APPLICATION OF INTERNET FOR INFORMATION SERVICE DELIVERY IN SELECTED SPECIAL LIBRARIES IN KADUNA METROPOLIS

BY

IKEGWUIRO PATIENCE ULOAKU
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BEING A THESIS SUBMITTED TO THE POST GRADUATE SCHOOL AHMADU BELLO UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTER IN LIBRARY AND INFORMATION SCIENCE (MLS) DEGREE

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE
FACULTY OF EDUCATION,
AHMADU BELLO UNIVERSITY,
ZARIA , NIGERIA

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Declaration

I, Ikegwuiro Patience Uloaku declare that this thesis "Application of Internet Services for Service Delivery in Selected special Libraries in Kaduna" was written by me and that it is a record of my own research work. This work has not been presented in any previous application for a higher degree. All consulted materials used in the course of the research were acknowledged through referencing.

_____ _____

Signature Date

Certification

This thesis entitled "Application of Internet for Service delivery in Selected Special Libraries in Kaduna State" by Ikegwuiro Patience Uloaku met the regulation governing the award of master of Library Science of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

Prof. Ekoja, Innocent I.

_____	_____	_____
Chairman Supervisory Committee	Signature	Date

Dr Ezra, Shiloba Gbaje

_____	_____	_____
Member, Supervisory committee	Signature	Date

Prof Tijani Abubakar

_____	_____	_____
Head of Department	Signature	Date

Prof Joshua Adebayo

_____	_____	_____
Dean, School of Post Graduate Studies	Signature	Date

Dedication

This work is dedicated to God Almighty and also to my parents, Elder and Mrs Sunday Ikegwuiro, My aunty and her husband, Prof and Dr Mrs Odunze, my boss, Abdullahi Haruna and my cousin, Chidi Nwosu.

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Resources Institute, Mando; Court of Appeal, Kawo; Federal High Court, Kawo; National Board for Technical Education and Federal College of Forestry Research and Mechanization for their cooperation.

Abstract

The study investigated the Application of Internet for service delivery in some selected special libraries in Kaduna state. The objectives of the study were to ascertain the kind of Internet services used in the special libraries; to ascertain the library services where internet is applied; to find out the extent of internet application in library services; to ascertain the level of satisfaction of the staff with the application of the Internet and to determine the factors that hinder the effective application of Internet in the libraries. Five (5) research questions were raised viz: what kind of Internet services are used in the libraries? what library services are internet applied for? What is the extent of application of Internet to library services? How satisfied are librarians with the application of internet in the library service? and what are the factors militating against the effective application of Internet in the special libraries in Kaduna metropolis. Survey method of research was adopted. The population of the study was made up of 53 library staff from the six (6) selected special libraries. Purposive sampling was used. Structured questionnaire and semi-structured questionnaire and observation were the instruments used to collect data for the study. Descriptive statistical tools such as simple percentages and tables were used to analyze the data. The study found out that internet services is applied in most of the library services of the selected libraries. The findings also revealed that internet is applied to a large extent in most of the library services for effective service delivery. The study also found out that the librarians derive satisfaction in the application of Internet in their library services because it helps for effective services delivery, though some factors were discovered to be a hindrance for effective application of the Internet in the special libraries which include: low bandwidth; poor funding; erratic power supply and lack of maintenance culture. The study recommends that there should be adequate planning and survey by the libraries before the introduction of Internet in order to cope with the frequent change in information technologies; that management should ensure librarians participation in ICT training programmes to beef up their Internet learning skills; that the selected libraries should acquire state of the art power generating set to augment the services of the Power Holding Company of Nigeria; that budgetary allocation to the libraries should be increased etc. The study concludes that special libraries in Kaduna metropolis are still on the verge of meeting up with the global perspective of ICT compliance. This notwithstanding, the Internet services are available in such a way that libraries can apply them to library service to enhance the quality of their service delivery.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Computer and communication technologies have revolutionized the whole world of information and have penetrated in areas beyond libraries transforming nearly every facet within society. Application of Internet and other network resources is changing the traditional library functions. In a special library Internet is applied to provide easy access to current information and convenient information exchange. Internet is an abbreviation for International Network. It is not a single Network but a collection of computers worldwide through a system of connection that use the standard Internet Protocol Suite (TCP/IP) to serve billions of users worldwide. According to Adesanya (2002), Internet is a collection of computer networks that connects million of computers around the world. It is known as the "Information Super Highway". It is increasingly becoming the solution to many information problems, information exchange, gathering and marketing.

The Internet is a massive world wide network of computers by which information is stored on network servers. Each file has a unique location, address or file name which can be searched and accessed by Internet users in any part of the world where Internet facilities are available (Oyinloye, 1998). The Internet is a mechanism for information dissemination and a medium for collaborative interaction between individuals and their computers without regard for geographical limitation of space (Singh, 2002). According to Gbaje (2002), the Internet is the network of networks linking millions of computer together. It has the ability and capability to

provide adequate, current, and timely services to information seekers wherever they are. The Internet allows the user a range of positive practical applications such as ability to conduct research, perform business transactions, access international libraries etc (Levey, 1997).

Internet services are the various services that are available in the Internet. In order to connect to the Internet, you need to use an Internet service. Internet services provide a way for data to be transferred from Internet servers to your computer. Muzakkari (2002) stated that Internet services are the resources available in the net. These electronic resources include: e-mail, chat groups, file Transfer Protocol, gopher, telnet, chat and instant messaging, discussion group, and World Wide Web. Internet services are a major source by which library and information centres can effectively provide information services to its increasing population of users in this rapidly growing environment of information explosion and availability. The Internet is an invaluable and inestimable resource for enhancing learning and research. It is a useful tool in library services. In the developed countries, and even some developing countries like Nigeria, Internet services are being used extensively for services delivery, including special libraries.

A Special library is one of the types of libraries that require the application of ICTs. A special library is a library maintained by corporation, association, government agency or any other group. It can also be defined as a specialized or departmental collection within a library for the organization and dissemination of information and primarily offering services to a specialized clientele through the use of varied media and methods (Madu and Adeniran, 2005). Imeremba (2004) opined that a special library exists to serve a specialized body of users within a definite subject field. Special libraries do not exist for their own sake. Rather, it is established as part of a larger organization in order to obtain and exploit specialized information for the private use of the organization that provides its financial support.

According to Ken (1988) a special library is

> *A physical collection of information, knowledge and opinion limited to a single subject or group of related formats organized under the aegis of an institution which provides funds for its continuances, administered by a librarian or a specialist in the subject (s) covered and carry out the mission of acquiring, organizing and providing access to information and knowledge in furtherance of the goals of the parent institutions.*

Based on this definition, one can say that the aim of establishing a special library in an organization or establishment is to provide information that will assist in the realization and furtherance of the goals and objectives of the host organization.

Special libraries are of many types. They include: media libraries which can be found at the Broadcasting corporations, such as Nigeria Television Authority (NTA) and African Independent Television (AIT); Commercial institution libraries such as banks, insurance companies libraries etc; technical or research institution libraries for example, Federal Institute of Industrial Research (FIIRO) Oshodi and National Water Resource Institute libraries, Mando; Law libraries such as Federal High Court and Court of Appeal libraries; medical libraries, for example, Federal Medical Center and National Ear Care Centre libraries.

The purpose of these libraries is to build material collection on subject related to their objectives, mission and related fields. A typical special library resources/collections will include periodicals, book/monographs, reference materials, abstracts/indexes, pamphlets, chippings, patents, reports, maps, trade literature, audio visual, multi-media resources and other ICT components. Their services will include Selective Dissemination of Information (SDI), current literature search, indexing and abstracting, publishing, translating, bibliographic services, document supply, exchange of information etc. (Dirisu, 2002)

Special libraries exist mainly to cater for the information needs of specialized clientele, and for effective rendering of services by any special library application of Internet resources is central. To ensure that library services are given within the framework of users needs and in keeping with the aims and objective of that library, the application of Internet in special library operations and services is important.

