenge, very high challenge score 4 (20 percent) respondents while undecided score 3 (15 percent) respondents and rest of not challenge score 1 (5 percent) respondent.

The Services are satisfied in college library table 5.15 result indicate that the reference services and support services for teaching each have the highest score with frequency 4 (20 percent) respondents, followed by 3 (15 percent) respondents for each journals services and printing services, while scanning and photocopying each score 2 (10 percent) respondent, student help desk and video and audio services each score 1 (5 percent) respondents, and rest of e-services, virtual reference services and internet services each score 0 (0 percent) respondents. That means there is absent of all kind of electronic services in college library.

6.2 Conclusion

Based on the findings of the study, it could be concluded that federal college of education library services are neglected from the government and the heads of the institutes. This has a negative impact on the provision of information resources and services to researchers. For sure, if adequate budgetary allocation and proper implementation or utilization is made, services of federal college of education library will be improved. It then

calls for a collective effort and responsibility of both the federal, state and local governments where these institutes are, and donor agencies, both local and international, etc. The management of these institutes has a great task of making sure that the library which is a central organ of the institute is given proper attention by ensuring that any money allocated or given as a gift should be utilized judiciously.

Funding library is a prerequisite for achieving institutional goals and objectives, because if funding is inadequate the needed information may not be available to members of the institution. Consequently these may lead to reduction in productivity and efficiency and services in the institution as the relevant information that will impact on the relevant experience and skills required by the members of the institution may not be provided In funding and acquisition, transparency and accountability are important because no matter how adequate a library may be funded, if there is no accountability and transparency money may be misappropriated to set the library backward. However, federal college of education library are not exploring all the available sources of funds for the running of their library, such as endowments, donations, participation in exchange programs and consortia or cooperative projects. Funds was allocated in the federal college of education library for provision of information resource and service, such as need for library furniture, library equipment, library materials and provision of library services such as current awareness services, selective dissemination of information, literature search indexing and abstracting services is not adequate.

However, the time has come when college library should begin to think of alternative sources of funding to supplement whatever is provided by the government. At present, although library make some money from overdue fines, photocopying and charges for lost books, for example, the money realized from photocopying can be used to maintain the machines which will enable it to be in constant working condition. This will increase the amount realized from this source. It will also provide some more money which can be used to maintain other library services. Another source of potential revenue that can be tapped in the library is through binding. At present all libraries have the bindery section but they are devoted mainly to binding of library books and periodicals. However, this section can be expanded to cater for commercial binding to staff and particularly to students who would like

to bind their projects and thesis. If this source is expanded, it will certainly increase the revenue base of institution library.

6.3 Recommendation

The study recommends the following:

1. Due to the total absent of e-library and e-services in federal college of education library, Zaria, the college library should embrace ICT, e-library and e-services these will offer more practical and user friendly electronic information resources and services in the collection of the library.
2. Funding should be consistent, timely and adequate based on needs of the library to increase the capacity of information resources and services needed by staff and students of the federal college of education, Zaria.
3. The federal college of education should consider the inflationary trends in the country when allocating funds for library services so as, to increase the purchasing power of the library to acquire more materials with little money.
4. Appropriate funding levels should be identified to allocate funds required in the library to take care of the needs of libraries such as, maintenance of facilities, replacement, repairs, renovation and investment in new and improved means of information access delivery.
5. Funds meant for the library should be used on the acquisition of library materials and service delivery and to improve the number of staff for effective provision of essential services to the teeming library user.

CHAPTER SEVEN

7.1 Bibliography

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Appendix I

Newcastle College

United Kingdom

20th June, 2014

The College Library,

Federal College of Education, Zaria

Dear Respondent,

Questionnaire on: Survey of Funding Policy and Acquisition of Information Resources in Federal College of Education, Zaria, Kaduna-Nigeria.

I am a postgraduate student of the above named institution in Department of Information Technology and conducting research on the above named topic. The research is purely for academic purpose therefore; kindly respond to the attached questionnaire by ticking the appropriate response. You are guaranteed of strict confidentiality of any information provided.

I thank you for the usual cooperation and assistance.

Yours truly,

Sani Murtala Ridwan

Appendix II

SECTION A: Demographic Information

Instruction: Kindly tick the appropriate box {√} where necessary.

36) Name of Institution and Division/Unit: ……..

37) What is your designation?

(c) University librarian { } (b) System librarian { } (c) professional librarian{ }

38) What is your highest educational qualification?

(a) Dip in Lib & Inf. Science { } (b) HND Lib &Inf. Science { } (c) BSC Library Science { } MLS (d) PHD{ }

39) How long have you been working with the college library?

(d) 1-5 years { } (b) 6-10 years { } (c)11-15 years { } (d) 16-20 years { } (e)20 years and above { }

SECTION B: Funding policy in College Library

Instructions: Tick {√} the right answer

6) Please indicate how your library is funded.

a) Grant from FG/SG { }
b) Grant from the allocation of organizational body { }
c) Fund raising organized by the library { }
d) Overdue charges and fines collected by the library { }
e) Charges for added services such as photocopying and printing of soft copies of electronic documents { }
f) Charges for internet use { }
g) Donation { }
h) Others (please specify)……..

7) Does the Library have a written financial (budget) policy?

(a) Yes { } (b) No { }

What levels of financial support does college Library get for Library development?

(Tick as many options applicable to you)

a) Federal Government level { }
b) State Government level { }
c) Local Government level { }
d) Donor Agencies { }
e) Institutional support { }
f) Others (please specify)……

SECTION C: Sources of Funding information resources in college library

8) What are the Sources of funding information resources in college library? (Tick as many options applicable to you)

a) Grant from FG/SG { }
b) Grant from the allocation of organizational body { }
c) Fund raising organized by the library { }

d) Overdue charges and fines collected by the libraries { }
e) Charges for added services such as photocopying and printing of soft copies of electronic documents { }
f) Charges for internet use { }
g) Donation { }
h) Others (please specify)……..

SECTION D: Adequacy of the provision of Funding on Acquisition.
(Please kindly tick the right option.)
9) State the adequacy of funding received for library resources and services?

S/N	**Sources**	**Options**				
		Very High adequate	High adequate	Adequate	Not adequate	Undecided
1	Grant from FG/SG					
2	Grant from the allocation of organizational body					
3	Fund raising organized by the library					
4	Overdue charges and fines collected by the libraries					
5	Charges for added services such as photocopying and printing of soft copies of electronic documents					
6	Charges for internet use					
7	Donation					
8	Others					

10) How will you describe your college library?
(a) Very big { } (b) Big { } (c) Average { } (d) Small { }

11) What is the seating capacity of your college library?
(a) Less than 200 { } (b) 201-250{ } (c) 251-300{ } (d) 301-350 { }
(e) 351 and above{ }

12) How adequate funding made for e-resources, building and services?
(c) Very adequate { } (b) Adequate { } (c) Not adequate { } (d) Not sure { }

SECTION E: Acquisition Policy in College Library

13) Please indicate who prepare budget in your College library for Acquisition.
a) College librarian { }
b) Library Management { }
c) Bursar { }
d) Provost { }

14) Specify how the budgets are being prepared in your College library?
It is prepared based on input from each unit of the library { }
It is prepared from the input of each head of the Division in library{ }
It is done centrally by the college librarian { }
It is done centrally at group in college senate committee { }
It is drawn by the Group head of library services { }

15) Which of these Services are available in your current acquisition to your library?

S/N	**Items**	**Available**	**Not Available**
1	E-books		
2	E-Journals		
3	E-dissertations		
4	CD-ROM Searching service		
5	DVDs		
6	Audio/video cassettes		
7	On-line databases		
8	Online public access catalogs (OPAC)		
9	Full- text databases		
10	Scholarly websites,		
11	Pre-print archives		
12	Bulletin boards		
13	Almanacs		
14	Bibliographies		
15	Directories		
16	Blogs		

17	References		
18	Documents		
19	Pamphlet		
20	Report		
21	Multimedia		
22	Podcast		
23	Books		
24	Journals		
25	Institutional Repository		

16) In which area are you challenged in the course of managing the library Materials? Please kindly tick as many as appropriate.

S/N	**Details**	**Options**				
		Very much challenged	**Much challenged**	**Challenged**	**Not challenged**	**Not sure**
1	Library Patrons					
2	Funding					
3	Lack of ICT knowledge					
4	Lack of professional Staff					
5	Management					
6	Security					

SECTION F: Satisfaction of Acquisition Information Resources and services

17) Which of these services are satisfied in your college library services? Please kindly tick as many as appropriate

a) Network services { }
b) Reference services { }
c) Virtual reference services { }
d) Support services for teaching { }
e) Student help desk { }
f) Journals services { }
g) Internet services { }
h) Scanning { }

i) Photocopying { }
j) Video and audio services { }
k) Printing services { }

Application of Information and Communication Technology in Management of Information Resources and Services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria, Kaduna-Nigeria

BY

Sani Murtala Ridwan

A Research Dissertation Submitted to the Newcastle College United Kingdom, for PhD Research Degree

Under Supervision of: Dr. SHERIF EL BELTAGI
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Abstract

The purpose of research is to discover answers to questions through the application of scientific procedures. Though each research study has its own specific purpose, this study concentrates on the following objectives: identifying the types of data/information are created/generated in Kashim Ibrahim Library, Ahmadu Bello University, Zaria, exploring the type of Information and Communication Technology devices are available for management of information in Kashim Ibrahim Library, evaluating the type of Information Communication Technology facilities are used in management of information in Kashim Ibrahim Library, examining the extent that the Information Communication Technology devices being used for management of information in Kashim Ibrahim Library, finding the reasons are information generated used in Kashim Ibrahim Library, and exploring the problems encountered in the use of ICT devices for management of information in Kashim Ibrahim Library, Ahmadu Bello University, Zaria. In the process of the investigation, the researcher gave the general introduction of the topic, a brief background of Kashim Ibrahim Library, statement of the problems, and the scope and limitation of the study. A qualitative research design is adopted for this study. The method will be appropriate and suitable for the study since the study is descriptive in nature. The populations of the study are Kashim Ibrahim Library, the ICT Professional, Electronic Librarian and Professional librarian form the sample of the study. The main body of this research consist of the Concept of Information Technology, Concept of Information Resources, Types of Information Resources, Nigerian National Policy for Information Technology, Kashim Ibrahim Library Policy on Information Communication Technology, Available resources and services in Kashim Ibrahim Library, ICT and Electronic Information Resources, Role of ICT and Electronic Information Services, ICT Resources Available on the Internet, Advantages of ICT and Electronic Information Services, Application of ICT in Management of Information resources and services in Kashim Ibrahim Library, Application of ICT in Management of Information resources and services (the problems encountered). The main body of research consists of the data presentation, logical Analysis of data and major finding of the research.

CHAPTER ONE

1.0 Explanation of topic selection

Considerations in selecting a research problem help to ensure that the study remains manageable in terms of scope, resources and contributing to knowledge. The main focus of this research will be to determine the extent to which information and communication technologies are applied in management of information resources and services in Kashim Ibrahim Library, Ahmadu Bello Unievrsity, Zaria. The research will further reveal the type of information generated in the Kashim Ibrahim Library; it will also provide the Kashim Ibrahim Library the opportunity to create, store, secure and utilize their information effectively. In this direction there are many factors that will lead to the researcher for selection a topic, below are some of the reasons:

15) Interest: a research endeavor is usually time consuming, and involves hard work and possibly unforeseen problems. One should select topic of great interest to sustain the required motivation.
16) Magnitude: It is extremely important to select a topic that you can manage within the time and resources at your disposal.
17) Measurement of concepts: Make sure that you are clear about the indicators and measurement of concepts (if used) in your study.
18) Level of expertise: Make sure that you have adequate level of expertise for the task you are proposing since you need to do the work yourself.
19) Relevance: Ensure that your study adds to the existing body of knowledge, bridges current gaps and is useful in policy formulation. This will help you to sustain interest in the study.
20) Availability of data: Before finalizing the topic, make sure that data are available.
21) Ethical issues: How ethical issues can affect the study population and how ethical problems can be overcome should be thoroughly examined at the problem formulating stage.

By the above highlighted reasons for the selection of topic, I depend on items one, four, five and six that are: interest, level of expertise, relevance and availability of data. The

researcher has an interest to conduct research on topic due to the availability of data, level of expertise, and it is also relevant to the researcher profession.

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. Kothari, (2004), observed that collecting data in dealing with any real life problem it is often found that data at hand are inadequate, and hence, it becomes necessary to collect data that are appropriate. There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources at the disposal of the researcher. Primary data can be collected either through experiment or through survey. If the researcher conducts an experiment, he observes some quantitative measurements, with the help of which he examines the truth contained in his hypothesis. But in the case of a survey, data can be collected by any one or more of the following ways: observation, personal interview, telephone interviews, through schedules and mailing of questionnaires the researcher and the respondents do come in contact with each other on this method of survey will be adopted. The researcher adopted mail questionnaire due to the nature of research and advantage of the instrument.

ee) Can be used to collect large amounts of information at a low cost per respondent.

ff) Respondents may give more honest answers to personal questions on a mail questionnaire

gg) No interviewer is involved to bias the respondent's answers.

hh) Convenient for respondent's who can answer when they have time

ii) Good way to reach people who often travel (RMPC, n.d.).

Questionnaires are mailed to the respondents with a request to return after completing the same. It is the most extensively used method in various economic and business surveys. Before applying this method, usually a Pilot Study is been tested the questionnaire is administered which reveals the weaknesses, if any, of the questionnaire. Questionnaire to be used must be prepared very carefully so that it may prove to be effective in collecting the relevant information (Kothari, 2004).

The questionnaire is divided into these sections. Section A: Demographic data of the respondents; which includes division, unit, ranks and years of working experience.

Section B: types of data/information are created/generated in Kashim Ibrahim Library. Section C: type of Information and Communication Technology devices are available for management of information Resources and Services in Kashim Ibrahim Library. Section D: type of Information Communication Technology facilities are used in management of information Resources and Services in Kashim Ibrahim Library. Section E: extent that the Information Communication Technology devices being used for management of information Resources and Services in Kashim Ibrahim Library section F: reasons are information generated used in Kashim Ibrahim Library. Section G: problems encountered in the use of ICT devices for management of information Resources and Services in Kashim Ibrahim Library.

CHAPTER TWO

2.0 An Identification and Outline of the Research Objectives

2.1 Objective of the Study

The purpose of research is to discover answers to questions through the application of scientific procedures. Though each research study has its own specific purpose, this study concentrates on the following objectives:

1) To identify the types of data/information are created/generated in Kashim Ibrahim Library, Ahmadu Bello University, Zaria.
2) To explore the type of Information and Communication Technology devices are available for management of information in Kashim Ibrahim Library, Ahmadu Bello University, Zaria.
3) To evaluate the type of Information Communication Technology facilities are used in management of information in Kashim Ibrahim Library, Ahmadu Bello University, Zaria.
4) To examine the extent that the Information Communication Technology devices being used for management of information in Kashim Ibrahim Library, Ahmadu Bello University, Zaria.
5) To identify the reasons are information generated used in Kashim Ibrahim Library, Ahmadu Bello University, Zaria.
6) To explore the problems encountered in the use of ICT devices for management of information in Kashim Ibrahim Library, Ahmadu Bello University, Zaria.

2.2 **Research Question**

The following research questions will be answered

1) What types of data/information are created/generated in Kashim Ibrahim Library, Ahmadu Bello University, Zaria?
2) What type of Information and Communication Technology devices are available for management of information in Kashim Ibrahim Library, Ahmadu Bello University, Zaria?

3) Which type of Information Communication Technology facilities are used in management of information in Kashim Ibrahim Library, Ahmadu Bello University, Zaria?
4) To what extent are the Information Communication Technology devices being used for management of information in Kashim Ibrahim Library, Ahmadu Bello University, Zaria?
5) For what reasons are information generated used in Kashim Ibrahim Library, Ahmadu Bello University, Zaria?
6) What are the problems encountered in the use of ICT devices for management of information in Kashim Ibrahim Library, Ahmadu Bello University, Zaria?

CHAPTER THREE

3.0 Introduction

According to Dafiaghor, (2012) explained that the use of information technology in Nigerian academic libraries has been profoundly affecting all aspects of information acquisition, storage, and transfer. Its magnificent development has dramatically changed the mode of library operations and information services. Hundreds of thousands of monographic materials, journals, learning resources, databases, etc. are now available in electronic formats, and these materials can now be accessed from the remote corner of any country, thereby increasing the use of information and literature and the efficiency of information services in Nigerian tertiary institution. Users are now more independent than before; they can access to these electronic formats from their home computers and search databases according to their information needs. Students, teachers, researchers, information professionals, and employees are the user categories in tertiary institutions. Their needs vary; their information or literature-seeking behavior also varies, and they need to be cared accordingly. Requirement of an individual needs to be individually addressed in an efficient way. Information resources also need to be accessed by them depending on their requirements – be they print materials and web-based resources. Electronic resources imply information materials that require the use of electronic devices such as personal computers (PCs), laptops, palm-tops, Notebook-laptops, DVD-,VCD-,CD–players, projectors, phones, I-pods, Iphones, I-pads, internet-, WAN-, LAN-networks, etc for their usage. Some of the most used of these resources include flash-drives, memory cards, DVD-, VCD-, CDROMs, DVD-, VCD-, CD-RAMs, DVD-, VCD-, CD-R; DVD-, VCD-, CD-WR; DVD-, VCD-, CD+WR, etc. (Dafiaghor, 2012).

The traditional services rendered by the library include, readers' services, reference services, reprographic services, Current Awareness Services (CAS), Selective Dissemination of Information (SDI) etc. However, the advent of Information Communication Technology (ICT) has expanded the scope of these services and the tools of information delivery. Today we have e-library and virtual library which provide access to electronic books and journals, online references, web-resources, web-catalogues etc. This "Web-eccentricity" poses a lot of challenges to librarians and information scientists as well as the traditional

library users. The challenges are both operational and strategic. The attitudinal challenge is another dimension that needs to be addressed (Idowu, 2009).

With the growth in the use of ICTs to support information handling within organizations, the political nature of information has come into sharper focus. In this regard, information professionals which librarians are one have become highly powerful and respected in the management of every organization. Today, information and records management has become a major issue in the 21st century in view of the fact that:

- Information whether stored on paper or magnetic tape or CD or even human brain become fundamental requisite for ensuring rationality; validity and coherence in decision making in the organization.
- Records are basic tools and instrument through which functions and processes are effectively carried out if only they are well arranged, managed and made accessible to the members of the organization; and
- Modern administrative systems, like other contemporary socio-economic, technological, political, educational systems etc. have become increasingly complex and sophisticated, the reason why information and records management should move along the same line. (Ayeni, 2000).

