

**ACCESS TO AND USE OF INFORMATION RESOURCES BY STUDENTS IN
POLYTECHNIC LIBRARIES IN NORTH-EASTERN ZONE OF NIGERIA**

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APPROVAL PAGE

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CERTIFICATION

This is to certify that, the research work for this dissertation and the subsequent presentations of this dissertation by Suleiman Bala Abdul (SPS/15/MLS/00011) were carried out under my supervision

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DEDICATION

This work is dedicated to my parents, Alhaji Bala (Yaya Bala) and Hajiya Juwariyya (Goggo Ladi) and to my beloved wife, Hindatu Yakubu Muhammad and my little daughter Khadija Suleiman Bala (Na'na) whose companion gives me joy and encouragement towards ensuring the successful completion of this programme.

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ABSTRACT

This study investigated the access to and use of information resources by students in polytechnic libraries in north-eastern zone of Nigeria. The objectives of the study were to determine the types of information resources available; the extent of access to information resources by students; the extent to which the information resources are used by students; the extent to which the users are satisfied with the information resources and the challenges associated with the access and use of information resources by students. The study adopted a quantitative methodology using survey research applying the cross-sectional design to collect data. North-eastern zone of Nigeria has eight (8) polytechnic libraries and five (5) were used as sample for this study. A total of 411 copies of the questionnaire were distributed among students in five (5) polytechnic libraries in north-eastern zone of Nigeria and 367 copies of the questionnaire were returned and found useful having a response rate of 89.3%. Interview was conducted with the heads of readers' services in the polytechnic libraries. The data collected were analyzed using descriptive and thematic analysis. Findings of the study showed that the polytechnic libraries studied had various types of information resources available; and the information resources available were fairly accessible to students. Also, majority of the polytechnic students did not use information resources because they lacked knowledge of how to search for and retrieve information resources and help was inadequate to assist them in using the information resources. The few that used them made use of encyclopedias, dictionaries, newspapers and Internet resources mostly to review literatures for research work and for their assignments. It was also found that the extent to which information resources were used among students was not too high. Challenges such as inadequate facilities, epileptic power supply, and poor search skills were common among the libraries. Recommendations were made based on the findings of the study that included among others the need for polytechnic students to be taught about strategies to access information resources in order to improve use, thus, the need for library management to organize user training continuously to equip the students with the necessary skills needed for its effective use.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Information can be referred to as anything that adds to our existing knowledge, ideas, skills and experiences positively or negatively that enables us to take decisions or react to situations. It is also considered as knowledge communicated or received on a particular subject, phenomena or event. Mohammed, (2014) stated that information is an essential resource to all human beings irrespective of communities, societies and nations need to have access to and use at all times to survive, develop and advance in all forms of endeavour. Information is now considered as the fifth factor of production since it is needed in all stages of human development, irrespective of the format, information resources suitable for programmes available in the institutions should be made access to and use in order to support activities and development of users in all types of libraries.

Polytechnic libraries exist to support their polytechnics whose aims are advancing the frontiers of knowledge by helping enlarge human choices, skills and capabilities by developing human resources. Polytechnic libraries exist to provide their users with information resources to meet their varying information needs, most importantly they should be such that they are geared towards ensuring access to and use of the libraries' information resources (Odunewu and Omagbemi, 2012). Libraries therefore play a vital role in ensuring the availability of information and in the general development of any society by enhancing the cause of education and academic

research. Thus, libraries cater for the information needs of users by providing information resources and services to satisfy their information needs by making those information resources accessible and be used by their users.

Access to information resources in polytechnic libraries is very important such that access leads to invariably use of the information resources. In view of this, Aboro, (2011) in his study identified access as one of the prerequisites of information use. This shows the importance of not only availability of information resources but also its access for use by users of polytechnic libraries.

Use of information resources in polytechnic libraries is the process which information resources are being utilized. It is the maximum usage of information resources since it is expected that all types of information resources available in polytechnic libraries and students should be encouraged to utilize them. The use of various types of information resources both print and non-print by the academic community allows for access to wide variety of information which is essential for scholarly activities. In order to effectively utilize the constantly increasing information resources, the students are expected to acquire all skills required to exploit them. As such, it is expected that students should be encouraged to use all types of information resources which could enable them utilize those resources for their academic development.

Although, there are quite a number of studies focused specifically on access to and use of information resources by students in academic libraries, Okafor and Nkwoma, (2013) stated that, “the effectiveness of academic libraries has often been measured by the volume of library materials available to clients, the amount of use of services

and resources, and the apparent or quantified satisfaction of clients, very little research has taken into account be objectives of the clients”. Their articles deal mostly with library usage of students and their academic achievements. They examined the number of times each student visited the library and whether there was any correlation between the library visit, the grades achieved, and the diversity of resources the student used in the library. Their study does not ask the students why they use the library, but what resources and services they used in the library, and the impact these had on their academic success.

Therefore, it is important to note that information resources available in polytechnic libraries are important to the activities of the students and those resources also known as the holdings of the libraries containing information for use by their clientele. Information resources, according to the Encyclopedia of Library and Information Science is the sum total of library materials, books, manuscripts, serials, government publications, pamphlets, catalogs, reports, recordings, micro film reels, micro cards and micro fiche, punch cards, computer tapes etc that make up the holdings of a particular library. According to Anunobi and Okoye, (2012) “information resources today occur in hybridized form: print and non-print...” In this light Adomi, (2013) stated that polytechnic library’s information resources have been broadly classified according to formats which include: printed materials and non-printed materials. Therefore, information resources of polytechnic libraries irrespective of their formats have to be acquired, processed and made available to users by systematically arranging and organizing them, thus facilitating access to and use of the information resources by users of the library.

Information resources of polytechnic libraries are important to their users due to varying information contained in them to serve various users information needs. The importance of information to the users of the polytechnic library that form part of the user community is such that Aguolu, (2002) stated that information helps remove uncertainty, as such, the need for information resources access to and use by users with different information needs. Some of the functions of information resources in polytechnic libraries include: Writing Assignments, Research, Further Studies, Leisure, etc.

Aguolu, (2002) referred to information as “the message of human experience that is, what is transmitted, a signal, or a stimulus”. He further stated that it assumes a response in the receiver, and therefore possesses a response potential which can be made on any subject, in any language and in any medium. Therefore polytechnic libraries’ information resources are very essential and therefore should be accessed and used.

Despite the significance of information resources to users, it has been observed that users still find access and use of them difficult and have therefore not been able to fully exploit the information resources available. The users of polytechnic libraries include students, teaching and non-teaching staff. These users in order to benefit from the myriads of information resources of the polytechnic library require access to them for use. In this light, access to and use of polytechnic libraries’ information resources by users vary. Thus, most often students may bypass information resources in polytechnic libraries and access online sources such as Google; this is due to the perceived ease of use and simple familiarity with the search format.

In other words, many resources and services outside of libraries provide more options for users, such as Google Scholar, online blogs, Really Simple Syndication (RSS) feeds, Wiki, Open access publications and the like. It is now possible for users to be able to search for information in the internet by themselves without the mediation of librarian. Such convenience of being able to self-learn and self-search online provides users with an idea that everything can be found in the internet (Tao, 2012). This study therefore attempts to investigate into the level and extent of access to and use of information resources by students in polytechnic libraries in north-eastern zone of Nigeria.

One could say that the problem of access to and use of information resources by students in polytechnic libraries could be linked to the management of the information resources in terms of their proper and continuous organization that will in turn aid access and retrieval for invariable use by users. In line with this, Odumewu and Omagbemi, (2012) observed that collection management remains a problem in Nigeria's polytechnic libraries. Thus, the inability of academic libraries to organize properly and continuously their information resources would result in users not being able to access and use the information resources adequately.

While excitement has been brought by the information explosion, it is increasingly difficult for a user to quickly identify and locate potential useful information resource. Although in the past, it might have been difficult to find specific information and limited resources; today it is just as difficult finding needed information with seemingly limitless resources. We still face the same problem with

today's proliferation of information from them. A question most frequently asked even now is "where can I find this information?" (Rowlands and Nicholas, 2012).

With the above problems facing access to and use of information resources by students in polytechnic libraries, the research is quantitative in nature and the researcher employed the exploratory method which involves learning and investigation in addition to lookup efforts, where the seeker interacts with information systems to retrieve a wider range of information (Marchionini, 2013). The simple random sampling was also employed in order to generate the required information that was needed to draw conclusion on the research.

1.2 Statement of the Problem

Ideally, polytechnics being academic and research institutions, should have functional libraries to support their academic and research programmes. These libraries serve the purpose of providing current information to the user community which adds awareness or understanding of some topic, problem or event. Secondly, they provide information not only for leisure but also for education and research which supports the educational programmes of their parent institution and the research needs of students and faculty in this regard, the polytechnic libraries are expected to collect, organize and maintain their collections in a useful condition towards meeting the above needs. Information is the key asset to polytechnic libraries whose functions are to provide information in various formats and make them accessible for use. Therefore, the essence of polytechnic libraries is to ensure the full and proper use of their resources; thus, the essence of providing effective and efficient access to the

information resources in the polytechnic libraries would be inconsequential if the resources are not used by the intended users. It is therefore pertinent to state that the problems of use of information resources are mainly attached to the access of information resources (Misau, 2015). Thus, the access to and use of information resources is the backbone of the existence of any academic library attached to higher institution of learning (Misau, 2015). Hence, the effective and efficient learning as well as the development of research activities of students in the polytechnic library users depend ultimately on the extent to which the students have access to and use the information resources. As such their quest for knowledge and development of research may not be achieved without accessible information resources for them to use. Despite the importance of information resources to teaching, learning and research activities of the students, it is observed by the researcher that, information resources are still not adequately accessible and used by the intended students in the polytechnic libraries. Therefore, there is the need to fill the gaps in knowledge concerning the above problems, propelled the researcher into conducting of this study. It hoped that the findings of this study would serve as a framework and a guiding principle on how to access and use the information resources for the libraries under study.

1.3 Research Questions

This study aimed at providing answers to the following research questions:

1. What types of information resources are available in polytechnic libraries in north-eastern zone of Nigeria?
2. To what extent are the information resources accessible to students in polytechnic libraries under study?
3. To what extent are the information resources used by the students in polytechnic libraries under study?
4. To what extent are the students satisfied with the information resources in polytechnic libraries under study?
5. What are the challenges associated with the access and use of information resources in polytechnic libraries under study?

1.4 Research Objectives

In line with the above research questions, the objectives of this study were to achieve the following:

1. To determine the types of information resources available in polytechnic libraries under study.
2. To determine the extent of access to information resources by students in polytechnic libraries under study.

3. To establish the extent to which the information resources are used by students in polytechnic libraries under study.
4. To establish the extent to which the users are satisfied with the information resources in polytechnic libraries under study.
5. To determine the challenges associated with the access and use of information resources by students in polytechnic libraries under study.

1.5 Significance of the Study

Libraries help research potentials; therefore, information resources provided are highly essential in conducting research and the educational development of any discipline. Access to and use of information resources is the guiding principle of any library. This study on the access to and use of information resources by students in polytechnic libraries in north-eastern zone of Nigeria will be of significant value in many ways:

Firstly, it will assist the managements of the polytechnics as well as their libraries to re-adjust their service delivery with respect to information resources.

Secondly, it will help library administrators in planning for effective access to their information resources and also understand the challenges associated with its access to and use of information resources by the users.

Thirdly, this study will be beneficial to academicians, researchers, students and professionals interested in the area of study or who will further build on the area.

In conclusion, this study generally will serve as addition to existing body of knowledge in the area of information resources as they are applied to the access to

and use of information resources by users, which will hopefully serve as a spring board for more researches in the area.

1.6 Scope and Limitations

This study focused on access to and use of information resources by students in polytechnic libraries in north-eastern zone of Nigeria. Five (5) polytechnic libraries were sampled from among the polytechnics within the north-eastern zone of Nigeria. The polytechnics are: Federal Polytechnic, Bauchi, Bauchi State; Federal Polytechnic, Mubi, Adamawa State; Ramat Polytechnic, Maiduguri, Borno State; Abubakar Tatari Ali Polytechnic, Bauchi, Bauchi State; and Adamawa State Polytechnic, Yola, Adamawa State. As part of the limitations, this study was delimited to polytechnic libraries only, that is to say, other types of libraries within the zone, such as university or college libraries did not form part of this study.

1.7 Operational Definitions of Research Concepts

The following concepts were defined operationally within the context of this study:

Information: This can be simply defined as an added knowledge a user derived or added to someone or something.

Information Resources: This refers to the materials or records that contain information as held by the libraries.

Access to Information Resources: This refers to ease and convenience of contact and consultation of information resources.

Use of Information Resources: This refers to benefit derived from the use of information resources in libraries.

Polytechnic Libraries: Refers to those libraries established by polytechnic parent bodies to provide materials to support the teaching, learning and research objectives to their respective users.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter examines earlier works or investigations carried out by researchers in the area of access to and use of information resources. The following sub-headings were adopted to review the literatures:

2.2 Concept and Significance of Information Resources in Academic Libraries

2.3 Types of Information Resources Available in Academic Libraries

2.4 Access to Available Information Resources in Academic Libraries

2.5 Use of Information Resources in Academic Libraries

2.6 Users' Satisfaction with the Information Resources in Academic Libraries

2.7 Challenges Associated with the Access and Use of Information Resources

2.8 Theoretical/Conceptual Framework of the Study

2.9 Information Needs, Access and Use Model

2.10 Summary of the Review and Uniqueness of the Study.

2.2 Concept and Significance of Information Resources in Academic Libraries

Information constitutes a crucial component of development in all human endeavour and is essential in today's world such that without information no meaningful development would be made.

According to Muhammed, (2014) information can also be conceived as a byproduct of our conscious and unconscious actions and inactions that add to our existing

knowledge, ideas, skills experiences that enables us respond to a given stimuli instantaneously or at a later period of time as a form of reaction or decision taken or to be taken.

