

**THE IMPACT OF INFORMATION TECHNOLOGY IN THE
INFORMATION SEEKING BEHAVIOUR OF LIBRARY USERS IN
BENSON IDAHOSA UNIVERSITY**

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DECEMBER,2022

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**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF
EDUCATIONAL MANAGEMENT (LIBRARY AND INFORMATION
SCIENCE), FACULTY OF EDUCATION, UNIVERSITY OF BENIN, BENIN
CITY, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
AWARD OF BACHELOR OF SCIENCE (B.sc. Ed) DEGREE IN LIBRARY
AND INFORMATION SCIENCE.**

DECEMBER,2022

CERTIFICATION

This is to certify that this project research work was carried out by Etinosa IGBINOVIA with matriculation number EDU1603092 and that the research work is adequate in scope and quality in the department of educational management, University of Benin, Benin City, Edo state, in partial fulfillment of the award of Bachelor of Education (B.Ed) degree in Library and Information science

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DEDICATION

I dedicate this work to God Almighty for making my dream and accomplishing this work and making this work a reality and most importantly for the completion of this work.

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I wish to acknowledge first and foremost, God Almighty for this divine direction and strength, God the Son and God the Holy Spirit.

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ABSTRACT

This study was carried out to investigate "The impact of information technology in the information seeking behaviour of library users in Benson Idahosa University ".
Twenty questions

This study adopted the descriptive survey design for the study and the major instrument for data collection was the questionnaire. The questionnaire was validated by the project supervisor. The targeted population of the study comprise of 335 students of library and information science, Benson Idahosa University, Benin, Edo state. A sample size of 101 respondents was selected using the McMorgan (2005) table for determining sample size.

The result from the study shows that the information seeking behaviour of students are changing rapidly due to the emergence of web resources and this has an impact on the information seeking behaviour of library users in Benson Idahosa Univerity, Benin City, Edo state. The Information Technology (IT) has enabled libraries to improve service deliveries to students of Benson Idahosa University, Benin City, Edo State. Most current information are recorded in electronic formats and made easily accessible and retrievable for library users in Benson Idahosa University

CHAPTER ONE

INTRODUCTION

Background to the Study

The rapid Increment of information in this present era has a noticeable effect and implication on education and library usage of university students. The importance of information to the academic success of undergraduate both full time and part-time students cannot not be over emphasized, (Mohd R.A Kadir, *et al*, 2018). Over time, students have exhibited one form of behaviour or the other associated with finding information mostly related to their academic activities. However, one of the most organized store houses of information where the students exhibit their information seeking behaviour is the library. That is why academic Librarians who have over the years developed interest in the area of users and their information seeking behaviour have been doing well in developing access points that best suits the language of different categories of users, (Hussin, 2018).

The 21st century is the epoch of transforming trends on every forefront, which has incredibly transformed the nature and behavior of individuals in the society which are real asset for development for each and

every of nation. The developments in Information Technologies (IT) and advancement in communication technologies have globally revolutionized the information society in every aspect. In view of the fact, to keep a constant pace with ever- changing trendy world the society has completely transformed from passive to active by adopting innovative measures to keep abreast of changing technologies. However, in order to achieve the feat, one of the key components is the availability of quality knowledge generating and disseminating centers called libraries. Since, there key task is of disseminating the information from the available collection as well as from the other institutional resources. In view of the fact, they play a crucial role by providing the necessary information required by the users for their research and developmental activities through a range of services and thereby help to spread the knowledge to the user.

In the present scenario, the developments in ICT have made considerable impact on all spheres of human environment. However, the impact has been rather well known in case of service activities such as banking, health, transportation, education and particularly libraries, which are directly involved in managing information life cycle (Patel and Patel,

2012). It has exerted a profound influence on traditional Academic Libraries in terms of information provision (Hussain, 2013). The innovations in information communication technology have influenced libraries to serve better and adapt the changes. Moreover, the libraries also changed drastically with service provision, collection development, human resource planning and training (Kadli and Khumbar, 2013). Accordingly, since the change is the law of nature and libraries are no exception to it, thus in order to keep pace with changing technological trends, to make certain their survival these institutions have to keep a close vigil on the transforming trends in learning and information seeking behavior of users for which the libraries in actual exists. In view of the fact, the library and information centers at universal level must be able to provide access to wide variety of information resources as per the learning and information needs of users which includes; Online databases across the country and worldwide, comprehensive statistical databases and content page services, full text information sources with key word searching and other related information resources (Hussain, 2013). In this context, all higher academic institutions preferably Universities have been greatly influenced by the

introduction of Information technology in their services and activities and has surely influenced the information seeking behavior of users especially the Research Scholars in a dynamic pattern.

The present era is the information era" information has become a vital component for the growth and development of a society. With the development of Information and Communication Technologies (ICTs) information is being repackaged to users in various forms. The cyber space has also changed the need for information and it's seeking behaviour. In the traditional settings, information access and use were limited but the continuous growth of the web and associated technologies such as mobile devices and social networking has placed information on the part of daily life of almost everyone. In the course of daily life and activities one accesses and uses a variety of information systems and services ranging from communications, such as e-mail, to social networking, such as Facebook, to a myriad of web-based database systems and information services (Chowdhury, G. and Chowdhury,S., 2011). Each of these information systems is influencing the information seeking behaviour of students.

Researches reveal that with the emergence of web resources, the information seeking behaviour of students are changing rapidly all over the world (Moly, 2014). Olsen and Diekema (2012) mentioned that studying the way students find information is essential to understanding them as a user group, helping them find research more effectively and efficiently, and developing resources for their use. They also reported that most used sources of information by students are Google, Wikipedia, news websites, friends and family members, class notes, and selected subscription databases. Few students made use of physical libraries, librarians and information professionals, experts, books, magazines etc. Similarly,

According to a report of BBC News (2016), information seeking behavior of students has been the subject of much debate in recent years due to the mass availability of information on the web. Information-seeking is a special case of problem solving, It includes recognizing and interpreting the information problem, establishing a plan of search, conducting the search, evaluating the results, and if necessary, iterating through the process again.” Information seeking is used to describe studies how people react when they experience a need of information in order to

perform a task; involves cognitive, emotional and physical reactions; clarifying the need, expressing it, selecting among possible sources to satisfy it, interaction with potential sources, refining the results of interaction process. Ernest, Level and Culbertson (2015) conclude that research on information seeking by the general public, including research done in library settings, indicates that information sources are wide ranging. Almost all information seekers consult friends, family, and relatives. Many use the electronic media, including television. Among other sources are business firms, government agencies, professional persons, the mass media (including telephone books), and libraries. There are differences in the extent to which sources of information are used by students in different years of their studies. Apart from websites and web- based lecture notes, lack of awareness is the primary reason why undergraduate biology students did not use the library's electronic databases.

According to Christopher, (2014), Information seeking behavior is a natural and necessary mechanism of human existence, which a person may engage in when identifying his or her own need for information, searching for such in any way and using or transferring that information. Information

is the key resource that can bring about change and improvement in the society, it is imperative for the librarians to know the information seeking behavior of students within their locale, their searching skills and levels of satisfaction as they use library resources. Information is an important resource for individual growth and survival. The progress of modern societies as well as individuals depends a great deal upon the provision of the right kind of information, in the right form and at the right time. This would further assist librarians to understand how user's attitudes are influenced by various forces (internal and external) in the information environment and also help as a planning factor for the achievement of educational goals and objectives within the university system.

Markwei (2013) reveals that users face a number of barriers while seeking information, these include high cost, lack of information literacy, lack of time, lack of availability of relevant information and educational infrastructure, lack of confidence, etc. Navalur, Balasubramani and Kumar (2012) reveal that key word search, field search, phrase search, search with Boolean operators, wild cards and truncations are commonly known search strategies which are used by most of the faculty and research scholars.

