ACCESSIBILITY AND USE OF ELECTRONIC INFORMATION RESOURCES AND SERVICES IN MTN UNIVERSITIES CONNECT LIBRARIES IN NIGERIAN UNIVERSITIES

BY

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DECLARATION

I hereby declare that this thesis entitled: “Availability Accessibility and Use of Electronic Information Resources and Services in MTN Universities Connect in Nigerian Universities” has been written by me in the Department of Library and Information Science. The Information derived from the literature has been duly acknowledged in the text and list of references provided. No part of this work has been previously presented for another higher degree to the best of my knowledge.

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Signature Date

CERTIFICATION

This thesis titled Availability, Accessibility and Use of Electronic Information Resources and Services in MTN Universities Connect in Nigerian Universities by Ibrahim Hauwa, meets the regulations governing the award of the degree of Masters in Library and Information Science of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This study is dedicated to Almighty Allah; without Him, I can do nothing. To my parents Late Alhaji Ibrahim Usman and Hajia Zainab Musa for her prayers, support and encouragement**.**

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ABSTRACT

This study investigated the availability, accessibility and use of electronic information resources and services in MTN Universities connect in Nigerian Universities. Six research questions and four null hypotheses were formulated and tested with respect to the type of electronic information resources and services; extent of use of electronic information resources and services and purpose of use of electronic information resources and services in MTN Universities Connect in Nigerian Universities. Survey research design was adopted for this study. A total number of 273 registered library customers from the 4 MTN Net libraries in Nigerian Universities were drawn as sample size. A questionnaire was used to collect data for this study. The data collected were presented and analyzed using Frequency distribution tables, percentages and histograms. While the hypotheses, were tested using T-test and Pearson Product Moment Correlation Coefficient (PPMC). The study found among others that Sabinet online reference database; Ebscohost reference database, Nation Academic press databases, Virtual Libraries online, Science Direct online, E-books online Libraries, Linguistics Database online, Guternberg online Library, Free Library online, Google Search Engine and E-newspaper were the electronic information resources available in the 2 MTN libraries studied. Also, it was found that Email Services, WWW Services, Databases Services and Printing Services were the electronic information services available in the 2 MTN libraries studied. SABINET online reference database, EBSCOHOST, JSTOR, Nation Academic press database, Virtual Libraries Online, Free Library Online, Google Search Engine and E-newspapers were the type of electronic information resources that are highly accessible with the highest frequencies of over 60% response scores in the two MTN UniversitiesConnect Libraries studied. There is no significant difference between the ABU and UNIBEN MTN Universitiesconnect libraries customers in the type of electronic information resources and services they preferred most. The study concluded that electronic information resources are vital and are the backbone of any dynamic collection, most of the electronic information resources such are full text databases, electronic books are not publicly available free of charge and they are expensive, and they offer creative possibilities for expanding access as well as changing learning behaviour and academic research in Universities. Lastly, management of the MTN UniversitiesConnect Libraries should ensure that all hick ups such as power outages, denial of access, network fluctuations and system breakdowns are minimized in order to promote access and use of the electronic information resources and services in the libraries.

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LIST OF ABBREVIATIONS

ABU	-	Ahmadu Bello University, Zaria
CD	-	Compact Disk
CULNU	-	Committee of University Librarians of Nigeria
DARPA	-	Defence Advanced Research Projects
DVD	-	Digital Video Disk
EIR	-	Electronic Information Resources
ETF	-	Education Trust Fund
IT	-	Information Technology
MTN	-	Mobile telecommunication Network
NLA	-	Nigerian Library Association
NUC	-	National University Commission
OCLC	-	Online Computer Library Center
ODLIS	-	Online Dictionary of Library and Information science
SA	-	South Africa
SDI	-	Selective Dissemination of Information
UNIBEN	-	University of Benin
UNILAG	-	University of Lagos
UNN	-	University of Nigeria Nsuka
WAN	-	Wide Area Network
WWW	-	World Wide Web

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Electronic information resources and services in university libraries plays a vital role in all fields of human endeavours and the world has increasingly become more dependent on it. According to the online dictionary of Library and information science (ODLIS, 2004), electronic information resources can be defined as Material consisting of data or computer program(s) encoded for reading and manipulation by a computer, by the use of a peripheral device directly connected to the Computer, such as a CD-ROM drive, or remotely via a network, such as the Internet category includes software applications, electronic texts, bibliographic databases, institutional repositories, Web sites, e-books, collections of e-journals, etc. Electronic information resources are convenient to search and access vast amount of information within the shortest possible time. These electronic information resources are available on the Internet, which can be accessed free of charge or through university's subscriptions to provide free online databases access to their customers to support academic activities especially in the area of teaching, learning and research. Various scholars in the field of Library and Information Science have discussed how electronic resources have positively boosted the timely and accurate provision of information to users without delay.

Slim, et al (2001) defines electronic information resources and services as that which can be seen as what users' access electronically via a computing network from inside the library or remotely from the library. Tammaro (2006) observed that electronic information resources include websites, online databases, e-journals,e-books, CD-ROMs, audio visual, multimedia, etc Electronic information resources provide many advantages over the traditional print resources such as 24x7 access, universal access; saving physical space; ability to linked indexing and abstracting databases; accessibility

from the user's home, office, or hostels irrespective of whether or not the physical library is open.

Similarly, Kinber (1968) defines electronic information resources as the information stored in a medium which requires an electronic device to read its content. Information stored in different electronic media such as floppies, CDs, magnetic tapes, videos etc. can be retrieved with the help of other electronic devices like computers, video players etc. The electronic medium for storing information could be said to be the best as it has many advantages such as: large storage capacity, Data Security, space saving and easy access among others. The fact that libraries empower users by providing access to the broadest range of information, availability of electronic resources, including information via the internet, can enable libraries to fulfill this responsibility better than before.

Availability of electronic information resources refers to readily access to information in electronic format with little or no stress to the library user. Availability of electronic information resources in the library is not just enough, users must know of their existence to be able to use them effectively; and to put to use what's available, users must possess requisite skills that will enable them to exploit these resources and services.

Jibril (1997) says available information resources to ensure the electronic communication becomes a reliable component of research, teaching and all support activities in Nigerian Universities and institutions of higher learning systems.The availability of electronic information 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 availability or the perceived provision of electronic resources in libraries will show the extent to which

libraries 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. One of the goals of the library in the electronic age is to provide information and services that will fulfill the patron's needs.

Availability of electronic information resources means ensuring their presence in the libraries for immediate use. According to Aguolu (2002) the resources might be available i.e. the libraries would acquire them, but they could be inaccessible to those who need them for whatsoever reason (miss-shelved, or uncatalogued etc.) Amusa (2001), encourages libraries to embark on Selective Dissemination of Information (SDI) as this will advertise and market the available resources and services to those in need. It will also give access to the right information by the right seeker.

Buckland (1975) analyzes frustrations felt by users who fail to find the information resources they want in the library. He outlines four relationships between the user and availability or resources, which are:

1. The greater, the popularity, the lower the immediate availability.

2. The longer the loan period, the lower the immediate availability, the shorter the loan period, the higher the immediate availability.

3. The greater the popularity, the shorter the loan period has to be and the less the popularity, the longer the loan period can be.

4. Increasing the number of copies available, like shortening the length of loan periods, increases the immediate availability.

Access to electronic information resources provides users with a variety of information resources available. Mohammed (2003) writes that there should be various tools and education on how to access electronic information resources. In accessing electronic information resources, Amusa (2001), encourages libraries to embark on Selective

Dissemination of Information (SDI) as this will advertise and market the available resources and services to those in need. It will also give access to the right information by the right seeker.

It has been asserted that some library users are adopting electronic habits and making increasing use of the new electronic information resources that comprises computers, internet, intranets etc. to utilize resources in digital media (Chisenga, 2004). For these categories of users, having access to library facilities and services via electronic networks is an important library service. Generally, electronic information resources may be used for academic and for general purposes thus; library users are placing new demands ontheir libraries. They require access to the latest information, updated information resources and access to electronic resource facilities that could be utilized in their work.

Utilization of library implies making use of the resources and services of a library. Burns (1978) identified use as an activity which measures the work of an item to a library or information system. Use is the single criterion which could be used to determine the reason for retaining or discarding a document in the collection of a library. It is essential in guiding the collection development efforts of a library. The use of a library can be obtained from the demand of its resources and services. Thus, whenever users have no demand for the resources and services of a library it means that the library does not have what they wanted.

According to Burus (1978), use study is concerned with discovering, articulating, understanding, influencing, and when appropriate, the elimination or at least minimization of those obstacles between a user and his information goals". A library user may encounter problems due to certain things such as lack of knowledge in the use of the library.

MTN UniversitiesConnect library is an innovative project designed to provide access to online information resources in institutions of higher learning in Nigeria. The first phase of MTN UniversitiesConnect library was commissioned at University of Lagos (UNILAG) in December 2005 and the second phase at Ahmadu Bello University (ABU) Zaria in 2007 with over 200 computers with internet connectivity and access to over 5,500 libraries and 300 published works worldwide. University of Nigeria Nsukka (UNN) in 2008 and University of Benin (UNIBEN) followed afterwards in 2011.

MTN UniversitiesConnect Libraries Nigeria provides access to scholarly materials, database of journal, articles, abstracts and citations, electronic journals, publishing tools and reference databases, all wrapped up in a total library package and presented in a world-class digital infrastructure. MTN UniversitiesConnect library has its commitment to technological innovation of library system and providing the latest in electronic publishing and total library package delivery. It takes users far beyond the world of e--books to provide a flexible and stable e-content platform that is positioned for continual rapid content growth. The library ensures the maintenance, development and management of world-class electronic library.

MTN Foundation is the vehicle through which MTN Nigeria implements its corporate social responsibility programme. The foundation was created with a focus on giving back to society and impacting on the quality of lives of the community in a more meaningful way. It does that in 3 key areas, namely, Education, Economic Empowerment and Health. By focusing its efforts on these three (3) key areas, it is able to concentrate on basic needs and design projects that will empower host communities.

There are different types of e-resources and services available for users in the MTN Universities Connect Libraries. Presently there are different types of electronic databases resources available for use. These include OPAC system, Sabinet S A, which

covers library, legal, science and social sciences, EBCOhost, AGORA, JSTOR, HINARI, Journal of Performance and Art, Data star, Dialog, National Academic press database, Eprint in science, Digital library for earth system education, online digital library services, Virtual Libraries, Science Direct Library Services, Law Library Online, E-books online library, Linguistics library online, Gutenberg Library Online and online encyclopedia services. Part of the services is OPAC system.

The Objectives of the MTN UniversitiesConnect (Net Libraries) is to:

- Provide Academic research to staff and students of institutions of higher learning in the country.
- To provide staff and students with access to academic research
- To try and move from analogue to digital by digitizing the libraries for better accessibility.
- To empower communities through the provision of Information Technology (IT)
- To enable skills acquisition, transfer and development.
- To raise the national literacy level.
- To provide Educational resources for effective learning.
- To enhance Educational infrastructural development by providing faculty, students, and staff with easy access to educational technology.
- Train students on how to use technology to source, communicate and manage information effectively in the electronic information environment.
- Redesign curriculum drawn on computer-based research skills.
- Integrate information technology into ongoing campus life by making all information of interest available online.

More so, MTN Universities Library Nigeria is strategically affiliated to Online Computer Library Center (OCLC) through its partnership with Sabinet (SA) online. SA and OCLC were founded in 1967 as a nonprofit computer library services and research organization in the United States. It was established to provide further access to the world's information thereby reducing information cost.

1.2 Statement of the Problem

It is often said that the Internet is one of the best success stories of anarchy or even socialism in modern history. The Internet has proven itself to be an example of cooperation between countries, (often competing) commercial entities, government agencies and educational institutions specifically libraries for the sole purpose of enhancing communication. The main aim of any library is to acquire, organize and disseminate information that will assist it to achieve desired objectives. It has been universally acknowledged that the quality of academic output is traceable to the quality of its available information resources therein. The users of a library tend to appreciate these electronic resources if the information they require is timely accessible for utilization as appropriate. Electronic information resources and services have helped libraries to achieve the aforementioned by overcoming the delays that has been established by the use of library's manual systems. Electronic information resources have to some extent perfected efficiency in information dissemination by providing easy access offline and on the web (Online).

However, despite the fact that Luambano et al (2004) and Kiondo et al (2004) have reported that users of academic libraries are increasingly utilizing electronic information resources as more access points are made available and they are have realized the immense potential of accessing and use of electronic information resources

and services. Observation by the researcher stand to prove reverse being the case as access and use of electronic information resources and services in the MTN Universitiesconnect libraries in Nigerian Universities were very low. It could be attributed to the policy issues regarding access and use of electronic information resources and services in the libraries.

It is therefore against this background that this study was designed to investigate the availability, accessibility and utilization of Electronic Information resources and services by users of MTN Connect libraries across Nigeria.

1.3 Research Questions

This study provided answers to the following questions.

1. What type of electronic information resources and services available for use in the MTN UniversitiesConnect libraries?
2. How do the users access the electronic information resources and services in the MTN UniversitiesConnect libraries?
3. What do the users of the MTN UniversitiesConnect use the information resources and Services for?
4. To what extent do the users of the MTN UniversitiesConnect libraries utilize the available electronic information resources and services in the libraries?
5. What type of electronic information resources and services in the MTN UniversitiesConnect libraries do the users prefer most?
6. To what extent are the users of MTN UniversitiesConnect libraries satisfied with the electronic information resources and services provided?

1.4 Research Hypotheses

This study had tested the following hypotheses:-

HO1: There is no significant relationship between availability and use of the electronic information resources and services in MTN UniversitiesConnect libraries in Nigeria.

HO2: There is no significant difference between the users of the MTN UniversitiesConnect libraries in what they use the electronic information resources and services for.

HO3: There is no significant difference between the users of the MTN UniversitiesConnect libraries in the type of electronic information resources and services they preferred most.

HO4: There is no significant difference between the MTN UniversitiesConnect libraries users in their levels of satisfaction with the electronic resources and services provided.

1.5 Objectives of the Study

The main objectives of this study are to:

1. Identify the type of electronic information resources and services available for use in the MTN Net libraries.
2. Identify how the users access the information resources and services in the MTN Net libraries.
3. Determine how the users of the MTN Net use the information resources and Services for.
4. Identify the extent to which users of the MTN UniversitiesConnect libraries utilize the available electronic information resources and services in the libraries.

5. Identify the type of electronic information resources and services in the MTN UniversitiesConnect libraries the users prefer most.
6. Determine the extent to which the users of MTN UniversitiesConnect libraries are satisfied with the electronic information resources and services provided.

1.6 Significance of the Study

This study will bring to the attention of MTN and management of university in Nigeria and library users the relevance of electronic information resources and services to intellectual development.

The study will reveal the level of access and utilization by users of electronic information resources in MTN UniversitiesConnect libraries in Nigeria. It will go a long way in the assessment of such initiatives with a view to strengthening its capabilities for better service delivery. It is also significant in the sense that it will supply useful information for planning and strategy on the management of electronic resources and services in MTN UniversitiesConnect libraries in Nigeria.