The basic goal of information management is to harness the information resources and information capabilities of the organization in order to enable the organization to learn and adapt to its changing environment (Choo 1995, Auster and Choo 1995). Information creation, acquisition, storage, analysis and use therefore provide the intellectual latticework that supports the growth and development of the intelligent organization. The central actors in information management must be the information users themselves, working in partnership with a cast that includes information specialists and information technologists. Information management must address the social and situational contexts of information use -- information is given meaning and purpose through the sharing of mental and affective energies among a group of participants engaged in solving problems or making sense of unclear situations.

However, McGary (1993) argued that advances in information and communication technology have been very rapid in the last two decades. Its influence has been very pervasive to the extent that there is hardly any field of human endeavor that has not been touched. Since

the mid-70s, mankind has witnessed a phenomenal growth in the number and variety of information products, services, systems and sources. The catalyst for the growth has been rapid innovations in information and communication technology for creating processing, communicating and using information, (Tiamiyu, 2000).

This technology rests on computer, computer components and telecommunications. Computer can be used for a number of different tasks. Use of the computer allows for a near perfect data-base management. It should be noted that data base management encompass information management. Extensive and comprehensive set of records collected can be organized electronically in a meaningful way for purposeful usage. There are software packages that can provide good records management services, they facilities the creation and maintenance of records in a database. Gookin (2000) observed that database management through the use of computer has helped immensely in maintaining order file.

The application and diffusion of information and communication technology cannot be viewed in isolation from development in telecommunication technology. Innovation in computer and telecommunication technology have resulted in major changes in basic library operations as well as managing information in different offices and organization, such as circulatory reference services, cataloguing and classification, collection development (ordering and acquisition). However, the innovations have prompted many organizations to employ the use of ICT devices to further manage information and records of the organization. On this note, many organizations, now adopt the use of computer systems, database management systems, development of network systems to create, store, preserve, secure and use information for effective decision making in the organization.

Brady (1991) explains that development in technology boost services of television and radio broadcasting which enables large number of viewers and listeners to receive information broadcast from a network of transmitting stations. It is essentially a one-way method of communication. He further stated that, the use of satellite links, optical fibre links, packet switching system, modems, teletex system, made radio and television services more cost-effective, speed in transmission, and allowed simultaneous reception of their services at a time.

In the same vein, Everest (2002) asserts that interactive video, home computing, satellite transmission, cable, videodisk and electronic miniaturization are among current technological developments that could either greatly expand or diminish the social roles of libraries. The implication of all these, is the availability of new information products and services and their effect on the existing library and information services.

Today technology has became strong force in information handling, it provide librarians and information scientists with wide range of tools to help us achieve our goal of improve service to users. Technology had shown a clear impact on the basic character of management information system. At the same time, the merging of computers, telephone, television and satellite has brought about rapid expansion of the information market place. What remains open to question is the extent to which libraries as traditional custodian of information would be in position to take advantage of an enhanced service that technology offered. Heathcole (2002).

According to Longe (2003) application of Information Communication Technology in information management had aid in capturing, storage, retrieval, analysis, and communication of information whether in the form of data, text, image or voice. The application and use of Information Communication Technology has brought about tremendous improvement in information management worldwide. It also has the added advantage of making possible more services for both the management and users of the information services institution which would otherwise not have been possible under manual operations.

3.1 Background of Kashim Ibrahim Library

Kashim Ibrahim Library established in 1962, the University Library System of Ahmadu Bello University comprises the Kashim Ibrahim Library (the main Library) and eleven other satellite libraries located in different campuses of the University. The Library has a total holding of over 1.2 million volumes of books and 66,000 periodical titles. The University library has always been at the centre of research and scholarship playing a major role in acquiring, processing and lending library materials and responding to patrons inquires. Today, online database and internet searches are a common feature among staff and students of the University.

The library management in the past few years has been striving to upgrade the IT skills of the staff to enable them cope with challenges of the information age. Recently, thanks mostly to donations by the MacArthur Foundation and the Carnegie Corporation, rapid progress has been made not only in updating the collection, but also in automating the resources and services of the Library system. Today, online and CD-ROM searches are a common feature among staff and students of the University. With staff strength of 42 professionals and 109 Para-professionals, 22 Senior and 102 junior non-professional staff in the entire university library system, the library management is striving to upgrade the IT skills of the staff to enable them cope with challenges of the information age (KIL website n.d.).

3.1.1 Library Complex Policy

According to University Library Complex Policy (n,d.) defined the Library Policy as a guide to the operations and management of library. It serves to maintain standards and avoid inconsistencies. It is used to measure the extent to which a library performs its functions and meets its objectives as well as its systems and services. It is within the context of the foregoing that A.B.U. Library Complex has its own policy in order to achieve its goals and objectives of supporting the University's functions of teaching, learning, research, and community service. The policy covers areas such as funding, staffing, resource management, operations etc.

a) Mission

The mission of A.B.U. libraries is to support the current and anticipated teaching, learning, research, and community service activities of the University through provision of all relevant information resources, facilities, services and personnel.

b) Goals

The goals of the Ahmadu Bello University Library Complex are:

1) To select, acquire and maintain library resources in all formats for supporting teaching, learning, research and Community service of the University.
2) To participate in resource sharing programmes at local, State, National and International levels in order to facilitate access to information resources not available in A.B.U. libraries.

3) To assist library users to identify, locate, retrieve and access needed information and also instruct them on how to use them best for better utilization.
4) To provide appropriate infrastructure and technologies for operational efficiency and effectiveness.
5) To attract, develop and retain qualified personnel for effective and efficient information service delivery and systems management.
6) To participate actively in teaching, learning, research and dissemination of information.
7) To create, develop, acquire and maintain e-resources and related databases to boost the holdings of library resources and enhance library services.

The Ahmadu Bello University Library Complex is comprised of the Kashim Ibrahim Library, and a number of Satellite libraries as well as the faculty and departmental libraries, each with its own functional units for which policies are provided. Kashim Ibrahim Library, the main library of the University, has the following functional Divisions, namely:

a. Resource Development Division
b. Customer Services Division
c. Resource Processing Division
d. Reference and Information Service Division
e. Serials Management Division
f. Research and Bibliographic Services Division
g. Human Resources Division
h. Information and Communication Technology (ICT) Division.

However, the Satellite Libraries, as well as the Faculty Centre, Institute and Departmental Libraries have integrated sections and units for easy and efficient management and services delivery. Below are the satellite libraries that accompany with the library:

1) The President Kennedy Library
2) The Law Library
3) The Centre for Islamic Legal Studies Library
4) The Institute for Agricultural Research Library
5) The National Animal Production Research Institute Library (NAPRI)

6) The National Agricultural Extension and Research Liaison Services Library (NAERLS)
7) The Medical Libraries (Clinical and Pre-Clinical)
8) The Lee T Railsback Library (Veterinary Medicine)
9) The Arewa House Library
10) The Division of Agricultural Colleges Library (DAC)
11) The Samaru Public Library

In addition to all these all academic departments have their own libraries.

3.2 Statement of the Problem

The rapid changes in information and communication technology causes already uncertain business environment to be even more predictable. Organizations' ability to identify the relevant information needed to make important decisions is crucial, since the access to data used to generate information for decision making is no longer restricted by the manual systems of the organization. Today, the emergence of ICTs made it possible for organizations to record, synthesized, analyze and disseminate information quicker than any other time in history, (Galliers, 2003). He further argued that data can be collected from different parts of the company and its external environment and brought together to provide relevant, timely, concise and precise information at all levels of the organization to help it become more efficient, effective and competitive.

Also, over the years organizations generally have been accumulating heaps of information emanating from different departments and units within and outside the organizations. As a result of this scenario, these organizations are saddled with the tasks of managing the information and records for the purpose of effective and efficient decision making and improve productivity in the organization. The large volumes of different varieties of information generated and disseminated almost on daily basis require more sophisticated devices in its managements.

However, observations by the researcher revealed that management of information and records in Kashim Ibrahim Library, Ahmadu Bello University, Zaria is ineffective and thereby rendered lots of information and records of the organization not retrievable, not

accessible and to a large extent not useful to the organization. Since, more often information and data are found to be lost. Another resulting problem is information redundancy, poor data security and preservation measures and inability to share data/information among departments of Ahmadu Bello University, Zaria

In the late 20th and early 21st centuries, library automation and the internet revolutionized information access and library operation around the world. The effect on academic institutions has been profound. It enables users to access library resources from sites hundreds or thousands of miles away. Library in academics institutions can now provide information access to off-campus faculty and students wherever they are located. To meet the ever increasing demands for information availability, academics libraries must now subscribe to electronic resources such as e-books, full text journals and on-line bibliographic database in addition to the print formats. While the availability of these electronic resources enables remote access to needed information, concomitantly, they present issues and challenges (Idowu, 2009).

It is against this background that this research was designed to examine the application of Information Communication Technology in management of information in resource and services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria.

3.3 Significance of the Study

The study will reveal the extent to which ICT resources and services are made available for users in Kashim Ibrahim Library, Ahmadu Bello University, Zaria. University library is to provide ICT resources and services to the growing of entire library resources to users. As such the findings of the study will be of great importance to the government and University management functionaries to plan better in order to meet the changing technological needs of their library. Also, it will serve as a guide to University library management in the area of planning and establishing newly ICT unit, resources and services. In addition, it will serve as a guide for newly created university library in setting up their plan for ICT resources and services in order to meet their need. Finally, it is an important contribution in the field of Information technology/library information science and knowledge in general.

3.4 Scope of the Study

Any intensive education research and extension education needs the support of systematic library and modern ICT services. A well organized and efficiently managed ICT resources and services are pre-requisite to any of the above said activities. Therefore, there is a vast scope to a study the various aspects of ICT resources and services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria. The student's scientists and academicians require the various types of ICT resources and services according to changing scenario. Hence, it was decided to conduct a research on Application of Information and Communication Technology (ICT) in Management of Information Resources and Services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria. The study will cover the situation associated with ICT resources, services, adequacy, availability, use, problem and satisfaction of end users.

3.5 Definition of Terms

The following terms are defined in the context in which they are used in this study:

Application: The act of bringing something to bear; using it for a particular purpose or the action of putting something into operation

Information: Knowledge acquired through study or experience or instruction. And it can be a collection of facts from which conclusions may be drawn.

Communication: The activity of communicating; the activity of conveying information or a connection allowing access between persons or places

Technology: The practical application of science to commerce or industry or the discipline dealing with the art or science of applying scientific knowledge to practical problems.

Management: This is made up of a team of high level personnel in the library in charge of the responsibility of setting up activities ranging from planning, decision making, organizing, leading and controlling and organizing with the aim of achieving organizational goals and objectives.

ICT Resources: These Includes electronic information resources that users access electronically via a computing network. Examples include online databases, e-journals, e-books, CD-ROMs, audio visual multimedia, etc.

ICT service: This is an information activity carried out electronically to satisfy the intended users. ICT services include Computer services, e– mail based services, bulletin board for libraries, online public access catalogue (OPACs), portals and gateways and the internet.

University library: A tertiary institution library that promotes teaching, research and learning established purposely to meet the goals and objectives of the institution.

Research: To study something carefully and try to discover new facts about it.

CHAPTER FOUR

4.0 Research Approach and Planning

According to Kothari, (2004), explained that Qualitative research is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behavior (i.e., why people think or do certain things), we quite often talk of 'Motivation Research', an important type of qualitative research. This type of research aims to discover the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests, sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is especially important in the behavioral sciences where the aim is to discover the underlying motives of human behavior. Through such research we can analyze the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing. It may be stated, however, that to apply qualitative research in practice is relatively a difficult job and therefore, while doing such research, one should seek guidance from experimental psychologists.

A qualitative design will be adopted for this study. The method will be appropriate and suitable for the study since the study is after descriptive of situation of electronic information resources and services. Therefore, it was decided to conduct a research on Application of Information and Communication Technology (ICT) in Management of Information Resources and Services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria. The study will cover the situation associated with ICT resources, services, adequacy, availability, use, problem and satisfaction of end users.

4.1 Research strategy

Babbie (1986) explained that survey research strategy is used for descriptive and explanatory purposes. Meaning that a situation is fully described and explained in details base on what is existing. According to Ifidon and Ifidon (2007) a survey research gathers data from a population in order to determine the current statues of that population with respect to one or

more variable. It does not focus on individual as an entity but generalizes statistic realized when data are abstracted from a number of individuals cases. It is characterized by selecting samples from a population and findings obtained are used to generalize the population. Survey research is also directed towards different people to know their feeling, opinion, belief and attitude regarding an issue, policy or service. Ndagi (1984) defines survey research as a research concerned with the collection of data for the purpose of describing and interpreting existing conditions, prevailing practices, beliefs and attitudes on ongoing process.

Yin (1994), Identified five research strategies in social science base on three conditions:

4) Form of research questions
5) Control over behavioral event and
6) Focus on the contemporary events.

These strategies are experiments, surveys, archival analyses, historical and case studies. The survey strategy is most appropriate to this study since the study is after description of the situation of Information and Communication Technology (ICT) in Management Information Resources and Services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria.

4.2 Population of the study

At an early stage in the planning of any investigation decisions must be made concerning the study population. That is, concerning the population of individual units (whether they are persons, households, etc.) to be investigated. The population under consideration should be clearly and explicitly defined in terms of place, time, and other relevant criteria. If the study population comprises cases of a disease the procedures to be used for case identification should be stated (Degu, G. &Yigzaw, T. 2006).

The population for the study is Ahmadu Bello university library (Kashim Ibrahim Library), Zaria. The choice of this university was made because both federal university and state university have common characteristics of managing the system. The target group for the study will be made up of the ICT Professional, system Librarians and professional librarians working in Kashim Ibrahim Library, Ahmadu Bello University, Zaria.

4.3 Sample and Sampling Techniques

A Sample is a segment of the population selected to represent the population as a whole. Ideally, the sample should be representative and allow the researcher to make accurate estimates of the thoughts and behavior of the larger population. According to research methodology for private circulation (RMPC, n.d) ascertain that designing the sample calls for three decisions:

1) Who will be surveyed? (The Sample) The researcher must determine what type of information is needed and who is most likely to have it.

2) How many people will be surveyed? (Sample Size) Large samples give more reliable results than small samples. However it is not necessary to sample the entire target population.

3) How should the sample be chosen? (Sampling) Sample members may be chosen from the entire population. The non probability sampling (Convenience sample) will be adapted to this study the researcher selects the easiest population members from which to obtain information.

With regards to the category of the entire population of the study, this is made of Ahmadu Bello University, Zaria. The Kashim Ibrahim Library forms sample of the study. Therefore, with respect to the study, all the staff that involved in managing ICT unit, electronic information resources and services in the Kashim Ibrahim Library will be used. These include the ICT Professional, system Librarians and professional librarians. The justification of this subject of study is based on the fact that; the ICT Professional, system librarians and professional librarians play a role as the custodians/personnel running the day to day affairs of the ICT resources and services in library.

Table 4.1 distribution of sampled respondents in Kaduna state university library

S/N	**Type of institution**	**University Library**	**ICT Professional**	**Electronic Librarian**	**Professional librarian**	**Total**
1	Federal	Kashim Ibrahim Library	20	15	15	50

4.4 Instruments for Data Collection

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. A questionnaire consists of a set of questions presented to a respondent for answers. The respondents read the questions, interpret what is expected and then write down the answers themselves. Because there are many ways of asking questions, the questionnaire is very flexible. Questionnaire should be developed and tested carefully before being used on a large scale. There are three basic types of questionnaire: Closed – ended, Open-ended and Combination of both (RMPC, n.d.). Combination of both will be used in this study so that it will give the respondents chance to express their opinion.

The researcher feels that the questionnaire is of standard and adequate to provide the data needed for the research. Ihanacho (2004) explained that the questionnaire as a survey research instrument is designed in question form to obtain feedback information from subjects with respect to their opinions, attitudes beliefs and motives regarding a situation. Questionnaire was used to collect the data because of its relevance and the researcher knew that this method could only be used for getting information from the staff of the Kashim Ibrahim Library. It is set out to gather factual information in an enquiry form through which the respondents answer the questions or respond to statements in writing.

4.4.1 Questionnaire

The researcher used questionnaire as an instrument for collecting data considering the nature and predisposition of the respondents. This instrument used was designed to ensure that relevant data were collected. Kothari, (2004), observed that collecting the data in dealing with any real life problem it is often found that data at hand are inadequate, and hence, it becomes necessary to collect data that are appropriate. There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources at the disposal of the researcher. Primary data can be collected either through experiment or through survey. If the researcher conducts an experiment, he observes some quantitative measurements, of the data, with the help of which he examines the truth contained in his hypothesis. But in the case of a survey, data can be collected by any one or more of the

following ways: observation, personal interview, telephone interviews, through schedules and mailing of questionnaires the researcher and the respondents do come in contact with each other on this method of survey that will be adopted. The research will be adopted mail questionnaire due to the nature of research and advantage of the instrument. Some of the advantages of mail questionnaire are:

jj) Can be used to collect large amounts of information at a low cost per respondent.

kk) Respondents may give more honest answers to personal questions on a mail questionnaire

ll) No interviewer is involved to bias the respondent's answers.

mm) Convenient for respondent's who can answer when they have time

nn) Good way to reach people who often travel (RMPC, n.d.).

Questionnaires are mailed to the respondents with a request to return after completing the same. It is the most extensively used method in various economic and business surveys. Before applying this method, usually a Pilot Study is been tested the questionnaire is conduced which reveals the weaknesses, if any, of the questionnaire. Questionnaire to be used must be prepared very carefully so that it may prove to be effective in collecting the relevant information (Kothari, 2004).

The questionnaire is divided these sections. Section A: Demographic data of the respondents; which includes division, unit, ranks and years of working experience. Section B: types of data/information are created/generated in Kashim Ibrahim Library. Section C: type of Information and Communication Technology devices are available for management of information in Kashim Ibrahim Library. Section D: type of Information Communication Technology facilities are used in management of information Resources and Services in Kashim Ibrahim Library. Section E: extent that the Information Communication Technology devices being used for management of information Resources and Services in Kashim Ibrahim Library section F: reasons are information generated used in Kashim Ibrahim Library. Section G: problems encountered in the use of ICT devices for management of information Resources and Services in Kashim Ibrahim Library.

4.5 Validity of the Instrument

According to Degu, G. &Yigzaw, T. (2006), validity refers to the degree of closeness between a measurement and the true value of what is being measured. Validity addresses the question, how close is the measured value to the true value? To be accurate, a measuring device must be both valid and reliable. However, if one cannot have both, validity is more important in situations when we are interested in the absolute value of what is being measured.