Statement of the Problem

It has been observed by Raji, (2018), that the rate at which modern computer technologies is used in Academic Libraries activities and services in Nigerian tertiary institutions is poor, probably due to a variety of factors including human factors, fear, and the state of infrastructural development of the country. Managing the academic library information resources with traditional methods could no longer satisfy public demands for quick, convenient and simple inquiry services. Heavy manual work was so boring and dull which then brought about the need for the improvement of the library resource management level.

Despite the awareness of the potency of knowledge sharing and service delivery in the use of computer and other ICT tools in the library, there has not been a huge drift from the traditional/manual processes of carrying out library activities, only few libraries are semi- digitized and are semi-automated, a very reasonable number of libraries are yet to fully apply from the researchers pre-research, it was observed that could this be the case of Benson Idahosa University modern Information technologies in managing their information resources. This study therefore seek to discuss

the Impact of Information Technology in the Information Seeking Behaviour of Academic Library users of Benson Idahosa University.

Purpose of the Study

The purpose of this study is to investigate the Impact of Information Technology in the Information Seeking Behaviour of Library Users in Academic Libraries. This study aims to:

1. investigate the level of application of Information communication Technology tools in Academic Libraries.
2. find out the extent to which Information communication Technology is used by library users in Academic Libraries.
3. determine the impacts of ICT in the information seeking behaviour of library Users in Academic Libraries.
4. identify the challenges in use of Information communication Technology in academic library in Academic Libraries.

Research Questions

In order to guide the researcher to arrive at reliable results, the following research questions were formulated for the study:

1. What is the level of application of Information communication Technology tools in your Academic Library?
2. What is the extent to which Information communication Technology is used by library users in your Academic Library?
3. What are the impacts of ICT in the information seeking behaviour of library Users in your Academic Library?
4. What are the challenges in use of Information communication Technology in your Academic Library?

Significance of the Study

The study of the Impact of Information Technology in the Information Seeking Behaviour of Library Users, will be of value to the Library, Library staff, Library users, and researchers in Academic Libraries. The study will be useful to the library because it will aid the technological advancement of the library by ensuring easy, well organized access to library materials through the use of ICT and ensure that these materials can be delivered to library users in the comfort of their homes or offices. It will also ensure prolonged life span of library materials available in the library thereby increasing the information seeking behaviour of library users,

because the library will have online materials that can be accessed with the use of any Technological device such as laptops and mobile phones and this would will eradicate the problem of material loss, manhandling of library materials, physical damages and other unforeseen circumstances which could harm the library materials in the library.

The study will be important to Library Staff because it will help to increase their technological knowhow and computer skills and make library duties and activities easier for better rendering of services to users.

The study will also be useful to Library users because ICT will help influence their information seeking behaviour and place a reminder in their subconscious that they have remote access to the information resources housed in the library which can be accessed from any location provided there is an internet connection. This study will help analyse the importance of information and communication technology and how it affects the information seeking behaviour of Library users in Academic Libraries. It will also help the library understand the need for applying ICT into the library as well as the challenges that they might face why automating the library information resources.

It will also be very important to researchers, especially those who may wish to carry out further research on this topic. Furthermore, this study will point the way forward to address the challenges facing Mobile Libraries in Academic Libraries.

Scope of the Study

The study is focused on the Impact of Information Technology in the Information Seeking Behaviour of Library Users, how librarians organize library resources using the computer and other ICT tools and also how library users access this library resources making use of the computer as a retrieval tool. Effort will be made by the researcher to investigate the benefits of ICT and how it can impact on the information seeking behaviour of library users and also aid in managing the library resources, as well as the challenges faced by Academic Libraries in automating library information resources.

Geographically, this study is focused specifically on the library users of Benson Idahosa University Library, Edo state, Nigeria.

Operational Definition of Terms

Impact: a strong effect or influence that Mobile Library services have on the library for effective service delivery.

Information: are ideas, facts, imaginative works of the mind and data of value, potentially useful in decision making, question answering and problem solving. It leads to a state of knowing.

Information Seeking: involves the way people search for information they need, which includes how and where solutions to solve information problems are found.

Information Seeking Behaviour: is the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems such as a newspaper or a library or with computer-based systems such as the Internet. Information-seeking behaviour is the act of actively seeking information in order to answer a specific query. Information-searching behaviour is the behaviour which stems from the searcher interacting with the system in question. Information use behaviour pertains to the searcher adopting the knowledge they sought.

Information System: can be defined as a set of interrelated components that collect, (or retrieve), process, store, and distribute information to support decision making and control in an organization (Laudon & Laudon, 2010). It is an assembly of hardware, software, data, procedures, and people that produce information.

Information Communication Technology: the application or use of advanced technology especially computers and telecommunications) for storing, retrieving, and sending information. It is the use of any computers, storage, networking and other physical devices, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data.

Library: is a collection or group of collections of books and/or other materials organized and maintained for use (reading, consultation, study, research, etc).

Library Users: These are people who come into the library to access information materials to their information need. These users include pupils, students, teachers, scholars, scientists, business executives, government officials and even dropouts. Large numbers of people also turn to public libraries to satisfy their desire for knowledge or to obtain materials for some kind of leisure-time activities.

CHAPTER TWO

LITERATURE REVIEW

INTRODUCTION

This chapter presents a comprehensive review of related literature on The Impact of Information Technology in the Information Seeking Behavior of Library Users. It is reviewed under the following headings:

- The concept of Information Technology
- The concept of Information seeking behavior
- The application of Information Technology tools in Academic Libraries
- The impact of Information Technology (IT) in the information seeking behavior of library Users in Academic Libraries
- The challenges involved in the use of Information Technology in Academic Libraries.
- Summary of reviewed literature

CONCEPT OF INFORMATION TECHNOLOGIES (IT)

Information Technology (IT) has changed the traditional methods of library activities and services providing new dimensions for teaching, learning and research in higher educational institutions. Abubbakkar (2011) opines that it is possible to store, retrieve, disseminate and organize

information by creating websites and databases. Information is now published both electronically and by print making it accessible to users according to their demands. It is important to assess the Information Technology (IT) applications in library and information centers in the context of changing user needs.

Academic Libraries in Nigeria are realizing the need to move from their isolated past into integrated systems and networked operations, (Igbuzor, 2011). Khalid (2015) observes, networked and integrated functions draw on the experiences of the evolution of libraries in developed countries. Academic Libraries in Nigeria are trying their best to catch up with their counterparts in the developed world. Making use of ITs in libraries have enormous potential in management of vast resources explosion and the development in Information Technology. To exploit the immense resources available in the global information village, a library must be computerized, and Academic Libraries in particular stand to gain by joining the trend if they are to remain relevant to the community.

The of concept ITs in library originated quite some decades ago in the more technologically advanced countries of the world such as the United

States of America, Canada, Great Britain (Akintunde, 2011). Ibrahim (2012) in agreement said that the above development soon enable quick change from traditional and mechanized system of processing and retrieval of information into computer compatible systems. Obaseki (2017) defines Information Technology (IT) in library as the process of adequately utilizing computer hardware and software's and its varying facilities such as networking cables, software packages, scanners aid pointes in accomplishing library functions which were originally performed manually by the librarians. According to Obaseki (2017) computers have transcended the status of mere computing to communication as the uses of computers worldwide are primarily for communication data in networked environments". He opined that computerizing the library functions and services encompasses the initial:

- planning processes;
- Selection of hardware and software;
- Acquisition of selected hardware and software;
- Training of library personnel on the use;

- Maintenance of these novel system;
- Networking of computer terminals (inter linking of computers);
- Retrospective conversion of the library collections i.e. printed materials and artifacts records by means of computer software into machine readable options.

According to Gupta in Babafemi and Adedibu (2017) the major importance of ITs in library is the process of converting existing library services and practices to electronic-based media that ensures better performance with higher speed and greater cost effectiveness. The use of ITs allows units to work together as a department because each will be able to link up in a network within the library system.

INFORMATION SEEKING BEHAVIOR

Information seeking behavior is an area of dynamic interest among librarians, Information scientist, communication scientists, sociologist, and psychologists. Information seeking behavior is expressed in various forms, from reading printed material to research and experimentation (Bhatti, 2010). Information users make active and intentional attempts to seek up to date information from the library resources, including, electronic sources.