Kaduna state occupies part of the central position of the Northern part of Nigeria (with Kaduna as its capital). It shares common borders with Zamfara, Katsina, Niger, Kano, Bauchi and Plateau states. To the South-West, the state shares a border the Federal Capital Territory, Abuja. The state occupies an area of approximately 48,473.2 square kilometers and has a population of more than 6 million (2006 census). The entire land structure consists of an undulating plateau with major rivers in the state including river Kaduna, River Wonderful in Kafanchan, River Kagon, River Gurara and Galma. The state has 23 Local Government Areas.

Kaduna is one of the centres of education in Nigeria. A number of notable educational institutions in the country are located in the state. They are Ahmadu Bello University, Zaria, Kaduna Polytechnic, Kaduna, School of Health Technology, the Federal Fishery Training Institute, Kaduna, National Water Resources Institute, Mando, National Teachers Institute, Nigerian Institute for Trypanosomiasis Research, Surami Road, Police College, Kaduna, Nigerian Defence Academy, National Board for Technical Education, Kaduna; National Research Institute for Chemical Technology (NARICT), Zaria etc.

The application of Internet in special libraries has tremendously changed the management of resources or housekeeping operations as well as the way services are delivered. The Internet holds great potentials in libraries; its services are largely used in housekeeping operations, like acquisition, cataloguing, circulation control, serials management etc. The Internet can be used to

deliver the information needs of the users in special libraries. Oketunji (2001) stated that Internet gives access to a vast wealth of knowledge much of which may not be possible to access without the Internet services. The Internet provides access to a tremendous variety of information, allows access to remote libraries and creates an environment where users can have innovative, co-operative learning experience.

This study investigated the application of Internet for service delivery in special libraries which includes: Nigerian Institute for Trypanosomiasis Research, Surami Road, National Water Resources Institute, Mando, Court of Appeal, Kawo, Federal High Court, Kawo., National Board for Technical Education, Bida Road, and Federal College of Forestry Research and Mechanization, Afaka, mando, all in Kaduna State. The type of Internet resources available and services rendered to the users and the problems of application of Internet in the libraries will be studied with a view to providing solution

1.2 Statement of the Problem

The application of Internet in library services increases efficiency and effectiveness and also ensures the delivery of timely, accurate, precise and relevant information to patrons. It also places librarians in a position to face the 21st century challenges of global information society.

Internet has increased not only the quality of traditional library services but also has made it possible for libraries to pioneer in new services in a constantly changing environment. It plays a significant role in area of effective and efficient services delivery in modern library. However, various studies and observation indicates poor state of Internet application in special libraries. Emorjorho and Nwalo (2009) found in their study that only very few libraries in the Niger – Delta of Nigeria uses ICT in library operations where University Libraries have more ICT facilities than the special libraries. . (see also Oni, 2005; Abubakar, 2006).

Based on the preliminary investigation, the following issues have been identified. The situation of Internet availability and application in special Libraries in Kaduna State is no exception. The application of Internet to special library services in Kaduna seems inadequate due to a variety of factors, including fear, and the state of infrastructural development of the state. Most of the library practitioners prefer the manual library operations and services. Those who are aware of its benefits are afraid of being eliminated from their jobs; though knowing that its application to library services such as acquisition, cataloguing and classification, circulation, reference, selective dissemination of information, interlibrary loan and bibliographic services would help for effective and efficient service delivery. In view of these, it is imperative to carry out this investigation. The study is to find out the Internet services that are applied to special library services in Kaduna metropolis to ensure effective service delivery as well as assess its impacts on the library services, and the problems encountered in its application by librarians and information seekers.

1.3 Research Questions

The following research questions are formulated to guide the study.

1. What kind of Internet services are used for service delivery in the special libraries in Kaduna metropolis?
2. What library services is the Internet applied for in special libraries in Kaduna metropolis?
3. What is the extent of application of Internet to library services in special libraries in Kaduna?
4. How satisfied are librarians with the use of Internet for services delivery in special libraries in Kaduna metropolis?

5. What are the factors militating against the effective application of Internet services in library services of special libraries in Kaduna metropolis?

1.4 Objective of the Study

Specifically the objectives of the study are to:

1. To ascertain the type of Internet services that are used for service delivery in special libraries in Kaduna metropolis.
2. To find out the library service that Internet is applied for in special libraries in Kaduna metropolis.
3. To ascertain the extent of the application of Internet to library services in special libraries in Kaduna metropolis
4. To determine the extent of satisfaction with the Internet services used for service delivery in the special libraries in Kaduna metropolis.
5. To ascertain the factors that militates against the effective application of Internet services with respect to library services to patrons.

1.6 Significance of the Study

The research focuses on the application of Internet in service delivery in some selected special libraries in Kaduna metropolis. The study is significant because it will sensitize the various management of the special libraries in Kaduna State to join the current technological trend of advancement by providing Internet to the Library services and operations in order to enhance efficiency and effectiveness in information management, service delivery and also satisfy the information needs of their clientele. On the basis of the study, policies can be formulated on the acquisition of Internet facilities, staff recruitment and user education.

The findings of this study can also serve as advice to special libraries in Nigeria to exploit the Internet to improve library services. The study can create greater awareness of Internet as a valuable scholarly tool. This will prompt libraries, and researchers to work together to exploit its resources for effective research work as stated by Badu and Markwei (2005) in their study on Internet awareness and user in the University. The result of this study may also be useful for the libraries in the country in evaluating and reorienting their services, collections and facilities.

The study will benefit the following: special libraries in Kaduna, librarians and management of library, special libraries in the wider world, as well as scholars and students in library and information science.

It will also contribute knowledge and literature in the subject area of Internet application in library services.

1.7 Scope/ Delimitation of the study

The study focused on the application of Internet for service delivery in some selected special libraries in Kaduna metropolis such as:

Nigerian Institute for Trypanosomiasis Research (NITR) Library, Sunami Road

National Water Resources Institute (NWRI) Library, Mando

National Board for Technical Education (NBTE) Library, Bida Road

Court of Appeal Library, Kawo

Federal High Court Library, Kawo

Federal College of Forestry Research and Mechanization Library, Afaka, all in Kaduna metropolis.

The target subjects for the study are the library staff. The study covered the kinds of Internet services used for service delivery in the special libraries in Kaduna, library services where Internet services are applied, the extent of the application of Internet to library services, level of satisfaction on the use of Internet services for service delivery, and factors that affect the effective application of Internet services in the special libraries in Kaduna metropolis.

The research was limited to the study, Application of Internet Services for service Delivery in Selected Special Libraries in Kaduna Metropolis due to some constraints which include the distance of the special libraries; shortage of funds required to tour the study areas; time within which to complete the project; delay caused by respondents and so on.

1.8 Operational Definition of Terms

The following terms in this work are defined here for clarity thus:

An application: Is software that causes a computer to perform particular tasks

Electronic Mail: Messages sent electronically over a computer network.

Internet: Wired or wireless mode of communication through which one can receive, transmit information that can be used for single or multiple operations.

Internet Services: Services available on the Internet that provide a way for data to be transferred from Internet servers to your computer.

Library Patron: People that make use of the resources in the library.

Library Services: Activities, assistance and support provided to customers within and outside the library building.

Service Delivery: Provision of services as effectively and quickly as possible to the library patrons.

Special Library: Library or information centre established by an individual, corporation, association, government agency or any other group to promote, encourage and support research and furtherance of the goals and objectives of the parent organization.

WWW: World Wide Web is an Internet hypertext system for information dissemination and retrieval. It links documents, FTP sites, gophers and telnet and integrate files into text, graphics, sound and other formats.

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CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

The subject matter application of Internet technology in service delivery in library has generated a lot of interest and discussion in recent times. This chapter reviews relevant literature that relates to the subject. This is done under the following sub headings.

2.2 The Concept of Internet

2.3 Internet Services and Resources use for Services Delivery

2.4 Application of Internet in Library Services

2.5 Satisfaction Derived in the Application of Internet to Libraries

2.6 Problems of Application of Internet services in Nigeria

2.7 Summary of the Review

2.2 The Concept of Internet

Internet is an abbreviation for International Network. It is not a single Network but a collection of computers worldwide through a system of connection that use the standard Internet Protocol Suite (TCP/IP) to serve billions of users world wide. It is a network of networks that consists of millions of private and Public, academic, business, and government networks to local to global scope that are linked by a broad array of electronic and optical networking technologies. Agbaje (2002) described the Internet as a veritable tool for global online services. Its availability has paved the way for some associated services in respect of serials such as

browsing, e-mail, online system and information management. Similarly Ibeneme (2002) refers to Internet as a global network of millions of computer linked together with telecommunication equipment for the purpose of sharing data, resources and information. The use of the Internet in libraries and information centres makes available to the information user a wide range of learning resources available on the net especially the World Wide Web (www) and the electronic mail.