In order to ensure the validity of the questionnaire used in data collection, it would be subjected to validation**.** Kerlinger (1973) asserts that validation by others is an effective method for face validation of any instrument used for research. In this regard, the kind of validation used was that of making a draft copy of the questionnaire available to experts for checking, observing, correction and amendment. Two thesis supervisors and three other academic staff of Cairo University, Egypt were chosen for the validation of the questionnaire. Mohammed (2005) notes that comments by such experts enables the researcher to review and revise the instrument for greater effectiveness before administering it.

4.6 Reliability of the Instrument

According to Degu, G. &Yigzaw, T. (2006), Reliability on the other hand is more important when it is not essential to know the absolute value, but rather we are interested in finding out if there is a trend, or to rank values. Reliability refers to the repeatability of a measure, i.e., the degree of closeness between repeated measurements of the same value. Reliability addresses the question, if the same thing is measured several times, how close are the measurements to each other?

According to Bryman (2008) reliability of instrument is very important as it deals with consistency, stability and detail treatment of issues using appropriate techniques. The reliability of the instrument was established by conducting a pilot study within two week at the Cairo University, Cairo Egypt. The choice of this university is made because it did not form part of the scope of the study. To ensure that the instrument was reliable, a pre-test was conducted using library staff in the same university (Cairo University) which was not included in the study.

4.7 Procedure for Data Collection

Having decided on how to design the research study, the next methodological design is how to collect information. The most commonly used methods of collecting information (quantitative data) are the use of documentary sources, interviews and self-administered questionnaires. Data collection methods are time consuming and consequently data is collected from smaller numbers of people than would usually be the case in quantitative approaches such as the questionnaire survey. The benefits of using these approaches include richness of data and deeper insight into the phenomena under study. (Degu, G. &Yigzaw, T., 2006),

The researcher administered and collected the questionnaires through Email as research assistant to all the respondents. In this process the researcher solicited the cooperation of the authority of the Kashim Ibrahim Library staff, which was done within one week. An additional two weeks were also given to the respondents so as to facilitate completion of the instrument. The administration of the instrument was conducted under strict confidentiality as the respondents were assured that their responses would be treated confidentially and for the purpose of the study alone.

4.8 Procedure for Data Analysis

Kothari, (2004), explained that the data, after collection, has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan. This is essential for a scientific study and for ensuring that we have all relevant data for making contemplated comparisons and analysis. Technically speaking, processing implies editing, coding, classification and tabulation of collected data so that they are amenable to analysis. The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data-groups. Thus, "in the process of analysis, relationships or differences supporting or conflicting with original or new hypotheses should be subjected to statistical tests of significance to determine with what validity data can be said to indicate any conclusions. When a mass of data has been assembled, it becomes necessary for the researcher to arrange the same in some kind of

concise and logical order. This procedure is referred to as tabulation. Thus, tabulation is the process of summarizing raw data and displaying the same in compact form (i.e., in the form of statistical tables) for further analysis. In a broader sense, tabulation is an orderly arrangement of data in columns and rows. Tabulation is essential because of the following reasons.

1. It conserves space and reduces explanatory and descriptive statement to a minimum.
2. It facilitates the process of comparison.
3. It facilitates the summation of items and the detection of errors and omissions.
4. It provides a basis for various statistical computations (Kothari, 2004).

Nworgo, (2006) added that analysis of data is a process of infecting, cleaning, transforming and modeling data with the goal of highlighting useful information, suggestion, conclusion and supporting decision making. Data has multiple facts and approach, encompassing diverse technique under a variety of names, in different business, science and social science domains. This research adopted logical analysis method; it is an outline of generalizing causation using flow chat diagram, table, frequencies and percentages. The data would be presented in tabular and chart form to show the responses of each category of respondent.

CHAPTER FIVE

5.0 Theoretical Frame Work and Finding

5.1 The Concept of Information Technology

The term 'information technology' means computers, ancillary equipment, software and firmware (Hardware) and similar procedures, services (including support services) and related resources. It is also information technology includes any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information. Oni, F. A (2003) explained that technological development has in recent times landed mankind into the era of Information Technology (IT). IT, which is generally perceived as a fusion of telecommunication and computer services to initiate, generate, and distribute information, is now becoming the indisputable index for measuring a nation's level of development. Thus, Woheren (2000) reveals that, IT is a term used to encompass all forms of technology used in the process of acquiring, storing, processing, and distributing information by electronic means (including radio, television, telephone, and computers).

Records abound on the extensive use of IT in educational circles, especially in the advanced countries of the world. According to Olajumoke (2000) previous studies have highlighted the strategic disadvantages that nations would face if they do not position themselves to harness and use IT as a tool for leveraging their activities in the emerging global village. For instance, Chandrasekharan (2001) informs that, colleges and Universities have their own websites containing all the pertinent information about the institutions. They have their own central server containing students' database, course information materials, assignments, examination results, and the likes. More so, students and other users have unfettered access to information and could, through e-mail facility, access the professors and other officers on the chart-room for discussions, clarifications and the sort. Similarly, Oni and Shaktur (2001) inform that, the use of IT in library and information services of the school system has led to the provision of improved services such as automated acquisition and circulation services, selective dissemination of information for researchers, among other things.

With IT libraries are now able to provide their clientele with much better and more efficient information services with most noticeable impact on information storage and retrieval as well as in-house keeping routines such as acquisition, cataloguing, serials control, circulation of library materials and the collection of management statistics. Chisenga continues that, with optical disc technology, it is possible to reduce large reference publications such as encyclopedias, bibliographies directories and many others into disc for easy accessibility and utility.

5.2 Concept of Information Resources

Kulani, (2011), explained Information as data presented in a comprehensible form and which makes meaning to the recipient. In other words, it is a message conveyed by the use of a medium of communication or expression. Information can be referred to as facts, conclusion, and ideas creative works of human intellect and imagination which might have been communicated formally or informally in any form. Reitz (2004) refers information as opinion provided or received during the course of daily life.

Ray Prytherch (2000) defined resource development as: "the process of planning a stock acquisition programme not simply to carter for the immediate needs, but to build coherent and reliable resources over a number of years to meet the objective of services" Librarians usually build or assemble their collections or resources through a combination of strategies.

5.3 Types of Information Resources

Information resources are the tools with which library services are performed. They include books, microforms, tapes, computers and dairies among others. The importance of library materials can be seen from the fact that if they are removed, the library ceases to exist as what will be left is only a building. The library is made up of both the building and the materials and none of them can function effectively without the other. There are many types of information resources available for use in libraries. They are usually categorized into two forms of print and non-print materials (Kulani, 2011).

5.3.1Print Information Resources

Print information resources in the library are those items that are printed on paper which appear in book form. The uses of these materials must be able to read as that is the only way print materials can be used. Print materials consist of the following:

k) Book: A book is a print material printed and often bound in one or more volumes. It may be written by one or more individual persons or corporate bodies.

l) Dictionary: This is another reference material and it lists words or terms of general or particular subject, profession, usually providing certain basic information about them. Dictionaries are also arranged in an alphabetical order. Some of the basic information which a dictionary provides are words and terms include their meanings, spellings, origin, pronunciation, use and abbreviations among others. There are both general and subject dictionaries. Examples include: Advanced Learners Dictionary, Longman Contemporary English Language Dictionary.

m) Directory: is a reference material that lists persons, companies, institutions and organizations giving their names and addresses. There are directories for telephone services, government parastatals, trade and business, example Nitel Telephone Directory.

n) Almanacs and year books: are yet other types of reference book. These two perform the same function or role of covering activities and events within a period of one year and presenting them in descriptive and or statistical form. Topics covered are politics, economy, business, culture, education, music, science and sports statesman's yearbook, Whitaker's Almanac and Nigerian year book are examples of Almanacs and year books.

o) Handbooks and manuals: are reference books that provide relevant information in a concise form on different aspects of knowledge. An example includes Guinness Book of World Records. Other types of reference books include abstracts, indexes, gazettes, gazetteers, biographies and bibliographies.

p) Serials/ Periodicals: These are information resources published in successive parts (daily, weekly, monthly, quarterly or annually) and intended to be continued indefinitely, serials are also called periodicals and they are considered essentials in libraries. Examples of serials include journals, newspapers and magazines.

q) Government Publications: These include all official documents published by all levels of government (local, state and federal). In addition to these are documents emanating from international organizations such as the United Nations and its agencies, African Union (AU), Economic Community of West African States (ECOWAS), Organization of Islamic Countries (OIC) and Organization of Petroleum Exporting Countries (OPEC). Documents ranked as government publications are published laws, acts of parliament. Military decrees, state edicts, by-laws, constitutions of countries, correspondences between the three arms of government, books are pamphlets emanating from government.

r) Maps and Atlases: These are another type of print resources available in libraries; maps are drawings and illustrations of the earth's surface usually showing countries, rivers, seas, lakes and mountains. On the other hand an atlas is a collection of maps.

s) Pamphlets and Clippings: A pamphlet or a piece of writing appearing with soft covers that deals with an issue of current interest. It is usually less than 50 pages. Clippings which are pieces of paper cut out from newspapers or magazines. Clippings which are also called cuttings contain very important information of current interest such as job advertisement.

t) Manuscripts: These are books or paper writing by hand or with a typewriter intended for publication. It is from a manuscript that books are subsequently published.

5.3.2 Non-print Information Resources

These are library materials that are not printed on paper. They come in forms other than in book form and are also called non-book materials or audio-visual materials. Some of them are listened to, some are viewed while others can be both listened to and viewed. Non-print information resources being products of the new information technology cannot be used on their own like books, rather they require certain equipment to facilitate their use. The non-print information resources include electronic resources, audio, visual and audiovisual.

f) Electronic Information Resources: Libraries are providing information to its user. Earlier it was in the form of reference service which is more concern with provision of information on demand, but information services lays emphasis on providing information in anticipation. In

information services emphasis is to provide information rather than providing only document. It is an attempt to provide exact information not just directing to the material. Ultimately, the librarian is not waiting for the user, but goes ahead with the job. With the advent of ICT, libraries implement it in providing information services too, which introduces the concept of 'Digital Information Services'. Digital Information Services in the libraries includes all electronic information resources organized for services, as well as computerized and networked online resources accessed through libraries.

Electronic Information Resources includes e-books, e-journals, CDs, DVDs and databases, etc. Computerized and networked online resources – several reputed and authentic sources are available on the Internet. The convenience of accessing remote information through WWW has resulted in popularity for WWW. Hence, most of organizations, publishers, open archive initiatives have forward to put their information content on web. The convergence of computer, telecommunication, information and multimedia has helped in the development of electronic information services. Electronic information services provides a wide array of services to assist members of the library with organizing collection of material or making them more widely available (Choughule, 2007). Following are some of the electronic information services: electronic table of content service, full text access to electronic journals, current awareness services, electronic document delivery, externally purchased database, CD-Rom databases, library catalogues, remote information services, internally published newsletters, reports, journals, bulletin board services, discussion groups/forums, newspaper clippings.

g) Audio Information Resources: These are information resources that can only be listened to but cannot be viewed or read. Examples include audio tapes or cassettes, phonon discs and other sound recordings. The use of these information resources requires good listening skill which is the only way to receive the information contained in them. Most of them require a radio-cassette medium or record player for their use.

h) Visual Information Resources: These are those that can only be used by viewing as they do not have any sound and cannot be heard. There are many library materials in use today that fall into this category: Examples include:

3. Transparencies: These are those with images that are seen only when light is passed through them. They include filmstrips and slides.

4. Microforms: These are information resources that contains information in greatly reduced form .Microform is composed of microfilms, micro, microfiche and micro cards, microfilm has become a great space saver for uncomputerized libraries as it is used to store back stock of newspapers with minimal space. Transparencies require a projector in order to operate while microforms must be backed up with what is known as a Reader. This is equipment that enlarges and displays the words or pictures contained in the microforms.

i) Audio-Visual Information Resources: These are materials that combine both the audio and visual effects in the transmission of information. The full benefit of these information resources is received when the user implores both his listening and viewing skills. Resources that are audio-visual in nature include television, motion pictures (sound film), veiled films and video disks. In addition to the above examples, advanced technology has provided other audio-visual materials such as computer aided compact disks (CD) and video compact dices (VCD). Equipment required using these materials include film projectors, video players, compact disks players and computers.

5.4 Nigerian National Policy for Information Technology

According to Nigerian National Policy for Information Technology (n.d) explain that Information Technology (IT) is the bedrock for national survival and development in a rapidly changing global environment, and challenges us to devise bold and courageous initiatives to address a host of vital socio-economic issues such as reliable infrastructure, skilled human resources, open government and other essential issues of capacity building. Information Technology policy built on reliable human resources and infrastructure constitutes the fundamental tool and means of assessing, planning, managing development change and for achieving sustainable growth. It is for this reason that every progressive country has a national IT policy and an implementation strategy to respond to the emerging global reality and thus avert becoming a victim of the digital divide.

A developing nation like Nigeria that aspires to participate effectively and become a key player in the emerging Information Age needs to have in place, a highly efficient

Information Technology system driven by a vibrant national IT policy. The necessity for a national Information Technology (IT) policy became more obvious after the participation of the Nigerian delegation in the first African Development Forum on the Challenge to Africa of Globalization in the Information Age held in Addis Abba in October 1999.

5.5 Kashim Ibrahim Library's Policy on Information Communication Technology

To fulfill its mission of providing access to information of all types in a wide range of format, the Library provide access to internet services, digital repository, C-D, search online and offline database and OPAC. The Library ICT policy shall deal with the overall management of electronic resources and services in the library. The policy shall be that:

a) All e-resources provided by the library shall be used for personal, instructional or research needs.

b) Users shall not change computer settings, configure and add other programme without permission of the library.

c) Users can display, download, print and copy a reasonable portion of e-resources without infringing on copyright laws.

d) Users shall not tamper with, disable or introduce viruses to the computer hardware and software.

e) Laptops and other personal computer devices are welcome in the library. Users may connect personal equipment to the wireless network or to ports designated for such use.

f) The library's computers shall be used for official and other lawful purposes only.

g) The library shall not be responsible for the content from the Internet, which contains materials which may be inaccurate or offensive to some individuals and customers.

h) Users shall always acknowledge the source of any published or unpublished document when the data is obtained from e-resources.

i) The Library shall charge for printing of pages.

j) Display of socially in appropriate graphic material is prohibited.

k) Use of databases for commercial purposes, mass mailing of full text articles to list server or websites is prohibited.

l) Users shall be prohibited from sleeping at the computer, playing games, watching sports and other entertainment, e-mailing and shopping online Scholarly use is always the priority.

m) Photographing, filming or recording within and around the library shall be done only with the permission from the library authorities.

n) The Library shall organize regular training programmes on the use of ICT resources.

o) The library shall subscribe to all relevant databases and e-resources.

p) Library shall provide use-friendly online systems, resources and services for the physically challenged customers.

q) The library shall design, develop and maintain an active website/page.

r) The library shall design, develop and maintain institutional digital repository.

s) Serious or repeated violation of the electronic resources use policy shall result in the offender being denied library services (KIL website, n.d).

5.6 Available resources and services in Kashim Ibrahim Library

The mission of Kashim Ibrahim Library is to support the current and anticipated teaching, learning, research, and community service activities of the University through provision of all relevant information resources, facilities, services and personnel. Information resources are the tools with which library services are performed. They include books, microforms, tapes, computers and dairies among others, the library is made up of both the building and the materials and none of them can function effectively without the other. There are many types of information resources and services available for use in the library (source: Library complex policy). Bellow they are:

a) Customer Services/ Circulation: This refers to making available information resources to library users and keeping records of transactions. Only registered customers are eligible to borrow books. The period and maximum number of books each category of customers can borrow are as follows:

1) Undergraduate (UG) 7 books for two weeks
2) Postgraduate (PG) 10 “for four weeks

3) Senior Staff (S/S) 15 " for four weeks
4) Junior Staff 3 " for two weeks
5) Honorary/Alumni – can use the library for reference purpose only.

b) Inter-Library Loans: The library shall assist users to secure books not available in the library through inter-library loan and other agreed cooperative schemes.

c) Reference and Information Services: The policy is on providing reference and information services to the patrons. The services include:

1) Directing readers to locations of resources in the library or to the catalogue.
2) Providing sources of information irrespective of their location.
3) Instructing readers on how to exploit and use library resources and services.
4) Answering queries from patrons irrespective of their locations.
5) Handling library's public relations matters.
6) Compilation of abstracts, indexes, and bibliographies.
7) Mounting of exhibitions.
8) Conducting orientation for new library customers.

d) Serials Resource Management: Serials are publications in any medium issued in successive parts bearing numerical or chronological designations intended to be continued indefinitely. Serials Management policy deals with the overall management of serials resources in the library.

1) Serials collection shall be open for use to all categories of library customers.
2) A client may have access to the backset area with the permission of the Serials Librarian. Serials resource shall be used only within the Division.
3) No serial resource shall be taken out for photocopying except with the permission of the Serials Librarian.

e) Documents Resources: Documents refer to the official publications of national and international organizations, organs of government, associations and organizations, etc in form of monographs, pamphlets, magazines, journals, newsletters, theses, dissertations, Nigeriana (it is publications done in Nigeria or published about Nigerian

people) and Africana (it is publications done in Africa or published about African people).

f) Human Resources Development: Human resources development refers to staffing and staff development scheme/programme of the library. The policy shall be that:

1) The Library shall organize, promote and support staff training.

2) The Library shall organize seminars and workshops for staff.

3) The Library shall collaborate with relevant agencies and organizations in the training and development of staff.

4) The Library shall organize training for IT/SIWES students and orientation programme for newly employed library staff as well as fresh students.

5) The Library shall appoint Liaison Officers for the respective Centre and Faculties in the University

g) Arabic Resource Management: Arabic resources are print and non-print literature in Arabic Language, covering virtually all the courses offered in Ahmadu Bello University, Zaria.

h) Africana Resource Management: Africana is any publication/resource issued on Africa and about Africans, with or without African publishing imprint such as trade publications, scholarly books, government publications as well as journals.

i) Reserve Collections: The library shall provide book reserve services to monitor excessive use and misuse of limited copies of books required by large population of customers.

j) Photocopying: There shall be photocopying services within the library to ensure that customers photocopy parts of document (without infringing copyright laws) so as to ensure their security and preservation.

k) Media Resource Management: Media resources are non print materials in the library. The Media resources shall be open for use to all categories of clientele. The Library may collaborate with relevant agencies, organizations, institutions and credible individuals in the provision of media services. Media resources may be purchased directly from publishers/ manufacturers or through an agent, vendors and individuals.

l) Open Access Resources: Access to Library resources shall be over large network environment particularly the Internet Wide Area the Network where possible. Public documents shall be made accessible free while copyright materials shall be accessible in compliance as it agrees with the Law.