It is worthy to also note that the advent of information technology has revolutionized the field of library and information services and has brought about considerable changes in the information seeking behavior of users.

Information Seeking Behavior deals with the psychological behavior of the seeker. It involves the searching, locating, retrieving and using of information (Karunarithna, 2011). Wilson (2013) posits that, “Information seeking behavior is the purposive seeking for information as a consequence of a need to satisfy some goal. Information seeking behavior can be described as an individual’s manner of gathering and sourcing information for personal use, knowledge updating and development (Emmanuel, George & Oni, 2010).

Information seeking According to Amin and Shima (2017), is a basic activity indulged in by all people and manifested through a particular behavior. It is also an aspect of scholarly work of most interest to librarians who strive to develop collections, services and structures that facilitate information seeking. In the words of Aina, (2014) the information seeking behavior of users depends on education, access to library and the length of time a user devote to information seeking. He

went further to say that no matter how comprehensive the resources and services of a library are, it is important that the services are publicized widely so that users could seek information from the libraries. Baro, et al (2010) also revealed in their study that undergraduate students used the following search strategies when seeking information: starting (using lecturers or colleagues), browsing library collections on the shelves, chaining (using references at the end of books), differentiating, monitoring and extracting (using the card catalogue).

Information seeking is a human process that requires adaptive and reflective control over the afferent and efferent actions of the information seeker. Information seeking behavior (ISB) resulted from the recognition of some needs, perceived by the user, who as a consequence makes demand upon on formal system such as libraries and information center's or some other person in order to satisfy the perceived information need. The information seeking behavior essentially refers to locate discrete knowledge elements. It is concerned with the interactive utilization of the three basic resources namely, people, information and system. Further in order, to satisfy the information needs, the user

actively undergoes the information seeking process. The attempt of the user in obtaining the needed information results from the recognition of some needs, perceived by the user” (Singh & Satija, 2016).

ELLIS’S (1994) MODEL OF INFORMATION-SEEKING BEHAVIOR

Ellis first described his model of information-seeking behavior in 1984 and has since then developed the model in information-seeking studies of various groups of researchers. Ellis derived eight generic characteristics of the information-seeking patterns of social scientists. The figure given below is a stage process version of Ellis’ model.

The eight characteristics of Ellis’ model of information-seeking behavior represents the types of activities, rather than the stages that the users of information systems might want to accomplish through the systems and do not directly provide any design specifications for the systems. These are starting or surveying; browsing, chaining, monitoring, differentiating, extracting, filtering or verifying and ending.

- Starting: Starting activity is characteristic of the initial search for information and involves identifying the initial materials to search through and select starting points for the search.

- Browsing: Browsing involves a semi-directed searching in an area of potential interest as a monitoring activity going through the scanning of journals and tables of contents etc, to find the something of particular interest.
- Chaining: Chaining is when the information seeker follows the chains of citations or other forms of referential connection between materials to identify new sources of information. Chaining can be forwarded where the user is looking for new sources that refer to the initial source or follows footnotes and citations in an information source.
- Differentiating: Differentiating is characterized by activities in which the user ranks the information sources based on their relevance and value to his or her information need.
- Monitoring: Monitoring is similar to searching for the information for current awareness purposes where the user maintains an awareness of developments in his field of interest through the monitoring of particular sources.
- Filtering: Filtering involves the use of certain criteria or

mechanisms when searching for information to make the information as relevant and precise as possible, mainly through computerized literature searches.

- **Extracting:** The user systematically works through a particular source to locate material of interest in the extracting mode. This implies the selective identification of relevant material in an information source and represents a major feature of the information-seeking patterns of many researchers.
- **Ending:** Ending involves ‘tying up the loose ends’ through a final search.

According to Dattatray (2015), “Information seeking patterns are the paths pursued by the individual in the attempt to resolve a need.” Information seeking behavior is mainly concerned with who needs what kinds of information for what reasons, how information is found, evaluated and used. Wilson (2011) considers “Information behaviors are those activities a person may engage in when identifying his or her own needs for information, searching for such information in any way and using or transferring that information.”

To have an extended view, few concepts mined from definitions of

Wilson (2011) are given below: There are four concepts derived from the definitions. They are,

- **Information Behavior:** Information Behavior' can be described as behavior of human to sources and channels of information. This behavior includes both active and passive information seeking, that is to say, an active face to face discussion as well as information received through television that indicates a source of passive information. Information received in the concept does not serve any purpose.
- **Information Seeking Behavior:** Information seeking behavior is a purposeful attempt to seek for information and to satisfy the needs that arise out of a necessity to achieve an objective. Here, the information system is consulted either manually or through human computer interaction. In this process, the user consults books or journals or newspapers or any other manual resource or internet by applying information seeking attitudes in a broader sense, that is to say, macro level of application of behavior.

- **Information Search Behavior:** The strategies followed and attitudes applied in attempting in an in-depth manner to seek for information are known as information searching behavior. Micro level behaviors are employed in searching with the entire aspects of all the information systems. The micro level search patterns include activities from human computer interaction to physical and mental activities in searching for information.
- **Information Use Behavior:** The behaviors which are involved as to how the information sought is put to use are termed as. These behaviors are dealt with marking the information, adding it to the context to which it is sought, saving for further use, etc. These activities involve physical as well as mental acts.

THE APPLICATION OF INFORMATION TECHNOLOGY TOOLS IN ACADEMIC LIBRARIES

The emergence of the information revolution as championed by Information Technology (IT) has enabled libraries to devise viable strategies for improved service delivery (Igwe, 2010). Library uses various technologies to provide information to its users. Followings are the some of the IT tools

which are basically used for different communication purposes:

1. **Communication Technology:** Email is the most effective way of formal communication; it is the best system to exchange the messages and information in electronic format. Revolutionary changes have been seen in communication, because different types of information such as personal message, letter, article, computer programming files, pictures, sound, etc. are being possible to send or receive from any corner of the world within some fraction of second. At present, this is the most useful tool for different types of communication (personal, official communication, etc.). This tool can be used to provide the required information at the right time. At present, Libraries are using this live tool to serve the library users; through this, renewal or return (check-in) of library materials is basically asked. It can also be considered as a medium for faster information.
- **Voice mail:** is the new and innovative emergence of mail technology. We can also say it as an alternative to email technology. It helps to send the mail immediately through the voice.
- **Telephone:** is used for personal contact of the users. Generally, users

ask their queries regarding the resources and availability of the reading room. Even, they use the telephone for advance booking of carrels for reading and research purpose.

- **Fax (short for facsimile and sometimes called tele copying):** is described by Rouse (2006) as “the telephonic transmission of scanned-in printed material (text or images), usually to a telephone number associated with a printer or other output device. The original document is scanned with a fax machine, which treats the contents (text or images) as a single fixed graphic image, converting it into a bitmap. In this digital form, the information is transmitted as electrical signals through the telephone system. The receiving fax machine reconverts the coded image and prints a paper copy of the document”. This technology helps us for providing various services, such as to send official letter, communicate with the vendors, etc.
- **Videoconferencing (or video conference):** is explained as a “means to conduct a conference between two or more participants at different sites by using computer networks to transmit audio and video data. For

example, a point-to-point (two-person) video conferencing system works much like a video telephone. Each participant has a video camera, microphone, and speakers mounted on his or her computer. As the two participants speak to one another, their voices are carried over the network and delivered to the other's speakers, and whatever images appear in front of the video camera appear in a window on the other participant's monitor (Beal, n.d.)". This tool is used for the various purposes of the library activities, such as to conduct user orientation for students available at remote places. Basically, when students are out of the campus and they study in other universities under the student exchange program, that time, it is essential to use this technology to guide them about the use of resources.