Harold, (2014) stated that information is that which is conveyed, and possibly amenable to analyze and interpretation, through data and the content in which data is assembled. The conceptions of information presupposes that it is a strategic resource and tool that all living beings regardless of categories, communities, societies and nations need to have access to and use at all time to survive, develop and advance in any type of endeavor. However, the extent of the relevance and usefulness of a piece of information therefore is contingent upon why and when it was sought for. In reality and practical sense, the retrieval, access and use of one type of information especially when access to and use successfully or not often leads to the need to retrieve or search for another one for use again and again without an end, hence, the cyclical and chain nature as well as the dynamic of information.

Resources are the information items acquired, processed and made available in the libraries for the users. They enable the libraries to fulfill the goal of meeting the information needs of the users. It is the duty of the librarians to ensure that good and relevant information resources are selected and acquired for the library. Ifidon, (2010) asserted that beautiful buildings, well trained staff and modern storage and retrieval systems cannot make a library without information resources. Aina, (2004) asserted that information resources is information and related resources such as personnel, equipment and information technology. Aina, (2004) further stated that, it involves library resources which include the caliber of staff and their information handling

skills, adequate finance, resources and availability of equipment for information acquisition, processing, storage and dissemination.

A resource is something that can be used to help achieve an aim, especially a book, etc that is capable of providing information; such items must be capable of being stored and retrieved. Resources are necessary documents needed in the smooth running of any organization or institution and many countries are making conscious efforts to provide improved facilities for the care of resources in form of resources centers, etc. Harold, (2014) gave an elaborate definition of information resources as, “All information resources setting out facts or events, irrespective of media, characteristics of origin, which is maintained by an institution or organization in transactions of its normal business or pursuance of its obligations.” Harold’s definition seems to be all encompassing, and the library as an organization cannot but develop a culture of maintaining information resources in whatever form which will serve as reference tools in helping the library fulfill its obligation for effective access to of its resources.

The information resources from which we secure and access any type of information are grouped into print and non-print resources. The print information resources are those resources with characters which are produced by mechanical or electronic means. They are texts or documents in hard copies which are acquired, processed and made available in the library to meet the informational needs of the users. They include monographs, (books) both reference and non-reference resources, serials publications such as newspapers, magazines, journals, etc. The non-print information resources are records of human knowledge or ideas that are not in print format but in

electronic formats which are referred to as e-resources that include the e-journals, e-books, e-serials, audio-visual, CDs, microfilms, microfiche, microforms, database, CD-ROMS, Internet and so on. They require the use of specialized or information and communication technology (ICT) equipment to access their intellectual content (Mohammed, 2014).

On the other hand, information resources in polytechnic libraries are those resources or the holdings of the libraries containing information for use by their clientele. Information resources according to Mclure, (2014) is the sum total of library materials, books, manuscripts, serials, government publications, pamphlets, catalogues, reports, recordings, micro film reels, micro-cards and microfiche, punch cards, computer tapes etc that make up the holdings of a particular library.

Also Savic, (2015) stated that information resource includes all forms of information carries that can be use to promote and encourage effective research activities and promote developmental projects. Bates and White, (2013) referred to information resources as the sum total of library materials, books, manuscripts, serials, government publications, pamphlets, catalogs, reports, recordings, micro film reels, micro-cards and microfiche, computer tapes etc that make up the particular holdings of a particular library. According to Anunobi and Okoye, (2012) “information resources today occur in hybridized form: print and non-print...” Polytechnic library’s information resources have been broadly classified according to formats which include; printed materials and non-printed materials (Oke, 2013). From the above assertion, information resources in polytechnic libraries are in two formats that is printed and non-printed, the non-printed which include electronic resources all of

which have to be acquired, processed and made available to users by systematically arranging and organizing them, thus facilitating access to, and use of the information resources by users of the library.

Also, information resources of polytechnic libraries are important to their users due to varying information contained in them to serve various users information needs. The importance of information to the users of the polytechnic library who form part of the user community as pointed out by Aguolu, (2002) is such that information helps remove uncertainty, as such, the need for information resources access to and use by users with different information needs. Some of the functions of information resources in polytechnic libraries include writing assignments, research, further studies, and leisure.

The significance of information resources of polytechnic libraries lies in their contribution to users' performance. According to Akinfemiwa, (2013) the importance of polytechnic libraries' information resources lies in its ability to meet the educational roles of the polytechnic which includes curriculum, teaching and learning, assessment and validation all of which can be adequately achieved with relevant information resources in polytechnic libraries. From the foregoing, information resources in polytechnic libraries are highly significant to the activities of the polytechnics; as such the significance of information resources cannot be overemphasized if the library's main aim is to support activities of its user community. In this light, surviving in the information age largely depends on not just availability of the information resources but being access to for use (Russel and Jirgi, (2013). Therefore, the primary task of polytechnic libraries is to acquire information

on resources that could be needed by user; the impact of a library in essence, can be significantly felt by users if only the materials are access to and use. Availability of information resources does not necessarily guarantee their access to and use. Aguolu and Aguolu, (2002) posit that books may be available in the library but at the same time inaccessible to users. The predicament in accessing needed information resources can lead to users' frustration and might relegate the importance of information resources in polytechnic libraries. Therefore, one of the major responsibilities of a library to its parent body is the supply of information resources for effective access to and use by its users.

The aim of polytechnic libraries is to support teaching, learning and research activities of its parent institution. According to Russel and Jirgi, (2013) polytechnic libraries support their institution in ways consistent with and supportive of the institutions missions and goals. Therefore, the polytechnic libraries information resources should effectively and efficiently support the polytechnics' curricula. In view of the foregoing, various scholars agreed that it is very important in the achievement of the parent institutions goals. Thus, the need to ensure access to and use of myriads of information resources in order to ensure the goals and mission of the polytechnics are met.

In conclusion, it is evident from the foregoing discussion that information resources are of enormous importance in the library services and it should not be overlooked. Also, from the foregoing discussion, so many authors have discussed on the types, benefits or significances of information resources but have failed to highlight the lapses of academic libraries on the need of educating the students on the importance,

benefits and significance of these information resources offers. Efforts should be made by academic libraries in Nigeria to imbibe the culture of making information resources available to students and orientating or teaching the students the benefits of these resources.

2.3 Types of Information Resources Available in Academic Libraries

Information resources play a significant role in the development of individuals, societies and nations. The need to access and use information by man for growth and development is crucial. In view of this, Mohammed, (2014) presupposes that information is a strategic resource and tool that all living at all times to survive, develop and advance in any type of endeavor.

Thus, Agyen-Gyasi, Lamptey, and Frempong, (2013) noted that information is now considered as the fifth factor of production since it is needed in all stages of human development. Academic libraries on the other hand provide information resources needed by the users to learn something new as well as satisfy their course/academic demands as such one of the primary objectives of any library is to maximize access to and use of its information resources.

Information resources play a significant role in the development of individuals irrespective of their category. Wihitmire, (2011) cited in Oyewusi and Oyeboade, (2013) asserted that academic library's information resources are considered a good measure of an institution's excellence and quality. Adeoye and Popoola, (2011) referred to libraries information resources as anything that can provide intellectual stimulation to the reader/learner and according to them, it includes: books,

periodicals, newspapers, pamphlets and ephemera, audio materials, film materials, graphic computers etc as well as individuals and objects. Adomi, (2013) classified information resources according to formats which includes printed and non printed materials. Thus, Popoola, (2012) affirmed that the information resources and services available in institutional information systems must be capable of supporting research activities among the students and school members. It is therefore evident that polytechnics exist with the aim of advancing knowledge, which could be achieved through access to and use of their libraries' information resources by its users (Odunewu and Omagbemi, 2012). Therefore, the significance of information resources to users of polytechnic libraries would be pointless without effective and efficient access to and use. Information resources are valuable to users of polytechnic libraries. In support of this statement, Adeoye and Popoola, (2011) noted that, the quality of teaching, learning and research, activities of students in any polytechnic depends on information resources and services of the polytechnic library. Therefore information should not only be available but its access to and use is essential to the teaching, learning and research, activities of users as well.

The value of information and by extension information resources of polytechnic libraries lies in its contribution to users' performance. Therefore, the significance of information resources cannot be overemphasized if the library's main aim is to support activities of its user community. Thus, surviving in the information age largely depends on not just availability of the information but being access to for use (Ogbomo and Ogbomo, 2012). In this light, the primary task of polytechnic libraries is to acquire information resources that may be needed by user; the impact of a library

in essence, can be significantly felt by users if only the materials are access to and used. Availability of information resources does not necessarily guarantee their access to and use. Aguolu and Aguolu, (2002) posit that books may be available in the library but at the same time inaccessible to users. The predicament in accessing needed information resources can lead to users' frustration. Therefore, one of the major responsibilities of a library to its parent body is the supply of information resources for effective use by its clientele.

Thus, the effectiveness of polytechnic libraries as an instrument of learning is determined by the success with which they are able to provide the user with relevant information. Agyen-Gyasi, Lamptey and Frempong, (2013) observed that the library's effectiveness was traditionally measured in relation to completeness and balance of collection, the adequacy of acquisitions, cataloguing, etc, however in recent times, the focus has shifted towards the other end of the knowledge communication process: the users. To this end, Dadzie, (2012) asserted that for information to be of optimal use, it must have the following qualities: relevance, accuracy, timelines, currency, completeness, clarity and cost-effectiveness. These qualities would therefore be foremost for most users. However, information and knowledge can be obtained from one's self, friends, peers or teachers, print materials, audiovisuals materials, databases and the Internet (Khan, 2013). More importantly to the user of an academic library is the ability to access various libraries information resources when needed for use.

Libraries as information resource centres identify, acquire, organize, preserve, and disseminate information resources either at the initiatives of the staff or at the request

of library patrons. Khan, (2013) is of the opinion that libraries Information resources are the stock in trade of librarians which are many and varied, they make services possible. Khan, (2013) further added that libraries as information resources centres identifies, acquires, organizes, preserves and disseminates various information resources either at the initiative of the library or request of the library user. In view of this, it is evident that libraries have various types of information resources to be accessed and utilized by its users. Dhiman and Rani, (2016) presented that, information resources in polytechnic libraries consist of print information resources, and non-print information resources, collectively both are known as information resources.

- i. **Print Information Resources:** Print information resources in the library are those items that are printed on paper which appear in book and non-book form. The uses of these materials must be able to read as that is the only way print materials can be used. Print materials consist of the following:
 - a. **Book:** A book is a print material printed and often bound in one or more volumes. It may be written by one or more individual persons or corporate bodies.
 - b. **Dictionary:** This is one of the print reference materials and it lists words or terms of general or particular subject, profession, usually providing certain basic information about them. Dictionaries are also arranged in an alphabetical order. Some of the basic information which a dictionary provides is words and terms include their meanings, spellings, origin, pronunciation,

use and abbreviations among others. There are both general and subject dictionaries. Examples include: Advanced Learners Dictionary, Longman Contemporary English Language Dictionary.

- c. **Directory:** is another reference material that lists persons, companies, institutions and organizations giving their names and addresses. There are directories for telephone services, government parastatals, trade and business, example; Nitel Telephone Directory.
- d. **Almanacs and year books:** are yet other types of reference materials. These two perform the same function or role of covering activities and events within a period of one year and presenting them in descriptive and or statistical form. Topics covered are politics, economy, business, culture, education, music, science and sports. Statesman's Yearbook, Whitaker's Almanac and Nigerian Year Book are examples of Almanacs and Year Books.
- e. **Handbooks and manuals:** are reference materials that provide relevant information in a concise form on different aspects of knowledge. Examples include Guinness Book of World Records. Other types of reference materials include abstracts, indexes, gazettes, gazetteers, biographies and bibliographies.
- f. **Serials / Periodicals:** These are information resources published in successive parts (daily, weekly, monthly, quarterly or annually) and intended to be continued indefinitely. Serials are also called periodicals and they are considered essentials in libraries. Examples of serials include journals, newspapers and magazines.

- g. **Government Publications:** These include all official documents published by all levels of government (local, state and federal). In addition to these are documents emanating from international organizations such as the United Nations and its agencies, African Union (AU), Economic Community of West African States (ECOWAS), Organisation of Islamic Countries (OIC) and Organisation of Petroleum Exporting Countries (OPEC). Documents ranked as government publications are published laws, acts of parliament. Military decrees, state edicts, by-laws, constitutions of countries, correspondences between the three arms of government, books and pamphlets emanating from government.
- h. **Maps and Atlases:** These are another type of print resources available in libraries; maps are drawings and illustrations of the earth's surface usually showing countries, rivers, seas, lakes and mountains. On the other hand an atlas is a collection of maps.
- i. **Pamphlets and Clippings:** A pamphlet or a piece of writing appearing with soft covers that deals with an issue of current interest. It is usually less than 50 pages. Clippings which are pieces of paper cut out from newspapers or magazines. Clippings which are also called cuttings contain very important information of current interest such as job advertisement.
- j. **Manuscripts:** These are books or paper written by hand or with a typewriter intended for publication. It is from a manuscript that books are subsequently published.

- ii. Non-print Information Resources:** These are library materials that are not printed on paper. They come in forms other than in book/non-book form and are also called audio-visual materials. Some of them are listened to, some are viewed while others can be both listened to and viewed. Non-print information resources being products of the new information technology cannot be used on their own like books, rather they require certain equipment to facilitate their use. The non-print information resources consist of: audio, visual and audiovisual.
- a. **Audio Information Resources:** These are information resources that can only be listened to but cannot be viewed or read. Examples include audio tapes or cassettes, phonon discs and other sound recordings. The use of these information resources requires good listening skill which is the only way to receive the information contained in them. Most of them require a radio-cassette medium or record player for their use.
- b. **Visual Information Resources:** These are those that can only be used by viewing as they do not have any sound and cannot be heard. There are many library materials in use today that fall into this category: Examples include:
- Transparencies: These are those with images that are seen only when light is passed through them. They include filmstrips and slides.
- Microforms:** These are information resources that contains information in greatly reduced form .Microform is composed of microfilms, microfiche and micro cards. Microfilm has become a great space saver for un computerized libraries as it is used to store back stock of newspapers with minimal space.