1) African Journals Online: AJOL is a database of journals published in Africa, covering the full range of academic disciplines. Journals included in AJOL are peer reviewed and scholarly in content. AJOL provides a range of online full text, from complete open access to only subscribed access, with hybrid models of restricted access.

2) Bio MedCentral: This is an open access to peer-reviewed open access journals focusing on biomedical research.

3) BMJ Publishing Group: This is an open access to peer-reviewed open access journals focusing on biomedical research

4) British Library for Development Studies E-Journals: This comprises lists of free internet editions of journals relevant to international development studies; maintained by the British Library of Development Studies, University of Essex.

5) Directory of Open Access Journals: This service covers full-text, quality controlled open source scientific and scholarly journals.

6) POPLINE: POPulation information online: A bibliographic database on population, family planning, and related health issues Provides citations with abstracts for 300,000 records. Document delivery services for the full text of most documents are free for individuals or institutions in developing countries.

7) HighWire: HighWire partners with scholarly societies, university presses, and publisher to create an online collection of fully searchable research and clinical literature, free for developing economies.

8) INASP Health Links: Internet gateway to recommended websites for health professional's librarians and publishers in developing and emerging countries.

9) PubMed Central: PubMed Central is a digital archive of free-access life sciences journal literature at the U.S. National Institutes of Health (NIH).

10) RFBR: Russian Federation for Basic Research: The RFBR e-Library enables over 350 scientific institutions and libraries across Russia to access journal materials online.

11) E-journals.org: A searchable and browsable list of full-text electronic journals, the site is collected and maintained by the producers of the World Wide Web Virtual Library.

Table summarized some of the online resources and services in KIL

S/N	Name	Specialization	Username/Password
1	AGORA	General Discipline	Consult the Library for Username and Password
2	HINARI	Biomedical & Medical	open source
3	BioOne	biological science and related disciplines	open source
4	Journal of performance and Art	Performance and Artrelated disciplines	Consult the Library for Username and Password
5	EBSCOHOST	For all Disciplines	Consult the Library for Username and Password
6	JSTOR	For all Disciplines	Consult the Library for Username and Password
7	Journal of Interdisciplinary	For all Disciplines	Consult the Library for Username and Password

	History		
8	Online Database on Health	Database on Health Disciplines	Consult the Library for Username and Password
9	INDEX DATA	For all Disciplines	open source
10	INDEX DATA	For all Disciplines	open source
11	Hathitrust Digital Library	For all Disciplines	open source
12	Journal of performance and Art	Journal of performance and Art	open source
13	BOOKBOON	For all discipline	free e-books

Source: Kashim Ibrahim Library official website (available at www.abu.edu.ng/library).

5.7 ICT and Electronic Information Resources

Choughule, (2007) observed that Libraries are providing information to its user. Earlier it was in the form of reference service which is more concern with provision of information on demand, but information services lays emphasis on providing information in anticipation. In information services emphasis is to provide information rather than providing only document. It is an attempt to provide exact information not just directing to the material. Ultimately, the librarian is not waiting for the user, but goes ahead with the job. With the advent of ICT, libraries implement it in providing information services too, which introduces the concept of 'Digital Information Services'. Digital Information Services in the libraries includes all electronic information resources organized for services, as well as computerized and networked online resources accessed through libraries. Electronic Information Resources includes e-books, e-journals, CDs, DVDs and databases, etc. Computerized and networked online resources – several reputed and authentic sources are available on the Internet.

The convenience of accessing remote information through WWW has resulted in popularity for WWW. Hence, most of organizations, publishers, open archive initiatives have come forward to put their information content on web. The convergence of computer, telecommunication, information and multimedia has helped in the development of electronic

information services. Electronic information services provides a wide array of services to assist members of the library with organizing collection of material or making them more widely available (Choughule, 2007). Following are some of the electronic information services: electronic table of content service, full text access to electronic journals, current awareness services, electronic document delivery, externally purchased database, CD-Rom databases, library catalogues, remote information services, internally published newsletters, reports, journals, bulletin board services, discussion groups/forums, and newspaper clippings.

5.8 Role of ICT and Electronic Information Services

Choughule, (2007). Observe that there is a large number of services are offered to users by library and information centers today. While the format of information resources may change, the way of accessing information too may vary and the style of serving the user may be different but still the vision and mission of library will be same. For some users, a major advantage in using an electronic information services is the ability to 'personalize' the information that appears on their desktop or laptop, computer. Library's role is also enhanced where they will have to adapt to the changing environment. Commercial search engines like Google, yahoo, information gateways have assisted the librarians in meeting the information needs of their clientele.

Libraries are no longer bound with their own information resources to provide services as they can easily get access to remote information sources "just-in-time". Libraries are increasingly designing "portals" to facilitate the users access to the available resources. A portal can be defined as an information hub or an n entry point to digital information sources and services available through the Internet and Intranets. To fulfill the mission of the library, it has to provide the traditional reference services, retrieval and dissemination of information and at the same time, It has to stretch its services to information search services, to organize the information resources for easy access, to filter qualitative information from the vast ocean of World Wide Web (Choughule, 2007).

The Main aim of all libraries is to provide right information to right user at right time, whether it is academic library, public library or a special library. Only the difference is

in targeted audience. Their information needs are different with different library. Here main focus is on academic libraries.

By going for Digital Information Services the academic library provide speedy access to qualitative information resources.

e) It makes optimum utilization of available resources

f) It saves time of users

g) One can access digital information from anywhere without restriction

h) It available at only one click, away.

Choughule, (2007). Added that in the digital age, the information and knowledge flow become even faster, and the popular value of knowledge necessities as well as the need of academic library or any associate or member will require more quantity and higher quality. Use of electronic information resources is now habitual and they would like to see more provision of information in digital form. They appreciate very many efforts that libraries have made in this area. They recognize that utilizing the content of journals is now much easier than it used to be. Indeed users of corporate libraries want more. Users would like to find everything they need in digital form. Users demand seamless access to a multitude of electronic information services without leaving their desktop computers. They prefer using systems that recognize them when they log on. Academic libraries devote about 30% of their material acquisition budgets to electronic information sources. Traditionally library services were mainly centralized but with the use of IT and networks make delivery of information services more distributed. Electronic information services is must in corporate as they require all information at their ease. By going for electronic library services, the corporate library can provide speedy access to qualitative information resources. Users of academic library are very happy with digital information services which provided by academic libraries. Because in today's information world, librarians digging the information as per their request, their interest etc. Therefore, they don't go while searching the information and they save their valuable time.

5.9 ICT Resources Available on the Internet

Udende & Azeez (2010) observed that the advent of IT and other communication technologies changed all means of information services and sources. The Internet has given the world numerous easy-to-use and inexpensive research tools. Internet is changing the way we view information sources. Information bundled in World Wide Web in the form of structured and non-structured sources create huge problem for professionals who are dealing with information. The shift in publication process takes place as individuals, institutions, publishers, professional associations, business houses and many others are publishing information on Internet. Electronic publishing is considered as the speedy, accurate and effective way of communication among academia and research community, and becoming a favorite idea among information professionals to experiment with. The library and information professionals have a vital role to play in organizing the information and bridging the information gap. Internet has become a part of library environment today. Internet for reference work in the library is gaining popularity. It can be successfully utilized for providing short-range and long-range reference service because various primary and secondary sources of information are available online from many sites. As information professionals, we can arrange the sources on net as we come across, in a structured manner. These can be; E-journals, E-books, Standards, E-TDs, Preprints, Library catalogue, Bibliographical Tools, Share wares, Old books, News papers, Dictionaries, Magazines, Encyclopedias, Databases, Directories, Films, Maps, Technical reports, Audio/Video, Proceedings, Patents, Websites of Companies, Institutions, Organizations, and Associations (Udende & Azeez, 2010).

5.10 Advantages of ICT and Electronic Information Services

g) Ability to make an information source simultaneously available to multiple users through networks: removed the: one source – one user" limitation of the print world.

h) It makes the library collection for global use.

i) It saves the time of the users.

j) It facilitates the effective functioning of the library.

k) It provides the latest and accurate information.

l) Digital Information Services will have no boundaries of time, space, geographical area, and racial discrimination between people for accessing the information. One can access the information from a remote area or from some other country also and at a very cheaper rate.

5.11 Application of ICT in Management of Information resources and services

According to Longe (2003) application of Information Communication Technology in information management had aid in capturing, storage, retrieval, analysis, and communication of information whether in the form of data, text, image and voice. The application and use of Information Communication Technology has brought about tremendous improvement in information management worldwide. It also has the added advantage of making possible more services for both the management and users of the information services institution which would otherwise not have been possible under manual operations.

By and large, the ability of organizations to progress and excel is dependent upon the ability of the organization to process and use adequate, relevant, timely information as and when necessary. However, the relevance of any information and records in organizations cannot be realized or appreciated unless they are properly and adequately organized in such a way that their storage and preservation allow for easy accessibility. This means that for any institution or organizations to function effectively. It needs to have a well institutionalized information and records management programme.

The application and diffusion of information and communication technology cannot be viewed in isolation from development in telecommunication technology. Innovation in computer and telecommunication technology have resulted in major changes in basic library operations as well as managing information in different offices and organization, such as circulatory reference services, cataloguing and classification, collection development (ordering and acquisition). However, the innovations have prompted many organizations to employ the use of ICT devices to further manage information and records of the organization. On this note, many organizations, now adopt the use of computer systems, database management systems, development of network systems to create, store, preserve, secure and use information for effective decision making in the organization.

Brady (1991) explains that development in technology boost services of television and radio broadcasting which enables large number of viewers and listeners to receive information broadcast from a network of transmitting stations. It is essentially a one-way method of communication. He further stated that, the use of satellite links, optical fibre links, packet switching system, modems, teletex system, made radio and television services more cost-effective, speed in transmission, and allowed simultaneous reception of their services at a time.

In the same vein, Everest (2002) asserts that interactive video, home computing, satellite transmission, cable, videodisk and electronic miniaturization are among current technological developments that could either greatly expand or diminish the social roles of libraries. The implication of all these, is the availability of new information products and services and their effect on the existing library and information services. Today technology has became strong force in information handling, it provide librarians and information scientists with wide range of tools to help us achieve our goal of improve service to users. Technology had shown a clear impact on the basic character of management information system. At the same time, the merging of computers, telephone, television and satellite has brought about rapid expansion of the information market place. What remains open to question is the extent to which libraries as traditional custodian of information would be in position to take advantage of an enhanced service that technology offered. Heathcole (2002).

The rapid changes in information and communication technology cause already uncertain business environment to be even more predictable. Organizations' ability to identify the relevant information needed to make important decisions is crucial, since the access to data used to generate information for decision making is no longer restricted by the manual systems of the organization. Today, the emergence of ICTs made it possible for organizations to record, synthesized, analyze and disseminate information quicker than any other time in history, (Galliers, 2003). He further argued that data can be collected from different parts of the company and its external environment and brought together to provide relevant, timely, concise and precise information at all levels of the organization to help it become more efficient, effective and competitive.

Also, over the years organizations generally have been accumulating heaps of information emanating from different departments and units within and outside the organizations. As a result of this scenario, these organizations are saddled with the tasks of managing the information and records for the purpose of effective and efficient decision making and improve productivity in the organization. The large volumes of different varieties of information generated and disseminated almost on daily basis require more sophisticated devices in its managements.

Information is an important commodity in any society whether primitive, developing or developed. Information like knowledge is a self propagating resource; the more organization create and use of information, the more they increase their capacity and ability to further generate and use more information. In this regard, the role of information managers in the society is of great significant. Information centers serves as a collection, preservation and dissemination center for information since the development of the society depends largely on accurate and adequate utilization of information, (Ayeni, 2000). Managing the information involves identifying what should be kept, how it should be organized, where it should be held and who should have access to it. The quality of this management will dictate the quality of the decisions being taken and ultimately the organization's survival.

With the growth in the use of ICTs to support information handling within organizations, the political nature of information has come into sharper focus. In this regard, information professionals which librarians are one have become highly powerful and respected in the management of every organization. Today, information and records management has become a major issue in the 21st century in view of the fact that:

a) Information whether stored on paper or magnetic tape or CD or even human brain become fundamental requisite for ensuring rationality; validity and coherence in decision making in the organization.
b) Records are basic tools and instrument through which functions and processes are effectively carried out if only they are well arranged, managed and made accessible to the members of the organization; and
c) Modern administrative systems, like other contemporary socio-economic, technological, political, educational systems etc. have become increasingly complex

and sophisticated, the reason why information and records management should move along the same line. (Ayeni, 2000).

The basic goal of information management is to harness the information resources and information capabilities of the organization in order to enable the organization to learn and adapt to its changing environment (Choo 1995, Auster and Choo 1995). Information creation, acquisition, storage, analysis and use therefore provide the intellectual latticework that supports the growth and development of the intelligent organization. The central actors in information management must be the information users themselves, working in partnership with a cast that includes information specialists and information technologists. Information management must address the social and situational contexts of information use -- information is given meaning and purpose through the sharing of mental and affective energies among a group of participants engaged in solving problems or making sense of unclear situations.

However, McGary (1993) argued that advances in information and communication technology have been very rapid in the last two decades. Its influence has been very pervasive to the extent that there is hardly any field of human endeavor that has not been touched. Since the mid-70s, mankind has witnessed a phenomenal growth in the number and variety of information products, services, systems and sources. The catalyst for the growth has been rapid innovations in information and communication technology for creating processing, communicating and using information, (Tiamiyu, 2000).

This technology rests on computer, computer components and telecommunications. Computer can be used for a number of different tasks. Use of the computer allows for a near perfect data-base management. It should be noted that data base management encompass information management. Extensive and comprehensive set of records collected can be organized electronically in a meaningful way for purposeful usage. There are software packages that can provide good records management services, they facilities the creation and maintenance of records in a database. Gookin (2000) observed that database management through the use of computer has helped immensely in maintaining order file.

The use of information technology in Nigerian academic libraries has been profoundly affecting all aspects of information acquisition, storage, and transfer. Its

magnificent development has dramatically changed the mode of library operations and information services. Hundreds of thousands of monographic materials, journals, learning resources, databases, etc. are now available in electronic formats, and these materials can now be accessed from the remote corner of any country, thereby increasing the use of information and literature and the efficiency of information services in Nigerian tertiary institution. Users are now more independent than before; they can access to these electronic formats from their home computers and search databases according to their information needs. Students, teachers, researchers, information professionals, and employees are the user categories in tertiary institutions. Their needs vary; their information or literature-seeking behavior also varies, and they need to be cared accordingly. Requirement of an individual needs to be individually addressed in an efficient way. Information resources also need to be accessed by them depending on their requirements – be they print materials and web-based resources. Electronic resources imply information materials that require the use of electronic devices such as personal computers (PCs), laptops, palm-tops, Notebook-laptops, DVD-,VCD-,CD–players, projectors, phones, I-pods, Iphones, I-pads, internet-, WAN-, LAN- networks, etc for their usage. Some of the most used of these resources include flash-drives, memory cards, DVD-, VCD-, CDROMs, DVD-, VCD-, CD-RAMs, DVD-, VCD-, CD-R; DVD-, VCD-, CD-WR; DVD-, VCD-, CD+WR, etc. (Dafiaghor, 2012).

The traditional services rendered by the library include, readers' services, reference services, reprographic services, Current Awareness Services (CAS), Selective Dissemination of Information (SDI) etc. However, the advent of Information Communication Technology (ICT) has expanded the scope of these services and the tools of information delivery. Today we have e-library and virtual library which provide access to electronic books and journals, online references, web-resources, web-catalogues etc. This "Web-eccentricity" poses a lot of challenges to librarians and information scientists as well as the traditional library users. The challenges are both operational and strategic. The attitudinal challenge is another dimension that needs to be addressed (Idowu, 2009).

Electronic sources of information have introduced changes to the services and operations of modern libraries. Computing trends have enabled low cost digital storage of information, rapid transmission of data across computer networks and sophisticated retrieval,

and processing of electronic documents and information. Against this background of increased availability of information and the technological innovations, libraries are developing new and revolutionary methods of providing users with access to ever increasing amount of information. The availability of electronic resources in libraries and their use to retrieve valuable information is the reason for the paradigm shift in the role of the traditional library services to those of an electronic or digital library. A study of electronic information resources and services in library will show the extent to which library are meeting the information needs of users and the extent to which users of digital resources are achieving their goals in doing assignments, teaching and research. (Gwazah, 2011).

To promote electronic information resources and services use, Weingart and Anderson (2000) observed that libraries spend a substantial percentage of their budgets on acquiring and making them available for users. These resources provide access to information far beyond the limits of the libraries' print collections. To effectively use the electronic information resources and services, users must know of their existence. It is the responsibility of libraries that have acquired these resources and offer the services to bring to their customers the awareness of such resources and services. Mutula and Ojedokun (2008) ascertain that digital library resources and services are increasingly being implemented by several agencies – government, private sector, and tertiary institutions, etc because they make research easier for scholars and may ease budgetary constraints associated with the acquisition of print resources. They help to reduce preservation problems or help libraries extend collections into new media. Above all, they help to make information readily available (Gwazah, 2011).

5.11.1 ICT and Electronic Collection Management

According to Cotter and Koehler (2002) observed that the ICT and electronic library has four attributes:

e) Management of resources with a computer

f) The ability to link the information provider with the information seeker via electronic channels

g) The ability for staff to intervene in the electronic transaction when requester by the information seeker and

h) The ability to store, organize, and transmit information to the information seeker via electronic channels." An electronic library utilizes both electronic information resources and electronic means to manage and move those resources.

There are sound reasons for us to consider collection management or as Budd and Harloe (1997) suggest that content management in a networked environment, libraries bring more than organization and intermediation to information collections. They also bring authority. Inclusion in a collection implies pertinence, appropriateness.

5.11.2 ICT and Records Management

According to International Records Management Trust (n.d) observed that well managed records are a foundation for good Library services; they serve both to document the policies, transactions and activities of library and to provide a trusted source of information to support decision-making and accountability. Many Library operations that traditionally depended on information derived from paper records have become partially or wholly automated. As Library migrates to an on-line environment, records in electronic form are providing the basis for conducting business, serving the users, managing resources, measuring progress and outcomes, and protecting their own and others' rights. Records management is becoming increasingly dependent on technology. It is important therefore to have objective means of assessing the strengths and weaknesses of records systems and determining whether they are capable of capturing, maintaining and providing access to records over time.

Library is now more dependent on information in electronic systems to carry out their day-to-day functions and make decisions; common examples include systems designed for:Human resource management, Online public access, Institutional repository, E-resources and Services, Licensing and ordering, Registration, and Benefit delivery. New technology is making significant contributions to improving Library resources and services, achieving development goals and advancing e-library strategies. However, records management is not being given the attention it requires in the transition to the electronic environment. In too many cases, ICT systems are introduced without the essential processes and controls for the capture, long-term safeguarding and accessibility of electronic records. This undermines the ability of Library staff to trust the information generated by Library ICT systems.