More so, it will contribute to the depth of literature on electronic resources and services and will also serve as a reference material for further studies on electronic resources and services use by libraries.

1.7 Scope and Limitation of the Study

This study covers the study of Availability, Accessibility and Use of Electronic Information resources and Services in MTN UniversitiesConnect in Nigerian Universities. There are four MTN UniversitiesConnect Libraries established in four Nigerian Universities. Namely: University of Lagos (UNILAG); Ahmadu Bello

University, Zaria (ABU); University of Nigeria Nsukka (UNN) and University of Benin (UNIBEN).

1.8 Operational Definition of Terms

Electronic Resources: Resources that are packaged in electronic format. They required hardware to read its content and can be accessed in-house or remotely.

Electronic Services: Activities carried out to assist users in the use of electronic information.

Utilization: An act of making use of something, or finding a practical or effective use for something.

Accessibility: Physical or virtual contact with information resources or services.

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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed previous literature that relates to the field of research under the following headings:

- Evolution of electronic resources and services in libraries
- Electronic information resources.
- Availability of electronic information resources.
- Accessibility of electronic information resources
- Utilization of electronic information resources
- Electronic Information Services
- Problems of electronic resources and services.

2.2 Evolution of Electronic Information Resources and Services

The emergence of electronic information resources in libraries began in the year 1935, in the United States of America, the University of Texas, Boston public library Montclair and New Jersey in 1941 till date. Nwaje (2007) stated that during the last decades, computer processing and electronic information has become a routine in the technologically developed world. Computers and other electronic devices are applied for the generation, storage and retrieval of information from manuscript preparation (using word processors) through composing and abstracting.

Aina, et al (2008) indicated that the foundation stone for electronic information resources may have been laid in 1945 when Vannerar Bush envisioned an automated system that would store information including books, personal records and articles. Also, in 1950 Douglas Englebert hypothesized that computers could be used to

automate symbol-handling tasks and thus help people think faster better about more complex problems.

Hartley (2003), also observed that electronic information resources started with experimental computer systems developed for the storage and retrieval of bibliographic data during the 1960s. By the end of the decade, some major bibliographic databases were available in magnetic tapes. According to Howe (2009) the Internet was the result of some visionary thinking by people in the early 1960s who saw great potential value in allowing computers to share information on research and development in scientific and military fields. J.C.R. Licklider of MIT, first proposed a global network of computers in 1962, and moved over to the Defense Advanced Research Projects Agency (DARPA) in late 1962 to head the work to develop it.

However, during the1970s and 1980s, the availability of machine readable data resulted in the emergence of interactive computing and computer networks which enabled the online information industry to emerge. In the 1980s academic libraries began to transfer from card catalogues to online public access catalogues (OPAC). This enabled end-users to search databases for information. The CD-ROMs emerged at about the same time with OPACs as information delivery vehicles. Both OPACs and CD-ROM enabled the searching of electronic information resources.

Then came the www**,** Tim Berners-Lee created the World Wide Web (www) in 1989. The subsequent development of the Mosaic browser in 1992 led to widespread use of the Web beginning in 1993. The graphical interface and the later development of Web search engines made resources on the Internet more accessible to average patrons. The www emerged and made information available in the form of texts, images, sound, etc. The information in the web is structured to facilitate browsing. It provides access to quality controlled electronic information resources such as e-journals, e-books, etc.

Each technological development in library electronic information resources during the 20th century was intended to make access to resources more direct, convenient, and timely for the user.

2.3 Concept of Electronic Information Resources and Services.

Electronic information resources in libraries are considered essential part of modern society. This is because they play a very important role in education. The provision of electronic information resources and services in libraries is important to any educational program that intends to achieve objectives that is in line with the present day global best practices. Electronic information resources (EIR) are now recognized as being of greatest importance to even small academic libraries.

The present supply of electronic information resources is made up of a range of products that may exist in different forms such as CD-ROMs, and resources available on the Internet such as online databases, web pages etc. and they provide libraries with vast resources for their user populations (Gupta, 2011, Zimerman, 2010, Kapoor, 2010). The information in the web is structured to facilitate browsing. It provides access to quality controlled electronic information resources such as e-journals, e-books, etc. Each technological development in library electronic information resources during the 20th century was intended to make access to resources more direct, convenient, and timely for the user.

The implementation of electronic resources made the library a growing organism as libraries adopted processes and reorganized staff repeatedly to accommodate the changes inherent in the use of constantly changing technology. Ojo-igbinoba (2003) opined that electronic information resources and services in libraries become necessary because of large number of users. He also stated that growth in data usage leads to error and delays when manual systems are applied. The above assertion gives concise but

comprehensive explanation of the various forms of electronic information resources and services.

Thus, electronic information resources are vital and they are currently the backbone of any dynamic collection, but most of electronic information resources such as full text databases and electronic books not publicly available free of charge and therefore they are expensive. Today librarians are very much concern about their effective use.Nunberg (2011) defines electronic information resources as the information stored in a medium which requires an electronic device to read its content, which is in different electronic media such as tapes, floppies, radios etc. which can be retrieved with the help of other electronic devices like computers etc. The use of electronic information resources and services in a library also makes it possible for library staff to discover new information to develop the special gifts and talents hidden in each student, thereby assisting him/her to build a career.

Also, Lynch (2000) states that electronic information resources in libraries save time and effort than resources in the manual systems. It permits access to records, facilitates wider access to information, increases access to resources and allows easier editing of information. He also presented the effect of electronic information resources and services on libraries in three ways:

Automation- in this phase, libraries apply a range of Information Technology (IT) to the management of electronic information resources. A higher stage of library automation is characterized by the conversion of print materials to electronic formats.

Networked information- Here electronic content and services become accessible through the network any time, any place and could be tailored to meet the needs and objectives of each users.

Transformation- Technological changes have resulted to a set of new issues: how to archive digital information, how to address the question of authenticity, integrity and provenance.

Similarly, Hawthorne (2008) indicated that the pursuit of electronic information resources by libraries was driven by the core values of library science. It is possible to recognize in Ranganathan's five laws of library science, the motivation that drove libraries to incorporate electronic resources into services and collections. Paraphrased to better suit electronic resources, the laws read: resources are for use, every person his or her resource, every resource its user, save the time of the user, and the library is a growing organism (Ranganathan, 1963).

Onduri-okemwa (1999) wrote that electronic information resources is pervading in all areas of library work. Libraries are in a serious struggle to implement and sustain electronic resource projects, therefore the question today no longer seek the answer whether to inculcate electronic resources or not but on how to implement and sustain them (electronic information resources and services). Electronic information resources and services in a library are thus seen as a critical area from which the future benefits will emerge. The development of electronic information resources has now placed libraries worldwide in effective and efficient dissemination of information.

Nwali (2001) observed that computers are not new to librarians anymore, he however drew our attention to the need for staff development, computerization and improved library services.

Availability of Electronic Information Resources and Services

Availability of electronic information resources is about information being accessible as needed, when needed, where needed. The objective of availability is to enable access to authorized information or resources. Availability, in the context of a computer system,

refers to the ability to a user to access information or resources in a specified location and in the correct format. Chandrasekhar (2006) observed that the availability of electronic resources depend on the availability of funds as well as the demand for their use

Aguolu and Aguolu (2002) argue that availability should be viewed from both national and instructional levels. They attribute the lack of availability of information resources to the steady proliferation of universities: federal, state, and private, along with increases in students and faculty, and the diversification of courses and academic and research programmes, without adequate information resources to meet the actual and information needs. They identify obstacles to the development of adequate information resources. Dike (1992) conducted research on the scarcity of books in Nigeria and the threat to academic excellence. She was able to establish that non-availability of information resources has led faculty and students not to use library services. A study by Marama and Ogunrombi (1996) confirms high unavailability of library and information science (LIS) collections in most Nigerian university libraries, which had a negative effect on the use of information resources in the libraries studied.

Unomah (1987) conducted a study at the former Bendel State University to determine the unavailability rate in the library and to find out its causes. The survey revealed an unavailability rate of 34 percent. A similar study by Okiy (2000) showed an unavailability rate of only 7.5%. Iyoro (2004) found that availability of serials at the University of Ibadan was 94 percent, with 242 of 256 respondents agreeing that serial publications are available and readily accessible.

According to Abel et al (1996) and Eason et al (2000), the provision of electronic information resources varies among disciplines. They are most available in the sciences and medicine and least in the social science and humanities. Torma and Vakkari's

(2004) observation that the availability of relevant electronic resources affect how frequently scholars use them.

Rosenberg (2005) noted that access of Nigerian university libraries to the EBSCO Host online database was first made possible by NULIB Consult, which is a consortium for the Committee of University Librarians of Nigerian Universities (CULNU). In 2002, the continued subscription of Nigerian University Libraries to EBSCO Host was taken over by the Education Trust Fund (ETF) from 2005-2010. In a study conducted by Liverpool John Moore University (LJMU) on the provision of electronic information resources in Nigerian libraries, Ashcroft and Watts (2005) examined existing electronic information resources and barriers obstructing effective provision of electronic information. Ajayi and Akinniyi (2004) found frustration among information seekers due to the non-availability of sources. Aina (1985) analyzed the availability of periodical titles used in Nigerian libraries, finding that only 67 (11.5%) of the 578 periodical titles studied were not available in any of the major libraries, and confirming a high availability rate.

The study observed that electronic information resources are better provided through consortia efforts the main benefits are that of rationalization and cost savings. They observed that a consortium can comprise both large and small institutions and both public and academic libraries through a wide area network (WAN). This observation is in agreement with the position of CULNU, which formed a consortium, NULIB, through which Nigerian university libraries subscribe to electronic resources and services, among many of its other activities.

Accessibility of Electronic Information Resources and Services.

Access is a general term used to describe the degree to which a resources, services, product, environment is accessible by as many people as possible. It can be viewed as the ability to access information with little or no stress. Accessibility of information resources is an important recurring theme in the literature. According to Aguolu and Aguolu (2002), resources may be available in the library and even identified bibliographically as relevant to one's subject of interest, but the user may not be able to lay hands on them. One may identify citations in indexes, but may not have access to the resources containing the relevant articles. The more accessible information resources are, the more likely they are to be used. Readers tend to use information resources that require the least effort to access.

According to the New York Library Association Report on Training and Technology (2004), libraries and their parent organizations need to create an environment that is supportive of the new Information Technology and should provide sufficient access to resources for training and delivery of information.

Advances in technology have enabled users to access electronic resources in a variety of ways, to suit their needs and requirements. This is particularly true in educational institutions but also increasingly in academic libraries. Users of libraries are faced with the challenges of changing information environment, thus the need to train users in accessing online information. . Beals (2001) said that electronic information resources are growing exponentially, thus the preservation and continued access to these electronic resources is not only a necessity but should also be an obligation for libraries. Libraries should not only be committed, but also responsible for providing access to information in the desired format, so that patrons can access these electronic resources when and where they needed it.

Osundina (2004) studied the relationship between accessibility and library use in institutions in Nigeria and notes that the problem of users is not the question of wanting to use the library, but whether or not the library can provide for their needs and whether there will be access to the information provided. The Internet, which facilitates online access, is the interconnection of computers from different geographical locations. Databases are created by different organizations on different subject fields, each of which is installed on a computer. Once such a system is connected to the network, a user from any part of the world can have access to such information applying the necessary procedures. Access is only as good as the resources that can be afforded (e.g., the number of computers and existence of network systems), the ability to work with the tools, and the network infrastructure that supports rapid and convenient connections Renwick (2005)

Also, Aina (1983) wrote on accessibility to scientific and technological information in Nigeria revealing that of the 7,014 scientific papers published between 1990 and 1995, 5,067(79%) are journal articles and 1,116(20%) of these journal articles were not indexed or abstracted making them inaccessible. Further analysis shows that 77% of the papers not covered by any indexing or abstracting services were published in Nigeria. He recommends the establishment of a national science information centre to acquire, organize, provide access and disseminate scientific information resources in Nigeria and other places. For researchers to readily identify electronic resources, libraries must be able to integrate titles with other formats in catalogs and integrated library systems. Libraries have a mandate, to be strong advocates of open access to information.

Therefore, when buying electronic information resources, librarians should conduct contract negotiations with vendors/ network providers to ensure the least restrictive

access in current and future products. Provision of information services should be without fees to avoid creating a barrier to access of electronic resources and services. Aguolu (2007) revealed that efforts are being made worldwide to promote access to information in all formats. He lamented that the attendant features of underdevelopment such as power failure, machine breakdowns, lack of spare parts and technicians etc. which intermittently stall the performance of modern gadgets of information storage and transfer in developing countries.

Jefferson et al (1809) laid the basis for a government that made education, access to information etc. corner-stones of a great democratic experiment with geographical expansion and the rise of a mass press. The American government facilitated these constitutional principles through the creation of such innovative institutions such as the public schools, colleges and the libraries. By the close of the 19th century, professionally trained librarians developed specialized techniques in support of their democratic mission. In the 1930's, the library bill of rights acknowledged librarians professional and ethical responsibilities to the constitution, promise of access to information in all formats to all people.

2.5 Utilization of Electronic Information Resources and Services

The advent of electronic information resources has been a blessing to libraries and information centers. The significant changes associated with electronic information resources are the shift towards end user searching, leading to big increases in the total number of searches carried out. Awogbami et al (2000) reported the diffusion and achievements in the utilization of electronic resources and services in libraries. They stated that it has enabled libraries which could not have access to information online, to search in- house. The massive storage capacities in CD-ROMS are an example of

electronic information resources that have enabled libraries to access instantly, easily and conveniently, a substantial amount of relatively current and retrospective information. It also saves space as it can hold more content. Libraries have also reported an increase in the use of journal collections.

Aboluwarin (2001) reported an increase in library use when electronic information resources was introduced and has made staff more knowledgeable about a variety of operating systems, hardware configurations, software packages and interface designs. Also, Blandy (1995) posited that to utilize the growing range of electronic information resources, users must acquire and practice the skills necessary to exploit them using a variety of online databases. Kiondo et al (2004) reported that currently libraries in institutions of higher learning have realized the potentials of electronic information resources in higher learning and teaching, hence more institutions are embracing it to enhance the quality of education. This is due to the fact that library automation is making profound changes to the teaching and learning environment, as the librarians make available to the user community a wide range of academic and scholarly information. Curriculum (1997) argues that university libraries have a critical role to play in the emerging dynamic environment because they assist in the integration, facilitation and enhancement of information at its presentation within the teaching and learning environment.

According to Schutte (2004), utilization of electronic information resources and services has led to the shift from an emphasis of the book and journal collection to an emphasis on information services or from ownership to access. He further argues that the shift has been necessitated by new trends in the provision of higher education and developments in electronic information storage and their accessibility over computer networks. The developmental trends which impact on the provision of information services include

current trends in published knowledge whereby more information is made available in electronic format.