Transparencies require a projector in order to operate while microforms must be backed up with what is known as a Reader. This is equipment that enlarges and displays the words or pictures contained in the microforms.

- c. **Audio-Visual Information Resources:** These are materials that combine both the audio and visual effects in the transmission of information. The full benefit of these information resources is received when the user implores both his listening and viewing skills. Resources that are audio-visual in nature include television, motion pictures (sound film), veiled films and video disks. In addition to the above examples, advanced technology has provided other audio-visual materials such as computer aided compact disks (CD) and video compact disks (VCD). Equipment required to use these materials include film projectors, video players, compact disks players and computers. Due to the high cost of the equipment, some audio-visual information resources are not commonly found in polytechnic libraries of developing countries.

Although, most writers are of the view that libraries' information resources are broadly categorized into two major groups; print and non-print resources. Ogunmodede, Adio and Odunola, (2013) are of the opinion that they should be grouped into three. This could be in their bid to show distinctly advanced computer technology, thus their separation from other non print resources in polytechnic libraries. In view of the foregoing, Budd, (2010) observed that information resources have now change from print only to non-print resources, he also added that the advent of e-books and the internet has significantly changed the information landscape.

Polytechnic libraries collect a variety of materials for access to and use by library users. These resources include not only traditional print-on-paper media like books, journals, newspapers, and maps, but also audiovisual materials like records, audiocassettes, video cassettes and projectors. Thus, according to Halsey, (2013) libraries maintain collections that include not only printed materials but also art reproductions, maps, photographs, microfiches, CD-ROMs, computer software, online databases, internet, electronic books and e-journals and other media. In addition to maintaining collections within library buildings, libraries often feature telecommunications links that provide users with access to information at remote sites.

In addition, Gana, (2008) stated that library's information resources include everything that is used in providing the required services to the clientele. Also, Fayose, (2009) stated that library resources are those materials which enable libraries to carry their function out effectively which are made up of books and other information bearing media. These scholars view information resources of polytechnic libraries as those myriads of information bearing materials used to assist users to satisfy their various information needs.

In a study conducted by Adeoye and Popoola, (2011) in libraries of tertiary institutions, they observed that information resources fall into two major categories according to the level of scholarship and their function which includes study/teaching materials and research materials. According to them, study/teaching materials are the resources required by students for their study consisting of recommended textbooks, books to support class texts, journals, past examination papers, reference books,

monograph etc. While the research materials are used by higher students and lecturers. These are made up of periodicals, documents of different kinds, treaties, manuscripts, pamphlets, government publications conference proceedings and papers etc.

The library's information resources as used in this context are therefore collections of all text and bibliographic information sources; it also includes information technology such as those that support browsing, authoring and communication like computer and the Internet. In order for libraries to have a great impact of their services on their users, it is necessary for each library management to aim at managing the library accurately and by providing timely information for all library users. This can be achieved by acquiring both relevant library resources in non-book and book materials (Oyewusi and Oyeboade, 2013). A study carried out by Nwachukwu, Abdulsalami and Salami, (2016) revealed books to be the major information resources in the library. This implies that most of the scholars agreed that both books and non books are available in libraries. In this light, Adeoye and Popoola, (2011) cited Popoola, (2010) and Komolafe, (2008) that the provision and efficient access to and use of all types of information resources are central to any meaningful research, teaching and learning in tertiary institutions in Nigeria.

In conclusion, it can be seen from the above that library information resources cannot be effectively used without adequate provision which needs to be made easily access to library users. Although not all academic libraries provide adequate and relevant information resources and even in libraries where it is provided it is not put into maximum use. Furthermore, academic libraries exist for the acquisition of knowledge

and they have as their major function the provision of adequate information resources and it is their duty to ensure that these information resources are made available using the right strategy so that it can be optimally accessed and used by students.

2.4 Access to Available Information Resources in Academic Libraries

An effective information seeker accesses relevant information from appropriate information sources. Accessed information can only be useful when effectively interpreted. For effective information access to among the users of academic library, it is important to investigate in details how specific groups of these users access to and use information for meeting their daily information needs. A good academic library is evident in ensuring access to of its information resources. Therefore, providing such an effective system in terms of organization of information resources to aid access to has been the major emphasis of the most academic libraries.

Access to information resource is an important recurring theme in the literature. Associated with information resources characteristics, access to is a cost variable that has been investigated most thus far. Due to the complicated connotation of this concept, access to has been defined from different perspectives. Allen defined access to as “the degree to which one can attain meaningful contact with the channel without giving consideration to the reliability or quality of the information expected.” (Allen, 2011) it was also defined as the “expected level of effort required to use a particular information source”, (Culnan, 2013) or time and effort needed to approach, contact or locate the source (Marton & Choo, 2011). Rosenberg, (2010) used ease of use interchangeably with ease of access. Gerstberger and Allen, (2010), Allen, (2011),

and Culnan, (2013) used the general word “access to” to indicate the concept. The meaning of access to in their studies is “how easy it is to approach, obtain, or contact the channel without giving consideration to the reliability of quality of the information expected”, which is same as ease of the use or ease of access. Hardy, (2011) used ease of use (how easily the channel can be use to access information you want), timing saving ability (how much a channel can save you time by providing you needed information), and promptness (how much time it takes to deliver the information) to indicate the concept of access to.

Since time immemorial, libraries have always served as access points for information (Anunobi and Okoye, 2012). As such, information resources should not only be available but accessible to users for use in order to serve the purpose of the library’s existence. Thus, Eisenberg, (2006) quoted in Anunobi and Okoye, (2012) stated that access to information resources is very important. Ugah cited in Oyewusi and Oyeboade, (2013) opined that the more accessible information sources are, the more likely they are to be used and readers tend to use information sources that require the least effort to access.

Bamigboye and Agboola, (2012) observed that the traditional is gradually becoming a thing of the past as chapter and more up-to-date information materials become available on the internet. Thus, libraries are faced with immense challenges. Therefore, access to information resources in various formats can stimulate change and create an environment that makes learning more meaningful and responsive, therefore, the need for an effective system which would provide access to various information resources of the library.

According to Aguolu and Aguolu, (2002) resources may be available in the library and even identified bibliographically as relevant to one's subject of interest, but the user may not be able to lay hands on them. Therefore, the more accessible information sources are, the more likely they are to be used. Thus, readers tend to use information sources that require the least effort to access. These observations have been validated by empirical studies such as Slater, (2010) Allen, (2011) and Rosenberg, (2010) Aguolu and Aguolu, (2002) observed that users may encounter five possible types of in access to problems. These are conceptual, linguistic, critical, bibliographic, and physical in access to. Aguolu and Aguolu, (2002) notes that availability of an information sources does not necessarily imply its access to, because the source may be available but access to it prevented for one reason or the other.

O'Reilly, (2010) on the other hand, went further to measure resource access with three questions of "time, expense, and difficulty in obtaining information from the resources", "how easy is it to get at the information", and "how difficult is it to get information from the resources". Pinelli, (2007) defined access to as ease of getting an information source... Auster and Choo, (2009) used "time and effort needed to approach, contact, or locate an information resource" and. "how easy it is to get the desired information from that resource" to indicate the concept. In the preliminary review Fidel and Green's (2011) study, saving time, saving mental efforts, convenience of use of format, and maximum physical proximity were all described as access to.

Olowu, (2011) however identifies barriers to access of information resources and the library's poor reputation as the problems of access to and use of information sources. In this light, Iyoro, (2011) examined the impact of serial publications in the promotion of educational excellence among information professionals receiving further training at the Federal Polytechnic, Auchi. The study looked at the perception of how access to serial has contributed to students' learning process. Serials were found to play significant role in the acquisition of knowledge, because the serial collection was easily and conveniently accessible (Adeoye and Popoola, 2011). Irrespective of a library's, poor reputation, its information resources are relevant to students needs. Bamigboye and Agboola, (2014) cited Oketunji, (2010) that Internet gives us access to a wealth of knowledge and access to tools that facilitate research. This shows the importance of access to libraries' information resources irrespective of the type or form.

In a similar study by Oyediran-Tidings, (2016) at Yaba College of Technology, Lagos, access problems were attributed to low use of the library by students. Neelamegham, (2000) identified access as one of the prerequisites of information use while Kuhlthau, (2007) argues that the action of information seeking depends on the needs, the perceived access to, sources, and information seeking habits. Aguolu and Aguolu, (2002) revealed that efforts were being made worldwide to promote access to information in all formats, they lament the attendant problem of underdevelopment such as power failure, machine breakdowns, and lack of spare parts and technicians, which intermittently stall the performance of the modern gadgets of information storage and transfer in developing countries (Adeoye and Popoola, 2011).

In conclusion, all the studies reviewed above are conducted on the assumption that access to information resources is highly desirable in that it leads to increased productivity of work, learning, teaching and research. Without access to there cannot be used. Therefore, easy access is very important for maximum use to take place. Although not all academic libraries make the information resources accessible which make use difficult, therefore, it is necessary for academic libraries to develop various strategies in ensuring maximum use of information resources. This is what is expected of polytechnic libraries in north-eastern zone of Nigeria.

2.5 Use of Information Resources in Academic Libraries

Libraries are organized so that users can find the particular item or piece of information they are looking for from the collection for their use. It is the library that users learn the concept of searching for particular information items and using them. Abubakar, (2008) identified use as an activity which measures the worth of an item to a library or information center, use is the only criteria which could be employed to determine the reason for retaining a document within the collection of a library. The use of a library can be obtained from the demand of the items. Therefore, if the users have no demand for the information resources of a library, it means that the library does not have what they want; in this the library records low patronage. Use of information resources are usually determined by users' statistics which reveals the information resources consulted. The academic library has readers' statistics of subject areas of which the books and other resources removed from the shelves and consulted are recorded according to subject areas. This determines the actual use of library resources put in place by the library. This is why libraries must strive hard to

assuage the intellectual and information thirst and curiosity of their users by acquiring and processing various reading resources for the use of their patrons in order to justify their continual existence.

On the other hand, information resources in polytechnic libraries should not just remain idle in their respective place either on shelves, display racks, databases but their use should be facilitated for the resources to add value. Information resources use and invariably its usage may be limited by accessing irrelevant information and by poor information evaluation. In line with this, Choo, (2011) views information use as “a dynamic, interactive social process of inquiry that may result in the making of meaning or the making of decisions.” Unlike information need and information access to, information use has received less attention, and remains a poorly defined concept (Case, 2011; Taylor, 2010; Wilson, 2001). Thus, it is often linked to the concept of information need and access to, in that information is needed so that it can be used. When discussed, use is often addressed at an abstract level, with reference to the broad, general goal that the use of information will help to achieve. A study by Dorsch, (2014) identified lack of time, inadequate access to information sources, lack of skills, cost of information and geographical isolation as the major barriers to use of information resources. Moreover, poor reception quality of instruments used and difficult technical languages limit the usefulness of audio-visual information services. Literacy levels of information seekers also limit the use of information resources. Pinelli, (2007) defined ease of use as ease of understanding comprehending, or using information sources.

Early studies of the use of information resources (e.g., Menzel, 2007; Paisley, 2009) focused on information systems, at the time consisting primarily of paper-based library collections of books and journals. In these studies, use of information resources refer to the information packages (e.g., books, journals, online resources, etc). The concept of use of information resources is therefore historically associated with the resources themselves, rather than the information contained within. The emergence of self-serve searching and web has changed the way we now view the object of use from those physical items to the information chunks (Barlett and Toms, 2012).

Adeleke, (2012) asserts that if the library is to contribute to the advancement of knowledge, it must not only provide the resources but also ensure use of the resources by its clientele. Okiy, (2010) cited in Adeoye and Popoola, (2011) in support of this claim, posited that for the library to perform its role adequately, its resources must be effectively used. “Books are for use” as stated by Ranganathan, therefore information resources of academic libraries should not just remain idle in their irrespective place either on shelves, display racks, databases but their use should be facilitated for the resources to add value. In examining the value of information access to, a concept with clear links to use of information resources, Saracevic and Kantor, (2011) described a three-step model of information use, with the following components:

- Acquisition: getting information or objects potentially conveying information, as related to some intentions.
- Cognition: absorbing, understanding, integrating the information

- Application: use of the newly understood and cognitively processed information

This model clearly links the seeking and acquisition of information to its use; however, the discussion of use remains at a broad, conceptual level.

Use of information resources is the factor that drives need, since it represents the ultimate purpose for which information is needed and sought. Without consideration of information use, consideration of activities such as information retrieval is incomplete. It consideration of activities such as information seeking or information retrieval is incomplete. It is the use of the information resources that informs and drives the information seeking (access to). It is not surprising that one of the common questions to arise during a reference interview is to ask how the information will be used, or for what purpose it is sought. In the same way that the answer can inform the subsequent reference interaction, understanding information use can also inform how an information system is design and implemented. How then, is an understanding of information use to be achieved? Discussions of use in isolation from access to do not lend themselves to a comprehensive understanding of the process, was the information that was accessed and sought actually use to meet a goal or even possible to solve that goal? (Barlett and Toms, 2012). If the information resources were used, at what level was it was used. Therefore, use of libraries' information resources is linked with access to.

The library according to Ranganathan, (1931) quoted in Aguolu, (2002) is a “growing organism.” As a result of this growth, changes become inevitable especially with the

advent of ICT applications and evident in the way users' access and use information as well as how libraries are managing their information resources in the present age. These changes are also affecting Library and Information Science (LIS) professionals in new ways as never before (Mahesh and Mittal, 2013). Thus, the need for professionals to be skilled in many ways in order to optimize the use of the libraries resources since the success of academic libraries depends on the ability of users to use information sources to better serve the needs of the academic community. In other to ensure optimum use of polytechnic libraries' resources, the materials are organized and arranged in ways that do not only conform to standards but also to be understood by the users. These include collection development, cataloguing, user education, information literacy course or bibliographic instructions, marketing of the library's resource, reference services and library publications.