- **Internet:** This is the most important component of Information Technology (IT). It is basically a network of networks that performs the connectivity among the computers. Internet provides the medium for communication using different online tools
- #### 4.2 Remote Control Technology:
- Remote control provides a platform to work with a remotely located

computer system. It is a great development in the field of technology. By using this technology, one can easily implement any kind of services sitting far away from the destination. This Information Technology (IT) is generally used for remote control, online meeting, desktop sharing, web conference and file transfer from one computer to others. One example of remote-control software is TeamViewer.

2. **Social Media:** social media like Facebook, Twitter, Blogs, etc. have become the central focus for quickest information dissemination. Most of the libraries are using these social media for the promotion or marketing of their e-resources. Basically, Blogs are used to disseminate short communication of library, whereas Facebook has become most useful IT tool for every kind of information dissemination. Now, Facebook live plays a very significant role for telecast the current ongoing program.
3. **Library Security:** The technology has a great contribution in the security of library through computer after having been civilized various technological processes. It can provide great security for the

reading material of the library. This security arrangement is provided by applying RFID technique.

- **RFID Technology:** New technology has changed the way of library transaction (check-in and check-out). Libraries are providing IT-based library services to increase the possible ways of fast and user-friendly services. One of the best inventions of technology for library is the ‘Radio Frequency Identification’ (RFID). Nowadays, libraries are adopting RFID technology to provide enriched and efficient library services. This technology achieves the fourth law of library science, (i.e., ‘save the time of the users’) by providing quick and effective services (Ranganathan, 1931).
 - **Closed-Circuit Television (CCTV):** CCTV stands for Closed Circuit Television and also known as video surveillance (Kumar & Svensson, 2015). This technology plays an important role in the library management. Through the help of CCTV librarian can supervise the whole activities of libraries. It helps to look after the staffs as well as the users.
4. **Digital Library:** The base of digital library is computer and

computer network because the reading material cannot be processed in the digital material without the computer and even no published books can be modified to digital form. In digital libraries the entire reading material like PDF, HTML, Audio, video, and services etc. also depend on computer and network.

- **Archiving, Preservation and Digital Repository:** It is a very difficult task in the libraries to preserve and archive manuscripts and ancient write ups and make those secure for future use. This work is being carried out with the help of computer, scanners and storage device, with the help of computer published writes ups can be modified to digital form and then can be stored in the form of computer hard disk and other media like CDROM, DVD etc.

5. **Digital Repository software** goals to provide a managed environment to store and retrieve digital objects, such as documents, images, audio/video clippings and their metadata. Repository software usually includes tools to allow curators and users to exploit the stored objects and their metadata. Variety kind of digital

repositories are being created today to serve the different communities information needs. To create a digital repository one needs digital repository software (Sastry & Reddy, 2010). There are many software to build digital repositories like Dspace, Eprints, Greenstone, etc. Dspace is much popular among the institutional repository software because of its simple workflow and consistency. It provides a best platform to archive the digital content. User community can be benefited using the institutional repository for research and learning.

6. **Resource Sharing:** Information Technology (IT) can be used for resource sharing among libraries and information centers. It provides a great prospect for sharing both the human and material resources of a library with others library. The role of technology is very much significant for cooperative acquisition, cooperative processing (cataloguing and classification), exchange of information materials (e-resources), joint publication, networking, joint training of personnel, interchange of staff for seminars, and workshops (Igwe, 2010).

7. **Use of Library Automation Software:** Library automation is the excellent way of reducing the human involvement for library services. The aims of the current automation technology is to provide maximum services in minimum time and lowest cost. Library automation is the application of Information Technology (IT), to library operations and services. Many library automation software's are available for library operation such as Libsys, Koha, SLIM21, etc. The functions of the software are to automate the library systems which covers acquisition, cataloguing, circulation, serials management, stock verification, etc. Information Technology (IT) is used in various library housekeeping operations as well as for different library activities and services. The details use of Information Technology (IT) are as follows:

- **Acquisition:** With the help of web, acquisition work has become very much simplified.

Order placing, duplication checking, price checking etc. are done very effectively using ICT technique. Receiving suggestions or

demands and placing the order for purchasing library materials have become easy through the online. As publishers and vendors are available through the website, such as Amazon, Flipkart, Infibeam, etc. the quantity of workload has reduced and due to this the time can be saved and make it applicable to the other services. Invoices can be downloaded from the Websites that make service faster and avoids postal delay. E-mail helps in sending reminders to the publishers, vendors and even to the borrowers of the books (Antherjanam & Sheeja, 2008).

- **Cataloguing:** There has always been awareness among librarians that without cataloguing and classification, the goal of making materials and information resources available would have been difficult. The advent and use of Information Technology) has made it possible for remote libraries to access the huge databases of big libraries in developed countries for the purpose of adopting or adapting their bibliographic data for their own library use; and indeed the online catalogues have transformed the landscape of cataloguing and classification (Adeleke & Olorunsola, 2010). With

the help of Internet and different web- sources, the cataloguing and classification work has been stress-free. The organization like Library of Congress has made the work possible to classify or catalogue a resources in the minimal time. The LC online catalogue is a database of records representing the vast collection of materials held by the Library of Congress. The online catalogue provides cross-references, notes and circulation status, as well as information about library materials still in the acquisition stage. LC catalogue records' information of different resources (books, serials, manuscripts, cartographic materials, computer files, sound recordings, music, etc.) are publicly available and it can be easily used for importing or copying data. All the functions of cataloguing have become possible through the use of library automation software. Importing bibliographic records from trusted online sites such as 'OCLC World Cat', 'Trove - National Library of Australia' have reduced a huge amount of time for cataloguing. Importing metadata through MARC format has made easy to the process of cataloguing and make it available as soon as possible to the users.

Resources such as book, microfiche, audio, videocassettes, CDs, pamphlets, and theses etc. are catalogued through importing bibliographic records; required fields are edited manually as per the library requirement. Automation software gives update to the user about the progress of the library materials. After the processing of books or any requested materials, the automatic reminder is sent to the users about the availability of books.

- **Classification:** With the technological development, the classification work has been possible through online tool. There are many online catalogue records available from where one can get the whole bibliographic record of the library resources. Along with the record, we can also get the classification number in the catalogue record. British Library catalogue, Trove-National Library of Australia's catalogue, Library of Congress's online catalogue can be used to search the catalogue record and data can be copied for own catalogue preparation. These libraries provide classification details in their catalogue record, but there are also some online resources where library resources/materials can be classified. OCLC

classify, LOC classification web and Web Dewey are the examples of online classification tools.

- **Serial Control:** Serials or periodicals are the backbone of the library. Automated serials management gives quickest information access about the particular resources. Below mentioned tasks can be accomplished through the software for serial control:
 - Current holdings status, Tracing missing volume and issue, Preparation of budget for periodical subscription, Preparation of periodicals list and its verification, Online Letters to publishers, vendors, etc, Processing of online electronic magazines and receiving copies of the periodicals, Preparation of New arrivals.
- **Circulation:** The use of electronic gadgets such as computer, barcode scanner and the library management software helps to perform circulation routine operations in an easiest and quickest way. After the invention of barcode technology, library transaction has become faster. Nowadays, for any type of communication we depends on the internet, email, telephone, etc. These technologies are also used in the library for the day to day activities of the

circulation. Basically, the following duties are performed in the circulation by using Information Technology:

- **Stock-taking/Verification:** The use of the computer in stock verification is the most important. The verification of the stock is carried out with the storage of library through the database in the computer. Stock available in the library is scanned through RFID reader/barcode scanner and data are collected. These collected data are compared with the available data in automation software. In this way, how many books have lost we can find out.

8. **IT and Library Services:** The following library services can be rendered using information technology (IT):

- **On-Line Public Access Catalogue (OPAC):** ICT has revolutionized the practice of cataloguing in the library. Using OPAC users can see the holdings of the library collections. It reduces the cost of maintaining a library catalogue. It also eliminates pen and paperwork, along with it helps in the preparation of union-catalogue. OPAC is the easiest way to get the information of collection, weekly new arrivals and other recent addition to the

libraries.