On the other hand, Muzakkari (2002) defined Internet as a vast network that connects many independent networks spanning all over the world. It links computers of different type, size and operating system and also to many people that use the Internet to communicate. The Internet is also referred to as virtual library. It does not only offer access to many libraries, but it gives access to topics of special interest using the web sites.

Furthermore, Misra and satyanarayana (2001) described Internet as a useful service in the world of information. Internet offers unprecedented access to information in all kind of formats. It brings advantages to its users in terms of searching for information, research, security and other related needs, in fact, that is why some universities and research institution established one form of Internet service or the other and researchers use Internet facilities regularly for their research work, leisure and discussions among others.

2.3 Internet Services and Resources Use for Services Delivery

The Internet provides a number of services and resources for the purpose of retrieving and disseminating of information to and from computers on the network. Ajileye (1996) opined that, the Internet offers a wide range of services. These include: electronic mail, bulletin board, file transfer, remote login, index programme, news group, electronic surfing, and video conferencing all these services are used in libraries, education, commerce, economy, and

production among others. Also Laura (2001) describes the components of the Internet to be of different stages, which are interrelated and are backbone to its application and argue that the Internet resources are about seven; gopher, e-mail, telnet, chat and instant messaging, discussion group, file transfer protocol, and world wide web. Muzakkari (2002) stated that Internet resources are the resources available in the net. These electronic resources include: e-mail, chat groups, file Transfer Protocol, and so on. Each of these resources has its own set of rules, but they relate to one another in several ways (Monereo, et al, 2000). Some of the internet services and resources are discussed as follows.

Electronic mail (e-mail):

E-mail is an instantaneous electronic message from a sender to recipient(s). It is the most used application on the Internet for communicating with others (Kennedy, 1999). In libraries, e-mail is being used for the transmission of interlibrary loan request, receiving reference questions to other libraries and receiving answers to reference questions. E-mail can be used to attach files.

Newsgroup:

This is a discussion group found on the Internet devoted to discussion of a specific topic. It operates like a bulletin board. Members post and sent messages at the newsgroup site rather than having messages sent to their mail box, as in list serves (Mudasiru, 2006). Various newspapers have been formed under newsgroup to exchange views and information in a very broad collection of specific interest areas.

File Transfer Protocol (FTP):

FTP allows a computer to rapidly retrieve complex files intact from a remote computer and view and save such files.

Chat Rooms and Instant Messaging

These allow users on the Internet to communicate with each other by typing in real time, and the messages will appear on the users' monitors. Chat rooms usually have a topical focus. Instant messaging is another variant of chat as it allows a user on the web to contact another user who is currently logged in and type in a conversation (Steinger, 2001). Yahoo and MSN messenger are commonly used in Nigeria for instant messaging.

Telnet:

Telnet permits a computer user to log on to another computer and use it as if the user were there. Telnet allows a researcher to log in onto the institute computer from any other computer connected to the Internet anywhere in the world. Files can be downloaded. It is mainly used by libraries to allow access to information stored in their computers.

Gopher:

Gopher is one the earliest resources on the Internet. It is a text only method for assessing Internet documents. (Griffith, 2002).

Through these resources, a researcher has access to instructional and research materials in the libraries.

World Wide Web (WWW):

World Wide Web is the largest and fastest Internet resources. Almost all the information searches on the Internet are handled through WWW (University Libraries, 2003). The WWW, also called Web consists of files called pages or home pages containing links to documents and resources on the Internet. The web provides opportunities for retrieving text documents viewing images, animation, and video, listen to sound, speak and hear voices, provided one's computer has the capacity and software (UCB Library, 2004). The web relies on hypertext as its means of information retrieval. Hypertext is a document that connects to other documents. Hypertext files

can be retrieved and searched through a special Protocol known as Hypertext Transfer Protocol (HTTP) which simplifies the writing of addresses, which are searched on the Internet (Griffith, 2002). The WWW documents are viewed using Internet Browsers, which are software programmes that allow an Internet user to view documents. Examples are Mozilla Firefox, Microsoft Internet Explorer, Google chrome, Netscape, Lynx, Mosaic, etc (Griffith, 2003).

Online Public Access Catalogue (OPAC):

Many academic and special libraries all over the world with www access now make their catalogues and other bibliographic data base available for Internet users to search. Before the Internet age, these resources were only available through physical access to the libraries but now this massive information is at every Internet user's fingertips.

Web 2.0:

Web 2.0 is the term used to describe a variety of web sites and applications that allow anyone to create and share online information or material they have created. According to Abraham (2005) the nature of the technology makes it an easy and proper way to communicate information to either a selected group of people or to a much wider audience. Libraries can make use of these tools to communicate with its patrons and the wider academic community. It can also be an effective way to communicate and interact with student and researchers. The components of webs 2.0 include: RSS Feeds, Blogs, Wikis, Social Networking, podcasting and content hosting services.

- *RSS Feeds:*

RSS, really simple syndication or rich site summary, allows a producer of information to broadcast the information across an Intranet or the Internet. It is created using XML Language,

an extensible markup language. RSS feeds can be used to offer additional library services via the library web site. It is a way of filtering and customizing information delivery (Hart, 2007). These feeds can be used to deliver web content to targeted user groups who have specific information needs. In the special library, this information may include updated guidelines, current awareness news, table of contents, podcasts for continuing education, research articles on specific topics, library news, the latest library books, and organizational reports and information (Banick, 2005).

- Blogs: This is a category of website where the content is presented in a continuing sequence of dated entries. The newest entry is at the top of the webpage and can be updated at anytime. According to Clyde (2004), blogs have many implications for libraries. It promotes library services. It helps to inform clients of changes and additions to library collections, and of news and current events.

Internet Applications/Search Tools

The Internet offers several search tools/applications that can assist a user to look for particular document or information on a given topic (Monereo, et al; 2000). The search tools/applications include: Search engines, Meta Search engines, subject directories, etc.

Search Engines:

Accessing information is an important and essential skill in the use of Internet by Libraries. According to Monereo, et al. (2000) Search engines are system that can search the web using software robots/programmes for sites, read entire texts of the sites on the web, index them based on occurrence of the key words for each site, and enter them in database. In the same vein, Adesanya (2002) opined that different types of search engines are available and work in different ways: some rely on people to maintain a catalogue of websites or pages; some use software to

identify key information on sites across the Internet. Search engine are medium through which searches are successfully conducted.

There are many general purpose search engines available on the web. Monereo, et al (2000) noted that a search engine allows a user to input keywords that describe an information need. A search engine allows a librarian to input keywords that describe an information need of a user. It retrieves a wide range of responses to specific queries. These search engines includes: Google(http://www.google.com), Alta Vista (http://www.altavista.com), Lycos (http:www.lycos.com), Excite (http://www.excite.com) Ask Jeeves (http://www.ask.com). Some of these search engines are discussed as follows.

Google:http://www.google.com

Google is a search engine comprising more than one billion URLS and represents the most comprehensive collection of web pages on the Internet. Google provides several benefits for the web surfer. First you see only the pages that include the terms typed. Unlike many other search engines. According to chamberlain (2006), Google produces only results that match all search terms. It allows users to search for Adobe Acrobat Pdf files, by adding inurl.pdf to a search request etc. Librarians use this site to search for query/queries posed to them by researchers.

Altavista http://www.altavista.com

This is a full text search engine which uses "spiders" and "robots" to create its own databases from public internet web pages. It uses the word, acronym or phrase that is input and creates a database of web sites containing those terms, chamberlain (2006).