The advent of non-printed information resources requires new approaches of acquiring and accessing information resources and formats. This has resulted in a paradigm shift in the traditional ways of managing the use of academic library's resources as most of the library work is now done on computers with software that is being upgraded regularly. Information plays an indispensable role in achieving goals. Thus, it assumes a higher dimension if one considers information resources use by polytechnic's students (Odunewu & Omagbemi, 2012).

Access to and use of information resources among users of polytechnic libraries is essential to their academic growth and development. Organization of information resources for access and use entails description and arrangement of the materials in relation to their subject areas. Jimerson, (2011) points out that the essential purpose of

organization or description is to know what you have so that can find it when you need it. Organization of information resource for access to and use according to him is the process of analyzing, organizing, and recording information that serves to identify, manage, locate and explain the holdings of academic libraries and the contexts they were selected. Therefore, means of access refers to the systems through which the user materially gets hold of the material from the collection: an open stacks system in which the user can take out material him or herself, a closed stacks system in which the user needs to request a book by means of a call number, an interlibrary loan process, web-based access to non-printed material, etc. As such, the way a collection is organized, including the classification system, is also part of the means through which the collection is accessed (Bailin and Grafstein, 2012). A number of means for accessing information materials have been highlighted by Mohammed (2011) as:

- a. **Catalogues:** Access to and subsequent use of libraries resources will almost be difficult without the use of catalogue. A catalogue is therefore one of the most important and useful information retrieval tools in the library. A catalogue facilitates users to access to library resources. According to Anglo-American cataloguing Rules, catalogue is (1) a list of library materials contained in a collection, a library or a group of libraries arranged according to some definite plan (2) and in a wider sense, a list of materials prepared for a particular purpose. (Ex; An exhibition catalogue, a sales catalogue) (AACR 2, 2002) As implied by above given introduction, a catalogue is a list of books, which has been arranged systematically. Main purpose of a catalogue is to

facilitate the retrieval of items in a collection through searching by a appropriate access points, for both known items and by subject.

Library catalogue takes many physical forms from simple inventory lists of books and manuscripts, elaborated nineteenth – century, manifestations such as printed catalogue, guard book catalogue, with entries for individual items pasted into folders, card catalogue traditionally consisting of cabinets with entries 3 x 5 inch cards, sheaf catalogue with entries on slips held in a loose – leaf binder, micro form catalogue and since the late 1960s On-line Public Access Catalogue (OPAC), among these different physical forms of the catalogue. OPAC is the newest and most sophisticated catalogue format. Agyen-Gyasi, Lamptey and Frempong, (2013) noted that the card catalogue used to be the most common tool for the retrieval of information sources in academic libraries; however, the networked environment has considerably expanded the means access available to users. Thus, to ensure maximum access to and use of the polytechnic library's information resources, the catalogues whether card or OPAC should be up-to-date and well labeled in a manner that would be understood and accessible to the users to facilitate knowledge dissemination.

According to Brophy, (2010) library catalogues serve as a direct means of access in addition to their traditional roles as finding aids. In other words, apart from it aiding resources discovery (i.e establishing the existence of an information to object that may fulfill a user's needs); it assist the user to check the object availability (to the user); it describes the terms under which the object may be used; it enables a location for the object to be determined.

Access to and use of information resources in a polytechnic library is dependent on the viability of the catalogue, index and other access tools such that it links user to the information resources available satisfy their varying information needs.

Ansari and Amita, (2012) asserted that the need to reduce the rigidly experienced when accessing catalogues information and also facilitate ease in their use has led to the development of a computer based system catalogue such as Online Public Access Catalogue (OPAC). To them, “OPAC is a gateway of library services”, it also provides the users with online access to the library’s catalogue allowing them to search and retrieve records from the online access to the library’s catalogue allowing them to search and retrieve records from the online catalogue depending on the underlying library management software, and it also offers several other facilities such as online reservation, borrower status checking and so on”.

OPACs are the interfaces and very valuable extensions of the functionality that helps user communicate with the collections of a library, and another, “Consistent step is improving the availability of information and services” (Malak, 2012). A number of studies have indicated that users have very poor understanding of OPAC use and users’ search more often by keyword, even though the search usually fails and they don’t understand it. Most users do not perform keyword searching and only half understood that subject searching using only the Library of Congress subject headings: A good understanding and usage of an academic library’s OPAC will in no doubt assist in providing quick as well as quick access and use of its information resources. It should also be noted that an efficient access point will provided the user with the information resources of his desire with the least possible effort. Access

point to information resources in polytechnic libraries specially deals with the library catalogues – online catalogues, indexes and abstracts.

b. Internet/Intranet: with the coming of Information and Communication Technologies (ICTs), academic libraries have witnessed tremendous changes in the way and manner their information and services are been accessed by their users. While the internet signifies a network of networks linking computers from different part of the world and, which allows users to access information and services of other libraries across thousand miles through the use of computer device, the Intranet is an internal network services using the World Wide Web conventions through which the information and service of a particular library can be accessed internally or within a library. Polytechnic libraries in modern world are taking advantages of the internet to provide their users with an alternative source through which information and services not available within the reach of their own home library can be accessed.

The above situation was confirmed by Iwhiwhu & Okorodudu, (2013) that ICTs are now used to access the catalogue of other libraries from distance apart. The internet has also assisted to promote the activities of interlibrary cooperation. Access to and use of library's information resources are made easy for users for polytechnic libraries as some borrowing services are done through an online means, so also, user can be attended to by an online correspondent without necessarily coming to the library.

To Anunobi, (2012) for academic libraries to maintain a prominent position in their institutions as well as provide efficient access to their resources and services, they must move from limited or local access to universal access. This requires expandability, flexibility and compatibility. Tebbets, (2007) also added that it also require standard hardware, sufficient capacity, networking capabilities, flexible software, standards such as Machine Readable Catalogues (MARC) for information storage and retrieval, local expertise and a plan for the next system.

In conclusion, all the studies reviewed above reveals the high and low patronage of information resources bringing to our notice that the various hindrances leading to underuse and the need for easy access to bring about maximum use. Therefore, it is necessary that the academic libraries are to undertake effective measures leading to the maximum use of their information resources.

2.6 Users' Satisfaction with the Information Resources in Academic Libraries

The academic library as an indispensable instrument for intellectual development of researchers and scholars has among its objectives; the ensuring of the satisfaction of the information needs to its users. According to Kotso, (2011) academic libraries assist in research process by collecting, preserving, and making available an array of information resources relevant to their research community, Jubb and Green, (2011) observed that academic libraries have played vital roles in supporting research activities in all subjects and disciplines within their host campuses for centuries. Moreover, studies also identified that students are not interested in visiting the library physically nowadays, and they are more comfortable in retrieving information

electronically (Dilevko and Gottlieb, 2009; Moncrieff, 2011) as virtual patrons. Cullen, (2010) noted that due to the explosion of academic publishing and tertiary education, academic libraries are facing greatest challenge today.

Academic libraries exist to satisfy users. In this context, users' satisfaction refers to how users judge the resources and services of the academic libraries. Indeed, it refers to whether users get the desired information resources, facilities and services expected to be provided by the academic libraries. Hence, in recent times, evaluating users' satisfaction with the information resources, facilities and services of academic libraries has become a major concern and an integral part of library and information science practitioners (Ogunsola, 2011). This is because the ultimate aim of all libraries as a service oriented organization is to satisfy the needs of its clients. Thus, users' satisfaction with the information resources, facilities and services provided by libraries whether public or academic has become the melting pot of the present day librarianship and information science (Saliu, 2011).

Satisfaction is generally defined as "fulfillment of one's wishes, expectations, or needs" (Oxford Dictionary, 1998). Studies on information user and information user satisfaction have a history of 40 years (Shi, 2010). In the late 1990s, Gap theories and LibQual model were widely accepted by research libraries. Since then, library service evaluation and user satisfaction issues have been discussed in a variety of subject literature. Many researchers have observed that user satisfaction is central variable in most user-oriented research (Kotler & Andersen, 2010). Researchers have adopted knowledge and models from other disciplines such as marketing, psychology and computer science to discuss the user satisfaction related to libraries. Thereafter, it was

found that a series of variables contribute to user satisfaction other than performance alone (Applegate, 2009).

To adequately explain users' satisfaction with information resources, facilities and services, Iwhiwhu & Okorodudu, (2013) observed that a conceptual model was developed in line with the Consumer Satisfaction Theory (CST) propounded by Cadotte, Woodruff & Jenkins, (2011). According to the theory, before shopping, customers have some pre-purchase standard(s) in their minds that guide their purchasing activities. After purchasing a product (service), customers evaluate the performance of the product (service) against pre-purchase standards. When performance is greater than expectations (pre-purchase standard), satisfaction occurs. When performance is less than expectations (pre-purchase standard), dissatisfaction occurs. Thus, the extent to which a customer experiences satisfaction or dissatisfaction is related to the size and direction of product performance. In this study, information is investigated as a consumable product and library users are customers who are having a purchasing experience.

Accordingly, information searching and retrieval activities are viewed as purchasing experiences of library users. As with consumables, Iwhiwhu & Okorodudu, (2013) viewed information as a product that is defined by two components: the information system/services that the customer uses to access and retrieve the information product (facilities and services) and the information product itself (resources). In other words, the information needs expectations from the academic library by users represent pre-purchase standard while the actual information products obtained from the academic library represents the product/service consumption. Thus, when information resources

obtained from an academic library is lower than information need expectation, the users will be dissatisfied and vice versa. The library information resources are better used when relevant facilities such as reading tables, chairs, book shelves, ICTs among other are available. The availability of facilities enhances the ability of academic libraries to render necessary services to users. Therefore, the integration of the three variables will bring about user's overall satisfaction (Iwhiwhu & Okorodudu, 2013).

User satisfaction at micro level – concerns only one individual service – user satisfaction contributes to the dimensions of service quality. (i.e, tangibles, reliability, responsiveness, assurance and empathy) (Cullen, 2010). User satisfaction at micro level – concerns all the services which user interact-user satisfaction is a global or macro view of quality of services and integrates mentions dimensions of services quality. It contributes to user's overall satisfaction with the organization (Cullen, 2010). In an early attempt to define user satisfaction as a concept, Tessier, (1998) stated that satisfaction is “ultimately a state experienced inside the user's head and therefore it is a response that may be both intellectual and emotional”.

In the field of library science, researchers usually approach user satisfaction in traditional way, in which researchers emphasize the investigation of user material needs and fulfillment – what users request and received from libraries (Fei Yu, 2013). Usually, the physical objects like books and journals are the main focus of these studies. A survey analyzed by Sivathaasan, (2015) revealed that (11.1%) of user satisfaction is determined by library collections such as reference collections, lending collections, periodicals, archival materials, and non-print resources. Simmonds, (2010) stated several factors that can influence users' satisfaction. These factors

include responsiveness, competence and assurances, tangible and resources. The study of Basil and Patience, (2013) revealed that information resources, facilities and services are the factors which influence users' satisfaction. Daisy, (2013) found that respondents were somewhat or very satisfied with overall library services and staff performance; moderately satisfied with the print collection; and least satisfied with space and ventilation, lack of study areas and the noisy environment. The helpfulness of the staff was rated the best. Chandarsekar and Murugathas, (2013) founded that textbooks are the main information source for undergraduates in biological sciences.

Customers are generally considered as king in any services provided by the organization. In a customer satisfaction survey done by Zheng, (2011) increasing number of requests showed that users are truly satisfied with inter-library loan services and commented timely usable. Further, user satisfaction in relation to library facilities, information resources and services depend on quality of services offered by the library. Velnampy and Sivesan, (2013) assessed the service quality of polytechnic/colleges libraries in Sri Lanka. This study analyzed twenty three variables which measure the service quality of polytechnic libraries and finally extracted four factors using factor analysis, namely convenient access opening hours, current information, collection comprehensiveness, and convenient access to collection. Velnampy and Sivesan, (2013) in their research on determinants of customer relationship marketing of mobile service providers in Sri Lanka extracted three factors namely trust, rapport and accuracy using factor analysis. In another study (Velnampy and Sivesan, 2013) they extract from the analysis that together accounted (84.924%) of the total variance. These factors were categorized as

payment, achievement and proud to work. Therefore, all these factors put together are essential to access to and use of information resources in polytechnic libraries which could lead to user satisfaction.

Polytechnic libraries also try to satisfy the thirst of knowledge of users. In this context, users' satisfaction refers to how users judge the services of academic libraries. Indeed, it refers to whether users of academic libraries get the desired information resources, facilities, and services expected to be provided by the academic libraries. Hence, in recent times, evaluating user' satisfaction with the information resources, facilities, and services of academic libraries has become a major concern and an integral part of library and information science practitioners (Ogunsola, 2011).

In conclusion, it is therefore important to state that, while information resources, facilities and services are important in the polytechnic library services, the extent to which they satisfy users' information needs is fundamentally more important. Thus, satisfaction could be arrived by users if the information resources are relevant to their information needs. Among the goals of polytechnic libraries is to bring about higher users' satisfaction. Thus, it becomes pertinent to determine the extent to which users are satisfied with the information resources, facilities and services of the library. Also, polytechnic libraries generally serve a wide category of users within the range of the students and staff, which include adult males and females, young adults, those with special needs and other groups of people in the polytechnic communities where they are located. Due to this fact, polytechnic libraries have vital roles to play in

information dissemination at the polytechnic in order to meet the information needs of each of these groups.