Library need to act to ensure that ICT systems provide trusted information that is reliable, complete, unaltered and useable. This requires records management solutions to be integrated in ICT systems during their planning and design, rather than be added on during or after implementation. The challenge for any Library is to know whether existing or planned ICT systems are technically capable of supporting records management requirements and protecting the information base on which Library depends.

5.11.3 Bibliographic Access Tools in an Electronic World

Cotter and Koehler (2002). Explained that metadata is a relatively new term building on an old concept of cataloging or bibliographic control as a tool for identifying and locating information. Metadata means "data about data." Librarianship has traditionally used the terms "bibliographic control," "cataloging," and "indexing" for "metadata." With the advent of electronic collections, digital libraries, and the Internet, and the increasing availability of numeric and textual databases, information classifiers and catalogers have begun addressing the bibliographic management of distributed databases.

The term "metadata" has been adopted to reflect this broader application and bibliographic control of a wide range of information products. Historically, card catalogs typically were limited to no more than three access points (author, title, subject), two more than the earliest catalogs. OPACs, because of the speed and "agility" of computers, support multiple access points. Computer scientists, and now Internet entrepreneurs, have developed metadata systems for digital libraries and Web search engines. These include systems to automatically capture and harvest imbedded metadata like PICS and Dublin Core as well as the various XML-based markup systems. These indexes resemble classic indexing structures. Many search engines, for example, follow inverted indexing principles, while many of the search directories are based on faceted chain-indexing models. A proliferation of metadata and metametadata tools is being developed to provide access to digital information. Metadata issues need also to be understood as information professionals build collections with materials in a growing number of formats, for often different format implies different metadata. A separate paper in this volume addresses metadata systems in more detail (Cotter and Koehler, 2002).

5.11.4 Interlibrary Loan Model

Interlibrary Loan (ILL) is a process by which one library borrows from other libraries materials it does not hold in order to meet the information needs of its patrons. Interlibrary Loan is not a new concept nor is it one that emerged out of the digital revolution. ILL is however facilitated by various online services including electronic union catalogs (like OCLC's World Cat) and automatic ILL request services attached to OPACs (Online Public Access Catalogs) and online databases. The ILL community has developed a continuing interest in using the Web and other means to facilitate the ILL process. The North American Interlibrary Loan and Document Delivery (NAILDD) Project promotes the development of efficient ILL/DD delivery systems using networked technologies.

NAILDD has identified three areas of primary concern: "comprehensive and flexible management software, improvements in ILL billing and payments, and system interoperability via use of standards." (Jackson 1998). OCLC has played a major role in developing system interoperability, facilitating billing and financial transfers (IFM or ILL Fee Management), and development of management software. A number of international initiatives led by the Research Libraries Group (RLG), the Library Corporation (TLC), Ameritech Library Services (ALS), AGCanada, and others have sought to improve system interoperability and information flows, thus enhancing digital access. OCLC manages an international Interlibrary Loan Service or Global Sharing Group Access Capability (GAC), built upon its union catalog WorldCat. It utilizes a standard Web interface and software (http://www2.oclc.org/oclc/pdf/printondemand/ill.pdf). Many countries have developed model codes for ILL, for example the American Library Association – Reference and User Services Association (ALA-RUSA) Interlibrary Loan Code for the United States (http://www.ala.org/rusa/stnd_lnc.html). ILL exchanges among countries are guided by the International Federation of Library Associations and Institutions (IFLA) International Lending: Principles and Guidelines for Procedure (http://www.ifla.org/VII/s15/pubs/pguide.htm).

The Interlibrary Loan system is guided by a set of standards (ISO 10160 and ISO 10161). These standards were developed to insure interoperability among electronic ILL systems and their application protocols. These standards and protocols are managed by the

ILL ISO Maintenance Agency. The National Library of Canada serves as host. Typically, ILL exchanges do not require royalty payments to the copyright holder of exchanged materials. Two principles guide. The first is fair use. The second is the right of the "container" owner to dispose of the container as s/he sees fit, including lending it to others. Fair use doctrine limits the number of copies of a work one can make as well as the number of pages that can be copied from larger works. In general, fair use would permit the copying of a single article from a journal or a single chapter for a book with royalty payment. Multiple copies of copyright holder, one may, however, lend the original copy as often as it is requested. These conditions are noted here because the whole system of access through ILL has been called into question when dealing with digital materials. This is part of the larger intellectual property issues associated with such materials (Cotter and Koehler, 2002).

5.11.5 Universal Borrowing Models

The Universal borrowing models (UB) allows libraries to treat authorized users from one system to borrow (access collections) from libraries within a consortium. The term "universal" actually refers to providing access to everyone within a defined group, not universal in the sense of totally opened.

In the United States, two examples of UB arrangements for digital access are:

c) Libraries under a common jurisdiction permit intra-jurisdictional lending. For example, in Georgia, public libraries have banded together to form the Public Information Network for Electronic Services (PINES). These libraries are regulated by the Georgia Public Library Service. PINES offers an electronic union catalog and interlibrary borrowing and return services (http://pines.public.lib.ga.us/). The Georgia public and academic libraries also participate in GAILEO, to provide system wide commercial database services.

d) The Association of Research Libraries (ARL) manages the "Reciprocal Faculty Borrowing Program" among its member university libraries. "Conducted under the aegis of the Research Libraries Advisory Committee to OCLC, the intent of this program is to promote and facilitate scholarly research and communication among faculty members of research universities that are ARL members." Privileges may but do not necessarily include borrowing rights. http://www.pace.edu/library/collection/Faculty_Borrowing.html. In the increasingly

digital world, the pre-coordinated groups of organizations in consortia have become increasingly active and pervasive due to the need to get the most favorable conditions under licensing agreements. Cost models for publishers of digital information are in serious flux and the need for groups that build collections to work together in their dealings with publishers and in developing access infrastructures for digital collections has become increasingly important.

5.11.6 Preservation & Storage:

The Internet is also a medium for the preservation and storage of information. In past, libraries were seen as the main storage facility of information. As society becomes increasingly more digital information resides on the Internet, the focus on storage and preservation is shifting. For example, some academic libraries are now faced with the problem of whether or not to purchase serials that can be just as easily accessed on – line. Preservation of these same media also becomes an issue of economics, not the "just in case" preservation ideology of the past paradigm. Co joined to the function preservation is the destruction of information. Because the Internet can be seen as a medium for preserving information, the process of destruction of information also is affected. As more and more information is created and stored on the Internet, the capacity to store this information is also decreasing (INFLIBNET, 2004).

5.11.7 ICT and Archiving Electronic Information Resources

Hodge, and Frangakis (2004) ascertain that Preservation and permanent access begin outside the purview of the archive with the producer or the creator of the electronic resource. This is where long-term archiving and preservation must begin. Information that is born digital may be lost if the producer is unaware of the importance of preservation. Practices used when electronic information is produced will impact the ease with which the information can be digitally archived and preserved. Several key practices are emerging involving the producers of electronic information. First, the archiving and preservation process is made more efficient when attention is paid to issues of consistency, format, standardization and metadata description before the material is considered for archiving. By limiting the format

and layout of certain types of resources, archiving is made easier. This is, of course, easier for a small institution or a single company to enforce than for a national archive or library. In the latter cases, they are faced with a wide variety of formats that must be ingested, managed and preserved. In the case of more formally published materials, such as electronic journals, efforts are underway to determine standards that will facilitate archiving, long-term preservation and permanent access. The Andrew J. Mellon Foundation has funded a study of the electronic journal mark-up practices of several publishers. The study concluded that a single SGML document type definition (DTD) or XML schema can be developed to support the archiving of electronic journals from different subject disciplines and from different publishers with some loss of special features (Inera, Inc. 2001). Such standardization is considered key to efficient archiving and preservation of electronic journals by third-party vendors. The DTD developed by PubMed Central for deposit of biomedical journals is being considered as a generalizable model for all journals.

The Archiving and Interchange DTD Suite is based on an analysis of all the major DTDs that were being used for journal literature, regardless of the discipline. The suite is a set of XML building blocks or modules from which any number of DTDs can be created for a variety of purposes including archiving. Using the Suite, NLM created a Journal Archiving and Interchange DTD as the foundation for the PubMed Central archive. In addition, a more restrictive Journal Publishing DTD has been released which can be used by a journal to mark up its content in XML for submission to PubMed Central. Several publishers and projects, such as JSTOR, the Public Library of Science, High Wire Press and CSIRO, are analyzing or planning to use the Journal Publishing DTD (Beck, 2003). In the case of less formally published material such as web sites, the creator may be involved in assessing the long-term value of the information. In lieu of other assessment factors, the creator's estimate of the long-term value of the information may be a good indication of the value that will be placed on it by members of its designated community or audience in the future. The Preservation Office at the National Library of Medicine has implemented a "permanence rating system" (Byrnes 2000). The rating is based on three factors: integrity, persistent location, and constancy of content. These factors have been combined into a scheme that can be applied to any electronic resource. At the present time, the ratings are being applied to NLM's internal Web sites, and

guidelines have been developed to assist creators in assigning the ratings to their sites. This information will be used to manage the ongoing preservation activities and to alert users about a Web site's long-term stability.

Another aspect of the creator's involvement in preservation is the creation of metadata. The best practice is for metadata to be created prior to incorporation into the archive, i.e., at the producer stage. However, most of the metadata continues to be created "by hand" and after-the-fact. Unfortunately, metadata creation is not sufficiently incorporated into the tools for the creation of most objects to rely on the creation process alone. However, as standards groups and vendors move to incorporate XML and other architectures into software products, such as word processors, the creation of metadata should become easier and more automatic.

The Open Archival Information System Reference Model (CCSDS 2001) provides high level data and functional models and a consistent terminology for discussing preservation. The reference model was originally developed by the Consultative Committee on Space Data Systems (CCSDS) to support the archiving of data among the major space agencies. However, it has become the de facto standard for the development of digital archives. It is used by most major projects including those in Australia, the United Kingdom, the Netherlands, and the United States. The OAIS Reference Model became a formal ISO standard in June 2002.

5.11.8 ICT Analyst

Elisha, M. J. (2006) observed that the use of ICT to provide access to educational resources to library patrons, ICT can be used to facilitate on-the-job training and retraining of information professionals. As noted above ICT is developing at a pace very difficult to keep up with, as such there is need for the information professionals to know and follow trends in ICT. Since "information professionals are being called upon to work dozily with ICT users and providers (including it staff) and to work in collaboration with others in the profession. Some group of users lack the necessary IT skills to obtain quality information, information professional will therefore be called upon to act as both educators and intermediaries, given

these circumstances, information professionals are required to have increased teaching and communication skills" (Ash croft and watts, 2005).

Thus, the relevant manpower is developed or acquired within our academic libraries; all advances in ICT application will not be fully utilized. Unfortunately,' too much emphasis has been placed upon the development of ICT information in developing countries and not enough consideration has been given to human resource development. Stein Muller (2001) suggests that many ICT users are self taught and are capable of developing an understanding of ICTs through the experience of utilizing them. If thus be the case, the countries unable to provide extensive access to ICTs are inevitable marginalized, as they are less likely to produce capable self-taught persons (Ashcroft and watts, 2005). For the Nigerian academic libraries to take full advantage of the opportunities offered by ICT and its application in the library environment it must create extensive access to ICT and relevant tutorial packages on new technology applications, software and software management and CD-ROMs which will enable the ICT professionals within the library setting to install, manage, maintain and repair ICTs easily and to assist other ICT users to maximize the opportunities offered by ICT as well as ensure effective collaboration such as in a digital: reference service (Elisha, 2006).

5.12 Application of ICT in Management of Information resources and services (the problems encountered)

For clarity, the problems hindering the effective application of ICT in Nigerian academic libraries in general and Kashim Ibrahim Library as partial will be discussed topically as follows:

5.12.1 Problem of Funding

Academic Libraries in Nigeria is not adequately funded. The fate of academic libraries is not different as funding for this library, which comes largely from their parent institutions and ETF, now TET-Fund, has not been sufficient. As the purchasing power of revenue accruing to different levels/tiers of government in Nigeria continues to diminish, responsibilities and obligations of these governments continue to expand. This has severely

limited the amount of money available for the capital and recurrent expenses of the country's academic libraries, amongst other educational and social services. It is, therefore, very clear, as captured in Nigerian library literature that academic libraries in the country cannot continue to rely on the present sporadic and insufficient budgetary allocations by government through their parent institutions. In line with the foregoing, some income-generating ventures have been identified, which if implemented, would yield the additional financial resource required to meet the increasingly complex demand of library services in 21st Century tertiary institutions (Nnadozie, 2013).

5.12.2 Lack of comprehensive ICT policy

Elisha, M. J. (2006) explained that no library can be effective without a policy, which sets out aim and objectives, identifies user groups and services and indicates priorities among them, though the library indicated that it has plans to develop ICT policies this also showed that the use of ICT policies by academic and researchers is quite recent and that they started investing on ICT facilities without functional policy statements.

Besides there is the need to develop an overall national ICT policy for Nigerian academic libraries within which both the private and the government owned academic institution should developed for our academic libraries, continued investment on ICT will be disjointed and thus unable to yield meaningful results.

5.12.3 Poor ICT knowledge

There is a severe and pronounced "low level computer literacy among Nigerians" (Okiy, 2005). This makes it difficult for them as users and patrons of academic libraries to make full use of available ICT facilities. This problem is further aggravated by the "shortage of technology literate staff in library, the lack of skilled human resources to install and manage technology networks and poor funding to attract such staff or develop such skill in existing staff (Ashcroft and Watts, 2005). The poor ICT knowledge among both users and professionals in Nigeria makes it difficult for the Kashim Ibrahim Library to go far in their application of ICT. Library is lacking resources and technical support, and staff needing continuously to acquire appropriate training in order to deliver up-to-date services and trouble

shoot equipment (Bill and Melinda Gates Foundation, 2005, p8). Without the relevant ICT skills, the Kashim Ibrahim Library ICT professionals are unable to guide the library patrons maximize available ICT facilities and explore the opportunities they offer (Elisha, M. J. 2006).

5.13 Analysis and Interpretation of Data

This chapter deals with the analysis of data collected through the use of questionnaire administered on Application of Information and Communication Technology in Management of Information Resources and Services in Kashim Ibrahim Library, Ahmadu Bello University, Zaria. The data gathered were analyzed using tables, frequencies and percentages for better understanding and interpretation of findings. The chapter is also organized according to the research questions and objectives of the study. Out of 50 questionnaires 41 were returned successfully by the respondents, Basic details about the participants in the survey are shown in bellow Tables. The demography of respondents revealed that the ages between 31-40 had the highest percent distribution of 23 (56.09 percent) respondents; followed by ages 15 – 30 with 8 (19.51 percent). Ages 41-50 is represented by 6 (14.63 percent) respondents and the least representation were the 51 and above years with 4(9.75 percent) respondents. Below are the details of the result:

Table 5.1 Number of years working with the university library

Working experience	**Frequency**	**Percentage**
1-5 years	20	48.78
6-10 years	9	21.95
11-15 years	4	9.75
16-20 years	3	7.31
20 years and above	3	7.31
Total	41	100

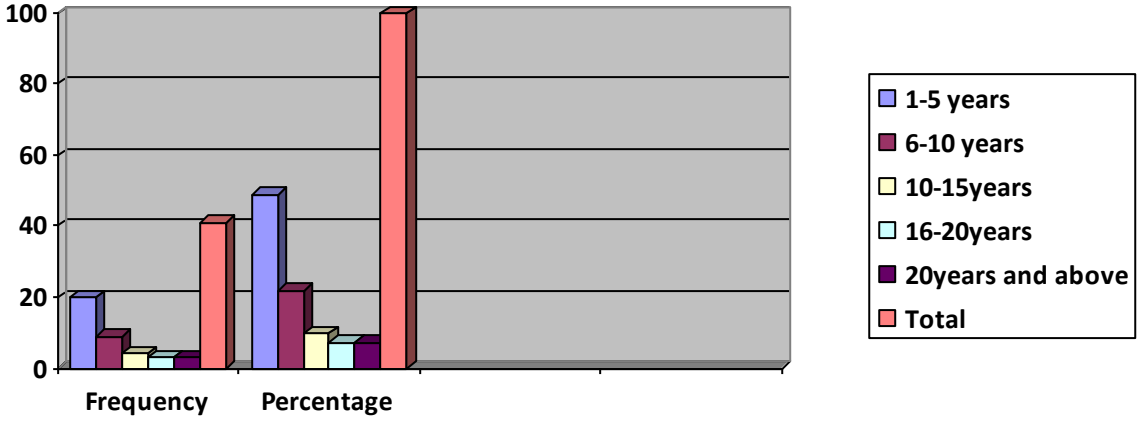
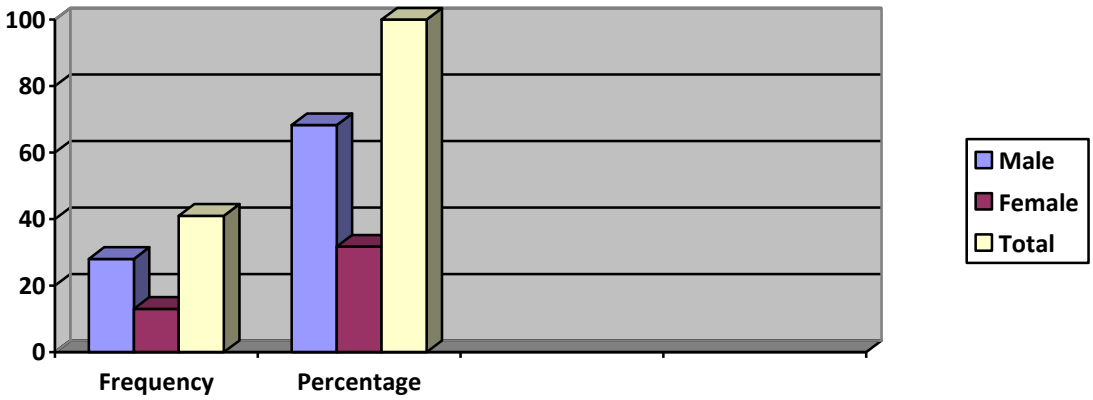


Table 5.1 show that respondents who are working with the university library between one to five years are the majority with 20 (48.78 percent) while who have being working with library between five to ten years are 9 (21.95 percent) respondents. Ten to fifteen years score 4 (9.75), fifteen to twenty years, twenty to above year each score 3 (7.31) respondents.