Meta Search Engines:

These are search engines that submit queries to several search engines and directories and then compile the results in sometimes convenient display. Since they search through multiple search engines, they are usually slower (Madasiru, 2006). Examples of meta search engines are surf wax (http://www.surfwax.com), Hot Bot (http://www hotbot.com), Dogpile (http://www.dogpile.com) etc.

Subject Directories:

Subject directories are links to Internet address similar to a gigantic phone book, which provides a listing of sites on the Internet organized by subject matter or geographical areas. They are built by human selection, at times specialized. They are good for research and educational purposes because they are often carefully evaluated (Monereo, et al, 2000). Examples are Librarian index (http://lii.org), Academic info (http://www.academicinfo.net), Infomine (http://infomine.edu) etc.

The Invisible Web Pages:

These are web pages that cannot be found in search engines and rarely in subject directories. They are invisible because search engines cannot access such pages because the computer robots that build them cannot type the searches needed to generate the pages (Gil, n.d). The invisible web page is sometimes called Deep Web, because is available for those willing to dig for information. Deep web can be located by looking for it in good subject directories, like Libraries Index, Yahoo, or Academic Info (Griffith, 2003). Special search tools for them include: invisible web catalogue (http://invisible.com) complete Planet (http://www.complete.planet.com), search Pdf (http://searchpdf.adobe.com).

Other on-line scholarly communication:

Some of these are sometimes referenced under directories. They provide good sources for educational purposes. In fact, they are mostly for educational uses.

i) Electr*onic Reference virtual libraries*

They provide on-line reference materials for users. Examples are Refdesrk.com (http://www.ipl.org/ref/RR) etc (Bright Planet, 2001)

ii) *Electronic Lists*

These contain scholarly and professional conference papers. Example is the Directory of Scholarly and professional E-conference (http://www.kovacs.com/directly) (Monereo, et al, 2000).

Before any search, it is important to know exactly what kind of information you are looking for. This will help to determine where to search and how to search.

2.4 Application of Internet in Library Services

The Internet has integrated nearly all aspects of the library activities. It plays an important role in service delivery in libraries. Internet is changing the ways the libraries organize, manage, and disseminate information. Different types of library services from membership registration, acquisition, cataloging, resource sharing, circulation, Inter Library Loan, reference services, current awareness service, selective dissemination of information, and document delivery can be offered through the Internet. According to Ahmed (2004) the innovative use of Internet technologies enable libraries to reach both local and distance users much more easily and effectively than hither to possible. Internet tools such as email and web provides tremendous opportunities for library and information professionals to deliver the information to their users. Vinitha, et al (2006) contributing, affirmed that libraries that used to be considered only as the

storehouse of knowledge have got a new outlook in the modern ICT era. The activities that were carried out manually in libraries with so much stress and strains are now being carried out smoothly with the help of ICT with greater effectiveness.

Internet is applied to the services of special libraries to ensure that information is delivered timely, accurately and precisely. Libraries are using the Internet to support their fundamental functions and services. Butt Qutab and Mahmood, (2011) reported in their study on Internet use in library functions and services in libraries of Lahore that Internet is applied mostly in acquisition, classification and cataloguing, reference, document delivery, current awareness service, selective dissemination of information and Interlibrary loan to enhance service delivery and at the same time save time. The study conducted by Okafor(2011) revealed that the librarians and academics in the Institutions studied utilize the Internet very much in carrying out its services and research with University of Ibadan 69.4%, University of Benin 60.4%, University of Agriculture, Abeokuta 57.1%, University of Nsukka 53.6%, this help in meeting the information needs of the users. According to study by Obinyan and Uruabor (2013) 40% of the respondents agreed that ICT is applied to a large extent in readers/circulation section, and 35% were positive about their use of ICT in serials section, while 10% of the respondents conceded to applying ICT in cataloguing and classification. Also Islam (2009) stated that the application of information technology in libraries is not a sudden movement, but rather a product of continual development of telecommunications and computer technologies.

Internet is mostly applied in reference and information services in libraries. Reference libraries use a multitude of information sources to answer the question they are asked. Singh (2001) opined that the Internet can be successfully applied for providing short range and long-range reference service because various primary and secondary sources of information are

available on line from many sites. Example, http://www.refdesk.com, http://www.ipl-org/ref/RR etc. Abdoulaye and Majid (2002) studied on the use of the Internet for reference services in Malaysian Libraries. A total of 40 Library professionals working in the reference department of 9 academic libraries participated in the study. The study found that the Internet has contributed positively to reference work and has enhanced their effectiveness and efficiency.

Internet offers to the special library patrons the ability of browsing and therefore selecting library materials of other famous libraries of the world such as library of congress, USA, Alexandra Library, Nigerian National Library etc. Madusudhan (2007) conducted a study to know about the use of the Internet by research scholars at research institutions and found that the majority of them use the Internet daily for their research and academic purposes especially e-journals and data bases. It indicated that 98 percent use Internet e-mail facility, while 96 percent use the World Wide Web.

With the application of Internet in libraries, librarians can perform their functions more effectively and efficiently while patrons will get satisfactory answer to their query/queries within the shortest time, as Faboyinde (2006) opined that the application of Internet in Nigerian libraries shows consciousness of the significant role Internet play in delivering library services.

2.5 Satisfaction Derived in the Application of Internet Services to Library Services

The impacts of new technologies are felt by libraries in every aspect. Internet is being increasingly used in library and information services for the acquisition, Processing and dissemination of information. Internet plays a major role in making communication online possible and very easy. According to Singh (2002) Internet has helped to transform the library system and the way in which we view the library resources and library services. With the help of

web based library services in developed countries, users are attended round the clock. Internet provides links to various library sites, specializing in almost every topic and they can be accessed directly from any part of the world.

Internet plays an important role in enhancing efficiency in development of library services. Internet is changing the network of libraries and information centres. This confirms Rahman (2002), observation that, the process of retrieval and dissemination of information services in libraries has witnessed a rapid growth because of the computer networks. Hence, libraries can successfully manage the exponential growth of information with the help of this technology. Also Dike (2000) claimed that instant access to information from a multiplicity of source is one of the major roles of ICT application to library services. Not only can it help in locating the materials where the required information can be found easily but Internet helps in sorting out what information is relevant from a mass of irrelevant information.

Application of Internet in library services is believed to have had tremendous effect in libraries. Most services that were very difficult or even impossible to be performed are now carried out without any form of difficulty. Osuala (2000) stated that client can get satisfactory answers to their query/queries within the shortest time while libraries can perform their functions more effectively and efficiently with the help of the Internet. Findings in a research conducted by Ansari and Zuberi (2010) revealed that academics and librarians are satisfied with available Internet resources in the libraries studied with 65.7% of the study population highly satisfied and 31.4% are satisfied. Also Mohammed (2007) found in his study on the use of ICT based resources and services in special libraries of kerala that a good number 56.4% of the library staff and 50% of users of state Government institution libraries were satisfied with the availability and

application of ICT in their libraries. In the same vein, Abdulwahab et al (2011) in their study found out that 59.4% of librarians were satisfied with the use of ICT in library services.

Internet has become a basic ingredient of information accessibility and dissemination. Many libraries have their catalogue of books and non-books in the web and accessibility to those catalogues is made easier and possible through Internet. According to Oketunji (2001) the role of the Internet is to provide a way for researchers to have access to each other and to serve as a tool that facilitate their research. With the use of the Internet services like discussion groups, e-mail, it is possible to post message which include request for information: seeking book titles or reference materials, asking for names and addresses of people who have expert knowledge in particular areas.

Furthermore, Okore (2005) reported that in Nigeria significant development and achievement on the use of automated systems have been recorded in academic and research libraries. There are now thousands of Internet 'home pages' which serve as information sources for institutions and organizations. Most universities and research institutes throughout the world have established their presence on the Internet, thereby making it possible for researchers to access past and current research publication.

2.6 Problems of use of Internet Services in Nigeria

Internet is a worldwide communication system that links millions of computers. Although the introduction of Internet technology is a welcome development to the information professionals, their use by the library poses some challenges.