2.7 Challenges Associated with the Access and Use of Information Resources

Information resources could be help users of the polytechnic library develop themselves academically and personally due to their importance. This however, does not determine the use of the polytechnic libraries' information resources, since access is a prerequisite for use. Accessing and using information resources of polytechnic libraries is very much dependent on various factors such as the organization of the information system's resources which invariably portrays the image of the polytechnic libraries. One of the main problems affecting use of information resources is the access to the information resources. Mohammed, (2014) stated the problems related to accessing and utilizing information resources include; ineffective retrieval device and; inadequate knowledge on how to manipulate retrieval devices to secure the needed information resources. These problems can be directly linked to the organization of the retrieval device which links the user to the information resources sought for; Mohammed, (2014) also highlights the inadequacies of some users in the manipulation of retrieval devices such as catalog (manual or online) to facilitate access to and use of information resources in polytechnic libraries to aid user performance. Students have an unjustified skepticism about the ability of polytechnic libraries to ensure access to and use of its information resources, or about the need to be educated on manipulation of retrieval devices, thus, the concern of the libraries in this regard seems quite invisible because they still seem preoccupied with technical matters of the manual system while still trying not to be left behind with the

continuous technological advancement, thus, often not deliberately disregarding the purpose of the polytechnic library in supporting the teaching, learning and research activities of its parent body, thereby ensuring access to and use of their libraries' information resources.

Among the problems of accessing and utilizing information resources in academic libraries is the issue of the availability of the resources. Aguolu and Aguolu, (2002) argued that availability should be viewed from both national and international levels. They attribute the lack of availability of information resources to the steady proliferation of polytechnics: federal, state, and private, along with increases in students and faculty, and the diversification of courses and academic and research programmes, without adequate information resources to meet the actual and anticipated information needs. Dike, (2008) conducted research on the scarcity of books in Nigeria and the threat to academic excellence. She was able to establish that non-availability of information resources has led faculty and students not to use library services. Thereby not being able to access and use their libraries' information resources.

Buckland, (1996) analyzes frustrations felt by users who fail to find the information resources they want in the library. He outlines four relationships between the resources for access to and use of information, which are:

1. The greater, the popularity, the lower the immediate availability for access to and use.

2. The longer the loan period, the lower the immediate availability, the shorter the loan period, the higher the immediate availability of resources for access to and use.
3. The greater the popularity, the shorter the loan period has to be and the less the popularity, the longer the loan period can be for access to and use.
4. Increasing the number of copies available, like shortening the length of loan periods, increase the immediate availability for access to and use.

The low level of commitment of polytechnic libraries' administration is a problem that indirectly affects the effective access to and use of information resources. This commitment includes ensuring continuous collection management, thus ensuring staff on a continuous basis, enhances access to and use of the collection by having knowledge and development expertise in organization and maintenance of information resources in the information system. In view of this, Odunewu and Omagbemi, (2014) observed that collection management is a problem to utilization of information resources; this is because it includes managing the collections for access and use of the library's information resources. Access to and use of information resources is faced with the problem of users bypassing information resources of the library which could be as a result of the libraries,' image – when users no longer see the need to use the library information. Therefore, users are unable to find information resources related to their search or information need as a result of inaccessibility of the resources. In view of the foregoing, Agoulu, (2002) mentioned various types of inaccessibility which hinders users from fully exploiting the

information resources of the library, some of which include: bibliographic and physical inaccessibility etc. As such, users only refer to the information resources of the polytechnic library at the end of or sometimes in the middle of their search (Shatifabadi, 2013). Therefore, even in the wake of appreciable development, access to and use of information resources by users of the polytechnic library is unimpressive.

Another problem associated with access to and use of information resources is the cost of maintaining and updating access points and information resources. According to Madu and Ezeani, (2014) the cost of maintaining access points and the information resources content is high especially with advance in technology whereby polytechnic libraries have to keep up with the pace all of which incurs continuous cost. Therefore, users are getting more self-sufficient in accessing online resources (Thachill, 2012). This was also corroborated by Dafiagbor, (2013) when he enumerated problems militating against the use of academic libraries information resources to include acquisition cost, maintenance cost, erratic power supply, inadequate information retrieval skills amongst others. Users are even oblivious of the fact that some information resources they access and utilize are part of the activities of polytechnic libraries services all in a bid to promote user satisfaction of information resources provided by their libraries (Moyo, 2011).

In addition, Roy, (2013) discussing information access to and use as proposed by Dodge, (2011) stated that it is based on access to and use of relevant resources at the right time. This concern stems from the idea that the Internet can provide access to a vast array of information resources. However, because of this information overland, it

does not necessarily ensure access to and use of useful, current, reliable and affordable information and at the right time. In view of the foregoing, Agba, Kigongo-Bukenya and Nyumba, (2011) assert that the shift from print to non-print information means that both academic staff and students in a polytechnic system and elsewhere must use these resources for better quality, efficient and effective research more than ever. They should, however, be used with a high sense of evaluation because the information resources and services available in the institutional information systems must be capable of supporting research activities in the institutions. However, in polytechnic libraries in the North-eastern zone, problems cited that affects access to and use of information resources in polytechnic libraries correspond with some problems stated. In summary, it includes: ineffective organization of the information resources, library administration in the management of their collection, users perceived image of the library's information resources, cost contributing to ineffectiveness of infrastructure which includes power and ICT facilities.

Another major challenge to access and use of information resources reported by Vasishta and Navijyoti, (2014) in academic libraries is the lack of awareness and proper training among the library staff and users in the use of Information Technology devices. In modern times, most information are now stored on computers, this requires the technical know-how in accessing this devices as well as their use. However, it has been reported that so many users in most African libraries lack basic knowledge on how to retrieve information from and OPAC.

Furthermore on the challenges facing the access to and use of information resources is the fact that some information resources are inaccessible to people with disabilities, even those who have access to assistive technology. For example, people who are blind often use computers equipped with text-to-speech software. With a synthesized voice, these systems read aloud whatever text appears on the computer screen. When an image appears on the screen, the system may simply say “image.” Text alternatives to content presented within graphic images need to be provided in order for people who are blind to make sense of content. Individuals whose visual impairment prevents them from seeing small images may use special software to enlarge screen images. Because they see only small parts of the website at a time, cluttered web pages and page layouts that are inconsistent from page to page can be difficult for them to navigate. (Burgstahler, 2013). Burgstahler also noted that Students with some types of learning disabilities also benefit when pages are orderly and consistent from page to page. People who are colorblind can become lost when navigation choice require the ability to distinguish one color from another. Similarly, when websites include audio output without providing captions or transcriptions, individuals with hearing impairments cannot access the content. Health impairments can also affect web access. For example, web pages that include flashes at certain rates (between 2 to 55 hertz) can induce seizures for people who are susceptible to them.

From the above assertion, we can see that access to and use of information resources has their various challenges which serve as barriers to actual use of information resources. Therefore, it is the duty of the academic library to breast up and see how

these challenges can be curtailed to the barest minimum so that information resources can be adequately used without any barrier. Although, from the foregoing discussions, various authors identified the challenges involved in accessing and utilizing information resources but failed to highlight the dangers involved by academic libraries in not providing information resources and students not utilizing the information resources.

2.8 Theoretical / Conceptual Framework of the Study

An extensive review of related literature in the area of access to and use of information resources has revealed so many models as proposed by different writers and scholars in the field. This section provides the background to the theoretical foundation for the study by exploring the theoretical debates around access to and use of information resources in polytechnic libraries. Scholarly tradition employs that theory is a necessary guide in realizing the truth of a matter. Like many areas of studies, access to and use of information resources has generated the development of many theories which provide framework for studies such as this. The study employs a theory. The information need, access and use model to aid in the better understanding and description of access to and use of information resources in polytechnic libraries. According to Rowlands and Bawden, (2013) models and frameworks are important in the real world than is sometimes acknowledged, since they shape the way we look at reality and frame the language we use to describe it.

Ocholla and Le Roux, (2014) referred to a theoretical framework as the part of a research proposal or study that sets out and describes the study. It holds and supports the theory of a research work and serves as a lens that the researcher uses to examine a particular aspect of his/her subject field by explaining the rationale or basis of the study. Trochim, (2013) suggested that the selection of a theory should depend on its appropriateness, ease of application and explanatory power. Thus, the selection of information need, access and use model for this study.

Information Needs, Access and Use Model

This model as proposed by Mtega, (2013) tried to investigate access to and use of information in an information seeking environment. Among the assumptions of the model is the belief that people have various information needs and that there are multiple information sources people can consult to satisfy their information needs. Decisions about appropriate information sources are influenced by the educational and social background of the information seeker.

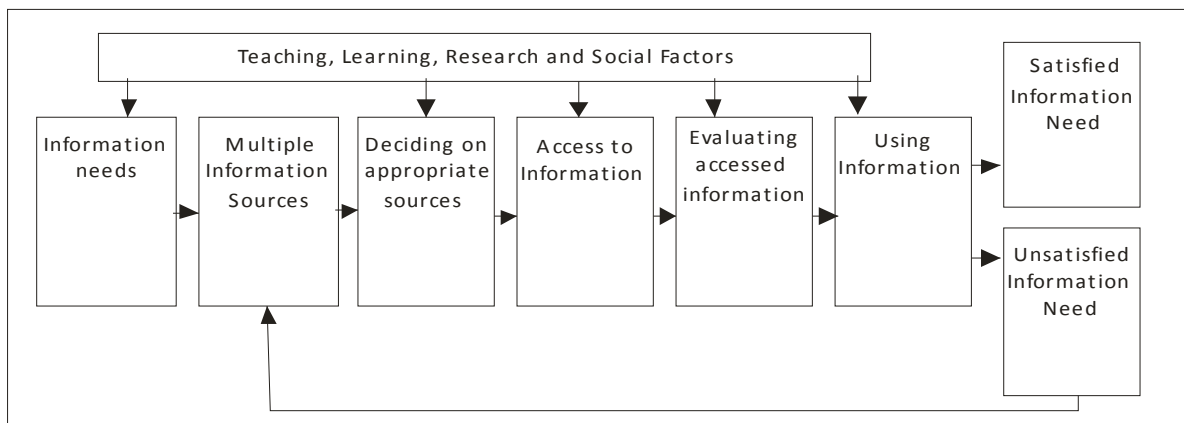


Fig 1: Informations Needs, Access and Use Model by Mtega, (2013)

From the foregoing, it can be summed up that the need for information within an academic environment is determined by factors such as teaching, learning or research as well as social related issues. Upon ascertaining an information need, it is directly followed by the thought of channel for accessing the particular information needed; this requires a selection of a particular channel out of the numerous channels (catalogue, OPAC, Internet etc) available for use. The type of information sought for the user will at this point decide the type of channel to use in accessing the information resources (the right channel or source must be used in order to get the

desired information resources and with the least effort). Upon deciding and selecting the desired source, the user is expected to evaluate the level at which the accessed information resources actually meet the requirements of the factors which initially precipitated the need for the information.

Upon ascertaining the validity and reliability of the already accessed information resources through evaluation, the user will then proceed to use the information resources as defined by the ease at which the information resources can be accessed, the theoretical foundation of needs usefulness and perceived ease of use are the determinants of access to and use of information resources. User satisfaction is determined by the rate at which the information resources fulfill the user's information needs. The need for information stops here if the user becomes satisfied with what he/she got from the information resources system. However, the search for information resources continues through the same route by selecting an alternative channel for accessing information resources that best satisfies the user's information need.

Even though issues have to follow in order to access information resources, the proponents of this theory still believe that the below listed strengths of the theory far outweigh its weaknesses:

- a. The theory in practical term gives the users of information resources the choice of selecting from among multiple choices or channels for accessing information resources. For Mtega, (2013) the idea behind the theory is to give the users of information the advantage of coming back to select other

available choices in the event that a particular channel does not satisfy the information requirement of the user.

- b. Another advantage of the theory gives the users the opportunity of evaluating an already accessed information resource in order to determine its reliability, usability, and usefulness in satisfying an information need.
- c. The theory also stand out to measure the level of satisfaction a user derive from an information material putting into consideration the ease of access and the ability of the already accessed information material to meet the information needs or requirement of the user. Hence, the user is given the choice of selecting between satisfied or not satisfied after accessing and using a particular information resource.

On the other hand, one of the weaknesses of this model is that the model was proposed in 2013 but it still considered very relevant to this study because it captured all the major variables of the study such as: information needs, information access and information use, though the model did not capture ‘information use pattern’.

Conceptual Framework

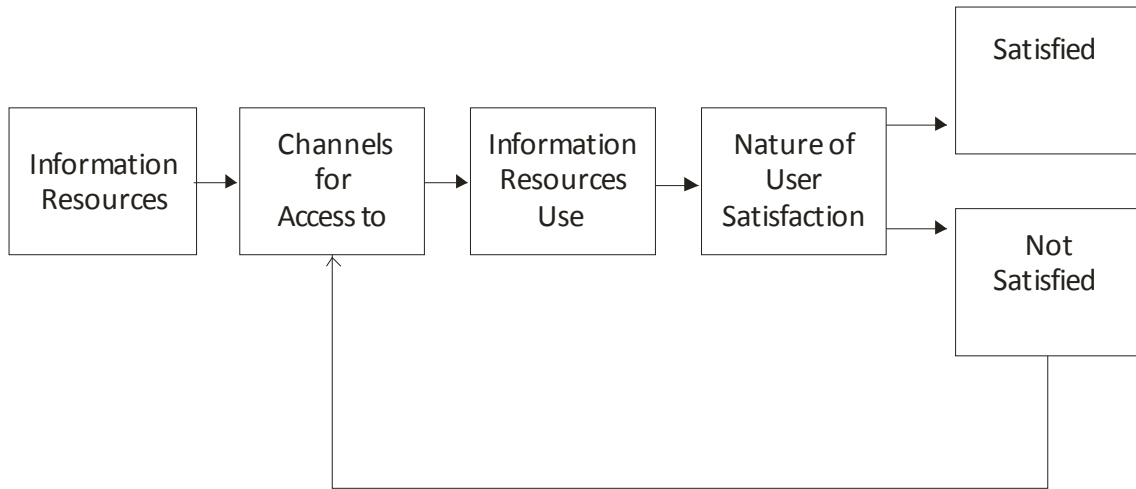


Fig 2: Conceptual Framework of the Study

The conceptual model provided in Figure 2 shows the process by which the study will be carried out. It is pertinent to note that polytechnic libraries are the focus of the model taking into consideration the access to and use of Information resources by students. The model illustrates how the variables in the study relates with each other on the one hand and on the other hand through the use of arrows, how access to and use which are the dependent variable relate with the independent variable specifically. The model relates to how access to information resources can influence use of information resources can lead to user satisfaction. In other words, the access to information resources can lead to effective use of the information resources by the students. It is important to note that access to and use of these information resources comes with associated challenges.