- **Reprographic Service:** Reprographic technology is used for the reproduction of the documents. Using technology, the photocopy and the reproduction of the documents has become very easy and accessible. In this technology, printed documents are converted into digital form, then photocopy is prepared. For the same, computer scanner and software is required. This service is provided to library users for photocopy of some pages of books, journal articles or other materials.
- **Selective Dissemination of Information (SDI) Services:** SDI involves the use of the computer to select from a flow of new documents, those of interest to each of a number of users. This process may be thought of as the inverse of information retrieval. In information retrieval, a user precipitates a search of a file of documents. In SDI a document precipitates the search of a standing file of user interests”. Through the computer, the profile and document of user are prepared and aligned. As per the need of the users or area of interest, various online databases, electronic

resources and other materials are viewed and selected; finally required information is sent to library users.

- **Document Delivery Service:** It is difficult for the library to procure every type of resources published across the globe because of financial constraints. So, the exchange of library resources such as books, journals, etc. among the libraries are very much essential. To overcome these problems computer and the internet have got a great contribution in DDS. Through this medium first document are converted into digital form after that these can be received at any place by users through electronic mail. Besides, the storage reading material like electronic periodicals, documents etc. can be disseminated to users on demand.
- **Bibliographic Service:** Through the computer, bibliographic services have become convenient. Nowadays, libraries and publishers are providing bibliographic service to the library users. Bibliographic software such as EndNote, RefWorks, Zotero and Mendely are very much helpful to compile the list of references for the research work.

- **Translation Service:** Mechanical translation is carried out with the help of Information Technology (IT). For this purpose, various online tools like Bablefish translator and Google translator can be used to make translation from foreign languages to English and vice-versa.
- **Database Search Guide:** At present, databases have become the central focus for exploration of varieties of the research problem. Researchers are using databases hugely for their research work. Searching and retrieving the online resources or data from the database has become very easy in the IT environment. Generally, libraries provide the database searching guidance through the library website. The search guidance helps to researchers and faculties for their research and learning.

THE IMPACT OF INFORMATION TECHNOLOGY (IT) IN THE INFORMATION SEEKING BEHAVIOR OF LIBRARY USERS

Information technology (IT) is a diverse set of technological tools and

resources used to communicate, create, disseminate, store, manage information and promote human activities. These technologies include; computers, internet, printer, scanner, photocopy machine, binding machine, laminating machine, broadcasting technologies (radio, public address speaker and television), projector and telephony among others, and are widely used in today's education field most especially Academic Libraries. Saleem (2013) defines information and communication technology as the application of computers and other technologies to the acquisition, organization, storage, retrieval and dissemination of information. Information Technology (IT) has therefore changed the face of all fields of human endeavor especially in the information seeking behavior of library users. Khan (2016) opines that Information Technology (IT) has transformed the information seeking behavior of library users as well as library services globally. Most current information are recorded in electronic format, and they are easily accessible and retrievable because Information Technology has contributed immensely to the performance of librarians in the discharge of their duties such as in cataloguing and classification, reference services, circulation management, serials control and e-library.

The Computer has brought in a new impact to the library and information usage. In libraries, information technology has assisted library professionals to

provide value added quality information service and give more remote access to the inter-nationally available information resources. Today's highly sophisticated information technology to facilitate the storage of huge amounts of data or information in a very compact space. Information technologies promise fast retrieval of stored information and revolutionize our concept of the functions of a traditional library and a modern information center, Tabusum, *et al* (2018). Recently technological developments have dramatically changed the mode of library operations and services Modern Information Technologies are impacting on various aspects of libraries and the information profession. Advancements in Information Technology (IT) and its wide spread is resulting in digital information sources and digital media replacing and becoming the dominant form of information storage and retrieval. Information Technology (IT) also survives and makes true rules of Library Science 'every reader his/her book/information', 'Save the time of the reader', 'Library is a growing organism'. Information Technology (IT) with its tremendous information sources, rapid transmission speed and easy access ensures the satisfaction of the user with complex demand, break down the distance barrier and shortened the time required and ensure the right information to the right reader at the right time. It also increases and solves the library's demand

of collection development. It is really an excellent tool for the Library information centers.

Information Technology (IT) has Impacted on the information seeking behavior of library users according to Saleem (2013) also by Khan (2016), they opined that: Information Technology (IT) helps to make users to indulge in information searching and helps them retrieve those information easier, Information Technology (IT) provides Multiple access and retrieval of information at a time, Information Technology (IT) also Facilitates the Speed in locating information resources, Information Technology (IT) provides users with the ability to Download as many documents and information resources as possible, unlike printed materials where users are allow to borrow two books at a time, Increases Accuracy in dictating errors when searching and retrieving information, provides Storage of retrieved information on external drive, enables Automatic arrangement of information resources most especially in library databases, provides Reliability of access and retrieval of information in the library system, Information Technology (IT) promotes Flexibility in the accessing, downloading and retrieving and storage of information resources,

Information Technology (IT) has also impacted in the information seeking behavior of users by saving the time of the library user.

Information Technology (IT) has impacted on every sphere of Academic Libraries activity especially in the form of the library collection development strategies. I.T presents an opportunity to provide value-added information services and access to a wide variety of digital based information resources to their clients. Furthermore, Academic Libraries

are also using modern Information Technologies to automate their core functions, implement efficient and effective library cooperation and resource sharing networks, implement management information systems, develop institutional repositories of digital local contents, and digital libraries: and initiate I.T based capacity building programs for library users, (Nwalo, 2012).

Adindu (2015), stated that, in some Academic Libraries, I.T has brought a special library service to the clients known as embedded librarianship whereby all departments in schools are provided online products/journals are mainly for their faculty, e.g AGORA etc. The faculty concerned is given a password to access it. Other e-journals available in Academic Libraries are DOAJ, (that is

Directory of Open Access Journal), AEJP (that is African e-journal Project) etc. Information Technology (IT) has brought unprecedented changes and transformation to Academic Libraries and information services, conventional LIS such as OPAC, users services, reference services, bibliographic services, current awareness services, Document delivery, interlibrary loan, Audio visual services and customer relations can be provided more efficiently and effectively using I.T, as they offer convenient time, place, cost effectiveness, faster and most-up-to-date dissemination and end users involvement in the library and information services process. The impact of I.T characterized on information services by changes in format, contents and method of production and contents and method of production and delivery of information products. Emergence of internet as the largest repository of information and knowledge, changed role of library and information science professionals from intermediary to facilitator, new tools for dissemination of information and shift from physical to virtual services environment and extinction of some conventional information services and emergence of new and innovational web based, (Adindu, 2015).

THE CHALLENGES INVOLVED IN THE USE OF INFORMATION TECHNOLOGIES IN ACADEMIC LIBRARIES.

The application of information technology in Academic Libraries has helped in providing a wide knowledge base for information seekers. New alternative to information has also been recorded. Gabriel (2016), stated that the older generation has been hesitant to use news technology and emphasized that Academic Libraries are in an excellent position to address this issue. Academic Libraries are prominent providers of the burgeoning array of information of use to information seekers for whom lifelong learning is increasing a priority and at the same time may be their first introduction to computer technology. There is thus a need to understand these technological issues from the perspective of both the older and younger users of Academic Libraries and the implications for successful information seeking. Ehikhamenor (2016) also raised issues of Limited Financial Resources, ease of use and accessibility as impediments to digital information, Shortage of I.T Facilities and I.T Skills, Poor maintenance of I.T Equipment, Lack of I.T Policies. Oghenetega, *et al* (2014), also listed some the challenges/Problems of using information communication technology in Academic Libraries.

- **Limited Financial Resources:** The acquisition and maintenance of the relevant equipment depends on the availability of fund. Mostly, there is paucity of funds in many libraries in Nigeria thereby, leading to inability to acquire, the necessary I.Ts that would enable them connect to the internet, make subscription to various online database and obtain software licenses.
- **Shortage of I.T Facilities and I.T Skills:** The computers are used to receive and store large volumes of information. Likewise, the internet accessibility is made possible through the use of computer, they are used to access Online Public Access Catalogue (OPAC) and also to perform many other routine activities in the library. Shortage of computers and other facilities remains a big challenge to many libraries. Many librarians also lack the I.T skills and this makes it difficult for them to embrace technological innovations. Lack of I.T skills places a serious restriction on the application of I.T to provision of library services. Most African countries do not have workable I.T policies which are to act as guideline for implementation of development plans and strategies. When I.T policies are not available

or adequately implemented, it can affect the sustainability of a nation's development.