In developing societies like Nigeria, the application of technologies in different sectors such as libraries and information centres, health, banks, industrial sector etc, have been affected by some

problems. Ogbonna (2003), Mathew (1999) and Okore (2004) emphasized the problems that are associated with the use of information and technologies in developing countries with reference to Nigeria as, poor economic state of the nation, lack of ICT infrastructure, access and connectivity in many parts of the country, erratic power supply and government attitude towards technological development. Ojedokun (2007) identified inadequate funding, epileptic power supply, limited computer/ information technology literacy, ineffective planning and poverty and lack of skilled manpower and inadequate skilled manpower as challenges to effective ICT application in Nigeria.

One of the constraints to effective application of Internet in Nigeria libraries is low level of computer culture. When librarians are not computer literate, utilizing the facility would be a problem. This asserts the point of Omolayole(2002) that pointed out three strong reasons that stand against the effective application of ICTs in Nigeria as low level of computer, poor telecommunication infrastructure, and general lack of awareness. Also Urbana Champain(2005) stated that lack of government funding, limited and expensive Internet bandwidth, unstable power sources, and insufficient staff development as factors that affects job performance of librarians.

Similarly, Oketunji (1999) summarized the problems of use of ICT in libraries in what he calls “the major problems that face libraries as they progressively involve with the use of technologies”. These include: inadequate infrastructure particularly telecommunication facilities and power supply, recruitment and retention problem of technical staff, and exploitative local computer market. Also chiemeka and Longo (2007) stated that the major challenges facing ICT penetration under various themes include challenges of sustainable wired and wireless networks, cost of connection, security issues, Political instability/Policy/inconsistencies and lack of

effective coordination. Afolabi and Abidoye (2013) stated that poor infrastructural facilities, low level of ICT compliance, poor maintenance of ICT equipment, lack of ICT policies, inadequate technical and skilled manpower, erratic power supply, poor funding, and technology obsolescence are barriers to effective ICT integration in library services.

Butt, Qutab and Mahmood (2011) conducted a study on the use of Internet in the libraries of Lahore, Pakistan, they discovered that the major problem in access and use of Internet was the slow speed of the Internet faced by 48% of the libraries, connection cutoff was the second major problem by 32%, 31% faced the problem of inadequate hardware facility while 16% reported unavailability of support to maintain the Internet facility.

Islam and Panda (2009) studied Internet connectivity in the special Libraries of Bangladesh and found it far from satisfactory. The survey revealed that only 28% special libraries had Internet connectivity. Also Semertzaki (2008) in his study noticed obstacles in accessing the Internet due to slow access speed and low computer capacity in some of Greek Libraries. Ashcroft and Watts (2005) noted that high cost of hardware, software, and particularly Internet service providers were significant barriers to the application of Internet.

Most of the facilities in the institutions and organizations libraries were inadequate to put the library automation on proper footing. Miles (1996) listed institutional weakness, manifesting in insufficient planning, unclear objectives, shortage of human resources in terms of qualified personnel and adequate professional training as factors affecting adoption and effective application of ICTs in Nigerian libraries. One of the most disruptive problems to Internet application is the erratic nature of electricity in Nigeria. Electricity problem has over the years adversely affected the installation and running of computer networks. In order to keep the

services running people and organizations lay huge investment acquiring generators for the supply of electricity which in some countries are taken for granted.

2.7 Summary of the Review

From the above review of literature, various concepts that bordered on the Internet in general has been discussed which is that it is a global network of millions of computer linked together with telecommunication equipment for the purpose of sharing data, resources and information. It reveals that the application of Internet in special libraries has made the organization of information very effective, the delivery of basic information services more efficient and dissemination of information to users easier. Most of the services that were difficult to perform are now carried out without any form of difficulty. There are many factors that hindered the full usage and application of Internet in libraries based on the reviewed literature.

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CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the methodology used for this study which covers the following areas: population of the study, sample size and sampling technique, instrument for data collection, procedure for data collection, and method for the analysis of data.

3.2 Research Method Adopted

Survey method of research was adopted for the study. Survey method is defined as a systematic way of collecting data concerning an event, activities and users at the same given time. Aina (2003) stated that survey research is a systematic and comprehensive collection of information that reflect the opinions, attitudes, feelings, beliefs, and behaviors of people on an issue. According to Osuala (2005) survey research studies a group of people or items by collecting and analyzing data from a sample considered being representative of the entire group under study. It involves the collection of data about a target population using a selected sample and putting together the results of findings obtained from analysis of the sample as representative of the whole population.

The survey research method was used for this study because the nature of the study itself warrants the use of the survey method; it is fast and straight forward compared to any other method and tends to be relatively inexpensive, as it enables the researcher to reach out to the study population in their different locations.

3.3 Population of the Study

Population is the group aggregate that the researcher is dealing with from which to generalize the results of the research study. Osuala (2002) referred to population as any group of individuals that have one or more characteristics in common that is of interest of the researcher. Therefore the population of the study was limited to the library staff of the special libraries in Kaduna metropolis. Although six special libraries were involved in this study, the choice of this population group was based on the fact that they have Internet facilities which are accessible. Thus, all the library staff of the selected special libraries formed the population of the study. Based on the information from the head of libraries and deputy librarians of the special libraries, there are 20 library staff in Nigerian Institute for Trypanosomiasis Research, Sunami Road; National Water Resources Institute, Mando, 11 library staff; National Board for Technical Education, Bida Road, 7 library staff; Court of Appeal, Kawo, 7 library staff; Federal High Court, 5 library staff;, and Federal College of Forestry Research and Mechanization,3 library staff.

Table 3.1: showing the sample size and percentage of the population

Institutions	Library staff	Percentage (%)
NITR	20	37.7
NWRI	11	20.8
NTBE	7	13.2

Court of Appeal	7	13.2
Federal High Court	5	9.4
Federal College of Forestry	3	5.7
Total	53	100

3.4 Sample Size and Sampling Technique

The entire population i.e., special libraries in Kaduna Metropolis could not be studied for the research. According to Adamu et al (1997) sample is that part of the population chosen and for the purpose of making a scientific statement. Thus, purposive sampling method was used for the study to select six (6) special libraries because of their relevance to the investigation. This was because these special libraries have Internet facilities which are accessible. Therefore the overall total of fifty three (53) respondents was sampled for this study. This was because the whole population/subjects of the study were not large; they were too small to be sampled.

3.5 Instruments for Data Collection

In order to produce a reliable and dependable result in this study, two major instruments were used for data collection. These were questionnaire and personal observation. This is in accordance with the view of Akuezuilo (1993) who posited that in survey, researchers utilize instruments such as questionnaire, interview and direct observation in investigations.

According to Jen (2002), questionnaire is an instrument that is used to collect basic descriptive information from large samples. A set of questionnaire was employed for the collection of data in this study. The questionnaire was divided into 6 sections numbered (1-6) the first section is for the personal data of the respondents which was used for identification and classification purposes. The other five sections (2-6) contained items which sought out data to answer the five research questions which guided the course of this research. The questionnaire

were both open ended and closed ended, the closed ended questions provided options itemized to help respondents provide relevant answers, while the open ended questions gave respondents the opportunity to express their opinions. The choice of this method of data was because the respondents were literate and capable of completing the questionnaire without any assistance from anybody. The questionnaire was accompanied by a letter of introduction to the respondents telling them the purpose of the study and soliciting for their cooperation in the study.

The researcher also employed direct observation as a tool to garner information. Observation is a process whereby the researcher will watch and evaluate the presence or absence of the Internet resources and other prevailing conditions in the selected libraries. According to Ekeh (2003), to observe means to watch carefully for the occurrence of variables, measures and record for the purpose of relating it to other variables. Observation helps to ascertain the authenticity of the availability of Internet resources and personnel in the libraries.

3.6. Validity and Reliability of the Instrument

The structured questionnaire was validated by supervisors and professional librarian to ascertain the reliability of the instrument for data collection. This was to ensure that the questionnaire was constructed in line with the ability and knowledge of the respondents.

To ascertain the reliability of the structured questionnaire for data collection, a pilot study was carried out using eight (8) library staff of Supreme Court Library, Abuja. The result of the pilot study was analyzed using the split-Half reliability method with its associated Spearman-Brown formula. The obtained coefficient of the questionnaire was 0.80 which the researcher considered reliable instrument for the research.