Types of information resources in this study is defined, as the various information resources in their different forms which include textbooks, serials, encyclopedias, online databases, CD-ROMs, OPACs, Internet resources, etc which are provided to be maximally utilized by the students. Information is stored in print and non-print format and is accessible through channels. Information resources in both print and non print format have made it possible for scholars globally to exchange ideas on various fields of study and also allow students to communicate both within and across international borders (Luambano and Nawa, 2011). Therefore, it is expected that these information resources are accessed and utilized by student in the various academic levels because this use would increase the variety of resources available for them.

Access to have been defined by Culnan, (2010) as the expected level of effort required to use a particular information sources. According to this study, it is how easy it is to approach, obtain, or contact the channel without giving consideration to the reliability of the information expected. Inaccessibility to information resources has impact on user satisfaction, it is increasingly an important function of polytechnic libraries to ensure access to all information resources both print and non print format. Despite the problems of access to information resources, both formats of information resources are highly essential to teaching, learning and research especially in polytechnics of developing countries such as Nigeria. The effort of the parent institution in maintaining their goals through a functional library could result in effective access to and use of information resources by students of polytechnics. Thus, access to information resources could enable effective use of the resources.

Effective use of information resources can only take place when they are easily accessible. Thus, access to relevant information resources is highly essential. Aguolu, (2002) noted that availability of information does not necessarily imply its access to because the source may be available but access to it may be prevented for one reason or the other. Similarly, Ugah, (2012) opined, that the more accessible information source are, the more likely they are to be used and readers tend to use information sources that require the least effort to access. Therefore, access to these information resources should be adequate to save the users' time and invariably effective use of information resources.

Use, in this study can be defined as the extent to which students patronize and benefit from the available non-print information resources of the library. In this context, use is meant to describe the extent to which the library's information resources are exploited or utilized by students. Access to information resources can enhance maximum use of these resources which can therefore lead to user satisfaction. Adeleke, (2012) asserted that the library must not only provide the resources but also ensure its access to and use of the resources by its clientele. Users' satisfaction refers to how users are judged by the utilization services provided by the polytechnic library. It refers to whether users of polytechnic library get the desired information resources provided by the polytechnic library. Hence, user satisfaction is a determinant of any effective library service. In another perspective, user satisfaction in polytechnic libraries can as well motivate or encourage the library management to provide more information resources and services for the sustainability of the libraries.

Polytechnic libraries are faced with enormous challenges in the access of information resources as well as in the use of these resources by students. These challenges are normally identified by the polytechnic student in the process of accessing and using these information resources. These challenges normally prevent effective access to and use by the student of the polytechnic, as such polytechnic libraries must keep abreast such that these challenges can be minimized by simplifying service in libraries and encourage publicity of library's various information resources and services.

In conclusion according to the model, access to information resources with a good system adopted by the academic library management and the right attitude by the students can lead to maximum use of these resources by them which may, possibly lead to users' satisfaction despite the challenges associated with utilizing the resources.

2.9 Summary of the Review and Uniqueness of the Study

The review of literature was centered on the concepts of access to and use of information resources by students in polytechnic libraries. Marton and Choo, (2011) refer to access to as the time and effort needed to approach, contact or locate the source. Use of information is a dynamic, interactive social process of inquiry that may result in the making of meaning or the making of decision. Therefore, use of information resources is the effective and efficient utilization of information resources the review also identified various types of information resources that could be available for access to and use in polytechnic libraries which according to Adeoye

and Papola, (2011) can be divided into two broad categories: print resources and non-print resources (electronic materials). Also, the review describes channels for accessing and using of information resources in polytechnic libraries. Channels for access could be referred to as the system through which the user materially gets hold of the information resources from the collection such as catalogues, Internet/Intranet (Bailin and Grafstein, 2012; Mohammed, 2011).

The review also examined satisfaction of users in the accessing and using of information resources in polytechnic libraries in supporting activities for their user community, which could be partly why they feel users do access and use available information resources. These libraries have long begun to understand the need to constantly remain relevant to their users.

In the review, possible challenges in the accessing and using of information resources in academic libraries were highlighted, some of which included; erratic power supply, ineffective retrieval device, inadequate knowledge on the manipulation of retrieval devices, administrative commitment etc (Aguolu, 2002; Mohammed, 2014).

The study made use of “Information Needs, Access and Use Model” by Mtega, (2013) in order to give a clear picture of all the variables of this study as it depicts the crux of librarianship. This study is desired to assist polytechnic libraries redefine their information services and also present contribution to knowledge in the field. The effectiveness and efficiency of polytechnic libraries in relation to access to and use of its information resources has most time been measured by the volume of library materials available to clients, the amount of use of services and resources and the

apparent satisfaction of users. Not many researchers have taken into account the objective of the users. Therefore, the research is unique in the sense that it will cover the north-eastern zone of Nigeria.

CHAPTER THREE

RESEARCH METHOTHODOLOGY

3.1 Introduction

This chapter presents the methodology adopted for the study under the following sub-headings:

3.2 Research Methodology

3.3 Research Design

3.4 Population of the Study

3.5 Sampling Techniques and Sample Size

3.6 Instruments for Data Collection

3.7 Validity and Reliability of the Instruments

3.8 Administration of Research Instruments

3.9 Method of Data Analysis Used in Analyzing the Data

3.2 Research Methodology

This study employed the use of quantitative research methodology to investigate the access to and use of information resources by students in polytechnic libraries in north-eastern zone of Nigeria. According to Howell, (2013) research methodology

defines what the activity of a research is, how to proceed, how to measure progress and what constitutes success.

In general, there are three (3) major types of research models; the quantitative research methodology, the qualitative research methodology and the mixed research methodology. The nature of this study is quantitative, with some qualitative elements. Accordingly, the quantitative methodology (positivist) was considered most appropriate for the conduct of this study, reasons being that, quantitative research methodology is beneficial for a large amount of data. It describes variables, it examines relationships among variables, and it also determines cause and effect interaction between variables. Quantitative research methodology relies mostly on numerical data unlike the qualitative research methodology that relies on narrative data. Quantitative research methodology uses a number that can be quantified, employs strategies of inquiry such as experiment and survey, and uses method of reduction, observations and test of theories (Kamba, 2009). Despite the differences between the two methodologies (quantitative and qualitative), there has been a growing emphasis on combining the two approaches in a single study which is called methodological triangulation. Methodological triangulation has been described by Denzin in Babbie and Mouton, (2001) as the use of two or more methodologies of data collection procedures within a single study.

3.3 Research Design

The survey design adopting the cross sectional survey design was used for the purpose of this study. Robson, (2009) noted that the term survey is usually applied to a research methodology designed to collect data from a specific population and typically uses a questionnaire or an interview as the survey instrument. Surveys are used to obtain data from individuals about themselves, their households, or about larger social institutions. Sample surveys are an important tool for collecting and analyzing information from population. They are widely accepted as a key tool for conducting and applying basic social science research methodology (Ross, Wright and Anderson, 2011). Therefore, the survey research design would allow for generalizations about characteristics and attitude of an entire population studied. Craig and Charles, (2012) stated that cross sectional survey collects data across different segments of the population at a particular time and shows the status of those segments. Thus, it is considered appropriate for this study because the study would focus on a representative segment of the population i.e. (students of polytechnics in the north-eastern zone of Nigeria). However, Consent of the sample was sought verbally and written and were assured of confidentiality.

3.4 Population of the Study

Population is the total number of the object or elements upon which research is conducted. According to Akanbi, (2011) “the population of any investigation can be determined by the scope of the study.” Akanbi, (2011) further stressed that the population of the study must always be specified because it affects the event of

generalization of result and influences sample to be used. Asika, (2002) posited that “Population of the study is made up of all conceivable elements, subjects or observations relating to a particular phenomenon of interest to the researcher”. Maiwada, (2012) defined population as “the naturally existing collections of entity such as a group of human beings and non-human objects.” From the outset, it is imperative to clearly identity the various units that comprise a population so that a generalization can be made concerning it.

Therefore, the primary population of this study consisted of eight (8) polytechnic libraries in the north-eastern zone of Nigeria as well as the heads of reader services in each of the libraries which served as the part of secondary population of the study as shown in Table 3.1.

Table 3.1: Population of the Study

S/N	Name of Institution	Location	Year of Establishment	Number of Registered Library Users
1	Federal Polytechnic, Bauchi	Bauchi	1979	6500
2	Federal Polytechnic, Mubi	Mubi	1979	1,497
3	Federal Polytechnic, Damaturu	Damaturu	1992	225
4	Federal Polytechnic, Bali	Bali	2007	105
5	Ramat Polytechnic, Maiduguri	Maiduguri	1976	3,441
6	Abubakar Tatari Ali Polytechnic, Bauchi	Bauchi	1991	5,250
7.	Adamawa State Polytechnic, Yola	Yola	1991	1,390
8.	Mai Idriss Alooma Polytechnic, Geidam	Geidam	2002	92
Total				18,500

Source: National Board for Technical Education (NBTE), 2016

Based on the information presented in Table 3.1, the total population for this study was eighteen thousand five hundred (18,500) registered library users in all the eight (8) polytechnic libraries in north-eastern zone of Nigeria. This number of registered

students made up the target secondary population of this study out of which samples were drawn.

3.5 Sampling Technique and Sample Size

Sampling refers to the process of selecting a portion of the population that conforms to a designated set of specifications to be studied. Akinyemi, (2011) referred to the term sample as a subset of the study population the researcher selects for the study. Abdulhadee, (2013) defined a sample as a small amount of population of a total, selected to represent the total. He noted that while samples are chosen because populations are often too large to be used, research findings and predictions have been archived with little samples provided they meet these criteria; representativeness, sample frame, freedom from bias. Hence, the five (5) polytechnic libraries that made registration with them compulsory for every student/user among the total primary population of the study were selected to represent the others within the entire zone, and the simple random sampling procedure was used by the researcher with the aid of Yemane, (1967) formula. According to Abdulhadee, (2013) simple random sampling is that type of sampling which the selection of sample is purely due to chance. That is to say, the procedure ensures every member of the populations has same known chances of being selected (Bowed and Stair, 2002).

Therefore, the sample size is 391. However, to take care of non bias response, 5% was added to the total sample size

$$391 \times 5/100 = 19.5 = 20$$

$$391 + 20 = \mathbf{411}$$

That is to say, the sample size was four hundred and eleven registered students (411) for the five (5) selected polytechnic libraries in North-eastern Zone under study (see table 3.2)

Table 3.2: Sample Size of the Study

S/N	Name of Institution	Location	Registered User	Sample Size $\frac{N}{TP} \times S$
1	Federal Polytechnic, Bauchi	Bauchi	6500	148
2	Federal Polytechnic, Mubi	Mubi	1,497	34
3	Ramat Polytechnic, Maiduguri	Maiduguri	3,441	78
4	Abubakar Tatari Ali Polytechnic, Bauchi	Bauchi	5,250	119
5	Adamawa State Polytechnic, Yola	Yola	1,390	32
Total				411

The sample size of the study was 411 comprising of 148 registered students of Federal Polytechnic, Bauchi; 34 registered students of Federal Polytechnic, Mubi; 78 registered students of Ramat Polytechnic, Maiduguri; 119 registered students of Abubakar Tatari Ali Polytechnic, Bauchi; and 32 registered students of Adamawa State Polytechnic, Yola, all of which were randomly selected.

3.6 Instruments for Data Collection

The instruments used in this study for collecting data were the questionnaire and interview for the two groups of students and the head of reader services. The questionnaire was the main instrument for data collection and it was used for the students while the interview was used for the head of reader services. Ngulube, (2015) observed that although no single method is perfect, if different methods lead to the same answer, then greater confidence can be placed in the validity of the conclusion. Akuezulo and Agu, (2013) opined that “In survey research, instruments like questionnaire and interview are often used to collect data from respondents.”

Questionnaire

Questionnaire was used as one of the instrument for collecting data for the purpose of this study. Smith and Smith, (2011) noted that questionnaires are simply quick tools for collecting data from a large group of respondents and it is easier to test the reliability and validity.

The questionnaire used for this study was developed by the researcher, based on the variables of the study. The questionnaire was divided into seven (7) sections which consisted of twenty-one (21) close ended and one open ended questions. Section ‘A’ of the questionnaire elicited demographic information of the respondents, section ‘B’ elicited responses on types of information resources available, section ‘C’ elicited responses on access to information resources, section ‘D’ elicited responses on use of information resources, section ‘E’ elicited responses on user satisfaction with information resources, section ‘F’ elicited responses on challenges faced with accessing and using information resources and finally, section ‘G’ which elicited

responses on solution(s) to the challenges faced with accessing and using information resources by students/users in polytechnic libraries.

Interview

The researcher as previously explained used interview to elicit information from the heads of reader services. Therefore, the qualitative aspect of the study was facilitated by the use of an interview but the nature of the study was largely quantitative. Interview method has been described by Sproull, (2011) as a data collection method in which an interviewer questions people to elicit self-reports of their opinion, attitude, values, belief, or behavior. Hence, semi-structured interview was considered appropriate for this study. Semi-structured interviews are interviews that allow the interviewer probe respondents and guide the interview according to their answers (Kamba, 2009). However, the reasons for using this method to obtain information from the heads of reader services for the purpose of this research was to permit the researcher seek clarification of issues that were cleared directly from the group other of respondents. It also supplemented data that will obtain from the questionnaire part which will allow for comparism. Hence, interview allows the researcher gather information in much greater depth for perfect conduct of the study. Another reason why this method was chosen because it was capable of addressing the research questions in line with the research objectives. The researcher used note-taking as a means of recording responses, which involved jotting down interpretative ideas. This corroborates Denscombe, (2010) who observed that under certain circumstances researchers will need to rely on field notes written soon after the interview or actually during the interview.