Table 5.2 Gender Status of respondents

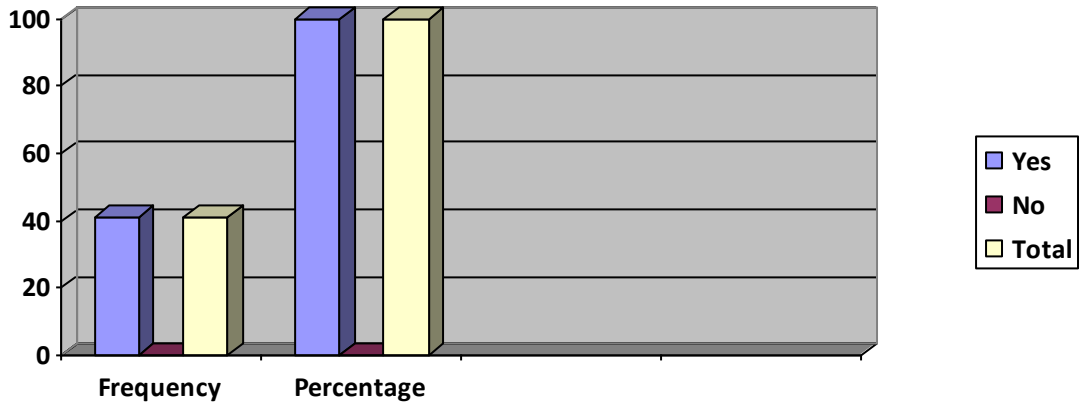
Gender	**Frequency**	**Percentage**
Male	28	68.29
Female	13	31.70
Total	41	100



As the above table shown that 28 respondents (68.29 percent) were male staff, while 13 respondents (31.70 percent) were female staff.

Table 5.3 Existing of library management policy in library

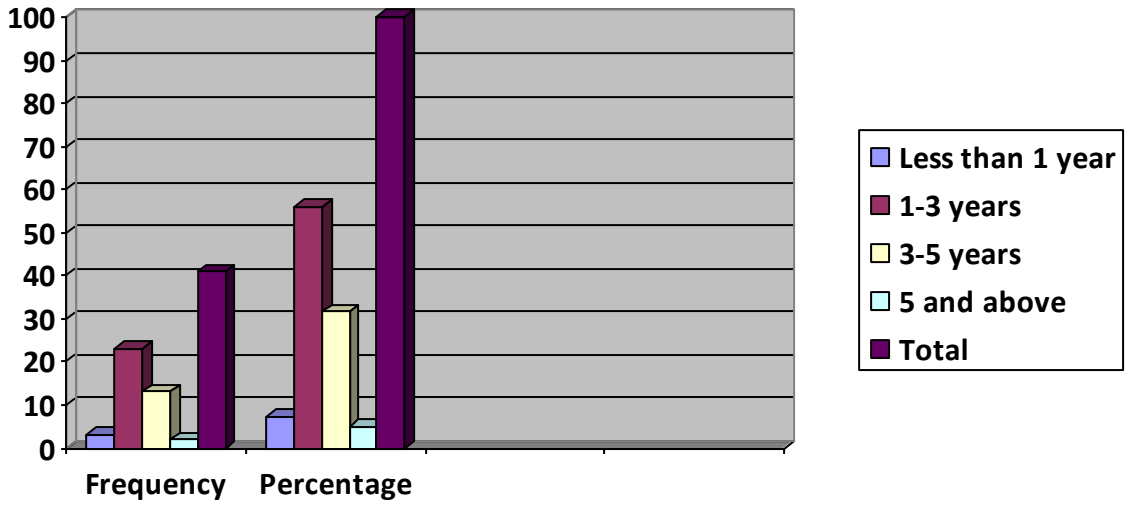
Existing policy	**Frequency**	**Percentage**
Yes	41	100
No	00	00
Total	41	100



Participant all agree and say yes there is an Existing of library management policy in library 4 with (100 percent) respondents.

Table 5.4 Number of years that policy provided for acquiring newly ITC Resources

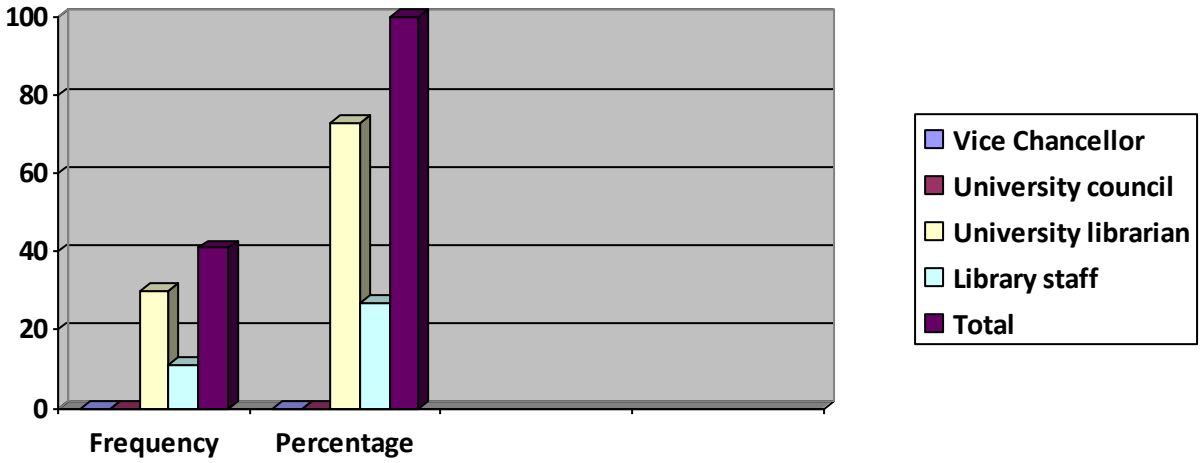
Updating resources	**Frequency**	**Percentage**
Less than 1 year	3	7.31
1-3 years	23	56.09
3-5years	13	31.70
Above 5 years	2	4.87
Total	41	100



In order to understand the number of years policy provided for acquiring newly ITC Resources participants were asked and made the appropriate answer, Table 5.4 makes it clear that 23 (56.09 percent) respondents say that policy provide guide for acquiring newly ITC Resources for the one to three years, followed by the respondents who say three to five years 13 (31.70 percent), while people who say less than one year score 3 (7.31 percent), and 2 (4.87 percent) respondent say 5 and above years.

Table 5.5 Responsible for managing the library resources and services

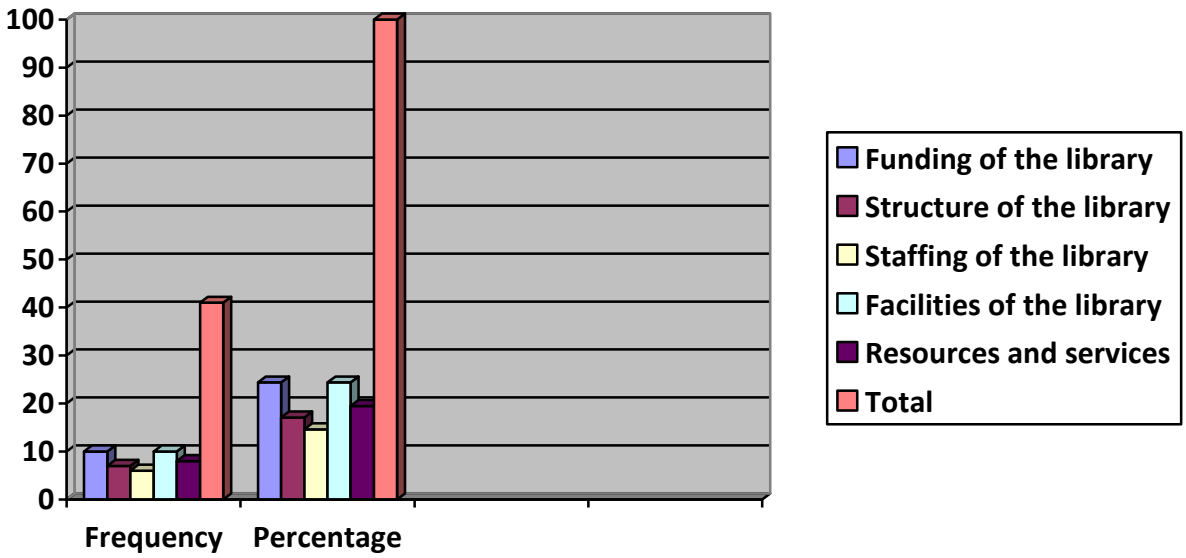
Responsible	**Frequency**	**Percentage**
Vice Chancellor	00	00
University Council	00	00
University librarian	30	73.17
Library Staff	11	26.82
Total	41	100



The essence of each and every for selection and acquisition of ICT Resources in whatever form or pattern is to serve the need of the users towards accomplishing its aims, objectives through the good management of the library resources and services. From the table 5.5 above it has revealed that the university librarian has majority respondents in terms of managing the library resources and services with frequency 30 and (73.17 percent), while 11 (26.82 percent) respondents score for the library staff. University council, Vice chancellor each scored zero as above table indicated.

Table 5.6 Items the policy covered

policy covered	**Frequency**	**Percentage**
Funding of the library	10	24.39
Structure of the library	7	17.07
Staffing of the library	6	14.63
Facilities of the library	10	24.39
ICT Resources and services	8	19.51
Total	41	100



Participants were asked about the area that the policy covered and made the appropriate response. Table 5.6 reveals that respondents who score for funding and facilities of the library are the majority with frequency 10 and (24. 39 percent) followed by, 8 (19.51 percent) respondents say ICT resources and services, while 7 (17.07 percent) respondents who say Structure of the library, and staffing of the library scored 6 with (14.63percent) respondents.

Table 5.7 Information Resources and Services created/generated in Kashim Ibrahim Library

Items	**Available**		**Not Available**		**Total**	
	Freq.	**%**	Freq.	**%**	Freq.	**%**
E-books	41	100%	0	100%	41	100%
E-Journals	41	100%	0	100%	41	100%
E-dissertations	31	75.60	10	24.39	41	100%
CD-ROM Searching service	41	100%	0	100%	41	100%

DVDs	41	100%	0	100%	41	100%
Audio/video cassettes	41	100%	0	100%	41	100%
On-line databases	41	100%	0	100%	41	100%
Online public access catalogs (OPAC)	41	100%	0	100%	41	100%
Full- text databases	41	100%	0	100%	41	100%
Scholarly websites	41	100%	0	100%	41	100%
print archives	41	100%	0	100%	41	100%
Bulletin boards	28	63.41	13	31.70	41	100%
Almanacs	38	92.68	3	7.31	41	100%
Bibliographies	41	100%	0	0	41	100%
Directories	41	100%	0	0	41	100%
Blogs	12	29.26	29	70.73	41	100%
References	41	100%	0	100%	41	100%
Documents	41	100%	0	100%	41	100%
Pamphlet	14	34.14	27	65.85	41	100%
Report	37	90.24	4	9.75	41	100%
Multimedia	41	100%	0	100%	41	100%
Institutional Repository	41	100%	0	100%	41	100%
Computers	41	100%	0	100%	41	100%

Projectors	41	100%	0	100%	41	100%

Participants were asked about the Information Resources and Services created/generated in Kashim Ibrahim Library and made the appropriate answer, the result indicate that the services available include bibliographies, references, documents, books , journals , directories, Computers , print archives, e-books, e-journals, CD-ROM searching services, Multimedia, DVDs, audio/video cassettes, on-line databases, online public access catalogues (OPAC), full- text databases, Projectors, scholarly websites, and Institutional Repository which each score 41 (100 percent) respondents. Almanacs score 38 (92.68 percent) respondents, report score 37 (90.24 percent) respondents, e-dissertations score 31 (75.60 percent) respondents, bulletin boards score 28 (68.29 percent) respondents, while pamphlet score 14 (34.14 percent) and Blogs score 12 (29.26 percent) respondents. In terms of unavailable resources as much as possible these include Blogs which score 29 (70.73 percent) respondents, followed by pamphlet 27 (65.85 percent) respondents, bulletin boards score 13 (31.70 percent) respondents, e-dissertations score 10 (24.39 percent) respondents, while reports score 4 (9.75 percent) and Almanacs score 3 (7.31 percent) respondents.

Table 5.8 The standard of ICT in library management

Items	**Very High Standard**		**High Standard**		**Standard**		**Not standard**		**Undecided**		**Total**	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
ICT Location	38	92.68	2	4.87	1	2.43	0	0	0	0	41	100
ICT Building	35	85.36	5	12.19	1	2.43	0	0	0	0	41	100
Spacing	30	73.17	2	4.87	9	21.95	0	0	0	0	41	100
Arrangement	37	90.24	3	7.31	1	2.43	0	0	0	0	41	100
Fittings	33	80.48	7	17.07	1	2.43	0	0	0	0	41	100
Furniture	27	65.85	10	24.39	4	9.75	0	0	0	0	41	100
Facilities	20	48.78	15	36.58	6	14.63	0	0	0	0	41	100

Equipment	14	34.14	13	31.70	12	29.26	2	4.87	0	0	41	100

The above table indicates that the level of ICT standard in library management in terms of location is very high standard with frequency 38 and (92.68) respondents, followed by 2 (4.87) respondents on high standard, while standard score 1 (2.43) respondent, not standard and undecided score 0 (0). Building score 35 (85.36) respondents, followed by 5 (12.19) respondents on high standard, while standard score 1(2.43) respondent, not standard and undecided score 0 (0). 30 (73.17) respondents score for very high standard in terms of spacing, followed by 2 (4.87) respondents on high standard, while standard score 9 (21.95) respondents, not standard and undecided score 0 (0). Arrangement of ICT very high standard score highest majority with frequency 37 (90.24) respondents, followed by 3 (7.31) respondents on high standard, while standard score 1(2.43) respondent, not standard and undecided score 0 (0). Fittings very high standard score 33 (80.48) participants, high standard score 7 (17.07) respondents, while standard score 1(2.43) respondent, not standard and undecided score 0 (0). On furniture very high standard score 27 (65.85) respondents, high standard score 10 (24.39) respondents, standard score 4 (9.75) respondents, not standard and undecided score 0 (0). On facilities issues very high standard is ahead with frequency 20 (48.78) respondents, followed by high standard with frequency 15 (36.58) respondents, while standard score 6 (14.63) respondents, not standard and undecided score 0 (0). In terms of equipment very high standard leads with 14 and (34.14) respondents, followed by high standard 13 (31.70) respondents, standard score 12 (29.26) respondents, while not standard score 2 (4.87) respondents, and undecided score 0 (0). By the above analysis we observed that the Kashim Ibrahim Library is very high standard in terms of location, building, spacing, arrangement, furniture, fittings, facilities and equipment in library management.

Table 5.9 Information and Communication Technology devices are available for management of information Resources and Services?

Items	**Frequency**	**Percentage**
Scanner	5	12.19

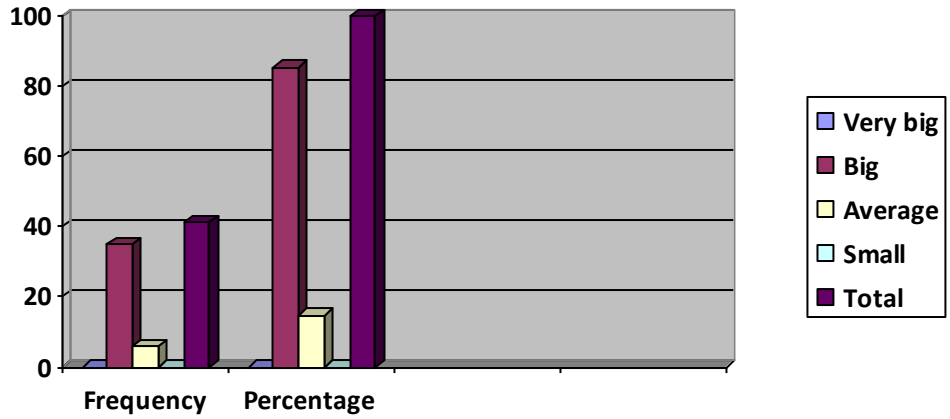
CDs /Cassettes	2	4.87
Photocopy Machine	5	12.19
Institutional Repository	5	12.19
Computers	10	24.39
Projectors	1	2.43
Printers	4	9.75
TVs	1	2.43
Videos	1	2.43
Radios	1	2.43
Flash drivers	3	7.31
Barcode Sensors	2	4.87
Memory cards	1	2.43
Total	41	100

Respondents were asked to indicate the Information and Communication Technology devices are available for management of information Resources and Services. The results revealed that Computers had a score with frequency 10 (24.39 percent) respondents, followed by photocopy, Institutional Repository and scanner each score 5 (12.19percent) respondents. The result reveals that Printers score 4 (9.75percent) while Flash drivers score 3 (7.31percent) respondents. CDs /Cassettes and Barcode Sensors each score 2 (4.87 percent). Projectors, TVs, Videos, Radios, and Memory cards each score 1 (2.43 percent) respondent. The result indicate that how the devices are been useful in managing information resources and services in Kashim Ibrahim Library Ahmadu Bello University, Zaria.

Table 5.10 how will you describe the Kashim Ibrahim Library?

Describing	**Frequency**	**Percentage**
Very big	0	0

Big	35	85.36
Average	6	14.63
Small	0	0
Total	41	100

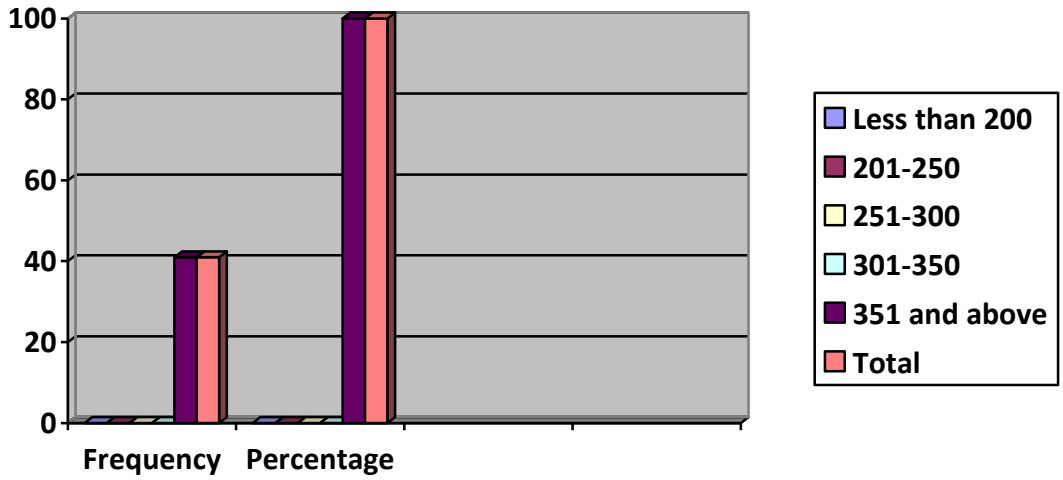


Participants were asked on how they describe the Kashim Ibrahim Library and made the appropriate answer, the result indicate that the library is big with 35 (85.36 percent) respondents, followed by some that score for average with 6 (14.63 percent) respondents, while rest of very big and small each score 0 (0 percent) respondents.