- **Poor maintenance of I.T Equipment:** Many libraries do not have space and conducive environments for keeping I.T equipment. In addition, most of the I.T equipment are not adequately maintained in most libraries as a result of the maintenance cost which is usually very high. Also, as a result of lack of maintenance culture. Most of the equipment procured for the information technology was purchased from foreign countries and as a result of the nation's backwardness. In the use of I.T facilities, they lack information and experience personnel to effect repairs on the system during breaking down. Also when complains are passed to higher quarters or the government for consideration it goes through as long bureaucratic process.
- **Limited/Restricted access:** to users it could be said that special library are not effectively implementing the application of information technology to its services. Users of the library are restricted to the use of I.T facilities in the library because they are sacred of damaging the equipment. 24 hours 7 days of the week, the computer system and

other information users to the manual form of library servicers.

- Poor networking: When facilities are reluctantly switched on, the rate of downloading information are normally slow and in most case foil, when information is being shared from a far network.
- Lack of trained personnel: Nigerian special libraries that have managed to tap into information technology resources lack trained information technology experts. This fact has left the information technology services of the library performing little or no of its functions.
- Erratic power supply: The effective utilization of information and communication technology depends largely on effective and constant power supply. This is so, because cannot function effectively. It is therefore necessary that the institution or external system that wish to operate these technologies should make adequate provision for constant electricity supply since the electricity corporation in Nigeria now known as BEDC has become so epileptic. A generating set should be made available to supplement irregular electricity supply.
- Illiteracy: There is no gain saying the fact that illiteracy affects the

effective utilization of Information Technology (IT). This ascertain is evident in the fact that many student in the academic institute have little or no idea about these modern technologies or electronic wonder and because of their lack of awareness they tends to discard it use on the ground that these technologies can be done electronically, they can also be done manually. It is therefore imperative that these set of people should be given lesson on how operate and use these technologies.

- Lack of adequate infrastructure: The effective utilization of information technology can be hindered where there is no good roads, good telephone communication network, power supply etc. it is therefore, imperative that the institution should make adequate provision of these infrastructure facilities to enhance the effective utilization of technology especially in the public institution in order to enhance their effectiveness.

SUMMARY OF LITERATURE REVIEW

For effective coverage of the related available literature in this section, the review was stratified into five sub-heading thus: The concept of Information Technology, The concept of Information seeking behavior.

The study further examined the application of Information Technology tools in Academic Libraries, the impact of I.T in the information seeking behavior of library Users, and The challenges involved in the use of Information Technology in Academic Libraries.

The subheadings were fully explained to details and a great number of materials were consulted during the review, among them are journals, books and online search using various websites. Therefore, with regards to the insight given to the summary of the literature review, Information Technology (IT) can impact positively on the information seeking behavior of library users in Academic Libraries.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter is concerned with the method and procedures through which the study will be carried out. It will be presented under the following sub-headings: the design of the study, area of the study, population, sample and sampling technique, instrumentation, validation of the instrument, reliability of the instrument, method of data collection, method of data analysis, decision rule, and ethical issues

Research Design

The research design for this study was descriptive survey design. This is because the variables under investigation which are The Impact of Information Technology in the Information Seeking Behavior of Library Users. This type of research design is suitable for studies that are designed to find, describe, explain or report events in their real settings, as they are based on sample data.

Population of the Study

The population used for this study are the Library and Information

Science students of the University of Benin, which according to current statistical figure is a total of 335. This consists of all the students from 100 level to 400 level in Library and Information science student, Benson Idahosa University, Benin, Edo State. According to the data retrieved from the course representatives from each level, there exists a total of 89, 100 level students, 105, 200 students, 77, 300 level students and 64, 400 level students. The tabular distribution of the population of the study is presented in table 3.1.

Table: Population Size

S/N	Level	Population
1.	100	89
2.	200	105
3.	300	77
4.	400	64
	Total	335

SOURCE: Department of Educational Management

Sample size and Sampling Technique

The sample size for this study is 101 respondents. The researcher

adopted 30% of the total population as the sample size for this study. The sample size of 101 respondents is adequate for this study, because it is in line with McMorgan (2005) table for determining a sample size, He opined that, a sample size of 150 (30%) is adequate for a population size of 500 under study. As such, the adoption of a sample size of 101 for a population of 335 in this study is adequate for this study.

Table: Sample size

S/N	Level	Population	Sample Size (%)
1.	100	89	25
2.	200	105	30
3.	300	77	25
4.	400	64	21
	Total	335	101

Research Instrument

The instruments used for data collection was the Questionnaire titled: The Impact of Information Technology in the Information Seeking Behavior of Library Users Questionnaire (TIITISBOLUQ). The instrument was carefully selected

because it is perceived to be the most appropriate instrument with which data could be collected for the study. The questionnaire is made up of two Sections namely: section A and Section B. Section A contains the demographic information of the respondents while section B is comprised of twenty questions with the aim of answering the research questions. Each research question has 4 question items under it. The response is simply to tick (✓) against the chosen option. The response option includes SA- Strongly Agreed; A- Agreed; D- Disagreed and SD - Strongly disagreed.

Validation of the Instrument

The instrument was validated by the Project supervisor, who checked each item to ascertain if they agree with the research questions and objectives. Specific attention is expected to be given to the dependent and independent variables' relationship with the overall objective of the study. The researcher incorporated all the corrections into the final copy of the questionnaire.

Reliability of the instrument

To ensure the reliability of the instrument, the test-retest method of reliability was used to determine the consistency of the opinion of the respondents. The Pearson Product Moment Correlation Co-efficient r was used in analysing the

responses received from respondents. This yielded a reliability of 0.79 and it is considered adequate for this study.

Method of Data Collection

The questionnaire was self-administered by the researcher in order to ensure high rate of return and also to ensure that all respondents are given the opportunity to receive and complete the questionnaire. This will also enable the researcher to cover all the areas that was used for the study. A period of two weeks was used for the administration and completion of the questionnaire.

Method of Data Analyses

The statistical tools used to analyze the responses gotten from the questionnaire were, mean value, frequency count and simple percentage. The response options was graded on a 4 points likert scale as follows SA = 4points; A = 3 points; D =2 points and SD = 1point. Also the researcher computed the weighted mean for the items in the questionnaire on the 4 point likert scale of 4, 3, 2 and 1, a mean value of 2.5 and above was considered high while a mean value below 2.5 was considered low. The data from the checklist were analysed qualitatively to support or refute responses from the questionnaires. The information was interlaced in the work where applicable.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

This chapter presents the results and discussion of findings in line with the research questions asked. This chapter is discussed under following subheadings: Questionnaire response rate, Analysis of the respondents' bio-data, Answering of the research questions and Discussion of findings

Questionnaire Response Rate

Table 4.1: Questionnaire Response Rate

Number of Questionnaires Administered	Number of Questionnaires Returned	Percentage of Questionnaires Returned
101	100	99.9%

A total of 101 copies of the questionnaires were distributed to the respondents and 100 questionnaires were retrieved and found usable, thereby resulting to a response rate of 99.9%.

Analysis of the Respondents' Bio-data

Gender distribution of the Respondents

Table 4.2: Gender Distribution of the Respondents

Gender	Frequency	Percentage (%)
Male	37	37
Female	63	63
Total	100	100

Table 4.2 shows that there are more female respondents (63%) than their male (37%) counterparts. This implies that female students participated more in this study than their male counterpart.