The reasons for choosing the heads of reader services as respondents for interview, was that, they were people directly dealing with users and therefore were in a better position to provide the much needed data for the study.

3.7 Validity and Reliability of the Instruments

An assessment of the data hinges upon determining the validity and reliability of the research instruments used. Cohen, Manion and Morrison, (2009) caution researchers against threats to validity and reliability which can never be eliminated completely, the authors suggest what can be done during design, data gathering, data analysis and data reporting, to try and minimize the threats.

3.7.1 Validity of the Research Instruments

The designed questionnaire was validated using face and content validity by the research supervisor and some experts and colleagues in the field, their assessment and comments on the content of the questionnaire, providing valuable criticism and corrections on the format, content, expression, importance of the items as they relate to the study. Also, the criticisms and corrections of these experts led to further modifications of the instruments for improvement before pre-test.

3.7.2 Reliability of the Research Instruments

The reliability of the questionnaire was determined through a ‘pilot test’ that involved a pre-test method using the Cronbach Alpha Reliability Co-efficient test which was ran to ensure full reliability of the questionnaire instrument. The idea behind a pilot test is basically to find out if the survey, interview guide or observation form will work in the real world by trying it out first on the few people. This way, everyone in

your sample not only understands the questions, but understands them in the same way. A pre-test method was suitable for this assessment. According to Nworgu, (2003) it would be good to pre-test the questionnaire on a small number of people before you use it on its earnest. This was done by administering a test once. The corrected questionnaire was administered once on some few selected students of Federal Polytechnic, Bauchi.

Statistically, the instrument was considered valid by experts in the field and a pre-test reliability method was used to establish the reliability, and Cronbach Alpha Reliability Coefficient test via Sciatica Packages for Social Sciences (SPSS) version 20 was used to calculate the reliability and .957, .773, .708, .703, .702, .782, .737 were obtained as the values, which were considered high enough for the use of the instrument, that is to say, none of the variable had less than 70%, which according to Bibbie, (2012) when an Alpha value is greater than .70, it is considered acceptable. This connotes that, the study data collection instrument is 95% reliable; therefore, the Cronbach Alpha was calculated for all the seven variables and the reliability of the total scale consisting of 111 items are as shown in below Table:

Table 3.3: Reliability Statistics

Sections	Variables	Cronbach's Alpha
Section A	Demographic Information of the Respondents	.957
Section B	Types of Information Resources Available	.773
Section C	Access to Information Resources	.708
Section D	Use of Information Resources	.703
Section E	Users' Satisfaction with Information Resources	.702
Section F	Challenges Faced with Accessing and Using Information Resources	.782
Section G	Solution(s) to the Challenges Faced with Accessing and Using Information Resources	.737

As regards the interview guide, in order to ensure its trust worthiness, the instrument was given to the Head of Reader Services of Muhammadu Wabi Library, Federal Polytechnic, Bauchi for vetting. All these were done before the actual data collection exercise.

3.8 Administration of Research Instruments

With the aid of research assistants, the researcher administered the questionnaire to the respondents. According to Mohammed, (2015) research assistants are those persons' chosen often on a temporary basis by a researcher for the purpose of assisting him in an academic research. The administration of the questionnaire was done within two-three (2-3) weeks, while a week was given to respondents to

facilitate effective completion of the questionnaire. The researcher and his assistants made subsequent follow-ups to the respondents to ensure efficient completion and return of the completed research instruments. However, the heads of reader services were contacted in the early hours of the day and were interviewed in their respective offices using a face to face interview method. The researcher spent about 25-30 minutes with each participant for the interview.

3.9 Method of Data Analysis

There are many methods that can be used to analyse data obtained depending on the nature of the study. The data that were collected for this study were largely quantitative with few qualitative elements. The data generated through the copies of the questionnaire were analyzed using quantitative data analysis. This involves the use of descriptive statistical analysis using tables to show the responses rate. The descriptive statistics were used in this study with percentages and frequencies. Akuezeilo and Agu, (2010) noted that researchers use descriptive statistical analysis technique to make summary and description of the subject studied.

The variables analyzed were considered both nominal and ordinal data in frequency form and the measure used to describe the data set in descriptive statistics were measures data set of central tendency. Furthermore, the data collected from the interview conducted with the heads of reader services were analyzed using qualitative data analysis adopting thematic analysis using coding.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter is sub-divided into two (2) sections: firstly, it presents the analysis of the data collected from the polytechnic students and secondly, the analysis of the data collected from the head of readers' services. It further discusses the findings on the access to and use of information resources by students in polytechnic libraries in north-eastern zone of Nigeria. The presentation and analysis is done in line with the objectives of the study. The data collected were analyzed using coding, tables, frequencies and percentages for better understanding and interpretation of findings. The chapter is further organized according to the variables studied. It is presented in the following sub-headings:

4.2 Response Rate

4.3 Descriptive Analysis

4.4 Presentation and Analysis of Qualitative Data

4.5 Discussion of Findings

4.2 Response Rate

Table 4.1: Response Rate

S/N	Polytechnics in North-Eastern Zone of Nigeria	No of Questionnaire Administered	No of Usable Questionnaire Returned	Percentage %	Interview Conducted with Heads of Reader Services
1	Federal Polytechnic, Bauchi	148	139	33.8	1
2	Federal Polytechnic, Mubi	34	25	6.1	1
3	Ramat Polytechnic, Maiduguri	78	72	17.5	1
4	Abubakar Tatari Ali Polytechnic, Bauchi	119	109	26.5	1
5	Adamawa State Polytechnic, Yola	32	22	5.4	1
Total		411	367	89.3	5

Table 4.1 shows that a total of 411 copies of the questionnaire were administered to polytechnic students in five (5) polytechnics in north-eastern zone by the researcher and his assistants, out of which 367(89.3%) copies were duly completed, returned and found usable for the analysis. The remaining 44(10.7%) copies of the questionnaire not returned is insignificant when compared with the response rate of (89.3%). This shows that the rate of returned questionnaire was good enough to generate the needed data for the study. Also, interview was conducted with the five (5) heads of readers' services all of whom responded. In view of this, it can be concluded that the response rate of the study was sufficient enough for the analysis.

4.3 Descriptive Analysis

This segment deals with the presentation, analysis and interpretation of data collected from the polytechnic students by the use of questionnaire.

4.3.1 Demographic Characteristics of the Respondents

This section is designed to present the bio-data of the respondents. It presents the demographic information obtained from the polytechnic students. The demographic information of the polytechnic students was collected under the following: Gender, and Class of the respondent.

Table 4.2 Bio-data of the Polytechnic Students

Gender			Class		
Options	Freq	%	Options	Freq	%
Male	211	57.5	ND I	44	11.9
Female	156	42.5	ND II	86	23.5
-	-	-	HND I	104	28.4
-	-	-	HND II	71	19.4
-	-	-	PGD	62	16.8
Total	367	100	Total	367	100

Table 4.2 shows the demographic information of the polytechnic students under study. Based on the gender of the respondents, the table reveals that more than half, 211(57.5%) of the respondents were male and 156(42.5%) were female. This shows that majority of the polytechnic students in the polytechnics studied were males. This implies that there were more male polytechnic students in the polytechnics studied.

Furthermore, in terms of their class of study, the table reveals that 104(28.4%) of the respondents were HND I students, followed by ND II students, 86(23.5%), then HND II students, 71(19.4%) and 62(16.5%) who were PGD students, with the least of 44(11.9%) as ND I students. This implies that respondents at higher classes had high percentage of library patronage.

4.3.2 Types of Information Resources Available in the Libraries

Respondents were asked to indicate the types of information resources available in their polytechnic libraries. Below is the summary of their responses.

Table 4.3 Information Resources Available

Information Resources	Federal Polytechnic, Bauchi		Federal Polytechnic, Mubi		Ramat Polytechnic, Maiduguri		Abubakar Tatari Ali Polytechnic, Bauchi		Adamawa State Polytechnic, Yola	
	F	%	F	%	F	%	F	%	F	%
Print Resources										
Dictionaries	73	19.8	18	4.9	40	10.8	59	16.0	12	3.2
Encyclopedias	99	26.9	20	5.4	50	13.6	92	25.0	19	5.1
Journals	91	24.7	21	5.7	40	10.8	64	17.4	15	4.0
Magazines	62	16.8	19	5.1	30	8.1	58	15.8	14	3.8
Monographs	30	8.1	11	2.9	19	5.1	25	6.8	6	1.6
Maps & Atlas	53	14.5	17	4.6	25	6.8	37	10.0	8	2.1
Newspapers	111	30.2	19	5.1	46	12.5	86	23.4	13	3.5
Textbooks	139	37.8	25	6.8	72	19.6	109	29.7	22	5.9
Non-print Resources										
CD/DVD Rom	31	8.5	7	1.9	12	3.3	20	5.5	5	1.4
E-Books	56	15.2	13	3.5	39	10.6	41	11.2	9	2.5
E-journals	40	10.8	11	2.9	17	4.6	22	5.9	10	2.7
Online Databases	82	22.3	14	3.8	55	14.9	67	18.3	12	3.3
Offline Databases	34	9.2	15	4.0	23	6.3	27	7.4	7	1.9
OPACs	14	3.8	-	-	-	-	-	-	-	-
Internet Resources	93	25.4	19	5.1	44	11.9	76	20.7	11	2.9
Microfiche	-	-	-	-	-	-	-	-	-	-
Microfilm	-	-	-	-	-	-	-	-	-	-

Table 4.3 presents the response of polytechnic students on the information resources available in their polytechnic libraries. At Federal Polytechnic, Bauchi, students indicated dictionaries, encyclopedias, journals, magazines, monographs, maps & atlas, newspapers, textbooks, CD/DVD ROMs, e-books, e-journals, online databases, offline databases, OPACs and internet resources as information resources available in their polytechnic library. While, Federal Polytechnic, Mubi, Ramat Polytechnic, Maiduguri, Abubakar Tatari Ali Polytechnic, Bauchi and Adamawa State Polytechnic, Yola's students indicated dictionaries, encyclopedias, journals, magazines, monographs, maps & atlas, newspapers, textbooks, CD/DVD ROMs, e-books, e-journals, online database, offline databases, OPACs and internet resources as information resources available in their polytechnic libraries.

Finding shows that, the polytechnic libraries studied have available information resources which cut across the print and non-print resources. The researcher observed that the percentage of polytechnic students that attempted this question was average. This implies that an average number of the polytechnic students are aware of which information resources are available in their polytechnic libraries.

4.3.2.1 Adequacy of Information Resources

Respondent were asked to indicate how adequate the information resources available in their polytechnic libraries were. **Table 4.4** shows the summary of their responses.

Table 4.4 Adequacy of Information Resources

Format of the Resources	Level of Adequacy of Information Resources				
	Highly Adequate N (%)	Adequate N (%)	Fairly Adequate N (%)	Inadequate N (%)	Indifferent N (%)
Print Information Resources	50 (13.7)	70 (19.0)	120 (32.7)	64 (17.5)	63 (17.1)
Non-print Information Resources	36 (9.8)	112 (30.5)	123 (33.6)	41(11.2)	55(14.9)

Scale: Highly Adequate (HA)=5, Adequate (A)= 4, Fairly Adequate (FA)=3, Inadequate (IA)=2, Indifferent (ID)=1.

Table 4.4 shows students responses on the adequacy of print information resources available in their polytechnic libraries using a scale. 120(32.7%) respondents indicated that the resources provided were fairly adequate, followed by 70(19.0%) who indicated that the, information resources available were adequate. Furthermore, 63(17.1%) respondents were indifferent concerning the adequacy of information resources. 64(17.5%) respondents indicated that the information resources available were inadequate and lastly, 50(13.7%) respondents indicated highly adequate. With respect to non-print information resources, 123(33.6%) respondents indicated the resources were fairly adequate, followed by 112(30.5%) respondents who indicated the non-print resources were adequate, 55(14.9%) respondents had nothing to say, 41(11.2%) indicated inadequate while 36(9.8%) indicated that the non-print information resources were highly adequate.

The findings of this study show that the information resources available in the polytechnic libraries were fairly adequate. This implies that, the polytechnic libraries studied had adequate available information resources.

4.3.2.2 Relevancy of Information Resources

Respondents were asked to indicate how relevant the information resources available in their polytechnic libraries were. **Table 4.5**, shows the summary of their responses.

Table 4.5 Relevancy of Information Resources

Format of the Resources	Level of Relevancy of Information Resources				
	Highly Relevant N (%)	Relevant N (%)	Fairly Relevant N (%)	Irrelevant N (%)	Indifferent N (%)
Print Information Resources	41(11.1)	129(35.2)	110(29.9)	39(10.7)	48(13.0)
Non-print Information Resources	116(31.6)	175(47.7)	34(9.3)	13(3.5)	29(7.9)

Scale: Highly Relevant (HR)=5, Relevant (R)= 4, Fairly Relevant (FR)=3, Irrelevant (IR)=2, Indifferent (ID)=1.

Table 4.5 shows students responses on the relevancy of print information resources available in their polytechnic libraries using a scale. 129(35.2%) respondents indicated that the resources available were relevant, followed by 110 (29.9%) who indicated that the information resources available were fairly relevant. Furthermore, 48(13.0%) respondents indicated indifferent, 41(11.1%) respondents indicated ‘highly relevant’ and finally 39(10.7%) of the respondents indicated that the information resources were irrelevant. With regards to relevancy of non-print information resources, 175(47.7%) respondents indicated that the resources provided were relevant, followed by 116(31.6%) who indicated the information resources were highly relevant, followed by 34(9.3%) who indicated fairly relevant, 29(7.9%) indicated indifferent with the least 13(3.5%) who indicated irrelevant.