3.7 Procedure for Data Collection

The copies of the questionnaire were administered to the respondents by the researcher and research assistant. The researcher gave the respondents one week to fill the questionnaire, another week was added for follow up. Though, it took the researcher/research assistant another extra week to collect the completed questionnaire from the respondents.

3.8 Procedure for Data Analysis

The data collected through the questionnaire for this research work and observation were organized and analyzed using descriptive statistics so as to obtain answers to the research questions formulated. Frequency distribution tables and simple percentages were used to analyze the data.

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CHAPTER FOUR

DATA PRESENTATON AND ANALYSIS

4.1 Introduction:

This chapter presented, analyzed, and discussed the data that were collected for the study. The presentation and the analysis of data were done under the following sub-headings: Response Rate, The available Internet services use in the special libraries, Application of Internet services to special library services, Extent of the application of Internet in library services delivery, Levels of satisfaction in the application of Internet to library services delivery, Factors affecting the application of Internet services for effective service delivery in the special libraries. The findings were based on responses collected.

4.2 Response Rate

The field work was restricted to selected special libraries with Internet services in Kaduna Metropolis. However, six special libraries were used for the study. Fifty three (53) Library staffs were served with the copies of the questionnaire as respondents and fifty one (51) were completed and returned, this constituting 96.2%.

Table 4.1: Response Rate

Libraries	Questionnaire	Questionnaire	Percentage

	Distribution	Retrieved	(%)
Nigerian Institute for Trypanosomiasis Research (NITR)	20	19	35.8
National Water Resources Institutes (NWRI)	11	11	20.8
National Board for Technical Education (NBTE)	7	6	11.3
Court of Appeal	7	7	13.2
Federal High Court	5	5	9.4
Federal College of Forestry Research and Mechanization	3	3	5.7
Total	53	51	96.2

Details of table 4.1 revealed that six special libraries in Kaduna metropolis were sampled. Their representation showed that NITR had 19 respondents (35.8%), NWRI had 11 respondents (20.8%), NBTE had 6 respondents (11.3%), Court of Appeal had 7 respondents (13.2%), Federal high Court had 5 respondents (9.4%), and Forestry Research Institute had 3 respondents (5.7%).

4.3 Data Analysis and Discussion

This section analyzed and discussed the data collected in respect to research questions raised in the study. This data are analyzed and discussed.

4.3.1 Kinds of Internet Services used in Special Libraries in Kaduna Metropolis

The researcher tried to find out the varieties of Internet services used for service delivery in the special libraries. 12 items were listed for respondents to indicate the ones that were use in the libraries. Table 4.2 below shows the responses of the subjects on the use of Internet services in the libraries studied.

Table- 4.2: Kinds of Internet Services used in Special Libraries in Kaduna Metropolis

S/ No	Internet Services	Libraries						Total	
		NITR	NWRI	NTBE	Court of Appeal	Federal High Court	Federal College of Forestry	Freq	%
1	Electronic Mail (e-mail)	18	10	6	7	5	3	49	96.1
2	World Wide Web (www)	19	11	6	7	4	3	50	98.0
3	Internet chat	1	1	-	2	1	-	5	9.8
4	Internet Telephone	1	-	-	2	1	-	4	7.8
5	Electronic Library (e-library)	5	7	-	4	2	1	19	37.3
6	Web 2.0	2	2	-	2	-	-	6	11.8
7	Online Public Access(OPAC)	10	9	2	4	1	2	28	54.9
8	Own Website	18	10	6	7	2	3	46	90.2

The findings from the table 4.2 indicates that the librarians use four (4) out of the twelve (12) items listed for Internet services used in the libraries studied. The four that were mostly used were: Electronic mail (e-mail), World Wide Web (www), Online Public Access Catalogue and Own Website in the tune of 49(96.1%), 50 (98.0%), 28(54.9%), 46(90.2%) respectively. On the other hand, Internet chat, Internet Telephone, Electronic library, and Web 2.0 are not reasonably

used in the special libraries studied in the tune of 5(9.8%), 4(7.8%), 19(37.3%), and 6(11.8%) respectively, while Internet discussion group, Telnet services, video conferencing and tele-conferencing are not used at all. However, World Wide Web and e-mail services were found to be considerably used in the libraries studied. This confirms the earlier report of University Libraries (2003) that almost all the information searches on the Internet are handled through www, and also Kennedy (1999) observation that e-mail is the most used application on the Internet for communicating with others. This is because they are readily available for use in the libraries. This result implies that the use of Internet services in the libraries studied was not considerably high, but it is used in such a way that it enhances the quality of service delivery in the libraries. Therefore it could be deduced from the analysis that special Libraries in Kaduna metropolis are still trying to meet up with globalization and information technology.

4.3.2 Library Services Internet is applied for in Special Libraries in Kaduna metropolis

The researcher provided the respondents with the following library services from which they were asked to indicate the library services where Internet services are applied: (a) Acquisition (b)Cataloguing/Classification (c)Reference services (d) Current awareness services (e)Selective Dissemination of Information (f) Interlibrary Loan (g) Document delivery (h)Circulation (i)Bibliographic services (j) Preservation of materials. The data collected from the respondents are contained in table 4.3 below.

Table- 4.3: Library Services Internet is applied in Special Libraries in Kaduna Metropolis

Library Services	**Libraries**						**Total**	
	NITR	**NWRI**	**NTBE**	**Court of Appeal**	**Federal High Court**	**Federal College of Forestry**	**Freq**	**%**
Acquisition	11	8	3	4	3	1	30	58.8
Cataloguing/ Classification	12	9	4	4	1	2	32	62.7
Reference services	8	6	3	5	2	2	26	51
Current Awareness services	13	10	6	5	2	2	38	74.5
Selective Dissemination of Information	7	9	4	3	2	1	26	51
Interlibrary loan	2	1	-	2	1	-	6	11.8
Document Delivery	1	1	-	-	-	-	2	3.9
Circulation	5	5	2	3	2	1	18	35.3
Bibliographic service	7	4	-	1	1		13	25.4

Table 4.3 shows the response of respondents on the library services where Internet is applied in the libraries studied. These revealed that Internet services are applied in acquisition, cataloguing/classification, reference services, current awareness services, selective dissemination of information with 30(58.8%), 32(62.7%), 26(51%), 38(74.5%), 26(51%) respectively. Meanwhile, Internet services are not reasonably applied in interlibrary loan, document delivery, circulation and bibliographic services with 6(11.8%), 2(3.9%), 18(35.3%) and 13(25.4%) application respectively, while Internet is not applied at all in preservation of materials.

Based on the analysis, it could be seen that Internet services are applied in most of the library services rendered to the clientele in the special libraries in Kaduna metropolis to a certain degree. These proved the report of Butt, Qutab and Mahmood (2011) in their study on Internet use in library functions in libraries of Lahore that Internet is applied mostly in acquisition, cataloguing/classification, reference, document delivery, current awareness service, selective dissemination of Information and inter-library loan to enhance service delivery and to save time. This implies that application of Internet services in the services of the libraries studied is not significantly high. Although it is applied to the extent that it helps the libraries to perform their functions effectively and efficiently and also the patron to get satisfactory answers to their queries within a shortest time. This means that special libraries in Kaduna are making effort at computerization of library resources and services.

4.3.3 Extent of the application of Internet in Library Services

The respondents were asked to indicate the extent of the application of Internet in library services offered in the libraries. Their responses are presented on the table 4.4 below.