Table 5.11 Seating capacity of Kashim Ibrahim Library

Seating capacity	**Frequency**	**Percentage**
Less than 200	0	0
201-250	0	0

251-300	0	0
301-350	0	0
351 and above	41	100
Total	41	100

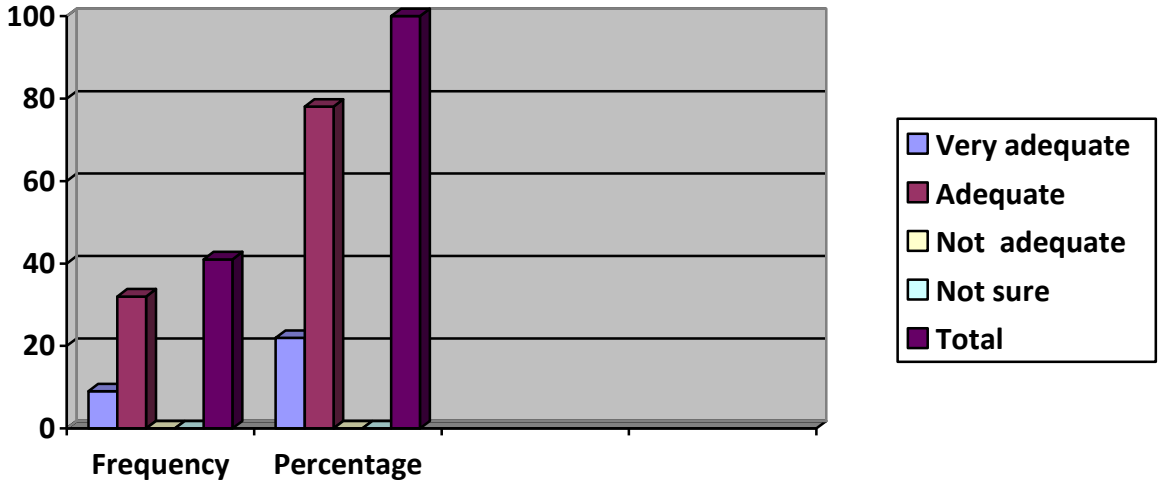


The above result reveals that all the respondents agree that the seating capacity in Kashim Ibrahim Library are 351 and above with frequency 41 (100percent) respondents.

Table 5.12 Adequate building/section in Kashim Ibrahim Library

Adequacy	**Frequency**	**Percentage**
Very adequate	9	21.95
Adequate	32	78.04
Not adequate	0	0

Not sure	0	0
Total	41	100

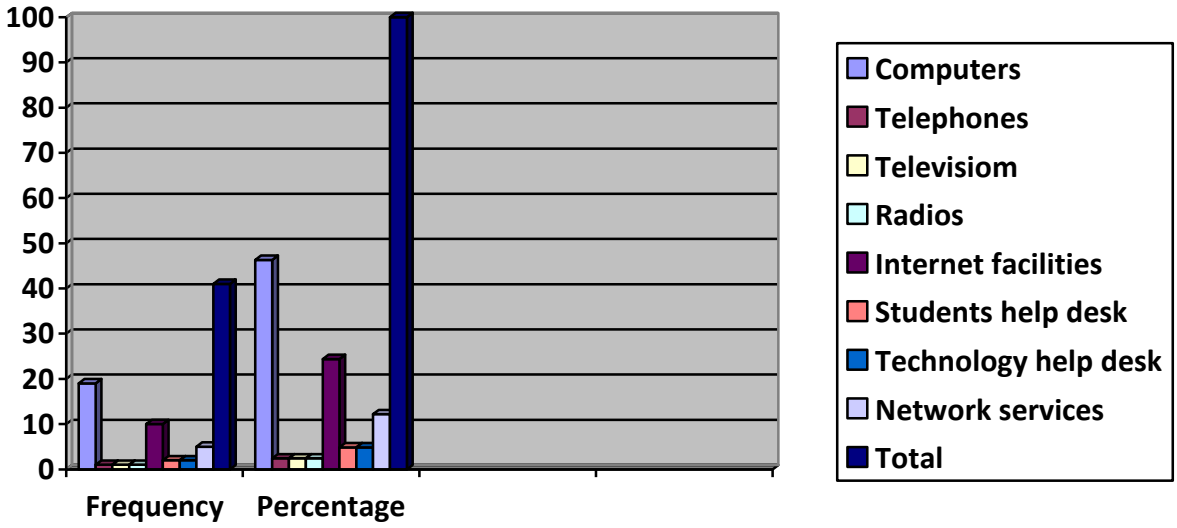


The above table result indicates that there is adequate building/section in Kashim Ibrahim Library with 32 frequency and (78.04 percent) respondents, followed by very adequate with 9 frequency and (21.95 percent) respondents, while not sure and not adequate each score 0 with (0 percent).

Table 5.13 Information Communication Technology facilities are used in management of information Resources and Services

Facilities	**Frequency**	**Percentage**
Computers	19	46.34
Telephones	1	2.43
Television	1	2.43
Radios	1	2.43
Internet facilities	10	24.39

Student help desk	2	4.87
Technology help desk	2	4.87
Network services	5	12.19
Total	41	100

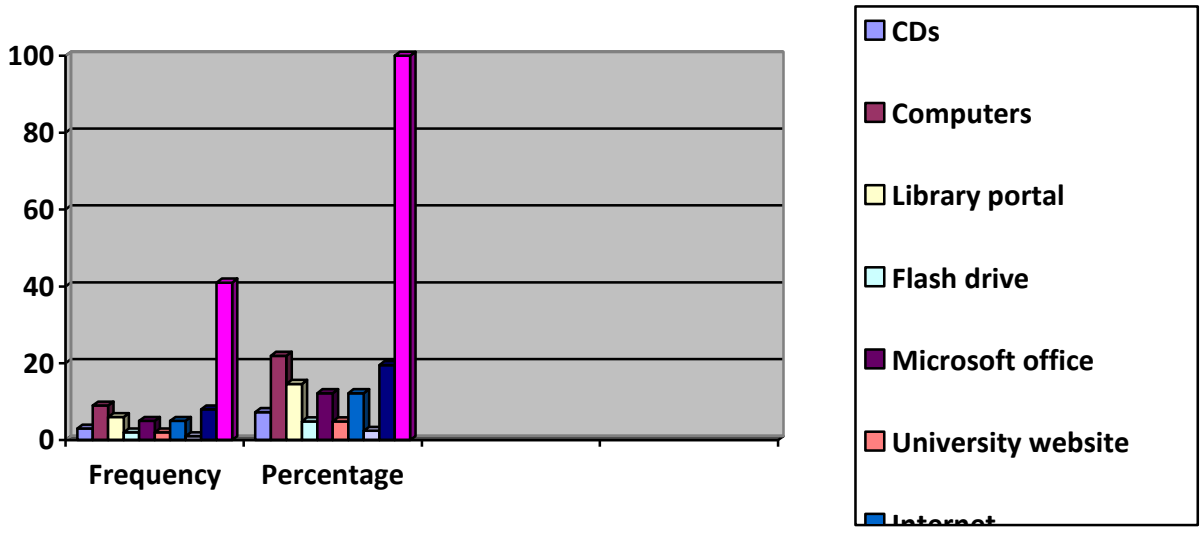


In terms of Information Communication Technology facilities are used in management of information Resources and Services participants were asked and made the appropriate answer, the result reveal that computers had the highest respondents with frequency 19 (46.34), followed by internet facilities 10 (24.39) respondents, network services score 5 (12.19) respondents, student help desk and technology help desk each score 2 (4.87) respondents, while telephones, television, and radios each score 1(2.43) respondent.

Table 5.14 Information Communication Technology medium that use to organize and preserve information Resources and Services

Medium	**Frequency**	**Percentage**
C.Ds	3	7.31

Computers	9	21.95
Library portal	6	14.63
Flash drive	2	4.87
Microsoft office	5	12.19
University website	2	4.87
Internet	5	12.19
Printer, scanner & photocopier	1	2.43
Institutional repository	8	19.51
Total	41	100



Issues on Information Communication Technology medium that use to organize and preserve information Resources and Services, the above table indicate that computers had the highest score with frequency 9 (21.95) respondents, followed by Institutional repository

with frequency 8 (19.51) respondents, library portal score 6 (14.63) respondents, Microsoft office and internet each score 5 (12.19) respondents, CDs score 3 (7.31) respondents, flash drive and university website each score 2 (4.87)respondents, while Printer, scanner & photocopier score 1 (2.43) respondent.

Table 5.16 How often do you use these medium for management of information Resources and Services?

Items	**Very often**		**Often**		**Undecided**		**Not at all**		**Total**	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Scanner	33	80.48	7	17.07	1	2.43	0	0	41	100
CDs /Cassettes	10	24.39	27	65.85	4	9.75	0	0	41	100
Photocopy Machine	9	21.95	30	73.17	2	4.87	0	0	41	100
Multimedia devices	8	19.51	25	60.97	5	12.19	3	7.31	41	100
Institutional Repository	36	87.80	3	7.31	2	4.87	0	0	41	100
Computers	39	95.12	2	4.87	0	0	0	0	41	100
Projectors	3	7.31	10	24.39	20	48.78	8	19.51	41	100
Printers	33	80.48	7	17.07	1	2.43	0	0	41	100
Scanners	30	73.17	10	24.39	1	2.43	0	0	41	100
TVs	1	2.43	5	12.19	8	19.51	27	65.85	41	100
Videos	2	4.87	3	7.31	5	12.19	31	75.60	41	100
Radios	1	2.43	1	2.43	4	9.75	35	85.36	41	100
Flash driver	25	60.97	11	26.82	2	4.87	3	7.31	41	100
Barcode Sensors	5	12.19	7	17.07	1	2.43	28	68.29	41	100
Memory cards	22	53.65	12	29.26	5	12.19	2	4.87	41	100

Issues on how often participants use medium for management of information Resources and Services in Kashim Ibrahim Library, the above result reveal that 33 (80.48percent) respondents used scanner very often, followed by 7 (17.07 percent) respondents who score for often, undecided score 1 (2.43), while not at all score 0 (0). On the use of CDs /Cassettes, 27 (65.85 percent) respondents score for often, followed by very often with frequency 10 (24.39percent) respondents, undecided score 4 (9.75) respondent, while not at all score 0 (0). Photocopy Machine often score 30 (73.17percent) respondents, followed by very often 9 (21.95percent) respondents, undecided score 2 (4.87) respondent, while not at all score 0 (0). Multimedia devices often score 19 (60.97 percent) respondents, followed by very often with frequency 8 and (19.51percent) respondents, undecided score 5 (12.19 percent) respondents, while not at all score 3 (7.31 percent) respondents. Institutional Repository very often score 36 (37.80 percent) respondents, followed by often with frequency 3 (7.31 percent) respondents, undecided score 2 (4.87) respondents, while not at all score 0 (0).

Therefore , Issues on computer the result reveal that very often score 39 (95.12percent) respondents, followed by 2(4.87 percent) respondents who score for often, undecided and not at all each score 0 (0). On the use of Projectors 20 (48.78 percent) respondents score for undecided, followed by often with frequency 10 (24.39percent) respondents, not at all score 8 (19.51) respondent, while very often score 3 (7.31). Printers very often score 33 (80.48 percent) respondents, followed by often 7 (17.07 percent) respondents, undecided score 1 (2.43) respondent, while not at all score 0 (0). Scanners very often score 30 (71.17 percent) respondents, followed by very often with frequency 10 and (24.39percent) respondents, undecided score 1 (2.43 percent) respondents, while not at all score 0 (0 percent) respondents. TVs not at all score 27 (65.85 percent) respondents, followed by undecided with frequency 8 (19.51 percent) respondents, often score 5 (12.19) respondents, while very often score 1 (2.43).

Moreover, Issues on Videos the result reveal that not at all score 31 (75.60percent) respondents, followed by 5 (12.19 percent) respondents who score for undecided, often score 3 (7.31) respondents, while very often score 2 (4.87) respondents. On the use of Radios not at all score 35 (85.36percent) respondents, undecided score 4 (9.75) respondents, very often and often each score 1 (2.43) respondent. Flash drive very often score 26 (60.97percent) respondents,

followed by often 11 (26.82percent) respondents, undecided score 2 (4.87) respondent, while not at all score 3 (7.31). barcode sensor not at all score 28 (68.29 percent) respondents, followed by often with frequency 7 and (17.07percent) respondents, very often score 5 (12.19) respondents, while undecided score 1 (2.43 percent) respondent. Memory card very often score 22 (53.65 percent) respondents, followed by often with frequency 12 (29.26) respondents, undecided score 5 (12.19 percent) respondents, while very often score 2 (4.87).

Table 5.17 The extent that the information communication technology devices being used for management of information resources and services

Extent	**Yes**	**No**
Data Processing	√	
Communication	√	
Circulation	√	
Cataloging	√	
Bibliography	√	
Serial control	√	
Preparing database	√	
CD-ROM Searching	√	
Online Searching	√	
Online Networking	√	
Online Information Service	√	
Scanning Service	√	
Online Reservation Services	√	
Database Searching Service	√	

Key: √= Applicable X=Not Applicable

In order to understand the extent that the information communication technology devices being used for management of information resources and services participant were asked and made the appropriate answer, the result reveals that information resources and services in Kashim Ibrahim Library been used purposely for data processing, communication, circulation, bibliography, cataloging, serial control, Preparing database, CD-Room searching, Online Searching, online information services, online database searching, Online Networking, online reservation services, and Scanning Service.

Table 5.18 Reasons are information generated used in Kashim Ibrahim Library

Reason	**Yes**	**No**
Data Processing	√	
Publications	√	
Communication	√	
Circulation	√	
Cataloging	√	
Research	√	
Bibliography	√	
Serial control	√	
Acquisition	√	
Preparing database	√	
CD-ROM Searching	√	
Online Searching	√	
Online Networking	√	
E-Learning		X
Online Information Service	√	
Email/Social Media		X

Scanning Service	√	
Online Reservation Services	√	
Lesson preparation	√	
Database Searching Service	√	
News	√	
Current Awareness Services (CAS)	√	
Selective Dissemination of Information (SDI)	√	
On-line databases	√	
Online public access catalogs (OPAC)	√	
Full- text databases	√	
Scholarly websites	√	
Entertainment	√	
Photocopy & print	√	
Directories	√	

Key: √= Applicable X=Not Applicable

In order to understand the Reasons are information resources and services generated used in Kashim Ibrahim Library participant were asked and made the appropriate answer, the result reveals that information resources and services in Kashim Ibrahim Library been used purposely for the Reasons of data processing, communication, circulation, bibliography, cataloging, serial control, Publications, research, acquisition, Preparing database, CD-Room searching, Online Searching, online information services, online database searching, news, current awareness services, selective dissemination information, Lesson preparation, online database, online public access catalog, directory, Online Networking,

Full- text databases, Photocopy & print scholarly website, entertainment, online reservation services, and Scanning Service. E-learning and email/social media participants are not included among the reasons information resources and services generated used in Kashim Ibrahim Library.

Table 5.19 problems encountered in the use of ICT devices for management of information Resources and Services

Difficult	**Very high Difficult**		**high Difficult**		**Difficult**		**Not Difficult**		**Undecided**		**Total**	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
The use of computers	1	2.43	1	2.43	2	4.87	34	82.92	3	7.31	41	100
use of data bases	0	0	2	4.87	3	7.31	33	80.48	3	7.31	41	100
Formulating search queries	1	2.43	2	4.87	2	4.87	30	73.17	6	14.63	41	100
Online navigating techniques	3	7.31	5	12.19	12	29.26	19	46.34	2	4.87	41	100
Online acquisition techniques	7	17.07	8	19.51	15	36.58	10	24.39	1	2.43	41	100

From the above table it can be seen that 34 (82.92 percent) respondents say there is not Difficult in use of computers, followed by 3 (67.31 percent) for undecided, while 2 (4.87percent) for some that score for difficult, rest of the option that are very high difficult and high difficult each score 1 (2.43percent) respondents. On the use of data bases, 33 (80.48 percent) respondents score not difficult, followed by 3 (7.31 percent) respondents for each score to difficult and undecided. High difficult score 2 (4.87 percent) respondents, while very high difficult score 0(0percent). Formulating search queries 30 (73.17percent) respondents say

there is not difficult, followed by 6 (14.63 percent) who score for undecided, while 2 (4.87 percent) respondents for each score to difficult and high difficult, rest of very high difficult score 1 with (2.43 percent) respondent. Online navigating techniques 19 (46.34 percent) respondents score for not difficult, followed by 12 (29.26 percent) respondents who say difficult. High difficult score 5 (12.19percent) respondents, while very high difficult score 3 (7.31 percent) respondents, rest of the option that is undecided score 2 (4.87 percent) respondents. Online acquisition techniques 15 (36.58percent) respondents score for difficult, followed by 10 (24.39 percent) respondents who say not difficult. High difficult score 8 (19.51) respondents, while very high difficult score 7 (17.07 percent) respondents, and undecided score 1 (2.43 percent) respondents.