Ray and Day (1998) and Borgman (1996) noted that the use of online electronic information resources and retrieval systems require a basic knowledge of computing and searching skills. This is because library databases use web based technologies that may not be very different from the general web based resources. Dutton (1990) suggests, the skill required to maximize the potentials of electronic information resources are much greater than those required to search printed sources. These skills includes a knowledge of the structure of the database and the kind of information which may be implanted into the computer by the searcher as well as an understanding of the ways in which the institutions are linked with one another. To this end, Brophy (1993) states that users do not often appreciate the skills required to search these sources, stating that they are deceptively easy to use.

Whitmire (2001) observed that the use of electronic information resources is also influenced by students' use of the library. The more a student uses the library the more familiar he becomes with its resources including its electronic information resources. In a study conducted by Luambano et al (2004), it was found that the users of academic libraries are increasingly utilizing electronic information resources as more access points are made available. The findings indicated that at least 86.3% of users were using electronic information resources and services to browse the World Wide Web and to access various online resources, though most of them depend heavily on search engines.

Similarly Ehikhamenor (2003) posited that facilities that attracted the greatest amount of patronage were e-mails, catalogues and databases, e-journals, www resources and software. However Pullinger (1999) observed that the extent to which the use of e-journals becomes part of normal research practice depends not only on the discipline

concerned but also on the role and status of the researcher, the resources and on the specific information needs. Most of the studies investigating impact of electronic information resources reported that users must have the requisite skills to effectively exploit the electronic information resources available. Waldman (2003) found out that use was influenced by factors such as computing skills of academics, their age, and gender.

Majid (1999) found a significant relationship between computing skills and useof electronic information resources in the library including online public access catalogues (OPAC). Ray and Day (1998) reported that the most popular method for acquiring the necessary skills to use electronic resources is via individual trial and error, colleagues or peers and guidance from library staff. Steinmuella (2001) attested to this position when he suggested that many information and communication technology (ICT) users are self-taught and are capable of developing an understanding of ICTs through utilizing them. Bruce (1998) also asserted that the knowledge required to search the internet was not acquired by attending a formal training course or courses but rather through self-instruction with significant assistance from friends and colleagues.

A survey of the level of awareness and utilization of electronic information resources in academic libraries was conducted by Abindale (1995). He reported that many Nigerians were not aware of the policy and a large number of libraries do not have micro computers or other electronic information resources, and some of the libraries lack qualified librarians to teach the use of electronic resources. The above shows that most students in the university are ICT illiterates who perhaps have never seen or touched a system before.The prospect of applying electronic system in the library is very bright if there is a strong institutional support for the project and regular financial provision, added to these include the contribution of committed and dedicated students that are

prepared to learn. This entails a series of training programs for all categories of staff to cope with the breakthrough in electronic information

Electronic Information Services

Electronic information services (EIS) on the other hand covers a wide range of information systems like digital libraries, e-journal platforms, portals or e-prints, which discover and integrate information resources and support scientific information seeking, retrieval and use. Advances in technology and transformations in the information landscape have altered the way users interact with such information systems.

The transition from print to electronic medium according to Tsakonas and Papatheodorou (2006), apart from resulting in a growth of electronic information has provided users with new tools and applications for information seeking and retrieval that take their idiosyncrasy into account, rather than obliging them to adapt their own characteristics.Thus, the users' literacy is increased while the interaction complexity is extended. The duo further lamented that two main concepts emerge in user-centered evaluation of EIS, namely usefulness and usability. These two concepts attempt to analyze and evaluate the way a user interacts with an information system with reference to two different but related aspects. The first focuses on the interaction between user and content, both as semantic entity and object, while the second concentrates on the interaction between user and system features. The latter point to use of electronic information resources and service, the former is directed towards its accessibility. Rosenberg (2005) opined that the changing academic environment and the recognition of the role of electronic information resources in libraries has brought about a transformation which includes an investment in electronic infrastructure and connectivity and electronic learning, which calls for new approaches in providing library services to enhance the quality of higher education.

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 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… (Mullah and Chandrashekera, 2005). Electronic services have boosted a fundamental change in library services, instead of users coming to the library; the library reaches the user with information. This shift is the outcome of the introduction of current awareness and selective dissemination of information (SDI) services. Electronic information services have helped libraries to strive towards end user empowerment, linking patrons with Information without any intermediary agency.

Tammaro (2006), Mullah and Chandrasekhar (2006) listed electronic information services to include:

I. Mail based – offering information sharing services;
II. Bulletin boards for libraries - providing a description of internet resources and current awareness services;
III. OPAC - a database describing documents via bibliographic entries composed of fields, some of which maybe queried. It provides access to Bibliographic records for the entire collection of books, back volumes Videos and films of the library. It can be searched in many ways as shown by accession number, title, author, serial number, subject etc.
IV. Portals/Gateways- These are subject gateways that are important Components of a library website designed for users to help them discover high quality

information on the internet in a quick and effective way. They allow easier access to web-based resources in a defined area. They have web pages that contain lists of links to resources. Mullah and Chandrasekhar (2006) observed that the availability of electronic resources depend on the availability of funds as well as the demand for their use.

2.6 Problems Associated with Electronic Information Resources and Services

Despite the success that is being recorded in the use and access of electronic information resources and services in university libraries, a lot of factors are still active that act as barriers. Ayodele (2007) in his presentation at the Nigerian Library Association (NLA) conference examined some factors encountered in the process of making a library one with electronic information resources. These are as follows:

1. Software Development- The problems associated with sourcing of foreign software, the dumping of some on each unit of the library, the endless downtime due to poor management. Etc.
2. High cost- Electronic information - Information Technology (IT) is not cheap, good funding is essential to sustain an uninterrupted and qualitative flow of information. Experience has shown that to deliver as expected; otherwise the return on investment is very high.
3. Poor maintenance- There are maintenance arrangements usually made in order to ensure that both the electronics and computer systems remain serviceable, most of the useful life of the equipment, but failure of comprehensive maintenance with a good computer or electronic company has not surfaced in the country.

4. As already known, mismanagement of funds has been the order of the day in the Nigerian system.
5. Staff and users attitude towards electronic systems are hampering the development of electronic information as most students and staff are afraid of losing either their admission or jobs.

It was found from the previous studies (Gupta, 2011, Madhsudhan, 2010, Sheeja, 2010, Kuruppu and Gruber, 2006) Electronic information resources are not fully utilized. There are number of Obstacles to use Electronic Information Resources such as lack of IT infrastructure, lack of awareness and poor skills are among the primary reasons for their underutilization. Lack of knowledge about the resources, lack of publicity, insufficient time to use the services and lack of computer training coupled with an inadequate training to use on-line resources and services were other reasons that contribute to the low usage. The usage of Electronic Information Resources depends on variety of factors, such as information searching skills, training and awareness. Information retrieving skills of users are acquired through a variety of ways. Especially in the academic environment, an improved liaison between academic staff and library is likely to increase their knowledge of library resources, which could consequentially lead to high increased usage of Electronic Information Resources by the students (Urquhart and others, 2003).

Enginia (1991) believes that funding has been the major factor militating against the provision of electronic information resources and services. As a result, libraries cannot relocate databases located outside the country to answer the increasing complex research and other needs. He further listed some of these problems such as environmental factors and lack of well trained personnel. Thus, he further recommended computer literacy programs in the library, installation of a generating plant and that turn

around maintenance should form part of the libraries annual budget. If efficient and effective use is to be made of library's e-resources, then user training will have to increase in both intensity and coverage. It is important to remember that the ability of library staff to keep up to date is necessary, and, therefore, training for them is crucial as well.

2.7 Summary of the Review

This chapter reviews various researches conducted worldwide that are related to availability, accessibility and use of electronic information resources and services in University libraries. From the review, it was evident that electronic information resources and services have occupied a central place in library and information work to the extent that the success and strength of any library is dependent upon availability, accessibility and use of electronic information resources and services. It was further discovered that libraries have over the years been acquiring and assembling electronic information resources in form of CDs, Internet and databases which facilitates and build profitable relationships with their customers. From the reviews, it became evident that the rising competition in information resources and services provision due to globalization and advances in ICTs have created a paradigm shift where University Libraries have to redesign their principles and practice in such a way that library customers are highly satisfied.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology adopted in the conduct of the research. It also covers research method, population of the study, sample and sampling techniques, method of data collection and the instruments for data collection and data analysis.

3.2 Research Method Adopted

Survey research method was adopted for this study. It is very appropriate for this research because of the nature and size of the population of the study. According to Tukman (1988), survey method makes it possible for the researcher to measure knowledge or information, values and preferences and attitudes or beliefs. Stempel and Westhly (1989) and Abubakar (1995) posited that survey method enables the researcher to gather information from a relatively large number of cases at a particular time by asking questions. Essentially, survey method is used to study wide population that are scattered across a country, region or a state.

3.3 Population of the study

The population of this study comprised of the registered users of MTN UniversitiesConnect libraries in the University of Lagos, Ahmadu Bello University Zaria, University of Nigeria Nsukka and University of Benin. The distribution of this population is as shown in table 3.1 below.

Table 3.1: Population Distribution of the library customers of MTN Net Libraries in Nigeria

S/N	MTN Net Libraries	Total No. of Registered Customers
1	Ahmadu Bello University, Zaria	2137
2	University of Lagos	1199
3	University of Nigeria Nsukka	987
4	University of Benin	1115
5	**Total**	**5438**

Source: National University gazette November, 2012

3.4 Sample and Sampling Techniques

Based on the wide geographical spread of the population of the study, the researcher used proportionate random sampling. This technique was employed to ensure fair representation of all subjects under investigation. Krishnaswany and Mathuajan (2006) stated that there are two basic steps involved in Proportionate sampling. First the entire population is partitioned into different features or characteristics. Also Abdulmalik (2006) stated that proportionate sampling method involves the classification of an otherwise homogenous group into its heterogeneous subgroups before selecting from each subgroup. This gave each of them an equal representation. Proportionate random sampling technique was used by Numkwen (2004) to sample a population spanning across a wide geographical area.

Based on this technique, a total of 273 registered MTN UniversitiesConnect Libraries users were selected from the four MTN UniversitiesConnect Libraries under study. This figure represents 5% of the entire MTN UniversitiesConnect users randomly selected from the MTN Universities Libraries sampled. This figure was considered adequate according to Nkpa as cited by Opaleke (2012) which stated that 5% is applicable where

population runs in thousand. Also, Best and Khan (1989) asserted that there is no fixed number or percentage of size of an adequate sample.

Table 3.2: Sample Size distribution of the registered customers according to MTN UniversitiesConnect Libraries in Nigeria

S/N	Universities MTNConnect Libraries	Population of Registered Customers	Sample of Registered Customers
1	Ahmadu Bello University	2137	107
2	University of Lagos	1199	60
3	University of Nigeria Nsukka	987	50
4	University of Benin	1115	56
	Total	**5438**	**273**

3.5 Research Instrument

Questionnaire was the instrument used for the collection of data in this study. Ndagi (1999) noted that questionnaire is easy to administer and help keep respondent's mind fixed to the subject and facilitate the process of tabulation, analysis and generalization. Also Nworgu (1991) stated that questionnaire is by far the most frequently used instrument in educational research.

The questionnaire was divided into four (4) sections. Section A consisted of three (1) items on personal data of the respondents and section B contained two (2) items on the types of electronic information resources and services; while section C contained two (2) items on the accessibility of electronic information resources and services. Section D

has only five (5) items on the use of electronic information resources and service and purposes of their use.

3.6 Validity of the Instrument Validity is described as the degree to which a research study measures what is intended to measure.

In order to ascertain the validity of the instruments, the researcher subjected the instrument to research experts, colleagues and supervisors for validation. The instrument was corrected and comments of the supervisors were added to improve the items structure and format.

3.7 Reliability of the Instrument

The reliability of the instruments was established by conducting a pilot study within 7 days (1 week) at University of Benin. Where 20 respondents were used for the pilot study. Peliam and Domnick (1995) stated that small sample are also adequate for testing measuring instruments for pilot testing to determine the practicability of the research instrument, while Olvera (2001) had the view that pilot testing is usually done on a much smaller scale than the main study but under similar conditions.

The reliability coefficient of the questionnaire was obtained at 0.86 using the split half technique.

3.8 Procedure for data collection

The researcher administered the instrument personally with the help of research assistants. This is because the research covered four universities. Written permission from the universities' management was obtained for smooth conduct of the research. This was made possible by a letter of introduction from the Department of Library and

Information Science, Ahmadu Bello University Zaria. The research assistants were mainly staff of the MTN Net Libraries. Postal services were used to mail the copies of the questionnaire to some of the research assistants in order to distribute them to the target population.

3.9 Procedure for data analysis

The data collected for this research were presented and analyzed using the Statistical Package for Social Scientists (SPSS) in order to obtain answers to the research questions formulated and also test the hypotheses respectively. Frequency counts, tables, charts and percentages, Pearson Product Moment Correlation Coefficient (PPMC) and T-Test were used to analyses the data. PPMC was used to test HO1 while T-test was used to test HO2, HO3 and HO4 respectively. PPMC was used to determine the relationship between variables while T-test was used to determine the difference between two variables. All the hypotheses were tested at α 0.05.

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CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presented the data collected for the study. The analysis and discussions of the data and findings were also presented. The chapter was presented under the following sub-headings: Response Rate, Data Analysis and discussion; Descriptive Analysis, Inferential Analysis

4.2 Response Rate of the Respondents

Out of the 163 copies of the questionnaire distributed to the respondents, a total of 145 (88.9%) copies were returned duly completed and found usable for this study. This excludes the copies of the questionnaire for the University of Lagos and University of Nigeria Nsukka were their MTN UniversitiesConnect Libraries were closed due to some technical and administrative challenges. It is important to state that at the time of data collection, MTN UniversitiesConnect Libraries at UNILAG and UNN were completely shut down. However, the high response rate was realized at the ABU and UNIBEN due to the fact that the research assistants used are library staff working in their respective libraries. It can also be attributed to the fact that the respondents were given up to one month within which to complete and return their copies of questionnaire.

Table 4.1: Distribution of the Response Rate of Registered Customers by the respective MTN Net Libraries

S/N	MTN Net Libraries	Total No. of questionnaire Distributed	Total No. of questionnaire Returned	% of Questionnaire Returned
1	ABU	107	98	60.1%
2	UNILAG	-	-	-
3	UNN	-	-	-
4	UNIBEN	56	47	28.8%
5	**Total**	**163**	**145**	**88.9%**

4.3 Data Analysis and Discussion

This section analyzed and discussed the data collected for the study.