Table- 4.4: Extent of the application of Internet in the libraries studied

Libraries	Level of Satisfaction										Total	
	Very large extent		Large extent		Unsure		Small extent		Very small extent			
	F	%	F	%	F	%	F	%	F	%	F	%
NITR	3	5.9	7	13.7	2	3.9	5	9.8	2	3.9	19	37.2
NWRI	3	5.9	5	9.8	1	2.0	2	3.9	-	-	11	21.6
NTBE	-	-	3	5.9	1	2.0	1	2.0	1	2.0	6	11.8
Court of Appeal	4	7.8	2	3.9	1	2.0	-	-	-	-	7	13.7
Federal High Court	1	2.0	3	5.9	-	-	1	2.0	-	-	5	9.8
Federal College of Forestry	-	-	2	3.9	1	2.0	-	-	-	-	3	5.9
Total	11	21.6	22	43.1	6	11.8	9	17.7	3	5.9	51	100

It is evidence from table 4.4, that Internet is applied to a very large extent in the library services with 11(21.6%). The table also shows that 22(43.1%) of the libraries applied Internet to a large extent. Also 6(11.8%) of the libraries were unsure of the extent of application of Internet in their library services, while 9(17.7%) of the libraries applied Internet to a small extent. Moreover, 3(5.9%) of the libraries applied Internet to a very small extent in their library services. This proved the point of Okafor (2011) on the extent of Internet use in the Institutions

studied that the librarians and academicians utilize the Internet very much in carrying out its services and research with University of Ibadan 69.4%, University of Benin 60.4%, University of Agriculture, Abeokuta 57.1%, University of Nsukka 53.6%, this help in meeting the information needs of the users. This implies that the application of Internet to a large extent in library services contributes to effective and efficient services delivery.

4.3.4 Extent of Satisfaction Derived in the Application of Internet Services for Service Delivery.

The respondents were requested to indicate their extent of satisfaction with the application of Internet services for service delivery in their library in order to ascertain how satisfied they are with the application of Internet services. Their responses are analyzed in table 4.5.

Table-4.5: Extent of Satisfaction in the Application of Internet Services for Service Delivery

Libraries	**Level of Satisfaction**										**Total**	
	Very satisfied		**Satisfied**		**Unsure**		**Dissatisfied**		**Very Dissatisfied**			
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
NITR	4	7.8	9	17.6	2	3.9	3	5.9	1	2.0	19	37.2
NWRI	2	3.9	5	9.8	2	3.9	2	3.9	-	-	11	21.6
NTBE	1	2.0	3	5.9	1	2.0	1	2.0	-	-	6	11.8
Court of Appeal	2	3.9	4	7.8	-	-	1	2.0	-	-	7	13.7
Federal High Court	1	2.0	3	5.9	1	2.0	-	-	-	-	5	9.8
Federal College of Forestry	-	-	2	3.9	-	-	1	2.0	-	-	3	5.9
Total	10	19.6	25	51.0	6	11.8	8	15.8	1	2.0	51	100

The table 4.5 shows that a total of 10(19.6%) respondents were very satisfied with the application of Internet to services delivery in the libraries, 26(51%) were satisfied, 6(11.8%) were unsure, while 8(15.8%) were dissatisfied and 1(2.0%) was very dissatisfied. The analysis shows that a good number (70.6%) of the respondents derived satisfaction with the present application of Internet in services delivery in the libraries studied. This supports Osuala(2000), assertion that clients get satisfactory answers to their query/queries within the shortest time while librarians can perform their functions more effectively and efficiently with the help of the Internet. It also supports Mohammed(2007) findings on the use of ICT based resources and services in special libraries of kerala that a good number (56.4%) of the library staff and 50% of users of state Government institution libraries were satisfied with the availability and application of ICTs in their libraries. This implies that effective and efficient service delivery in the libraries is dependent on the availability and effective application of Internet services as observed by Rahman(2002), that the process of retrieval and dissemination of information services in libraries has witnessed a rapid growth because of the Internet services.

4.3.5 Factors Affecting the Application of Internet Services for Service Delivery in the Special Library of Kaduna State.

In order to ascertain the factors that hinder the effective application of Internet services to library services delivery, the researcher provided the respondents with 7 options to indicate the factors that affect their applications. The responses from the subjects are indicated in Table 4.6

Table 4.6: Factors affecting the Application of Internet Services for Services Delivery in the Special Libraries in Kaduna Metropolis

S/ No	Factors Affecting the effective application of Internet services	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Total	
		Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1	High cost of connectivity and Maintenance	13	25.5	20	39.2	7	13.7	7	13.7	4	7.8	51	100
2	Low bandwidth	14	27.5	27	52.9	6	11.8	4	7.8	-	0	51	100
3	Erratic power supply	11	21.6	23	45.1	4	7.8	11	21.6	2	3.9	51	100
4	Poor funding for Internet Services	10	19.6	26	51.0	4	7.8	9	17.7	2	3.9	51	100
5	Having problems with the browser e.g. poor connection, get disconnected and turning out.	10	19.6	21	41.2	3	5.9	14	27.4	3	5.9	51	100
6	Low level of computer literacy required for effective use.	2	3.9	22	43.1	7	13.7	12	23.5	8	15.7	51	100
7	Technology obsolescence	15	29.4	25	49.0	5	9.8	6	11.8	-	0	51	100

8	Lack of maintenance culture	17	33.3	28	54.9	2	3.9	3	5.9	1	2.0	51	100

The table 4.6 shows that 13(25.5%), 14(27.5%), 11(21.6%), 10(19.6%), 10(19.6%), 2(3.9%), 15(29.4%) and 17(33.3%) of the total respondents on each stratum respectively strongly agreed that high cost of connectivity, low bandwidth, erratic power supply, poor funding, poor connection, low level of computer literacy, technology obsolescence and lack of maintenance culture are factors affecting effective application of Internet services.

The table also show that 20(39.2%), 27(52.9%), 23(45.1%), 26(51%), 21(41.2%), 22(43.1%), 25(49%) and 28(54.9%) of the respondents respectively agreed with this view. It also indicated that 7(13.7%), 6(11.8%), 4(7.8%), 4(7.8%), 3(5.9%), 7(13.7%), 5(9.8%) and 2(3.9%) respectively remained undecided, while 7(13.7%), 4(7.8%), 11(21.6%), 9(17.7%), 14(27.4%), 12(23.5%), 6(11.8%) and 3(5.9%) of the respondents on each stratum respectively disagreed. Moreover, 4(7.8%), 2(3.9%), 2(3.9%), 3(5.9%), 8(15.8%) and 1(2%) of the respondents on each stratum respectively strongly disagreed. This analysis shows that a good number (54.9%) of the respondents agreed that the factors listed are responsible for ineffective application of Internet services in the libraries for quality service delivery. This is in line with Chiemeka and Longo (2007), and Oketunji (1999), who opine that erratic power supply, problem of technical staff, cost of connection, lack of sustainable wired and wireless network and exploitative local computer market are challenges of effective Internet connectivity. This implies that the factors listed hinder the effective application of Internet services in service delivery in the special libraries studied. Therefore, for effective application of Internet services for efficient service delivery in these libraries, all these factors must be tackled.

4.4 Analysis of open-ended questions.

A total of 32 suggestions were given by the library staff in response to the open-ended question seeking suggestions for improvement on the application of Internet services in the library. For the purpose of data analysis, suggestions were grouped into 3 categories: more funding and maintenance of Internet services, training of staff on ICT and provision of stable power source. Table 4.7 gives the categories of suggestions.

Table 4.7 Categories of Suggestions for improvement on the application of Internet services in the libraries Studied

S/NO.	Category 0f suggestion	Frequency	Percentage (%)
1	More funding for maintenance	8	25
2	Training of staff on ICT development	14	44
3	Provision of stable power source	10	31
	Total	32	100%

Of the 32 suggestions, 8 (25%) respondents suggested more funding for maintenance of the Internet, 14 (44%) suggested training of staff on ICT development, and 10 (31%) suggestions were related to provision of stable power source.

4.5 Analysis of the Observation

It was observed that Internet connectivity is available in the selected special libraries for accessibility by both the library staff and users. However, the researcher on a close observation noticed that most of the Internet services are not used in the special libraries studied.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter gives summary of the study, draws findings, conclusion and makes recommendations for effective application of Internet services in the libraries studied.

5.2 Summary of the study

The study investigated the application of Internet services for service delivery to some selected special libraries in Kaduna metropolis. The research major objectives were to ascertain the varieties of Internet services use in these special libraries, library services where the Internet services are applied in the libraries, extent of application of Internet in library services, extent of satisfaction of the library staff in the application of Internet services for service delivery and factors that affects the effective application of Internet services in the selected special libraries.