Table 5.20 Problem associated with the standard of ICT Resources and Services

Problems	**Very high problem**		**high problem**		**Problem**		**Not problem**		**Undecided**		**Total**	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
library patron	2	4.87	7	17.07	8	19.51	23	56.09	2	4.87	41	100
Funding	24	58.53	10	24.39	3	7.31	2	4.87	1	2.43	41	100
Lack of ICT Knowledge	1	2.43	8	19.51	8	19.51	21	51.21	3	7.31	41	100
Infrastructure	5	12.19	6	14.63	8	19.51	15	36.58	7	17.07	41	100
Management	5	12.19	6	14.63	20	48.78	5	12.19	5	12.19	41	100
Security	13	31.70	5	12.19	11	26.82	7	17.07	5	12.19	41	100
Lack of ICT Training Programs	23	56.09	8	19.51	7	17.07	2	4.87	2	4.87	41	100
Absence of local resources	20	48.78	5	12.19	6	14.63	5	12.19	5	12.19	41	100

In order to understand the Problem associated with the standard of ICT Resources and Services participants were asked and the above table made it clear that 23 (56.09percent) respondents say there is no problem with library patron, followed by 8 (19.51percent) for problem, while 7 (71.07 percent) for some that score for high problem, rest of the option that are very high problem and undecided each score 2 (4.87 percent) respondents. On the Funding issues, 24 (58.53percent) respondents score very high problem, followed by 10 (24.39percent) respondents who score to high problem. Problem score 3 (7.31 percent) respondents, not problem score 2 (4.87) respondents, while undecided score 1 (2.43 percent). Lack of IT knowledge 21 (51.21percent) respondents score for not problem, followed by 8 (19.51 percent) respondents who score for each high problem and problem, 3 (7.31 percent) respondents score to undecided, while very high problem score 1 with (2.43 percent) respondent. Infrastructure 15 respondents (36.58percent) score for not problem, followed by 8 (19.51 percent) respondents who score to problem, undecided score 7 (17.07) respondents, high problem score 6 (14.63 percent) respondents, while very high problem score 5 (12.19 percent) respondents. Issues on Management 20 respondents (48.78percent) score for problem followed by 6 (14.63 percent) respondents who score to high problem. Undecided, not problem and very high problem each score 5 (12.19 percent) respondents. On Security matters 13respondents (31.70percent) score for very high problem followed by 11 (26.82percent) respondents who score to problem. Not problem score 7 (17.07 percent) respondents while rest of undecided and high problem each score 5 (12.19 percent) respondents.

Lack of ICT Training Programs, 23 (56.09 percent) respondents score very high problem, followed by 8 (19.51percent) respondents who score to high problem. Problem score 7 (17.07 percent) respondents while undecided and not problem each score 2 (4.870 percent). Absence of local resources 20 (48.78 percent) respondents score very high problem, followed by 6 (14.63 percent) respondents who score for problem, while rest of options which are high problem, not problem and undecided each score 5 (12.19 percent) respondents.

CHAPTER SIX

6.1 Summary of Finding

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, in this study the research found that the demography of respondents ages are between 31-40 had the highest percent distribution of 23 (56.09 percent) respondents; followed by ages 15 – 30 with 8 (19.51 percent). Ages 41-50 is represented by 6 (14.63 percent) respondents and the least representation were the 51 and above years with 4(9.75 percent) respondents. Below are the details of the result. Table 5.1 show that respondents who are working with the university library between one to five years are the majority with 20 (48.78 percent) while who have being working with library between five to ten years are 9 (21.95 percent) respondents. Ten to fifteen years score 4 (9.75), fifteen to twenty years, twenty to above year each score 3 (7.31) respondents, table 5.2 shown that 28 respondents (68.29 percent) were male staff, while 13 respondents (31.70 percent) were female staff. The essence of each and every for selection and acquisition of ICT Resources in whatever form or pattern is to serve the need of the users towards accomplishing its aims, objectives through the good management of the library resources and services. From the table 5.5 above it has revealed that the university librarian has majority respondents in terms of managing the library resources and services with frequency 30 and (73.17 percent), while 11 (26.82 percent) respondents score for the library staff. University council, Vice chancellor each scored zero as above table indicated.

Information Resources and Services created/generated in Kashim Ibrahim Library, the result indicate that the services available include bibliographies, references, documents, books , journals , directories, Computers , print archives, e-books, e-journals, CD-ROM searching services, Multimedia, DVDs, audio/video cassettes, on-line databases, online public access catalogues (OPAC), full- text databases, Projectors, scholarly websites, and Institutional Repository which each score 41 (100 percent) respondents. Almanacs score 38 (92.68 percent) respondents, report score 37 (90.24 percent) respondents, e-dissertations score 31 (75.60 percent) respondents, bulletin boards score 28 (68.29 percent) respondents, while

pamphlet score 14 (34.14 percent) and Blogs score 12 (29.26 percent) respondents. In terms of unavailable resources as much as possible these include Blogs which score 29 (70.73 percent) respondents, followed by pamphlet 27 (65.85 percent) respondents, bulletin boards score 13 (31.70 percent) respondents, e-dissertations score 10 (24.39 percent) respondents, while reports score 4 (9.75 percent) and Almanacs score 3 (7.31 percent) respondents. Therefore, Information and Communication Technology devices are available for management of information Resources and Services. The results revealed that Computers had a score with frequency 10 (24.39 percent) respondents, followed by photocopy, Institutional Repository and scanner each score 5 (12.19percent) respondents. The result reveals that Printers score 4 (9.75percent) while Flash drivers score 3 (7.31percent) respondents. CDs /Cassettes and Barcode Sensors each score 2 (4.87 percent). Projectors, TVs, Videos, Radios, and Memory cards each score 1 (2.43 percent) respondent. The result indicate that how the devices are been useful in managing information resources and services in Kashim Ibrahim Library Ahmadu Bello University, Zaria.

In terms of Information Communication Technology facilities are used in management of information Resources and Services, the result reveal that computers had the highest respondents with frequency 19 (46.34), followed by internet facilities 10 (24.39) respondents, network services score 5 (12.19) respondents, student help desk and technology help desk each score 2 (4.87) respondents, while telephones, television, and radios each score 1(2.43) respondent. Issues on Information Communication Technology medium that use to organize and preserve information Resources and Services, table 5.14 indicates that computers had the highest score with frequency 9 (21.95) respondents, followed by Institutional repository with frequency 8 (19.51) respondents, library portal score 6 (14.63) respondents, Microsoft office and internet each score 5 (12.19) respondents, CDs score 3 (7.31) respondents, flash drive and university website each score 2 (4.87)respondents, while Printer, scanner & photocopier score 1 (2.43) respondent. Moreover, the Reasons are information resources and services generated used in Kashim Ibrahim, the result reveals that information resources and services in Kashim Ibrahim Library been used purposely for the Reasons of data processing, communication, circulation, bibliography, cataloging, serial control, Publications, research, acquisition, Preparing database, CD-Room searching, Online Searching, online

information services, online database searching, news, current awareness services, selective dissemination information, Lesson preparation, online database, online public access catalog, directory, Online Networking, Full- text databases, Photocopy & print scholarly website, entertainment, online reservation services, and Scanning Service. E-learning and email/social media participants are not included among the reasons information resources and services generated used in Kashim Ibrahim Library.

Therefore, the Problem associated with the standard of ICT Resources and table 5.20 made it clear that 23 (56.09percent) respondents say there is no problem with library patron, followed by 8 (19.51percent) for problem, while 7 (71.07 percent) for some that score for high problem, rest of the option that are very high problem and undecided each score 2 (4.87 percent) respondents. On the Funding issues, 24 (58.53percent) respondents score very high problem, followed by 10 (24.39percent) respondents who score to high problem. Problem score 3 (7.31 percent) respondents, not problem score 2 (4.87) respondents, while undecided score 1 (2.43 percent). Lack of IT knowledge 21 (51.21percent) respondents score for not problem, followed by 8 (19.51 percent) respondents who score for each high problem and problem, 3 (7.31 percent) respondents score to undecided, while very high problem score 1 with (2.43 percent) respondent. Infrastructure 15 respondents (36.58percent) score for not problem, followed by 8 (19.51 percent) respondents who score to problem, undecided score 7 (17.07) respondents, high problem score 6 (14.63 percent) respondents, while very high problem score 5 (12.19 percent) respondents. Issues on Management 20 respondents (48.78percent) score for problem followed by 6 (14.63 percent) respondents who score to high problem. Undecided, not problem and very high problem each score 5 (12.19 percent) respondents. On Security matters 13respondents (31.70percent) score for very high problem followed by 11 (26.82percent) respondents who score to problem. Not problem score 7 (17.07 percent) respondents while rest of undecided and high problem each score 5 (12.19 percent) respondents.

6.2 Conclusion

The role of library and information professionals have changed altogether, their role is not just as custodian of books but to teach the students how to use the existing resources, frequently organizing workshops, current awareness, debates, develop users/staff on

how to manage the library resources and services. Library professionals cannot ignore the changes in the field of ICT and redefining as well as reengineering the library resources and services is the need of the hour. Information professionals must change the way of managing documents with latest tools and technologies. Staff has to give instruction, training to users to promote optimum use of information sources.

The ultimate aim of adoption ICT is to facilitate effective transformation of information sources to learning/research. Any plan of implementation which deviates from this aim is likely to result in futility. Integration of ICT with library resources and services should be curriculum driven instead of technology driven in view of future curriculum reform. The implementation of ICT programs in library services should entails building a culture among people. It must be a matter of inculcating values and shaping of attitudes and impartation of knowledge and development of skills. Basically, therefore, emphasis should be placed on the effectiveness ICT in promoting sustainable library resources and services at all levels.

The trends in the use of ICT in library services that have been visited here together with their possible impacts in management of information resources and services include open access resource, inter-library loan, online public access catalog (OPAC) and collection management of information resources. A pattern which is emerging is the richness of ICT that is available and diversity of processes that can be applied to those ICT for use in library resources and services. In spite of the huge problems bedeviling ICT application in the Kashim Ibrahim library setting, the prospects and possibilities are abundant. It is undeniable that much progress has been recorded in ICT application in Kashim Ibrahim. However, there is much room for improvement.

Therefore, The Kashim Ibrahim library is a comprehensive place to adopt ICT for development training curriculum that aims to equip policymakers with the essential knowledge and skills to fully leverage opportunities presented by ICT to achieve national development goals and bridge the digital divide. For a long lasting, effective and relevant application ICT in Kashim Ibrahim library libraries, the following measures are hereby recommended.

6.3 Recommendation

1) Kashim Ibrahim Library needs funds to initiate the full implementation of ICT in management of information resources and services, the government of federal republic of Nigeria should play vital role by allotting sufficient funds for purchasing and maintaining ICT in libraries.

2) A comprehensive collection development policy for e-resources should be maintained by the Kashim Ibrahim Libarary, in order to follow a set of standard practices for acquisition and management of electronic information resources. There should be specific budget for new resources and the renewal of existing resources.

3) Professional organizations such as the Nigerian Library Association (NLA) and library administrators should organize short-term training programmes and workshop for library professionals in computer applications in library and information services, online information retrieval, data processing, electronic publishing, and also software such as Microsoft Office, CDS/ISIS, etc.

4) A long-term plan is an essential component of the long-term implementation of ICT in Kashim Ibrahim Libaray.

5) Standby electric power generating set should be procured and be uncuttable in order to ensure constant power supply for proper utilization of ICT facilities. Since ICT relies heavily on electric power, every effort should be made to ensure that the systems are always powered as required.

6) Management and full utilization of the facilities should be properly done. The users should have enough time. Through proper planning, organizing, directing and controlling of the IT facilities so that the best could be made of the facilities. Restricted access to the facilities will not lead to the attainment of the desired objectives, but at

the same time, measures should be put in place to ensure that the facilities are not abused.

7) The federal government of Nigeria should develop a centralized database, linked with other international networks, that includes all documents and sources of information available in the country, in order to support scientific research and to provide decision-makers easy access to information in the universities.

8) Library needs strong support from their parent institution and the government. This can be achieved only if there is such awareness regarding ICT. The Nigerian Library Association (NLA), The Department Library and Information Science, Kashim Ibrahim Library Management, , and any other professional organization should also organize seminars, workshops, etc., to create awareness among library staff/users about the advantages of ICT.

9) Networking should also be improved, since is one of the most effective ways of serving users' needs comprehensively. Networked access to databases would help get newly-published information to library users.

10) Good maintenance culture should be developed in the Kashim Ibrahim Library. There is no gain leaving any broken system to suffer because more harm could be done through such inaction. Rather, more qualified technologists should be employed to ensure efficient maintenance culture for better results.

11) Well-trained and skilled personnel are essential ingredients for implementing ICT in library. Steps should be taken to develop properly trained and competent people for this purpose.

CHAPTER SEVEN

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Appendix I

Newcastle College

United Kingdom

10th September, 2014

Kashim Ibrahim Library,

Ahmadu Bello University, Zaria

Dear Respondent,

Questionnaire on Application of Information Communication Technology (ICT) in Management of Information Resources and Services in Kashim Ibrahim Library, ABU, Zaria, Kaduna-Nigeria

I am a postgraduate student of the above named institution in Department of Information Technology and conducting research on the above named topic. The research is purely for academic purpose therefore; kindly respond to the attached questionnaire by ticking the appropriate response. You are guaranteed of strict confidentiality of any information provided.

I thank you for the usual cooperation and assistance.

Yours truly,

Sani Murtala Ridwan

Appendix II

SECTION A: Demographic Information

Instruction: Kindly tick the appropriate box {√} where necessary.

40) Name of Institution: ……..

41) What is your designation?

(d) Professional librarian { } (b) Para-Professional librarian { } (c) System Analyst { }

42) What is your highest educational qualification?

(a)Dip in Computer Science { } (b) Dip in Lib & Inf. Science { } (c) HND Computer Science { } (d) HND Lib &Inf. Science { } (e) BSC Computer Science { } (f) BSC Library Science { } (g) MLS { } (h) PHD{ }

43) How long have you been working with the university library?

(e) 1-5 years { } (b) 6-10 years { } (c)11-15 years { } (d) 16-20 years { } (e)20 years and above { }

SECTION B: types of data/information are created/generated in Kashim Ibrahim Library

Instructions: Tick {√} the right answer

44) I s there any existing of library management policy in your library? Yes { } No { }

45) If yes, how long has the policy been?

(a) Less than 1 year { } (b) 1-3 years { } (c) 3-5years { } (d) Above 5 years { }

46) Who is responsible for managing the library resources and services?

(a)University Council { } (b) Vice chancellor { } (c) University librarian { } (d) others { }

47) Please, what does the policy cover?

(a) Funding of the library { } (b) Structure of the library { } (c.) Staffing of the library { } (d) Library facilities { } (e) Resources and services { }

48) Which of these Information Resources and Services created/generated in Kashim Ibrahim Library?

a) E-books { }

b) E-Journals { }
c) E-dissertations { }
d) CD-ROM Searching service { }
e) Current Awareness Services (CAS) { }
f) Selective Dissemination of Information { }
g) On-line databases { }
h) Online public access catalogs (OPAC) { }
i) Full- text databases { }
j) Scholarly websites { }
k) Photocopy, print & scanning { }
l) Multimedia resources { }
m) Almanacs { }
n) Bibliographies { }
o) Directories { }
p) Institutional Repository { }
q) Books { }
r) Microsoft office { }
s) Computers { }
t) Projectors { }

SECTION C: Type of Information and Communication Technology devices are available for management of information Resources and Services

49) How do you rate the standard of your ICT in library management?

S/N	**Items**	**Options**				
		Very High Standard	High Standard	Standard	Not standard	Undecided
1	ICT Location					
2	ICT Building					

3	Spacing					
4	Arrangement					
5	Fittings					
6	Furniture					
7	Facilities					
8	Equipment					

50) Which of these of Information and Communication Technology devices are available for management of information Resources and Services?

a) CDs { }
b) Cassettes { }
c) Photocopy Machine { }
d) Multimedia devices { }
e) Institutional Repository { }
f) Computers { }
g) Projectors { }
h) Printers { }
i) Scanners { }
j) TVs { }
k) Videos { }
l) Radios { }
m) Flash drivers { }
n) Barcode Sensors { }
o) Memory cards { }

SECTION D: Type of Information Communication Technology facilities are used in management of information Resources and Services (Please kindly tick the right option.)

51) How will you describe your university library?

(b) Very big { } (b) Big { } (c) Average { } (d) Small { }

52) What is the seating capacity of your library?

(b) Less than 20 { } (b) 21-50{ } (c) 51-100{ } (d) 101-150 { } (e) 151 and above{ }

53) How adequate is the library building/section

(d) Very adequate { } (b) Adequate { } (c) Not adequate { }

54) Which of these Information Communication Technology facilities are used in management of information Resources and Services?

(a) Computers { }
(b) Telephones { }
(c) Television { }
(d) Radios { }
(a) Internet facilities { }
(b) Student help desk { }
(e) Technology help desk { }
(f) Network services { }

55) In what medium is your library resources organized? Please kindly tick as many as appropriate.

(a) C.Ds { }
(b) Computers { }
(c) Library portal { }
(d) Flash drive { }
(e) Printer, scanner & photocopie { }
(f) Microsoft office { }
(g) University website { }
(h) Internet { }
(i) Institutional repository { }

SECTION E: Extent that the Information Communication Technology devices being used for management of information Resources and Services

56) How often do you use these medium for management of information Resources and Services?

S/N	Item	Very often	Often	Undecided	Not at all
1	Scanner				
2	CDs /Cassettes				
3	Photocopy Machine				
4	Multimedia devices				
5	Institutional Repository				
6	Computers				
7	Projectors				
8	Printers				
9	Scanners				
10	TVs				
11	Videos				
12	Radios				
13	Flash driver				
14	Barcode Sensors				
15	Memory cards				

57) For what extent that the information communication technology devices being used for management of information resources and services?

a) Data Processing { }
b) Communication { }
c) Circulation { }
d) Cataloging { }
e) Bibliography { }
f) Serial control { }
g) Preparing database { }
h) CD-ROM Searching { }
i) Online Searching { }

j) Online Networking { }
k) Photocopying { }
l) Online Information Service { }
m) News Clipping Scanning Services { }
n) Online Reservation Service { }
o) Database Searching Service { }

SECTION F: Reasons are information generated used in Kashim Ibrahim Library

58) For what Reasons are information generated used in Kashim Ibrahim Library?

1) Data Processing { }
2) Publications { }
3) Communication { }
4) Circulation { }
5) Cataloging { }
6) Research { }
7) Bibliography { }
8) Serial control { }
9) Acquisition { }
10) Preparing database { }
11) CD-ROM Searching { }
12) Online Searching { }
13) Online Networking { }
14) E-Learning { }
15) Photocopying { }
16) Online Information Service { }
17) Email/Social Media { }
18) Scanning Service { }
19) Online Reservation Services { }
20) Lesson preparation { }
21) Database Searching Service { }

22) News { }
23) Current Awareness Services (CAS) { }
24) Selective Dissemination of Information { }
25) On-line databases { }
26) Online public access catalogs (OPAC) { }
27) Full- text databases { }
28) Scholarly websites { }
29) Entertainment { }
30) Photocopy & print { }
31) Directories { }

SECTION G: problems encountered in the use of ICT devices for management of information Resources and Services

59) Is there any problem associated with the standard of your ICT Resources and Services?

Problems	Very high problem	high problem	Problem	Not problem	Not sure	Total
Library patron						
Funding						
Lack of IT Knowledge						
Infrastructure						
Management						
Security						
Lack of ICT Training Programs						
Absence of local resources						

60) How difficult your level in use of ICT Resources and Services?

S	Items	Options				
N		Highly difficult	Very difficult	Difficult	Not difficult	Undecided

1	The use of computers					
2	use of data bases					
3	Formulating search queries					
4	Online navigating techniques					
5	Online acquisition techniques					

Thank you for your participation