Age of the Respondents

Table 4.3: Distribution of the Respondents by Age

Age	Frequency	Percentage (%)
16- 20 years	14	14
21 – 25 years	44	44
26 -30 years	38	38
30 years and above	4	4
Total	100	100

Table 4.3 shows the age distribution of the respondents. The Table reveals that 14% of the respondents are within the age bracket of 16- 20 years, 44% are within 21

– 25 years, 38% are with 26 -30 years while 4% are 30 years and above. This implies that majority of the respondents are within the age range of 26 -30 years.

Level of Respondents

Table 4.4: Level of Respondents

Level of Respondents	Frequency	Percentage (%)
100 Level	24	24
200 Level	23	23
300 Level	24	24
400 Level	29	29
Total	100	100

Table 4.4 shows the Level of the respondents. The Table revealed that 24% of the respondents are in 100 and 300 Level respectively, 23% are in 200 Level while 29% of the respondents are in 400 level. The implication of this is that majority of the respondents in 400 Level.

Answering of the Research Questions

Research Question One: What is the level of application of Information communication Technology tools in Academic Libraries?

Table 4.5: level of application of Information communication Technology tools

in Academic Libraries

Items	VH		H		L			VL		Total
	N	%	N	%	N	%	N	%		
Communication Technologies such as Emails, video conferencing	81	81	6	6	9	9	4	4	100	
Social Media	90	90	7	7	1	1	2	2	100	
Library Security	70	70	4	4	20	20	6	6	100	
Digital Library	94	94	4	4	1	1	1	1	100	
Resource Sharing	65	65	25	25	7	7	3	3	100	
IT and Library Services	70	70	15	15	10	10	5	5	100	
RFID Technology	60	60	8	8	32	32	-	-	100	
Closed-Circuit Television (CCTV)	50	50	6	6	26	26	18	18	100	
Digital Repository software's	81	81	6	6	9	9	4	4	100	

Table 4.5 shows the level of application of Information communication Technology tools in Academic Libraries. The Table revealed that the level of application of Information communication Technology tools such as: Communication Technologies such as Emails, video conferencing (87%), Social

media (97%), Library security (74%), Digital library (98%), Resource Sharing (90%), IT and Library Services (85%), RFID Technology (68%), Closed-Circuit Television (CCTV) (56%) and Digital Repository software's (87%), is very high in Academic libraries. This implies that Communication Technologies such as Emails, video conferencing, Social media, Library security, Digital library, Resource Sharing, IT and Library Services, RFID Technology, Closed-Circuit Television (CCTV) and Digital Repository software's, are highly applied in academic libraries.

Research Question Two: What is the extent to which Information communication Technology is used by library users in Academic libraries?

Table 4.6: The extent to which Information communication Technology is used by library users.

Items	Frequency	Percentage (%)
Very High Level	55	55
High Level	30	30
Low Level	10	10
Very Low Level	5	5
Total	100	100

Table 4.6 shows the extent to which Information communication Technology is used by library users. The Table revealed that 55% of the respondents indicated that the extent to which Information communication Technology is used by library users is very high, 30% indicated high level, 10% indicated to a low level while 5% indicated to a very low level. This implies that the extent to which Information communication Technology is used by library users is very high.

Research Question Three: What are the impacts of ICT in the information seeking behaviour of library Users in Academic Libraries?

Table 4.7: Impacts of ICT in the information seeking behavior of library Users.

Item	SA		A		D		SD		Total
	N	%	N	%	N	%	N	%	
Information Technology (IT) helps to make users to indulge in information searching and helps them retrieve those information easier	71	71	26	26	2	2	1	1	100
Information Technology (IT) provides Multiple access and retrieval of information at a time	65	65	22	22	7	7	6	6	100
Information Technology (IT) also Facilitates the Speed in locating information resources	77	77	15	15	3	3	5	5	100
Information Technology (IT) provides users with the ability to Download as many documents and information resources as possible	90	90	8	8	1	1	1	1	100
Increases Accuracy in dictating errors when searching and retrieving information	93	93	7	7	-	-	-	-	100
Provides Storage of retrieved information on external drive	81	81	6	6	9	9	4	4	100
Enables Automatic arrangement of information resources most especially in library databases	74	74	11	11	3	3	12	12	100
Provides Reliability of access and retrieval of information in the library system	60	60	35	35	5	5	-	-	100
Information Technology (IT) promotes Flexibility in the accessing, downloading and retrieving and storage of information resources	88	88	4	4	6	6	2	2	100

Table 4.7 shows that Impacts of ICT in the information seeking behavior of

library Users, they include: Information Technology (IT) helps to make users to indulge in information searching and helps them retrieve those information easier (97%), Information Technology (IT) provides Multiple access and retrieval of information at a time (87%), Information Technology (IT) also Facilitates the Speed in locating information resources (92%) Information Technology (IT) provides users with the ability to Download as many documents and information resources as possible (98%), Increases Accuracy in dictating errors when searching and retrieving information (100%), Provides Storage of retrieved information on external drive (87%), Enables Automatic arrangement of information resources most especially in library databases (85%), Provides Reliability of access and retrieval of information in the library system (95%), Information Technology (IT) promotes Flexibility in the accessing, downloading and retrieving and storage of information resources (92%). This implies that ICT has an impact in the information seeking behavior of library Users.

Research Question Four: What are the challenges faced in using Information

communication Technology in academic library?

Table 4.8: Challenges faced in using Information communication Technology in academic library

Item	SA		A		D		SD		Total
	N	%	N	%	N	%	N	%	
Limited Financial Resources	90	90	8	8	1	1	1	1	100
Shortage of I.T Facilities and I.T Skills	65	65	22	22	7	7	6	6	100
Poor maintenance of I.T Equipment	77	77	15	15	3	3	5	5	100
Limited/Restricted access	90	90	1	1	6	6	3	3	100
Poor networking	93	93	4	4	1	1	2	2	100
Lack of trained personnel	90	90	7	7	1	1	2	2	100
Erratic power supply	96	96	4	4	-	-	-	-	100
Illiteracy	94	94	4	4	1	1	1	1	100
Lack of adequate infrastructure	91	91	7	7	2	2	-	-	100

Table 4.8 shows the Challenges faced in using Information communication Technology in academic library. The Table revealed Limited Financial Resources (98%), Shortage of I.T Facilities and I.T Skills (87%), Poor maintenance of I.T Equipment (92%) Limited/Restricted access (91%), Poor networking and Lack of trained personnel (97%), respectively, Erratic power

supply (100%), Illiteracy (98%), and Lack of adequate infrastructure. This implies that there are Challenges faced in using Information communication Technology in academic library. which include: Limited Financial Resources, Shortage of I.T Facilities and I.T Skills, Poor maintenance of I.T Equipment, Limited/Restricted access, Poor networking, Lack of trained personnel, Erratic power supply Illiteracy, Lack of adequate infrastructure.

Discussion of Findings

This section discusses the findings of the study. The findings are discussed drawing inferences from author's views in the literature review and relating them to the researcher's point of view based on the result of the study.

Findings number one: there is a high level of application of Communication Technologies in academic libraries.

Research question one revealed that Communication Technologies such as Email which has been the most effective way of formal communication; is the best system to exchange messages and information in electronic format. Revolutionary changes have been seen in communication, because different types of information such as personal message, letter, article, computer

programming files, pictures, sound, etc. are being possible to send or receive from any corner of the world within some fraction of second. Voice mails are the new and innovative emergence of mail technology. We can also say it as an alternative to email technology. It helps to send the mail immediately through the voice. Telephones are now used for personal contact of the users. Generally, users ask their queries regarding the resources and availability of the reading room. Even, they use the telephone for advance booking of carrels for reading and research purpose. Other communication technologies include; Social media, Library security, Digital library, Resource Sharing, IT and Library Services, RFID Technology, Closed-Circuit Television (CCTV) and Digital Repository software's, are highly applied in academic libraries, these findings are in sync with (Igwe, 2015).

Findings number two: the extent to which Information communication Technology is used by library users.