To achieve these objectives, the study raised five (5) research questions which are: what are the varieties of Internet services use in the special libraries in Kaduna metropolis?, what are the library services where Internet services are applied?, what is the

extent of application of Internet to library services in the special libraries?, to what extent are the library staff satisfied with the application of internet services in the special libraries in Kaduna Metropolis? And what are the factors that affect the effective application of Internet services to the special libraries in Kaduna metropolis? The population of study was the fifty three (53) library staff from the six selected special libraries. Purposive sampling method was used. This was because these selected special libraries have Internet connectivity which is accessible to both library staff and the users of the special libraries in Kaduna metropolis. Six structured questionnaire and observation were the instruments used to collect data for the study.

The structured questions was designed and used for all the fifty three (53) staff of the selected special libraries in Kaduna state. These libraries are: Nigerian Institute for Trypanosomiasis Research, Surami Road, National Water Resources Institute, Mando, Court of Appeal, Kawo, Federal High Court, Kawo, National Board for Technical Education, Bida Road, and Federal College of Forestry Research and Mechanization, Mando. Descriptive statistical tools such as simple percentages and tables were used to analyze the data.

5.3 Summary of Findings

Based on the data analysis, presentation and discussions, the following are the findings of the study:

1. The study found out that, the Internet services that are used in the special libraries in Kaduna are e-mail and world Wide Web, followed by own website and OPAC. However, Internet chat, web 2.0, e-library, Internet telephony were not reasonably

used in the special libraries in Kaduna, while Internet discussion group, telnet, video conferencing and tele-conferencing are not used at all.

2. The findings also revealed that the services where Internet services are mostly been applied to are in acquisition, cataloguing/classification, reference service, current awareness service, and selective dissemination of Information. These have helped to improve the quality of service delivery in the libraries studied.
3. On the extent of application of Internet in the library services. The study revealed that the libraries studied applied Internet to a large extent in their library services for effective and efficient service delivery.
4. The study also revealed that library staff of the selected special libraries derived high satisfaction in the application of Internet services in library services because it increases work efficiency.
5. The result of the study also revealed that majority of the respondents identified low bandwidth, poor funding, erratic power supply, and lack of maintenance culture as the major problems militating against the effective application of internet services for efficient service delivery in the selected special libraries.

5.4 Conclusion

In line with the findings of this study, the researcher concluded that special libraries in Kaduna state are still on the verge of meeting up with the global perspective of ICT compliance. This notwithstanding, the use of Internet services in the libraries studied was not considerably high, but it is used in such a way that librarians can apply them to library service to enhance the quality of their service delivery. Also,

librarians in the libraries studied derived satisfaction in the application of Internet in their libraries. However, several factors such as poor funding, erratic power supply, lack of maintenance culture and low bandwidth have been identified as major factors militating against effective application of the Internet services by the librarians.

5.5 Recommendations

Based on the findings and conclusion of this study, this work is recommending the following as a means of facilitating maximum application of Internet services to service delivery.

- Internet services should be adequately used by the special libraries in Kaduna metropolis in carrying out the housekeeping operations and services of the library, like acquisition, interlibrary loan, document delivery, circulation, serials management, bibliographic services and preservation of material for effective service delivery. This is necessary because Internet services are regarded as integral part of efficient library services.
- Because of the numerous advantages of Internet phone, discussion group, telnet, video conferencing and teleconferencing in services delivery, special libraries in Kaduna metropolis should begin to use them.
- Since librarians derive high satisfaction in the application of Internet services in library services, libraries administrations in Kaduna metropolis should make sure that there is steady power supply in the libraries for effective use of the Internet services for service delivery.

- The special libraries should make sure that Internet facilities are serviced regularly; fault should be promptly detected and corrected to enable the Internet to work effectively for efficient service delivery.
- In order for special libraries in Kaduna to provide effective service delivery, they should open an electronic library where the staff and the researchers who do not have good knowledge of ICT can be trained so as to develop the skill to exploit the information available for them in the Internet. A well trained librarian in ICT and Internet application can perform effectively and efficiently in his/her work place than the person who is not trained at all.

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Appendix 1

Department of Library and Information Science

Ahmadu Bello University,

P.M.B. 200,

Zaria.

Kaduna State.

Dear Respondent,

RESEARCH PROJECT QUESTIONAIRE

I am a Library and Information Science Student of Ahmadu Bello University, Zaria. As part of the requirements for the award of the MLS degree, I am undertaking a study on the Application of Internet for service delivery in some selected special Libraries in Kaduna metropolis." Your Library has been selected as one of the Libraries to be studied.

Could you kindly complete and return the questionnaire as your contribution to knowledge of ICT application will help in the research. All responses will be used for purely academic purpose and the anonymity of the respondent shall be guaranteed.

Thanks for your Co-operation.

Yours Faithfully,

Ikegwuiro Patience Uloaku.

Appendix 2

QUESTIONAIRE

SECTION 1: PERSONAL BACKGROUND INFORMATION

Please indicate your response with a "√" (tick mark) or write in the spaces provided.

1. Name of the Institution:
2. Name of the Library / Information Centre.
3. Category of Staff (a) Professional ……
   (b) Para- Professional …….
   (c) Non- Professional ……..
   (Please tick your highest qualification)

4. Qualifications of staff :

   a) PHD
   b) MLS / M.SC / MA
   c) BLIS / B.SC / BA
   d) HND
   e) ND /NCE
   f) SSCE
   g) Others (please specify)……..

5. Gender: Male ☐ Female ☐

6. Marital Status: Married ☐ Single ☐

SECTION 2: INTERNET SERVICES USED IN THE LIBRARIES

Please tick (√) in the appropriate space to show which internet services are used in your Library(s)

Serial numbers	Internet services	Used	Not Used
1	Electronic Mail (e-mail)		
2	World Wide Web (www)		
3	Internet chat services		
4	Internet discussion groups		
5	Telnet services		
6	Video conferencing services		
7	Tele conferencing services		
8	Internet Telephony		
9	Electronic Library (e-library)		
10	WEB 2.0 - RSS Feeds - Blogs - Wikis - Podcasting		
11	Own Website		
12	Online Public Access Catalogue (OPAC)		

SECTION 3: APPLICATION OF INTERNET IN LIBRARY SERVICES
Tick (√) to indicate the services where Internet is applied in your library

Serial Number	Library Services	Applied	Not applied
1	Acquisition		
2	Cataloguing/Classification		
3	Reference services		
4	Current Awareness services		
5	Selective Dissemination of information		
6	Interlibrary Loan		
7	Document delivery		
8	Circulation		
9	Bibliographic services		
10	Preservation of materials		

SECTION 4: TO KNOW THE EXTENT OF INTERNET APPLICATION IN LIBRARY SERVICES.
Tick (√) to indicate the extent of application of Internet in the library services listed below

What is the extent of application of Internet to library services in your library?

1. Very large extent [ ]
2. Large extent [ ]
3. Unsure [ ]
4. Small extent [ ]
5. Very small extent [ ]

SECTION 5: EXTENT OF SATISFACTION WITH THE APPLICATION OF INTERNET SERVICES FOR SERVICES DELIVERY IN THE LIBRARY.
Tick (√) to indicate your level of satisfaction in the application of Internet services in library service delivery.

How satisfied are you with the application of Internet in the library services?

6. Very satisfied [ ]
7. Satisfied [ ]
8. Unsure [ ]
9. Dissatisfied [ ]

10. Very dissatisfied [ ]

SECTION 6: FACTORS AFFECTING THE APPLICATION OF INTERNET RESOURCES FOR SERVICE DELIVERY IN THE LIBRARY.

Tick (√) to indicate your level of acceptance of the following as being the factors hindering effective use of Internet in your Library.

Serial Number		SA	A	U	D	SD
1	High cost of connectivity and maintenance					
2	Low bandwidth					
3	Erratic power supply					
4	Poor funding for Internet services					
5	Having problems with the browser e.g. Poor connection, get disconnected and turning out					
6	Low level of computer literacy required for effective use.					
7	Technology obsolescence					
8	Lack of maintenance culture					

Note: (SA) = Strongly Agree

(A) = Agree

(U) = Undecided

(D) = Disagree

(SD) = Strongly Disagree

Others (please specify)……

Suggest ways to improve the application of Internet services in the library.

1)……

2)……

3)……

4)……

5)……

Thank you