4.3.1 Descriptive analysis

Under this section, data collected with respect to the research questions developed in the study were analyzed and discussed as follows:

4.3.1.1 Type of electronic information resources and services available in the MTN net libraries in Nigerian universities

This research question was aimed at identifying the types of electronic information resources and services available in the MTN UniversitiesConnect libraries in Nigerian Universities. In order to achieve this, a list of information resources and services were outlined for the respondents to tick as many information resources and services that are available as shown in table 4.2 & 4.3:

Table 4.2: Types of Electronic Information Resources available in the MTN Net Libraries

Types of Electronic Information Resources	**MTN Net Libraries**				**Total**	
	ABU		**UNIBEN**			
	F	**%**	**F**	**%**	**F**	**%**
Sabinet online reference database	77	78.6	45	95.7	122	84.1
Ebscohost reference database	79	80.6	37	78.7	116	80.0
Jstor	67	68.4	33	70.2	100	68.9
HINARI	35	35.7	21	44.7	56	38.6
Nation Academic Press Database	66	67.3	34	72.3	100	68.9
Virtual Libraries online	56	57.1	23	48.9	79	54.5
Science Direct Online	79	80.6	32	68.1	111	76.6
Law Journals Online	43	43.9	22	46.8	65	44.8
Oxford Journals Online	45	45.9	19	40.4	64	44.1
E-books online libraries	82	92.1	21	44.7	1`03	71.0
Linguistics Database Online	66	67.3	23	48.9	89	61.4
Gutenberg Online Library	78	79.6	45	95.7	123	84.8

Free Library Online	79	80.6	43	91.5	122	84.1
Google Search Engines	83	84.7	42	89.4	125	86.2
CD-ROMs	10	10.2	23	48.9	33	22.8
E-Newspapers	67	68.4	37	78.7	104	71.7
e-Magazines	34	34.7	37	78.7	71	48.9
e-Print in Science	23	23.5	34	72.3	57	39.3
Digital Library for Earth system education	43	43.9	11	23.4	54	37.2

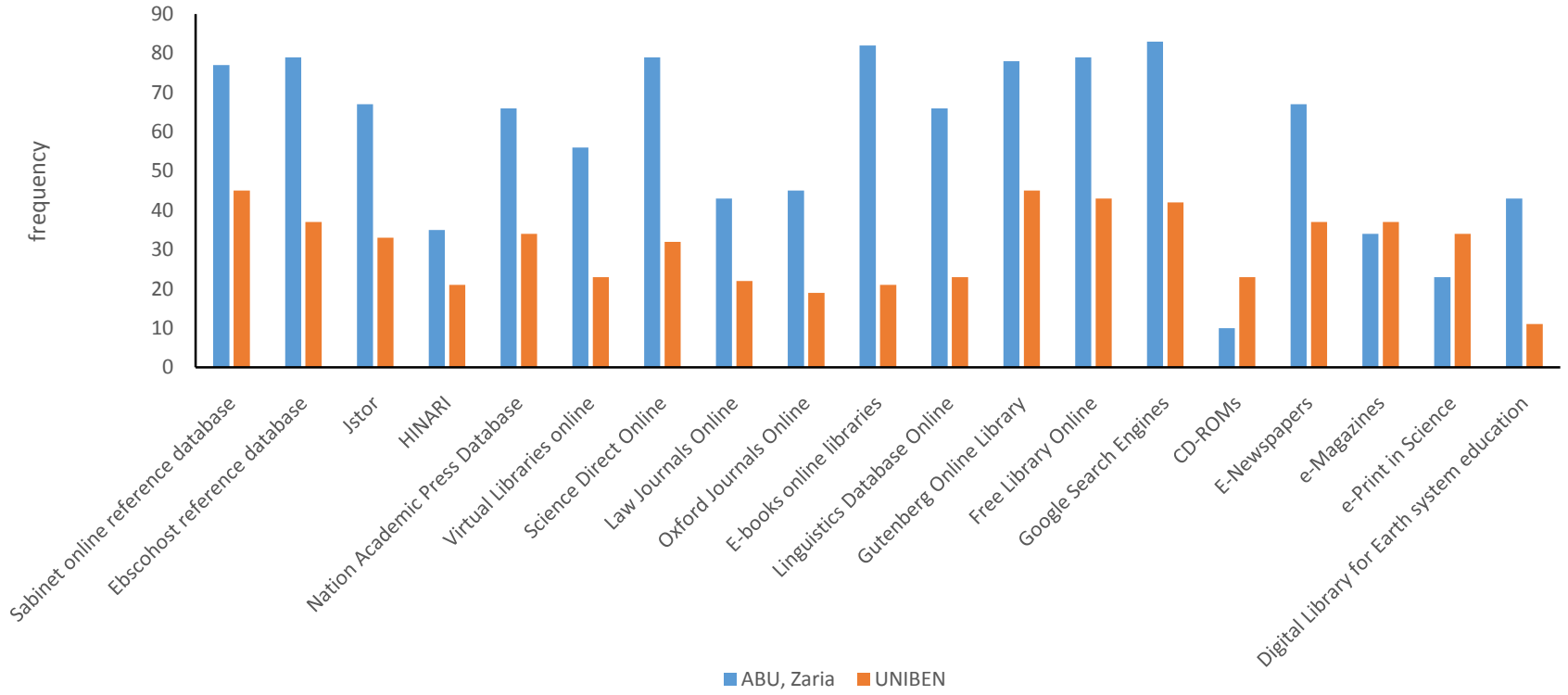


Fig. 1: Types of Electronic Information Resources available in the MTN Net Libraries

The table 4.2 and fig. 1 showed the types of electronic information resources available in the MTN UniversitiesConnect libraries in the Nigerian Universities studied. It was discovered that sabinet online reference database; ebscohost reference database, nation academic press databases, virtual libraries online, science direct online, e-books online libraries, linguistics database online, guternberg online library, free library online, Google search engine and e-newspaper were the electronic information resources available with the highest frequencies of over 60% scores. Whereas, HINARI, CD-ROMs, e-print in science and digital library for earth system education were indicated to be available with less than 40% response scores.

The findings showed that the MTN UniversitiesConnect libraries contained variety of databases that support teaching, research and learning in the university. It further indicated that the university communities under study have opportunities to access current information relevant to their field of specialization.

In order to identify the type of electronic information service available in the MTN UniversitiesConnect libraries studied, list of possible library services were highlighted to the respondents to tick as many electronic information services as possible. Table 4.3 shows the type of electronic information services available as indicated by the respondents in MTN UniversitiesConnect libraries in Nigerian Universities.

Types of Electronic Information Services	MTN Net Libraries				TOTAL	
	ABU		UNIBEN			
	F	%	F	%	F	%
e-Mail Services	93	94.9	45	95.7	138	95.2
WWW services	89	90.8	44	93.6	133	91.7
Electronic bulletin board services	07	7.1	10	21.3	17	11.7
Database Services	87	88.8	46	97.9	133	91.7
Registration Services	23	23.5	11	23.4	34	23.4
Printing services	89	90.8	43	91.5	132	91.0
CD-ROMs Services	11	11.2	23	48.9	34	23.4
The WIKI Services	67	68.4	12	25.5	79	54.5
Online Encyclopedia services	78	79.6	24	51.1	102	70.3

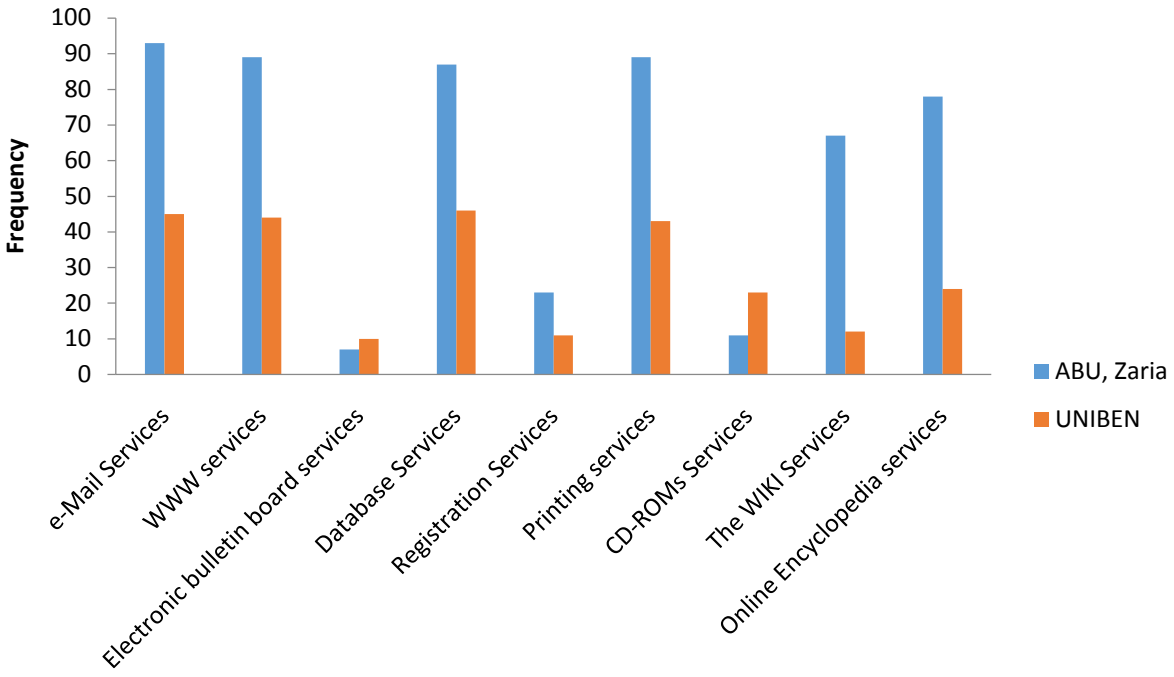


Fig.2: Types of Electronic Information services available in the MTN Net Libraries studied

The table 4.3& fig.2 showed the responses of the respondents on the electronic information services available in their MTN UniversitiesConnect libraries. It was discovered that email services, www services, databases services and printing services were the electronic information services available with the highest frequencies of over 90% response scores. Whereas, electronic information services such as electronic bulletin board services, registration services, and CD-ROMs services were available with less than 25% response scores. This however identified that the MTN Universities libraries in the Nigerian Universities studied provided variety of information services that are made available for the customers' use. This is expected because a library in a university is primarily designed and established to provide relevant and current information resources and services that will complement teaching, research and learning functions of university. Therefore, it is suggested that adequate and relevant electronic

information resources and services should be subscribed and added into the databases available in the MTN UniversitiesConnect Libraries in Nigeria.

4.3.1.2 Means of Access to Electronic Information Resources and Services in the MTN Net Libraries studied

The objective of this question is to identify the various means through which library customers' access electronic information resources and services in the MTN UniversitiesConnect Libraries studied. In order to achieve this objective, list of options were provided for the respondents to tick as many as applicable.

Table 4.4: Means through which customers access the electronic information resources and services in the MTN Net Libraries

Means of Access	**MTN Net Libraries**				**Total**	
	ABU		**UNIBEN**			
	F	**%**	**F**	**%**	**F**	**%**
Visiting the Net Library physically	76	77.6	47	100.0	123	84.8
OPAC	04	4.1	3	6.4	7	4.8
WWW	56	57.1	34	72.3	90	62.1
Local Area Networks	03	3.1	04	8.5	7	4.8
Through the library website	00	0.0	00	0.0	00	0.0

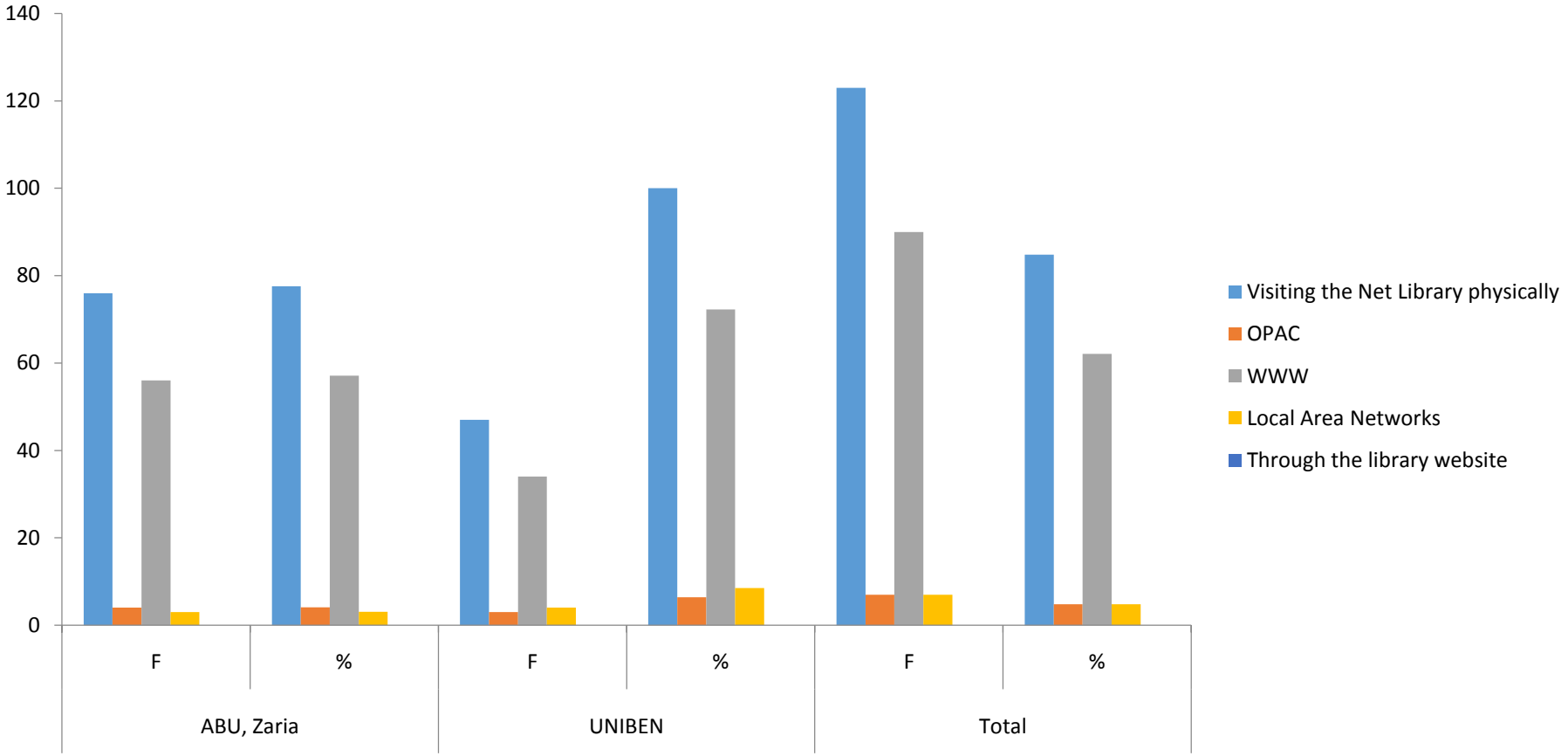


Fig 3 Means through which customers access the electronic information resources and services in the MTN UniversitiesConnect Libraries

The table 4.4 & Fig.3 above revealed that the library customers access the MTN Universities libraries in their Nigerian universities through visiting the net library and through the World Wide Web (WWW) with over 60% response scores. Whereas accessing the library through OPAC and through their local area network (LAN) were used with less than 5% response scores. This finding disagreed with Dilek-Kayaoglu (2008) who found that majority of students accessed the databases remotely at the Istanbul University library while the rest of the respondents accessed them from the library. It was also revealed that library customers do not access the MTN UniversitiesConnect Libraries studied through their library website. This is attributed to the fact that MTN UniversitiesConnect libraries were not integrated into the main University library.