Research question two revealed that the extent to which Information communication Technology is used by library users is very high and this finding is in agreement with Bankole and Otunla (2015) that information resources provided in hardcopies, such as books, journals, newspapers, magazines,

textbooks, and in electronic formats such as internet, CDROM databases, e-books e-journals, Online database, Online Public Access Catalogues, and other computer based electronic networks, are made available for dissemination, accessibility and retrieval, by library users.

Findings number three: the impact of Information communication Technology in the information seeking behavior of library Users.

Research question three revealed that ICT has an impact in the information seeking behavior of library Users. This finding is in conformity with Fasola (2015), Nwalo, (2012) and Taiwo, (2012) that ICT has an impact in the information seeking behavior of library Users. Information Technology (IT) has impacted on every sphere of Academic Libraries as well as how users seek and retrieve information in the library. I.T presents an opportunity to provide value-added information services and access to a wide variety of digital based information resources to users for easy retrieval. Furthermore, Academic Libraries are also using modern Information Technologies to automate their core functions, implement efficient and effective library cooperation and resource sharing networks, implement management information systems, develop institutional repositories of digital local contents, and digital libraries: and

initiate I.T based capacity building programs for library users.

Findings number four: the Challenges faced in using Information communication Technology in academic library.

Research question four revealed that there are Challenges faced in using Information communication Technology in academic library which include: Limited Financial Resources, Shortage of I.T Facilities and I.T Skills, Poor maintenance of I.T Equipment, Limited/Restricted access, Poor networking, Lack of trained personnel, Erratic power supply Illiteracy, Lack of adequate infrastructure. This finding is in conformity with IFLA (2010) that the Challenges faced in using Information communication Technology in academic library are: Limited Financial Resources, Shortage of I.T Facilities and I.T Skills, Poor maintenance of I.T Equipment, Limited/Restricted access, Poor networking and so on.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter focuses on the summary of the study, conclusion, recommendations and contribution to knowledge.

Summary of the Study

The study explored The Impact of Information Technology in the Information Seeking Behavior of Library Users. 335 respondents who are Library and Information Science students consisting of all the students from 100 level to 400 level in University of Benin, Benin-city, Edo State. The purpose of the study was aimed at: Investigating the level of application of Information communication Technology tools in Academic Libraries, Finding out the extent to which Information communication Technology is used by library users, determining impacts of ICT in the information seeking behaviour of library Users, Identifying the challenges in use of Information communication Technology in academic library. One hundred and one (101) copies of questionnaire were administered and one hundred was retrieved and found usable, representing a response rate of 99%.

The summary of the research findings are as follows:

1. Communication Technologies such as Emails, video conferencing, Social media, Library security, Digital library, Resource Sharing, IT and Library Services, RFID Technology, Closed-Circuit Television (CCTV) and Digital Repository software's, are highly applied in academic libraries.
2. The extent to which Information communication Technology is used by library users is very high.
3. Information and Communication Technology (ICT) has an impact in the information seeking behavior of library Users.
4. There are so many challenges faced while using Information communication Technology in academic library which include; Limited Financial Resources, Shortage of I.T Facilities and I.T Skills, Poor maintenance of I.T Equipment, Limited/Restricted access, Poor networking, Lack of trained personnel, Erratic power supply Illiteracy, Lack of adequate infrastructure.

Conclusion

Effective application of information technology in library impacts information seeking behavior of users which then transmits users' satisfaction. The present scenario demands the updated technology for the faster and approachable library services. Gradually, new technologies are developed, consequently there is the need to develop our skills and capacity to provide enhanced library services. Library resources must be used at a large amount. The successfulness of a library and the library professional always depends on the quality of the service. The emergence of ICT is the new paradigm to extend the level of library operation and services. So, it is inevitable for the library professionals to be updated with the technology for the own existence.

Recommendations

Based on the conclusions and findings from this study, the following recommendations are made:

1. Creation of library activities to generate Financial Resources,
2. Provision of ICT facilities and Training of library staff and users in order to curb shortage of I.T equipment and increase I.T Skills.
3. Cultivation of Proper maintenance culture of the Library's I.T Equipment
4. Provision of access to ICT facilities for users to familiarize themselves

with.

5. Provision of good network providers to eradicate the issue of Poor networking.
6. Acquisition of trained I.T personnel,
7. Provision of generating set to tackle Erratic power supply

Contributions to Knowledge

This study has no doubt contributed to the body of existing knowledge in a number of ways:

1. The study has been able to establish that the application of ICT in the Academic library is to a very high level.
2. The study has been able to ascertain that the most of the respondents are of the view that ICT is in high usage in the library.
3. The study has been able to ascertain that there are many challenges faced while using Information communication Technology in academic library which include; Limited Financial Resources, Shortage of I.T Facilities and I.T Skills, Poor maintenance of I.T Equipment, Limited/Restricted access,

Poor networking, Lack of trained personnel, Erratic power supply
Illiteracy, Lack of adequate infrastructure.

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APPENDIX

University of Benin,
Department of Educational Management,
Library and Information Science,
Faculty of Education.

Dear Respondent

As part of the requirement for the award of Bachelor of Library and Information science (BLS) degree in the above-named institution and department, I am conducting a research **The Impact of Information Technology in the Information Seeking Behavior of Library Users in Benson Idahosa University**. Your assistance in the form of a sincere response will be of great help in fostering this study. All information provided promise to be purely for academic purpose. The respondents' identity will not be required or disclosed. Kindly answer the following questions as sincerely as possible to ensure the effectiveness of the study.

Thank you.

Yours Faithfully,
Igbinovia Etinosa.

SECTION A: Bio-Data

Instruction: please tick {√} where appropriate

1. Gender: Male { } Female { }
2. Age: 16 - 20 { } 21 – 25 { } 26 -30 { } Others { }
3. Level: 100 Level { } 200 Level { } 300 Level { } 400 Level { }

SECTION B

1. What is the level of application of the following Information communication Technology tools in your Academic Library?

	VH	H	VL	L
Communication Technologies such as Emails, video conferencing				
Social Media				
Library Security				
Digital Library				
Resource Sharing				
IT and Library Services				
RFID Technology				
Closed-Circuit Television (CCTV)				
Digital Repository software's				
Use of Library Automation Software				
Database Search Guide				

Key: VH (Very High), H (High), VL (Very low), L (Low).

SECTION C

2. What is the extent to which Information communication Technology is used by library users in your Academic library?

	Very high Extent	High Extent	Fair Extent	Low Extent
Communication Technologies such as Emails, video conferencing				
Social Media				
Library Security				
Digital Library				
Resource Sharing				
IT and Library Services				
RFID Technology				
Closed-Circuit Television (CCTV)				
Digital Repository software's				
Use of Library Automation Software				
Database Search Guide				

Key: VH (Very High), H (High), FE (Fair Extend), L (Low Extend).

SECTION D

3. What are the impacts of ICT in the information seeking behavior of library Users in your academic library?

	SA	A	SD	D
Information Technology (IT) helps to make users to indulge in information searching				
(IT) helps them retrieve those information easier				
Information Technology (IT) provides Multiple access to information				
(IT) helps retrieval of information at a time				
Information Technology (IT) also Facilitates the Speed in locating information resources				
Information Technology (IT) provides users with the ability to Download as many documents and information resources as possible				
Increases Accuracy in dictating errors when searching and retrieving information				
Provides Storage of retrieved information on external drive				
Enables automatic arrangement of information resources most especially in library databases				
Provides reliability of access and retrieval of information in the library system				
Information Technology (IT) promotes flexibility in the accessing and downloading				
Information retrieving and in the storage of information resources				

Key: SA (Strongly agree), A (Agree), D (Disagree), SD (Strongly disagree)

SECTION E

4. What are the challenges faced in using Information communication Technology in academic library?

	SA	A	SD	D
Limited Financial Resources				
Shortage of I.T Facilities				
I.T Skills				
Poor maintenance of I.T Equipment				
Limited/Restricted access				
Poor networking				
Lack of trained personnel				
Erratic power supply				
Illiteracy				
Lack of adequate infrastructure				

Key: SA (Strongly agree), A (Agree), D (Disagree), SD (Strongly disagree).