This finding implies that access to the MTN UniversitiesConnect libraries in the Universities studied is by the customers that physically visited the libraries. Probably, the Customers do not have the privilege and facilities for accessing the MTN UniversitiesConnect libraries remotely either at near or far locations.

A follow up question was asked to determine the extent of accessibility to electronic information resources and services in the MTN UniversitiesConnect Libraries in Nigerian Universities studied. In order to do this, a list of electronic information resources and services were outlined for the respondents to indicate their extent of access using a five point's likert scale of measurement. For convenience, and ease of data presentation and analysis, it was merged into 3 points scale as depicted in table 4.5 &4.6

Table 4.5: Extent of Accessibility to electronic information resources in the MTN Net Libraries Studied

Type of electronic information resources	Level of Access of MTN Net Libraries											
	ABU						UNIBEN					
	HA	%	RA	%	NA	%	HA	%	RA	%	NA	%
Sabinet online reference database	73	74.5	17	17.3	8	8.1	43	91.5	4	8.5	0	0.0
Ebscohost reference database	48	50.0	23	23.5	27	27.6	34	72.3	7	14.9	6	12.8
Jstor	65	66.3	27	27.6	6	6.1	34	72.3	0	0.0	13	27.7
HINARI	15	15.3	67	68.4	16	16.3	12	25.5	29	61.7	6	12.8
Nation Academic Press Database	53	54.1	25	25.5	20	20.4	29	61.7	10	21.3	8	17.0
Virtual Libraries online	79	80.6	19	19.4	0	0.0	36	76.6	8	17.0	3	6.4
Science Direct Online	25	25.5	62	63.3	11	11.2	7	14.9	7	14.9	33	70.2
Law Journals Online	15	15.3	22	22.4	61	62.2	29	61.7	12	25.5	6	12.8
Oxford Journals Online	46	46.9	34	34.7	18	18.4	30	63.8	9	19.1	8	17.0
E-books online libraries	23	23.5	73	74.5	2	2.0	9	19.1	27	57.4	11	23.4
Linguistics Database Online	12	12.2	22	22.4	64	65.3	12	25.5	10	21.3	25	53.2
Gutenberg Online Library	52	53.1	27	27.6	20	20.4	36	76.6	6	12.8	5	10.6
Free Library Online	78	79.6	12	12.2	8	8.2	11	23.4	24	51.1	12	25.5
Google Search Engines	89	90.2	4	4.1	5	5.1	41	87.2	3	6.4	3	6.4
CD-ROMs	10	10.2	11	11.2	77	78.6	7	14.9	3	6.4	37	78.7
E-Newspapers	68	69.4	10	10.2	20	20.4	29	61.7	7	14.9	11	23.4
e-Magazines	16	16.3	23	23.5	59	60.2	5	10.6	7	14.9	35	74.5
e-Print in Science	23	23.5	69	70.4	6	6.1	10	21.3	10	21.3	27	57.4
Digital Library for Earth system education	15	15.3	76	77.6	7	7.1	5	10.6	7	14.9	35	74.5

The table 4.5 showed the responses of the respondents on the extent to which electronic information resources are accessible in the MTN UniversitiesConnect libraries in Nigerian universities studied. It was discovered that SABINET online reference database, EBSCOHOST, JSTOR, Nation Academic press database, virtual libraries online, free library online, google search engine and e-newspapers were the electronic information resources that are highly accessible with the highest frequencies of over 60% response scores in the MTN UniversitiesConnect Libraries studied. However, Oxford journals online and Law journals online were found to be highly accessible with over 60% scores at the UNIBEN MTN UniversitiesConnect library.

On the other hand, it was discovered that linguistics database online, CD-ROMs, e-magazines, digital library for earth system were found not easily accessible with over 60% response scores respectively. It was surprising to discover that Science Direct online and HINARI were rarely accessible by the library customers in the MTN UniversitiesConnect libraries studied with 63.3% and 61.7% scores respectively.

It can therefore be concluded that SABINET online reference database, JSTOR, virtual libraries online, google search engine and e-newspapers were the electronic information resources highly accessible in the MTN UniversitiesConnect libraries in Nigerian Universities studied.

The respondents were further requested to indicate the extent of accessibility to electronic information services in the MTN UniversitiesConnect libraries studied.

Table 4.6: Extent of Accessibility to electronic information services in the MTN Net Libraries Studied

Electronic information services	Levels of Accessibility of MTN Net Libraries' e-Services											
	ABU						UNIBEN					
	HA	%	RA	%	NA	%	HA	%	RA	%	NA	%
e-Mail Services	82	83.7	5	5.1	11	11.2	37	78.7	6	12.8	4	8.5
WWW services	89	90.8	9	9.2	0	0.0	41	87.2	0	0.0	6	12.8
Electronic bulletin board services	0	0.0	6	6.1	92	93.9	0	0.0	5	10.6	42	89.4
Database Services	88	89.8	5	5.1	5	5.1	37	78.7	10	21.3	0	0.0
Registration Services	23	23.5	67	68.4	8	8.2	3	6.4	15	31.9	29	61.7
Printing services	54	55.1	21	21.4	23	23.5	11	23.4	27	57.4	9	19.1
CD-ROMs Services	12	12.2	19	19.4	67	68.4	0	0.0	0	0.0	47	100.0
The WIKI Services	66	67.3	8	8.2	24	24.5	32	68.1	5	10.6	10	21.3
Online Encyclopedia services	66	67.3	12	12.2	20	20.4	30	63.8	13	27.7	2	4.3

Key: **HA**: Highly Accessible **RA:** Rarely Accessible **NA**: Not Accessible

Table 4.6 showed that e-mail services, WWW services, database services, the WIKI services and online encyclopedia services were the electronic information services that are highly accessible with the highest frequencies of over 60% average scores in the MTN UniversitiesConnect Libraries studied.

Also, electronic bulletin board services, registration services and CD-ROMs services were found not easily accessible with over 60% average scores in the MTN UniversitiesConnect libraries studied. It is important to note that at the UNIBEN, 57.4% of the respondents indicated that printing services were rarely accessible in the MTN UniversitiesConnect library. This perhaps might not be unconnected with the incessant mechanical challenges with the printers in the library. It becomes therefore inevitable that the management of MTN UniversitiesConnect Libraries should ensure effective monitoring and regular maintenance of the ICT gadgets procured for the customers' use.

4.3.1.3 Type of Electronic Information Resources and Services used in the MTN UniversitiesConnect Libraries in Nigerian Universities Studied

The researcher attempted to find out the electronic information resources and services used by the library customers in the MTN UniversitiesConnect Libraries in Nigerian Universities Studied. In order to achieve this objective, a list of electronic information resources and services was provided for the respondents to tick as many resources and services used.

Table 4.7: Type of electronic information resources used in MTN Net Libraries studied

Types of Electronic Information Resources	MTN Net Libraries				Total	
	ABU		UNIBEN			
	F	%	F	%	F	%
SABINET online reference database	87	88.8	32	68.1	119	82.1
EBSCOHOST reference database	25	25.5	23	48.9	48	33.1
JSTOR	46	46.9	45	95.7	91	62.8
HINARI	24	24.5	38	80.9	62	42.8
Nation Academic Press Database	23	23.5	12	25.5	35	24.1
Virtual Libraries online	66	67.3	46	97.9	112	77.2
Science Direct Online	56	57.1	38	80.9	94	64.8
Law Journals Online	18	18.4	42	89.4	60	41.4
Oxford Journals Online	77	78.6	11	23.4	88	60.7
E-books online libraries	88	89.8	38	80.9	126	86.9
Linguistics Database Online	22	22.4	11	23.4	33	22.8
Gutenberg Online Library	56	57.1	45	95.7	101	69.7
Free Library Online	11	11.2	42	89.4	53	36.6
Google Search Engines	87	88.8	46	97.9	133	91.7
CD-ROMs	22	22.4	7	14.9	29	20.0
E-Newspapers	19	19.4	7	14.9	26	17.9
e-Magazines	10	10.2	5	10.6	15	10.3
e-Print in Science	32	32.7	4	8.5	36	24.8
Digital Library for Earth system education	13	13.3	22	46.8	35	24.1

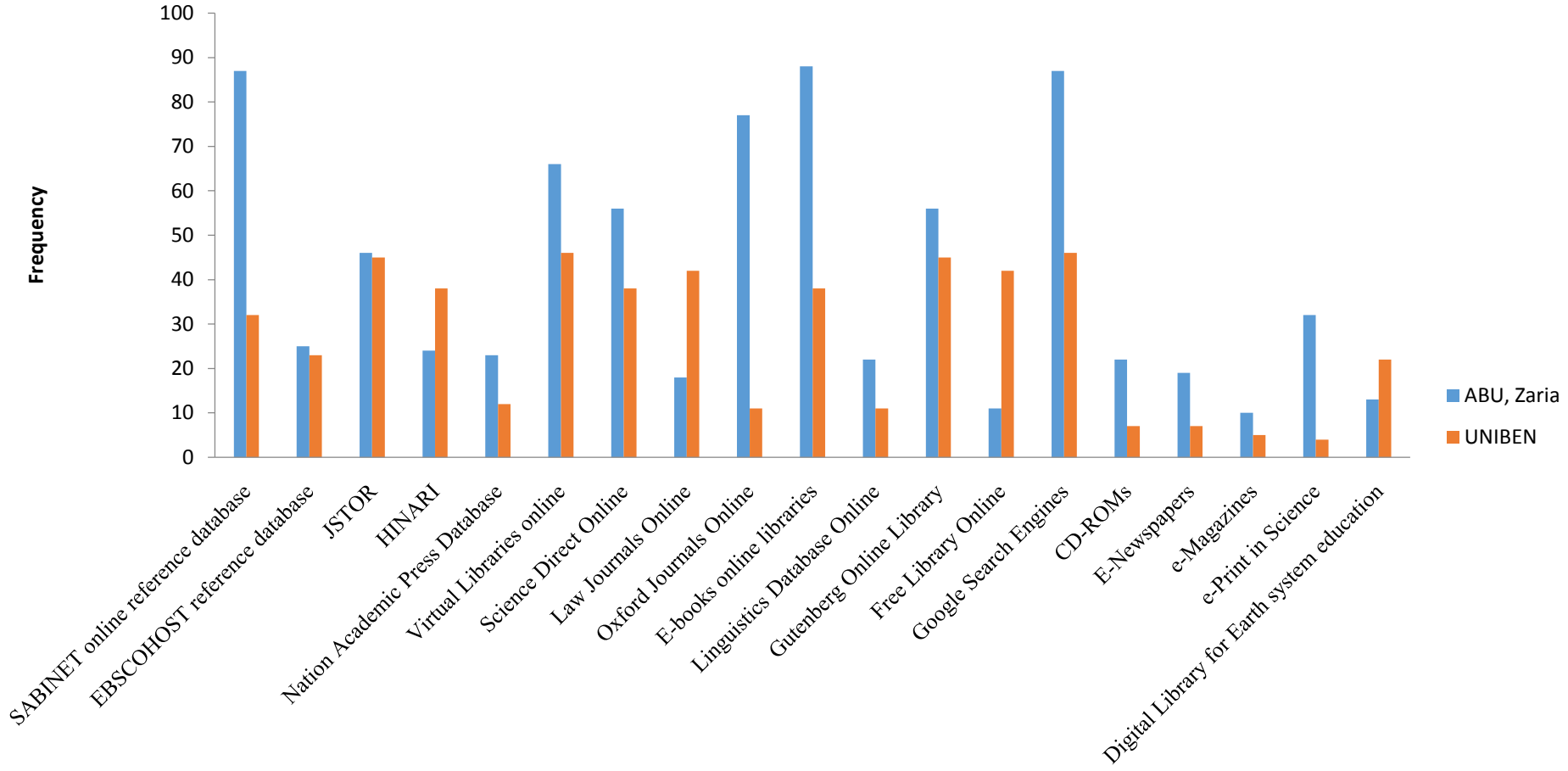


Fig.4: Type of electronic information resources used in MTN Net Libraries studied

The table 4.7 & fig. 4 showed the responses of the respondents on the type of electronic information resources used in the MTN UniversitiesConnect libraries in the Nigerian Universities Studied. A cursory look at the table revealed that a majority of the electronic information resources outlined for the library customers to choose from were used with over 60% response scores. They included: SABINET online reference database, JSTOR, Virtual Library Online, Science Direct online, Oxford Journals online, E-book online Libraries, Guternberg online library and Google Search Engine. This finding is obvious because most of the electronic information resources are relevant to the information needs and disciplines of the library customers. In essence, the electronic information resources provided in the MTN UniversitiesConnect libraries in the universities studied are in line with the courses run in the universities. A survey of information technology application in Nigerian University libraries carried out by Idowu and Mabawonku, (1999), showed that electronic mail and CD-ROM database are widely used by the academics and researchers. Also, Jegede et al (nd) found that the use of electronic database is common among the students of University of Ibadan.

On the other hand, EBSCOHOST, Nation Academic Press database, Linguistic database, Free library online, CD ROMs, E-magazines, E-newspapers, and E-print in science were being used with frequencies of less than 40% response scores respectively. This finding might be as a result of the fact that these categories of electronic information resources seem special in nature and contents. Thus, not every library customer consults them for use. Also, the low responses might be attributed to the poor publicity by the MTN UniversitiesConnect library management under study. It is therefore important that adequate publicity is provided in order to inform the customers about the different types of databases available in the respective libraries.

The respondents were also asked to indicate which type of electronic information services used in the MTN UniversitiesConnect libraries studied. A list of relevant electronic services was provided for them to select as many as relevant.

Table 4.8: Types of electronic Information Services used in the MTN Net Libraries studied

Electronic Information Services	MTN Net Libraries				Total	
	ABU		UNIBEN			
	F	%	F	%	F	%
e-Mail Services	56	57.1	37	78.7	93	64.1
WWW services	93	94.9	44	93.6	137	94.5
Electronic bulletin board services	0	0.0	0	0.0	0	0.0
Database Services	87	88.8	43	91.5	130	89.7
Registration Services	11	11.2	4	8.5	15	10.3
Printing services	88	89.8	37	78.7	125	86.2
CD-ROMs Services	0	0.0	2	4.3	2	1.4
The WIKI Services	23	23.5	11	23.4	34	23.4
Online Encyclopedia services	77	78.6	45	95.7	122	84.1

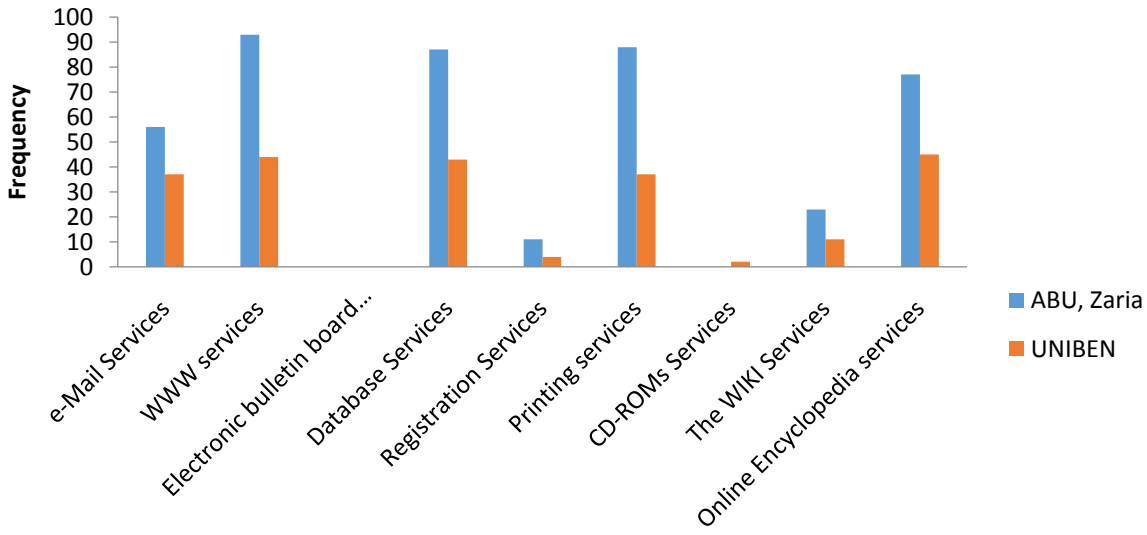


Fig.5: Types of electronic Information Services used in the MTN Net Libraries studied

Table 4.8& fig.5 revealed that out of the nine electronic information resources listed, only five of them were used with highest frequencies of over 61% scores. They are: e-mail Services, WWW Services, database services, printing Services and online encyclopedia Services. This finding is expected because most of these services formed the nucleus of the information resources and services easily available. Also, the use of printing services is obvious due to the fact that downloading electronic information resources using any external storage devices such as flash drive, CDs, memory chips, hard discs is not allowed etc. Thus, the library customers are left with no option than to print the needed documents at a subsidized price.

On the other hand, registration services, CD-ROMs services and the WIKI services were the electronic information services not frequently used with less than 25% average score. The underutilization of these electronic information services might be connected to the lack of sound dedicated publicity efforts to inform the library customers about the electronic information services available in the MTN Net libraries in Nigerian universities studied. It is therefore suggested that a list of available electronic information resources and services should be placed on the library notice board or any other strategic locations for creating awareness among the customers.

A follow up question was asked to identify the reasons or purposes for use of the electronic information resources and services by the library customers in MTN Net Libraries in Nigerian Universities studied. In order to do this, a list of possible reasons/purposes were drawn for the respondents to tick as many reasons/purposes as relevant.

Table 4.9: Reasons/Purpose for Use of Electronic Information Resources and Services in MTN Net Libraries studied

Reasons/Purposes for Using electronic information resources and services	MTN Net Libraries				Total	
	ABU		UNIBEN			
	F	%	F	%	F	%
Research	67	68.4	42	89.4	109	75.2
Assignment	93	94.9	44	93.6	137	94.5
Updating my knowledge	88	89.8	32	68.1	120	82.8
Leisure and recreation	46	46.9	21	44.8	67	46.2
Searching for job opportunities	15	15.3	4	8.5	19	13.1
Watching online games and videos	6	6.1	4	8.5	10	6.9
Communication	54	55.1	12	25.5	66	45.5
Preparation of examinations	69	70.4	43	91.5	112	77.2

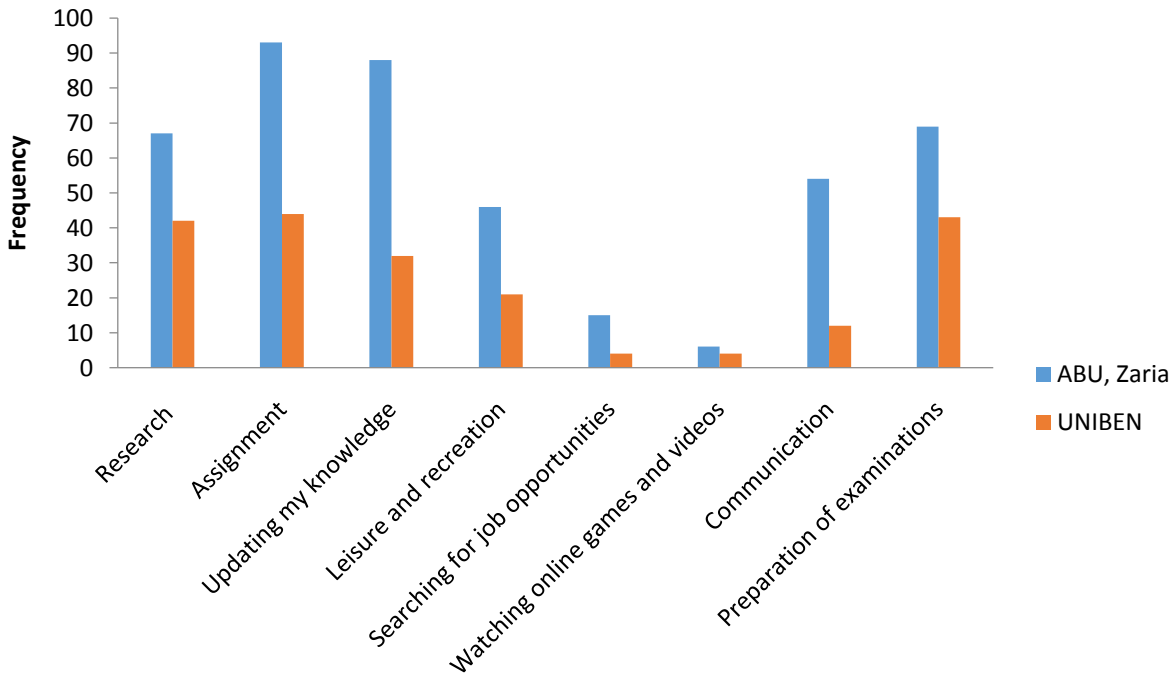


Fig. 6: Reasons/Purpose of Use of Electronic Information Resources and Services in MTN Net Libraries studied

Table 4.9 & Fig. 6 showed the responses of the respondents on the reasons/purposes for using the electronic information resources and services in the MTN UniversitiesConnect libraries in Nigerian universities studied. It was discovered that an average score of over 70% indicated that there were used for conducting research, assignment, updating knowledge and preparations for examinations by the library customers in the MTN UniversitiesConnect libraries in Nigerian Universities studied. This finding agreed with that of Manda (2005), Renwick (2005) and Okiki and Asiru (2011). They discovered that the respondents were motivated to use electronic information resources and services for their research project, writing term paper and course assignment. This revelation is obvious because the essence of every university is to promote research, knowledge and scholarship. University libraries are generally established to complement the realization of the goals and objectives of the university especially in the areas of research, learning and community service.

On the other hand, it was discovered that searching for job opportunities, and watching/playing online videos and games, were among the reasons for using electronic information resources and services with less than 15% response scores, while for leisure/recreation and communication recorded frequencies of less than 50% average scores. This is not unusual because the MTN UniversitiesConnect library customers are not allowed to access any other information apart from academic information.

Another follow up question was asked to determine the extent of use of the electronic information resources in the MTN UniversitiesConnect Libraries studied. In order to achieve this objective, a list of electronic information resources and services were provided for the respondents to indicate their extent of use using five point likert scale of measurement. For convenience and ease of data presentation and analysis, the 5

points were merged to 3 points. They are: Very Often (VO), Rarely (R) and Not Often (NO) respectively. This is presented in table 4.10 & 4.11.

Table 4.10: Extent of Use of electronic information resources in the MTN Net Libraries studied

Type of electronic information resources	Extent of use of MTN Net Libraries e-resources											
	ABU						UNIBEN					
	VO	%	R	%	NO	%	VO	%	R	%	NO	%
Sabinet online reference database	54	55.1	28	28.6	16	16.3	40	85.1	4	8.5	3	6.4
Ebscohost reference database	17	17.3	12	12.2	69	70.4	28	59.6	12	25.5	7	14.9
Jstor	46	46.9	27	27.6	25	25.5	25	53.2	13	27.7	9	19.1
HINARI	9	9.2	12	12.2	77	78.6	3	6.4	32	68.1	12	25.5
Nation Academic Press Database	71	72.4	23	23.5	5	5.1	32	68.1	6	12.8	9	19.1
Virtual Libraries online	63	64.2	27	27.6	8	8.1	43	91.5	4	8.5	0	0.0
Science Direct Online	53	54.1	12	12.2	33	33.7	10	21.3	10	21.3	27	57.4
Law Journals Online	10	10.2	23	23.5	65	66.3	4	8.5	7	14.9	36	76.6
Oxford Journals Online	62	63.3	12	12.2	24	24.5	41	87.2	4	8.5	2	4.3
E-books online libraries	54	55.1	23	23.5	21	21.4	37	78.7	0	0.0	9	19.1
Linguistics Database Online	12	12.2	15	15.3	71	72.4	10	21.3	25	53.2	12	25.5
Gutenberg Online Library	79	80.6	17	17.3	2	2.0	29	61.7	8	17.0	10	21.3
Free Library Online	65	66.3	24	24.5	10	10.2	26	55.3	17	36.2	4	8.5
Google Search Engines	93	94.9	5	5.1	0	0.0	45	95.7	0	0.0	2	4.3
CD-ROMs	8	8.1	12	12.2	86	87.8	0	0.0	0	0.0	47	100.0
E-Newspapers	12	12.2	76	77.6	10	10.2	12	25.5	27	57.4	8	17.0
e-Magazines	4	4.1	27	27.6	67	68.4	0	0.0	10	21.3	37	78.7
e-Print in Science	17	17.3	15	15.3	66	67.3	4	8.5	8	17.0	35	74.5
Digital Library for Earth system education	26	26.5	26	26.5	46	46.9	8	17.0	37	78.7	2	4.3

Key: VO: Very Often **R**: Rarely **NO**: Not Often

Table 4.10 showed the responses of the respondents on the extent of use of the electronic information resources in the MTN UniversitiesConnect libraries in Nigerian Universities studied. A cursory look at the table revealed that SABINET online reference database, Nation Academic Press database, Virtual Libraries Online, Oxford Journal Online, Free Library Online and Google Search Engine were discovered to be the electronic information resources very often used with the highest frequency of over 55% average scores respectively in the MTN UniversitiesConnect libraries studied. However, it was found that at the UNIBEN, EBSCOHOST database, JSTOR and E-Book Online Libraries were found to be very often used in the MTN UniversitiesConnect library. The high rate of use of the e-resources confirmed the findings of Azubogu and Madu (2007) that students and academics in Nigeria are embracing online resources since the libraries cannot satisfy their information needs. Also, this finding is in line with that of Tenopir (2003) who found that both faculty and students use and like electronic resources and most readily adopt them if the sources are perceived as convenient, relevant, and time saving to their natural work flow.

On the other hand, EBSCOHOST, HINARI, law journals online, linguistics database, CD-ROMs, e-magazine and e-print in science were discovered not to be often used by the library customers in the MTN UniversitiesConnect libraries in Nigerian Universities studied. The reason has been that the databases are mostly specialized in nature and contents. It was also found that a majority of the respondents (over 60%) rarely used e-newspapers in the MTN UniversitiesConnect libraries studied.

Extent of use of electronic information services in the MTN Net Libraries

In order to determine the extent of use of electronic information services in the MTN Net Libraries studied, the researcher provided the respondents list of electronic information services using a 5 point likert scale of measurement. However, the 5 points were merged into 3 points for ease of analysis and data presentation as shown in table 4.11:

Table 4.11: Extent of Use of electronic information services in the MTN Net Libraries

Electronic information services	Extent of use of MTN Net Libraries e-information services											
	ABU						UNIBEN					
	VO	%	R	%	NO	%	VO	%	R	%	NO	%
e-Mail Services	19	19.4	56	57.1	23	23.5	37	78.7	4	8.5	6	12.8
WWW services	87	88.8	11	11.2	0	0.0	43	91.5	4	8.5	0	0.0
Electronic bulletin board services	0	0.0	0	0.0	98	100.0	2	4.3	0	0.0	45	95.7
Database Services	89	90.2	5	5.1	4	4.1	35	74.5	5	10.6	7	14.9
Registration Services	10	10.2	76	77.6	12	12.2	3	6.4	2	4.3	42	89.4
Printing services	67	68.4	23	23.5	8	8.1	4	8.5	28	59.6	15	31.9
CD-ROMs Services	0	0.0	11	11.2	87	88.8	2	4.3	2	4.3	43	91.5
The WIKI Services	54	55.1	23	23.5	21	21.4	42	89.4	2	4.3	3	6.4
Online Encyclopedia services	69	70.4	16	16.3	13	13.3	34	72.3	7	14.9	6	12.8

Key:VO: Very Often**R**: Rarely**NO**: Not Often

The table 4.11 portrayed that WWW services, database services, the WIKI services and online encyclopedia services were the common electronic information services very often used by the library customers in the MTN libraries in Nigerian Universities studied with over 50% response scores respectively. At the ABU MTN UniversitiesConnect library, printing services was very often used by the customers, whereas at the UNIBEN, printing services were rarely used in the MTN UniversitiesConnect library. The differences in the use of printing services might be due to the differences in in-house policies of the two MTN UniversitiesConnect libraries studied. However, the use of external storage devices were strongly not allowed in order to secure their systems and networks.

On the other hand, it was revealed that electronic bulletin board services, registration services and CD-ROMs services were not often used in the MTN UniversitiesConnect libraries studied with over 80% response scores respectively. This implies that these electronic services were not fully integrated into the types of electronic services enjoyed by the MTN UniversitiesConnect Libraries customers in Nigeria.

4.3.1.4 Level of Preference for the electronic Information Resources and services available in the MTN UniversitiesConnect Libraries in Nigerian Universities studied.

The objective of this question was determine the level of preference for the electronic information resources and services by the library customers in the MTN UniversitiesConnect Libraries studied. In order to achieve this objective, a list of electronic information resources and services available in the MTN UniversitiesConnect library were outlined for the respondents to indicate their preferences using a five point likert scale of measurement. The scale was however merged into 3 points to ease analysis and data presentation.

Table 4.12: Level of Preference for the electronic information resources available in the MTN Net Libraries studied

Type of electronic information resources	Level of Preference MTN Net Libraries e-resources											
	ABU						UNIBEN					
	MP	%	LP	%	NP	%	MP	%	LP	%	NP	%
Sabinet online reference database	69	70.4	17	17.3	12	12.2	41	87.2	4	8.5	2	4.3
Ebscohost reference database	24	24.5	57	58.2	17	17.3	11	23.4	27	57.4	9	19.1
Jstor	17	17.3	73	74.5	8	8.1	37	78.7	6	12.8	4	8.5
HINARI	54	55.1	27	27.6	17	17.3	5	10.6	38	80.9	4	8.5
Nation Academic Press Database	66	67.3	27	27.6	5	5.1	26	55.3	9	19.1	12	25.5
Virtual Libraries online	87	88.8	11	11.2	0	0.0	34	72.3	7	14.9	6	12.8
Science Direct Online	12	12.2	18	18.4	68	69.4	0	0.0	5	10.6	42	89.4
Law Journals Online	15	15.3	63	64.3	20	20.4	3	6.4	33	70.2	11	23.4
Oxford Journals Online	62	63.3	26	26.5	10	10.2	37	78.7	8	14.9	2	4.3
E-books online libraries	69	70.4	12	12.2	17	17.3	28	59.6	11	23.4	8	17.0
Linguistics Database Online	13	13.3	23	23.5	62	63.3	2	4.3	13	27.7	32	68.1
Gutenberg Online Library	68	69.4	16	16.3	14	14.3	25	53.2	13	27.7	9	19.1
Free Library Online	76	77.6	18	18.4	4	4.1	37	78.7	6	12.8	4	8.5
Google Search Engines	73	74.5	9	9.2	16	16.3	43	91.5	4	8.5	0	0.0
CD-ROMs	24	24.5	53	54.1	21	21.4	5	10.6	19	40.4	23	48.9
E-Newspapers	13	13.3	72	73.5	13	13.3	30	63.8	6	12.8	11	23.4
e-Magazines	9	9.2	23	23.5	66	67.3	24	51.1	17	36.2	6	12.8
e-Print in Science	19	19.4	21	21.4	58	59.2	2	4.3	3	6.4	42	89.4
Digital Library for Earth system education	30	30.6	53	54.1	15	15.3	6	12.8	7	14.9	34	72.3

Key:MP: Most Preferred **LP**: Less Preferred **NP**: Not Preferred

Table 4.12 showed the opinions of the respondents on their level of preferences for the electronic information resources provided in the MTN UniversitiesConnect libraries in Nigerian Universities Studied. It was discovered that SABINET Online Reference Database, Nation Academic Press database, Oxford Journals Online, E-books Online Library, Guternberg Online Library, Free Library Online and Google Search Engines were the common electronic information resources mostly preferred by the library customers in the MTN UniversitiesConnect Libraries studied with over 50% response scores respectively. However, E-newspapers, and E-magazines were mostly preferred by the customers at the UNBIEN MTN UniversitiesConnect library with over 50% scores respectively. Dhanavandan et al (2012) revealed that highest percentage of respondents preferred e-journals &e-books, and online databases. Salaam (2008) attributed the popularity of electronic resources to flexibility in searching than the paper-based resources which cannot be accessed remotely at anytime.

However, it was revealed that Science Direct Online and Linguistics database online were the electronic information resources not preferred as indicated by the responses of the respondents with over 60% scores. On the contrary, E-magazine and E-newspapers were found to be not preferred and less preferred respectively at the ABU MTN UniversitiesConnect Library. However, it was discovered that at the ABU MTN UniversitiesConnect library, EBSCOHOST database and JSTOR were the electronic information resources less preferred by the library customers with over 55% average scores. At the UNIBEN, it was found that HINARI was less preferred by their library customers as indicated by their responses of 80.9% scores.

Level of preference of the electronic information services provided in the MTN UniversitiesConnect Libraries studied

The objective of this question was determine the level of preference for the electronic information services available by the library customers in the MTN Net libraries studied. In order to achieve this objective, a list of electronic information services available in the MTN Net library were outline for the respondents to indicate their preferences using a five point likert scale of measurement. The scale was however merged into 3 points to ease analysis and data presentation.

Table 4.13: Level of Preference of the electronic information services provided in the MTN UniversitiesConnect Libraries

Electronic information services	Levels of preference of MTN Net Libraries' e-services.											
	ABU						UNIBEN					
	MP	%	LP	%	NP	%	MP	%	LP	%	NP	%
e-Mail Services	12	12.2	56	57.1	30	30.6	23	48.9	17	36.2	7	14.9
WWW services	89	90.2	9	9.2	0	0.0	40	85.1	4	8.5	3	6.4
Electronic bulletin board services	3	3.1	0	0.0	95	96.9	0	0.0	5	10.6	42	89.4
Database Services	87	88.8	4	4.1	7	7.1	37	78.7	7	14.9	3	6.4
Registration Services	15	15.3	20	20.4	63	64.3	7	14.9	6	12.8	34	72.3
Printing services	22	22.4	69	70.4	7	7.1	2	4.3	2	4.3	43	91.5
CD-ROMs Services	5	5.1	13	13.3	80	81.6	5	10.6	8	17.0	34	72.3
The WIKI Services	14	14.3	75	76.5	9	9.2	37	78.7	4	8.5	6	12.8
Online Encyclopedia services	64	65.3	23	23.5	11	11.2	28	59.6	8	17.0	11	23.4

Key:MP: Most Preferred**LP**: Less Preferred**NP**: Not Preferred

The table 4.13 indicated that out of the nine electronic information services outlined only three of them were most preferred by the library customers in the MTN Net libraries in Nigerian Universities studied with over 55% response scores respectively. The e-services were: WWW Services, Database Services and Online Encyclopedia Services. However, the WIKI service was found to be mostly preferred electronic information services at the UNIBEN MTN Library with 78.7% scores.

It was discovered that, e-mail services, printing services and wiki services were the electronic information services found to be less preferred by the respondents with over 55% response scores respectively. On the other hand, Electronic bulletin board services, registration services, CD ROM services were discovered not to be preferred by the library customers with over 60% average scores respectively. At the ABU, printing services was discovered to be less preferred electronic information services provided to the library customers with 70.4% scores.

It can therefore be concluded that WWW services, database services and online encyclopedia services were the electronic information services mostly preferred by the library customers in the MTN UniversitiesConnect libraries in Nigerian Universities.

4.3.1.5 Extent of Satisfaction with the electronic Information Resources and services provided in the MTN UniveritiesConnect Libraries in Nigerian Universities

The objective of this question is to determine the extent of satisfaction of the library customers in the MTN UniversitiesConnect Libraries studied, with the electronic information resources and services. In order to achieve this objective, a list of electronic information resources and services provided in the MTN UniversitiesConnect library was outline for the respondents to indicate their extent of satisfaction with them using a five point likert scale of measurement. The scale was merged into 3 points to ease analysis and data presentation.

Table 4.14: Extent of satisfaction with the electronic information resources provided in the MTN UniversitiesConnect Libraries

Type of electronic information resources	Extent of satisfaction with MTN UniversitiesConnect Libraries e-resources											
	ABU						UNIBEN					
	HS	%	RS	%	NS	%	HS	%	RS	%	NS	%
Sabinet online reference database	72	73.5	10	10.2	16	16.3	37	78.7	3	6.4	7	14.9
Ebscohost reference database	9	9.2	67	68.4	23	23.5	3	6.4	34	72.3	10	21.3
Jstor	17	17.3	57	58.2	24	24.5	29	61.7	8	17.0	10	21.3
HINARI	78	79.6	10	10.2	10	10.2	13	27.7	7	14.9	27	57.4
Nation Academic Press Database	66	67.3	17	17.3	15	15.3	33	70.2	11	23.4	3	6.4
Virtual Libraries online	11	11.2	77	78.6	10	10.2	7	14.9	8	17.0	32	68.1
Science Direct Online	15	15.3	13	13.3	70	71.4	28	59.6	5	10.6	14	29.8
Law Journals Online	6	6.1	23	23.5	69	70.4	5	10.6	30	63.8	12	25.5
Oxford Journals Online	56	57.1	27	27.6	15	15.3	35	74.5	5	10.6	7	14.9
E-books online libraries	12	12.2	76	77.6	10	10.2	7	14.9	23	48.9	17	36.2
Linguistics Database Online	16	16.3	9	9.2	73	74.5	6	12.8	32	68.1	9	19.1
Gutenberg Online Library	72	73.5	7	7.1	19	19.4	38	80.9	2	4.3	5	10.6
Free Library Online	49	50.0	25	25.5	24	24.5	25	53.2	11	23.4	11	23.4
Google Search Engines	89	90.8	9	9.2	0	0.0	42	89.4	5	10.6	0	0.0
CD-ROMs	6	6.1	5	5.1	87	88.8	0	0.0	7	14.9	40	85.1
E-Newspapers	13	13.3	67	68.4	18	18.4	26	55.3	13	27.7	8	17.0
e-Magazines	18	18.4	12	12.2	68	69.4	10	21.3	32	68.1	5	10.6
e-Print in Science	8	8.1	11	11.2	79	80.6	3	6.4	4	8.5	40	85.1
Digital Library for Earth system education	10	10.2	65	66.3	23	23.5	13	27.7	7	14.9	27	57.4

Key:HS: Highly Satisfied **RO**: Rarely Satisfied **NS**: Not Satisfied

The table 4.14 portrayed the opinions of the respondents on the level of satisfaction with the electronic information resources and services available in the MTN UniversitiesConnect libraries in Nigerian Universities studied. A cursory look at the table showed that SABINET online reference database, HINARI, Nation Academic Press database, Oxford Journals online, Gutenberg online library, Free Library online and Google Search Engine were the highly satisfied electronic information resources with over 50% response scores respectively. While, at the UNIBEN MTN UniversitiesConnect Library, the respondent indicated that they were highly satisfied with JSTOR and e-newspapers with over 50% response scores, at the ABU MTN Library, respondents indicated that they are rarely satisfied with JSTOR and e-books online library.

On the other hand, the respondents indicated that they were not satisfied with the following electronic information resources with the highest frequency of over 60% scores. The resources are: Science Direct Online, Law Journal Online, Linguistics database online, E-magazines and E-print in science.

Attempt was also made by the researcher to find out from the respondents the extent of satisfaction of the library customers with the electronic information services provided in the MTN UniversitiesConnect libraries studied. In order to achieve this objective, a list of electronic services provided in the MTN UniversitiesConnect libraries was outlined for them to indicate their extent of satisfaction with them using a five point likert scale of measurement. The scale was merged into 3 points to ease analysis and data presentation.

Table 4.15: Extent of satisfaction with the electronic information services provided in the MTN UniversitiesConnect Libraries

Electronic information services	Extent of satisfaction with MTN UniversitiesConnect Libraries e-services											
	ABU						UNIBEN					
	HS	%	RS	%	NS	%	HS	%	RS	%	NS	%
e-Mail Services	17	17.3	65	66.3	16	16.3	32	68.1	5	10.6	10	21.3
WWW services	87	88.8	11	11.2	0	0.0	28	59.6	7	14.9	12	25.5
Electronic bulletin board services	0	0.0	20	20.4	78	79.6	0	0.0	6	12.8	41	87.2
Database Services	75	76.5	13	13.3	10	10.2	22	46.8	13	27.7	12	25.5
Registration Services	8	8.1	23	23.5	67	68.4	13	27.7	5	10.6	29	61.7
Printing services	80	81.6	9	9.2	9	9.2	32	68.1	3	6.4	12	25.5
CD-ROMs Services	16	16.3	12	12.2	70	71.4	7	14.9	34	72.3	6	12.8
The WIKI Services	68	69.4	14	14.3	16	16.3	33	70.2	4	8.5	10	21.3
Online Encyclopedia services	3	3.1	87	88.8	8	8.1	9	19.1	6	12.8	32	68.1

Key:HS: Highly Satisfied**RO**: Rarely Satisfied**NS**: Not Satisfied

The table 4.15 showed that customers were highly satisfied with the following electronic information services with the highest frequency of over 55% response scores respectively. They included: WWW services, database services, printing services and the wiki services. At the UNIBEN the respondents indicated that they were highly satisfied with the e-mail services provided with over 55% response scores. On the other hand, library customers indicated that they were not satisfied with the electronic bulletin board services, registration services and CD-ROMs services provided to them with over 60% scores respectively. So therefore

4.3.2 Inferential Analysis

This section presented the result of the inferential statistics used to test the 4 hypotheses formulated for this study. Hypothesis one (Ho1) were tested using Pearson Product Moment Correlation Coefficient (PPMC), while hypothesis two (Ho2), three (Ho3) and four were tested using t-test.

4.3.2.1 Hypothesis One

There is no significant relationship between availability and use of the electronicin formation resources and services in MTN UniversitiesConnect libraries in Nigeria studied.

Table 4.16: Correlation between Availability of electronic information resources and services and their use in the MTN UniversitiesConnect libraries in Nigerian Universities

Variables	Mean	Standard Deviation	Std Error	r-value	DF	P	Decision
Availability	2.320	0.718	0.075	0.417	143	0.000	Significant
Use	3.218	0.839	0.062				

The table 4.16 showed that the calculated r-value of 0.417 at the degree of freedom of 143 and α 0.05 level of significance. The calculated r-value of 0.417 is greater than the table value of 0.179 at the same degree of freedom and confidence level. The observed significance level of 0.000 is less than 0.05(P<0.05). The null hypothesis which says there is no significant relationship between availability and use of the electronic information resources and services in the MTN Net libraries in Nigeria studied is therefore rejected. This implies that there exists a relationship between availability of electronic information resources and services and their use. This is because it is obvious that electronic information resources and services are only used when they are made available in a library and not otherwise.

4.3.2.2 Hypothesis Two

There is no significant difference between the users of the ABU and UNIBEN MTN Net libraries in what they use the electronic information resources and services for.

Table 4.17: Two-tailed T-test on the reasons/purposes of using electronic information resources and services between ABU and UNIBEN MTN Libraries

Groups	N	Mean	Standard Deviation	Standard Error	DF	T-value	P	Decision
ABU	98	2.666	0.752	0.067	143	2.310	0.02	Significant
UNIBEN	47	2.189	0.568	0.158				

users

Table 4.17 showed that the t-calculated value of 2.310 is greater than the t-tabulated value of 1.978., It showed that the test statistic is significant. The observed significant level is 0.02 and it is less than 0.05 (P<0.05). Hence, the null hypothesis which states that there is no significant difference between the customers of the ABU and UNIBEN MTN UniversitiesConnect libraries in what they use the electronic information resources and services for is rejected. This implies that there is significant difference between the users of ABU and UNIBEN MTN UniversitiesConnect libraries in their reasons for using their respective MTN UniversitiesConnect Libraries. This finding might be connected to the differences in the programmes of the two Universities.

4.3.2.3 Hypothesis Three

There is no significant difference between the customers of the ABU and UNIBEN MTN UniversitiesConnect libraries in the type of electronic information resources and services they preferred most.

Table 4.18: Two-tailed T-test on the type of electronic information resources and services most preferred between ABU and UNIBEN MTN Net Libraries customers

Groups	N	Mean	Standard Deviation	Std Error	DF	T-value	P	Decision
ABU	98	3.200	0.976	0.087	143	1.053	0.261	Not Significant
UNIBEN	47	3.241	0.992	0.052				

Table 4.18 showed that the t-calculated value of 1.053 is less than the t-tabulated value of 1.878. This, showed that the test statistic is not significant as the observed significant level is 0.0261 which is greater than 0.05 (P<0.05). The null hypothesis which states there is no significant difference between the users of the ABU and UNIBEN MTN Net libraries in the type of electronic information resources and services they preferred most

is therefore retained. This means that there is no significant difference between the customers of ABU and UNIBEN MTN UniversitiesConnect libraries in the type of electronic information resources and services they preferred most.

4.3.2.4 Hypothesis Four

There is no significant difference between the MTN UniversitiesConnect libraries users in their levels of satisfaction with the electronic resources and services provided.

Table 4.19: Two-tailed T-test on the level of satisfaction between the ABU and UNIBEN MTN Net Libraries customers on the electronic information resources and services

Groups	N	Mean	Std Deviation	Std Error	DF	T-value	P	Decision
ABU	98	3.099	0.831	0.075	143	0.814	0.417	Not significant
UNIBEN	47	3.296	0.810	0.224				

Table 4.27 showed that the t-calculated value of 0.814 is less than the t-tabulated value of 1.978. This showed that, the test statistic is not significant as the observed significant level is 0.417 which is greater than 0.05 (P>0.05). Hence, the null hypothesis which stated that there is no significant difference between the customers of the two MTN Net libraries studied in their levels of satisfaction with the electronic resources and services provided is retained. This implies that the levels of satisfaction with the electronic resources and services provided in the ABU and UNIBEN MTN Net Libraries were not significantly different.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter provided the summary of the study, summary of findings, conclusion and recommendations.

5.2 Summary of the Study

This study was carried out to investigate the availability, accessibility and use of electronic information resources and services in the MTN UniversitiesConnect Libraries in Nigerian Universities. In order to achieve this objective, seven research questions were developed and four hypotheses were formulated. Review of relevant literature was conducted on the availability, accessibility and use of electronic information resources and services.

Survey research method was adopted for this study. The population of this study consisted of the registered library customers in the MTN UniversitiesConnect Libraries studied. There are five thousand four hundred and thirty eight (5438) registered library customers in all the four MTN UniversitiesConnect Libraries in Nigerian Universities. Two hundred and seventy three (273) of the registered customers were selected as sample for this study. This represented 5% of the entire population. The four MTN UniversitiesConnect Libraries selected included ABU MTN UniversitiesConnect Library, UNILAG, UNN and UNIBEN. The instrument used for data collection was questionnaire. However, the questionnaire was only administered in ABU and UNIBEN MTN UniversitieConnect Libraries due to the fact that the UNN and UNILAG MTN UniversitiesConnect Libraries were not functioning and were completely closed for any type of services as at the time of data collection.

The data collected for the study were presented and analysed using both descriptive statistics and inferential statistics. Frequency distribution tables, percentages and histograms were used for the descriptive statistics while One T-test of independent sample and Pearson Product Moment Correlation were used to test the four hypotheses formulated.

5.3 Summary of Findings

Based on the data collected and analysed for this study, the following are the major findings:

1. The study find out that Sabinet online reference database; Ebscohost reference database, Nation Academic press databases, Virtual Libraries online, Science Direct online, E-books online Libraries, Linguistics Database online, Guternberg online Library, Free Library online, Google Search Engine and E-newspaper were the electronic information resources available in the 2 MTN libraries studied. While Email Services, WWW Services, Databases Services and Printing Services were the electronic information services available in the 2 MTN libraries studied.
2. The library customers access the MTN Net libraries in Nigerian universities studied through visiting the net library physically, Opac, WWW, Local Area Networks,and through the Library Website. CD-ROMs, E-magazines, Digital Library for Earth System were found not to be easily accessible. While E-mail Services, WWW services, Database services, the WIKI services and Online Encyclopaedia services were the electronic information services that are highly accessible.

3. The study find out that conducting research, assignment, updating knowledge and preparations for examinations were the reasons why the library customers used MTN UniversitiesConnect libraries in two Nigerian Universities studied.
4. The Sabinet Online reference Database, Nation Academic Press database, Virtual Libraries Online, Oxford Journal Online, Free Library Online and Google Search Engine were the electronic information resources very often used by the customers of the two MTN UniversitiesConnect Libraries studied with the highest frequency of over 55% average scores. Whereas, EBSCOHOST, HINARI, Law Journals Online, Linguistics database, CD-ROMs, E-magazine and E-print in science were discovered not to have been often used by the library customers in the two MTN UniversitiesConnect libraries in two Nigerian Universities studied.
5. The Sabinet online reference database, Nation Academic Press database, Oxford Journals online, E-books online library, Guternberg online library, Free library online and Google Search Engines were the common electronic information resources mostly preferred with over 50% response scores respectively by the library customers of the two MTN UniversitiesConnect libraries studied.
6. The Sabinet online Reference Database, HINARI, Nation Academic press database, Oxford Journals online, Gutenberg online library, free library online and Google Search Engine were the electronic resources that were highly satisfied with by the customers of the two MTN UniversitiesConnect Libraries studied.
7. There is significant relationship between availability and use of the electronic information resources and services in the two MTN UniversitiesConnect libraries studied.

8. There is significant difference between the ABU and UNIBEN MTN UniversitiesConnect libraries customers in their reasons for using their respective MTN Libraries.
9. There is no significant difference between the ABU and UNIBEN MTN UniversitiesConnect libraries customers in the type of electronic information resources and services they preferred most.
10. There is no significant difference between the customers of the two MTN UniversitiesConnect libraries studied in their levels of satisfaction with the electronic resources and services provided in the respective libraries.

5.4 Conclusion

Based on the data analysed for this study, it can be concluded that electronic information resources are vital and are the backbone of any dynamic collection, most of the electronic information resources such are full text databases, electronic books are not publicly available free of charge and they are expensive, and they offer creative possibilities for expanding access as well as changing learning behaviour and academic research in Universities. It is therefore hoped that library customers in Nigerian Universities will continue to access and utilize the numerous electronic information resources and services provided in the MTN UniversitiesConnect libraries to satisfy their information needs and desires to enable them realize their goals and objectives.

5.5 Recommendations

Arising from the findings of this study, the following recommendations were made:

1. More relevant electronic information resources, services and databases such as e-journals and e-books should be included in the list of electronic resources

available for use by the library customers in the MTN UniversitiesConnect Libraries studied.

2. The management of the MTN UniversitiesConnect Libraries should as a matter of policy enable library customers' access their electronic resources and services remotely. This will go a long way in facilitating and enhancing access to the resources.
3. The management of the MTN UniversitiesConnect Libraries should ensure that all Challenges such as power outages, denial of access, network fluctuations and system breakdowns are minimized in order to promote access and use of the electronic information resources and services in the libraries.
4. Adequate and regular publicity should be intensified to inform the library customers on the types of electronic information resources and services that are available and provided in the MTN UniversitiesConnect Libraries studied.
5. Periodic tutorials in form training should be mounted for the fresh and returning library customers in order to ensure maximum use of the electronic information resources and services provided in the MTN UniversitiesConnect Libraries studied.

5.6 Suggestion for Further Research

Based on the findings and conclusion of the study, the following areas/topics have been suggested for further research:-

1. Awareness and Use of HINARI Database by Academics in the faculties of Medicine and Pharmaceutical Sciences in Ahmadu Bello University, Zaria.
2. Utilisation of electronic databases for Scholarly publication among Academics in Ahmadu Bello University Zaria

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APPENDIX I

QUESTIONNAIRE ON AVAILABILITY, ACCESSIBILITY AND USE OF ELECTRONIC INFORMATION RESOURCES AND SERVICES IN MTN UNIVERSITIES CONNECT IN NIGERIAN UNIVERSITIES

Department of Library and Information Science
Faculty of Education,
Ahmadu Bello University, Zaria
3RD June, 2013.

Dear Respondent,

I am a postgraduate student in the above named department conducting a research entitled "Availability, Accessibility and Use of Electronic Information Resources and Services in MTN Universities Connect in Nigerian Universities".

This research is essentially for academic purposes. Your library is one of those selected for this exercise. Therefore, kindly assist to respond to questions in this questionnaire.

All the information given will be used strictly for the research purposes only.

Thank you for your cooperation.

Yours sincerely,

Hauwa Ibrahim

Appendix II

SECTION A: BIO-DATA

Please kindly tick ( ) / fill the space

1. Name of Institution
   - ABU ( )
   - UNILAG ( )
   - UNN ( )
   - UNI BEN ( )
2. Department ……
3. Status: Male ( ): Registered Customer/user ( )

SECTION B: TYPE OF ELECTRONIC INFORMATION RESOURCES AND SERVICES AVAILABLE IN THE MTN NET LIBRARY

5. Indicate the type of Electronic Information Resources and Services available in the MTN Net Library in your University? (Tick as many as available)

A. Electronic Information Resources

a. Sabinet online reference database ( )
b. Ebscohost reference database ( )
c. Jstor ( )
d. HINARI ( )
e. Nation academic press database ( )
f. Virtual libraries online ( )
g. Science direct online ( )
h. Law journals online ( )
i. Oxford journals online ( )
j. E-books online libraries ( )
k. Linguistics database online ( )
l. Gutenberg online library ( )
m. Online encyclopedia services ( )
n. The wiki services ( )
o. Free library online ( )
p. Google search engine ( )
q. CD-ROMs ( )
r. E-newspapers ( )
s. E-magazines ( )
t. E-print in Science ( )
u. Digital library for earth system education ( )

v. Others (specify)----------

b. Electronic Information Services

a. Email services ( )
b. WWW services ( )
c. Electronic bulletin board services ( )
d. Database Services ( )

e. Registration services ( )
f. Printing Services ( )
g. Others (Specify)----------

SECTION C: ACESSIBILITY OF ELECTRONIC INFORMATION RESOURCES AND SERVICES

7. Indicate the means through which electronic information resources and services are accessed in MTN UniversitiesConnect Library? (Tick as many as possible)
   a. Visiting the Net Library physically ( )
   b. Opac ( )
   c. World Wide Web ( )
   d. Local Area Network
   e. Library Website ( )
   f. Others specify----------

8. How accessible are the electronic information resources and services in MTN Net Libraries?

S/N	Electronic Information Resources	Highly Accessible	Accessible	Rarely Accessible	Not Accessible	Undecided
a	e-books online libraries					
b	Sabinet online reference database					
c	Jstor					
d	CD-ROMs					
e	e-newspapers					
f	e-magazines					
g	Hinari					
h	Nation academic press database					
i	Virtual libraries online					
j	Science direct					
k	Law journal					
l	Oxford journals					
m	Linguistics database					

n	Gutenberg online library					
o	Online encyclopedia services					
p	Wiki services					
q	Free library online					
r	Google search engine					
s	e-print in science					
t	Digital library for earth system education					
	Electronic Information Services					
a	e-mail services					
b	Database services					
c	e-bulletin board services					
d	WWW services					
e	Printing services					
e	Registration services					

SECTION D: USE OF ELECTRONIC INFORMATION RESOURCES IN MTN NET LIBRARIES

9. Which of the following Electronic Information Resources and Services do you use in MTN Net Library? (Tick as many as possible)\

A. Electronic Information Resources

a. E-books online libraries ( )
b. SA reference database ( )
c. Ebcohost reference database ( )
d. CD-ROMs ( )
e. E-newspapers ( )
f. E-magazines ( )
g. Jstor ( )

h. Hinari( )
i. Nation academic press database ( )
j. Virtual libraries online ( )
k. cience direct ( )
l. Law journal ( )
m. Oxford journal ( )
n. Linguistics database ( )
o. Gutenberg online library ( )
p. Online encyclopedia services ( )
q. Wiki services ( )
r. Free library online ( )
s. Google search engine ( )
t. E-print in science ( )
u. Digital library for earth system education ( )
v. Others (specify)----------

b. Electronic Information Services

a. Email services ( )
b. WWW services ( )
c. Electronic bulletin board services ( )
d. Registration services ( )
e. Printing services ( )
f. Others (Specify)----------

10. For what reasons or purposes do you use electronic information resources and services in MTN Net Libraries? (Tick as many as relevant)

a. Research purposes ( )
b. Assignment ( )
c. Update my knowledge ( )
d. Leisure and recreational purposes ( )
e. Searching for Job opportunities ( )
f. Searching for scholarships and grants ( )
g. Watching online games and videos ( )
h. Others (Specify)----------

11. To what extent do you use electronic information resources and services in MTN Net Library?

S/N	Electronic Information Resources	Very often	Often	Rarely	Not often	Undecided
a	e-books online libraries					
b	Sabinet reference database					
c	Ebscohost database					
d	CD-ROMs					
e	e-newspapers					
f	e-magazines					
g	Jstor					
h	Hinari					

i	Wiki services					
j	Nation academic press database					
k	Virtual libraries online					
l	Science direct database					
m	Law journal online					
n	Oxford journals online					
o	Linguistics database					
p	Gutenberg online Library					
q	Online encyclopedia services					
r	Free library services					
s	Google search engine					
t	Digital library for earth system education					
	Electronic Information Services					
a	e-mail services					
b	www services					
c	e-bulletin board services					
d	Database services					
e	Printing services					
f	Registration services					

12. Indicate the type of electronic information resources and services you prefer in MTN Net Library?

S/N	**Electronic Information Resources**	**Most Preferred**	**Preferred**	**Moderately Preferred**	**Not Preferred**	**Undecided**
a	e-books online libraries					
b	Sabinet reference database					
c	Ebscohost reference database					
d	CD-ROMs					
e	e-newspapers					
f	e-magazines					
g	Jstor					
h	Hinari					
i	Nation academic press database					
j	Virtual libraries online					
k	Science direct online					

l	Law journal online					
m	Oxford journals online					
n	Linguistics database					
o	Gutenberg online library					
p	Online encyclopedia services					
q	Wiki services					
r	Free library online					
s	Google search engine					
t	E-print in science					
u	Digital library for earth system education					

	Electronic Information Services					
a	e-mail services					
b	www services					
c	e-bulletin board services					
d	Database services					
e	Printing services					
f	Registration services					

13. Indicate the extent of your satisfaction with the electronic information resources and services provided in the MTN Net Library?

S/N	**Electronic Information Resources**	**Highly Satisfied**	**Satisfied**	**Rarely Satisfied**	**Not Satisfied**	**Undecided**
a	e-books					
b	Sabinet reference database					
c	Ebscohost reference database					
d	CD-ROMs					
e	e-newspapers					
f	e-magazines					
g	Jstor					
h	Hinari					
i	Nation academic press database					
j	Virtual libraries online					
k	Science direct online					
l	Law journal online					
m	Oxford journals online					
n	Linguistics database					
o	Gutenberg online library					
p	Online encyclopedia services					
q	Wiki services					
r	Free library online					
s	Google search engine					
t	E-print in science					
u	Digital library for earth system education					