The findings of this study show that the information resources provided by polytechnic libraries were relevant. This implies that, the polytechnic libraries studied had available relevant information resources.

4.3.2.3 Currency of Information Resources

Respondents were asked to indicate how current the information resources available in their polytechnic libraries are. Table 4.6 shows the summary of their responses.

Table 4.6 Currency of Information Resources

Format of the Resources	Level of Currency of Information Resources				
	Very Current N (%)	Current N (%)	Fairly Current N (%)	Not Current N (%)	Indifferent N (%)
Print Information Resources	66(17.9)	108(29.5)	113(30.8)	35(9.5)	45(12.3)
Non-print Information Resources	125(34.0)	182(49.6)	30(8.2)	11(2.9)	19(5.2)

Scale: Very Current (VC)=5, Current (C)= 4, Fairly Current (FC)=3, Not Current (NC)=2, Indifferent (ID)=1.

Table 4.6 shows polytechnic students responses on the currency of print information resources available in their polytechnic libraries using a scale. 157(47.4%) respondents indicated that the resources available were very current and current, 113(30.8%) respondents indicated that the information resources available were fairly current. Furthermore, 45(12.3%) of the respondents were different' and 35(9.5%) of the respondents indicated that the information resources available were not current. On non-print information resources, 182(49.6%) of the respondents indicated current, followed by 125(34.0%) who indicated that the non-print information resources were very current, 30(8.2%) of the respondents indicated fairly current, 19(5.2) while only 11(2.9%) indicated not current.

The findings of this study show that the information resources available in the polytechnic libraries were current especially non-print information resources. This implies that, the polytechnic libraries studied had current information resources.

4.3.3 Access to Information Resources

This section provides information on the level of access to information resources by students in the polytechnic libraries studied. The data was collected under the following sub-headings, thus: Access to information resources in their polytechnic libraries, types of information resources accessed by students, how the information resources available were accessed and the level of access to the information resources.

4.3.3.1 Access to Information Resources in the Polytechnic Libraries

Respondents were asked to indicate whether they have access to information resources in their polytechnic libraries. Table 4.7 shows the response rate of students on whether they had access to information resources in their polytechnic libraries.

Table 4.7 Access to Information Resources in their Polytechnic Libraries

S/N	Responses	Access to Information Resources	
		Frequency	%
1	Yes	321	87.5
2	No	46	12.5
	Total	367	100

Table 4.7 reveals that more than half, 321(87.5%) of the respondents had access to information resources in their polytechnic libraries while few 46(12.5%) did not have access. Based on this analysis, it can be concluded that most of the polytechnics

studied provided access to information resources in their libraries. This implies that, most of the respondents had access to information resources.

4.3.3.2 Types of Information Resources Accessible to Students in their Polytechnic Libraries

Respondents were asked to indicate the various types of information resources they had access to in their libraries. Table 4.8 shows the summary of their responses.

Table 4.8 Information Resources Accessible by Students in Their Polytechnic Libraries

NOTE: The alternative used for this section is multiple choice, thus the value of N will of course be higher than 367 as response rate.

Information Resources	Frequency	%
Print Resources		
Dictionaries	109	29.7
Encyclopedias	281	76.6
Journals	152	41.4
Magazines	93	25.4
Monographs	81	22
Maps & Atlas	76	20.7
Newspapers	157	42.8
Textbooks	328	89.4
Non-print Resources		
CD/DVD Rom	92	25
e-books	193	52.6
e-journals	246	67
Online Databases	124	33.8
Offline Databases	103	28
OPAC	12	3.3
Internet Resources	345	94

Table 4.8 reveals clearly, that the respondents had access to quite a number of information resources available in their polytechnic libraries. Majority of the respondents indicated that Internet resources, 345(94%) and textbooks, 328(89.4%) respectively were the major resources they had access to in their libraries. This is

followed by encyclopedias, 281(76.6%); e-journals, 246(67%); e-books, 193(52.6%); newspapers, 157(42.8%); and journals, 152(41.4%). Some respondents confirmed that offline databases, 103(28%); magazines, 93(25.4%); and CD/DVD ROM, 92(25%); Monographs, 81(22%); maps and atlas, 76(20.7%); and OPAC 12(3.3%) were the least number of resources they had access to in their libraries.

The findings from this study show that majority of the respondents attested to the fact that textbooks and Internet resources were the major resources they accessed in their libraries. This is followed by encyclopedias, e-journals, e-books, and newspapers. This implies that textbooks and Internet resources were made more available and accessible in the libraries when compared to other sources of information.

4.3.3.3 Ways of Accessing Information Resources

Respondents were asked to indicate how they accessed the information resources available in their polytechnic libraries. Table 4.9 shows the summary of their responses

Table 4.9 Access to Information Resources

S/N	Responses	Freq	%
1	Through the catalogue	73	19.9
2	Through the shelves	115	31.4
3	My library has free internet café	185	50.4
4	My library has fliers and user guides for accessing information resources	47	12.8
5	Through assistance from friends and catalogues	65	17.8

Table 4.9 shows that more than half of the respondents, 185(50.4%); indicated that they accessed information resources available in their libraries through the free Internet cafes available for accessing non-print resources. This is followed by through the shelves, 115(31.4%); then 73(19.9%) indicated through the catalogue; 65(17.8%) indicated through assistance from friends and catalogues; and 47(12.8%) of respondents indicated that the ways of accessing these information resources were through fliers and user guides.

This finding shows that most of the polytechnic libraries under study provided free internet cafes to assist students in accessing non-print information resources but majority of the respondents did not make use the catalogues in accessing print information resources. The libraries did not make available fliers and user guides to help students in accessing all information resources available. This implies that, the polytechnic libraries studied, made available Internet facilities for their students to access non-print information resources freely but did not make available guides that were useful in accessing both print and non-print information resources available in their libraries.

4.3.3.4 Level of Access to Information Resources

Respondents were asked to rate the level of access to information resources in their polytechnic libraries. Table 4.10 reveals the response rate of students on the level of access to non-print information resources.

Table 4.10 Level of Access to Information Resources

Format of the Resources	Level of Accessibility of Information Resources				
	Very Highly Accessible N (%)	Highly Accessible N (%)	Fairly Accessible N (%)	Not Accessible N (%)	Undecided N (%)
Print Information Resources	16(4.4)	58(15.8)	184(50.1)	39(10.7)	70(19.0)
Non-print Information Resources	59(16.0)	104(28.4)	123(33.5)	43(11.7)	38(10.4)

Scale: Very Highly Accessible (VHA)=5, Highly Accessible (HA)=4, Fairly Accessible (FA)=3, Not Accessible (NA)=2, Undecided (UD)=1.

Table 4.10 shows clearly that about half, 184(50.1%) of the respondents rated the level of access to print information resources as being fairly accessible, followed by 70(19.0%) who had no response on the level of access to information resources. Similarly, the table indicated that 58(15.8%) rated the level of access to print information resources as being highly accessible, 39(10.7%) rated the level of access as being not accessible and 16(4.4%) rated the level of access as very highly accessible. With regards to the level of access to non-print information resources, 123(33.5%) respondents indicated fairly accessible, followed by 104 (28.4%) who indicated highly accessible, 59(16%) indicated very highly accessible, then 43(11.7%) indicated not accessible and finally 38(10.4%) had nothing to say on the level of access to non-print information resources.

Findings from this study show that, the level of access to print information resources in the polytechnic libraries studied was fair, while that of non-print information resources was higher. This implies that, the polytechnic libraries studied did not provide easy access to print information resources and the level of access was not

high compared to that of non-print information resources. Therefore, polytechnic libraries, especially the polytechnic studied should endeavour to improve the level of access to information resources.

Table 4.11 Frequency of Access to Information Resources

Format of the Resources	Frequency of Access to Information Resources				
	Daily	Weekly	Monthly	Rarely	I don't access it
Print Information Resources	20(5.5)	32 (8.7)	87(23.7)	156(42.5)	72(19.6)
Non-print Information Resources	29(7.9)	47(12.8)	74(20.1)	133(36.3)	84(22.9)

Table 4.11 shows that 156(42.5%) respondents rated the frequency of access to print information resources as being rarely, followed by 87(23.7%) who indicated the frequency of access to print information resources as monthly. The table also indicated that 72(19.6%) did not access the print resources, followed by 32(8.7%) indicated they accessed print information resources weekly and only 20(5.5%) indicated the frequency of access as daily. With regards to the frequency of access to non-print information resources, 133(36.3%) respondents indicated rarely, followed by 84(22.9%) of the respondents who indicated they did not access non-print information resources, 74(20.1%) of the respondents indicated monthly, then 47(12.8%) who indicated weekly and finally 29(7.9%) of the respondents indicated they accessed non-print information resources daily.

Findings from this study show that, the frequency of access to print and non-print information resources in the polytechnic libraries studied was generally low. However that of non-print information resources was generally higher. This implies

that, the polytechnic libraries studied did not provide easy access to print and non-print information resources.

4.3.4 Use of Information Resources

This section provides data on the use of information resources by polytechnic students in the polytechnic studied. The data was collected under the following sub-headings: use of information resources by polytechnic students, frequency of use, types of information resources used mostly by students, reasons for using the information resources available in the polytechnic libraries, reasons for not using the information resources available in the polytechnic libraries as well as the extent of use and level of satisfaction with use.

4.3.4.1 Use of Information Resources by Polytechnic Students

Respondent were asked to indicate whether they used the information resources available in their libraries. Table 4.12 shows the responses of the respondents.

Table 4.12 Use of Information Resources

Responses	Frequency	%
Yes	162	44.2
No	205	55.8
Total	367	100

The findings in **Table 4.12** revealed that majority 205(55.8%) of the respondents were not using information resources available in their libraries while only 162(44.2%) respondents used them. This finding shows that more than 50% of the respondents did not patronize information resources available in their polytechnic libraries. This implies that only few students used information resources.

4.3.4.2 Frequency of Use of Information Resources

Respondents were asked to indicate how often they used the information resources in their polytechnic libraries. Table 4.13 shows their responses regarding the frequency of use of information resources in their polytechnic libraries.

Table 4.13 Frequency of Use of Information Resources

S/N	Frequency of Usage	Freq	%
1	Daily	23	6.3
2	Weekly	29	7.9
3	Twice a month	35	9.5
4	Monthly	43	11.7
5	Rarely	50	13.6
6	I do not use it	187	50.9
	Total	367	100

Table 4.13 shows that 187(50.9%) did not use information resource. 50(13.6%) used them rarely, 43(11.7%) used them monthly, 35(9.5%) used them twice a month, 29(7.9%) of the respondents used them weekly and only 23(6.3%) of the respondents used them daily. Findings from this study reveal that (50.9%) of the respondents in the polytechnics did not use the information resources. This implies that the frequency of use of information resources was generally quite low.

4.3.4.3 Reasons for Using of Information Resources Provided in the Polytechnic Libraries

The researcher equally investigated the reasons given by respondents for using information resources. Table 4.14 gives reasons for using information resources and

respondent were expected to indicate mainly what influenced their use of information resources that were available in their polytechnic libraries.

Table 4.14 Reasons for Using of Information Resources

S/No	Reasons	Frequency	Percentage (%)
a.	For research work	99	26.9
b.	To write assignments	87	23.7
c.	To prepare for examinations	70	19
d.	General reading and leisure	23	6.3
e.	Others	192	52.3

Table 4.14 gives the reasons for using information resources by polytechnic students.

It is important to note that respondents may indicate as many reasons as possible as they apply to them. The finding revealed that apart from majority of the respondents 192(52.3%) who indicated other reasons best known to them as their reasons for using information resources the other major reason for using information resources was to carry out research work, 99(26.9%); followed by to write assignments (87:23.7%); then to prepare for examinations, 70(19.0%); and, lastly, for general reading and leisure, 23(6.3%).

Findings from this study reveals that majority of the respondents had other reasons for using information resources. This claim may be due to the previous analysis in which about half of the respondents indicated not using information resources and since majority of the respondents did not use information resources, they still might not have any reason for using them. Another finding from this study is that, the most prominent reason for those polytechnic students who used information resources was

to carry out research. This implies that, the few respondents that used information resources were students of higher classes like the HND II and PGD students.

4.3.4.4 Reasons for not Using the Information Resources Available

The study also investigated the reasons given by respondents for not using the information resources available in their polytechnic libraries. Table 4.15 shows the summary of their responses on some reasons for not using information resources. Equally, respondents were expected to indicate as many reasons as possible as they apply to him/her.

Table 4.15 Reasons for not Using the Information Resources

S/No	Reasons	Frequency	Percentage (%)
a.	Not aware of it	99	26.9
b.	No easy access	72	19.6
c.	Do not know how to search	123	33.5
d.	No help available	42	11.5
e.	Others	23	6.3

Among the reasons for not using information resources, **Table 4.15** shows that many of the respondents, 123(33.5%) indicated their reasons as not knowing how to search, 99(26.9%) indicated they were not aware of information resources, followed by 72(19.6%) who indicated no easy access to information resources. Furthermore, the table shows that respondents 42(11.5) respondents indicated their reasons as no help available and 23(6.3%) indicated other reasons best known to them.

Findings from this study show that many of the respondents did not know how to search or manipulate retrieval devices to access and use of information resources. This implies that, there was inadequate training in the use of information resources in the polytechnic libraries studied.

4.3.5 Extent of Use of Information Resources

The study sought to find out the extent to which information resources are put to use in all the polytechnic libraries studied. Information resources were listed for the respondents to tick according to the level of their usage. The summary of their responses is presented in Table 4.16.

Table 4.16 Extent of Information Resource Use

Information Resources	Very Highly Utilized (5)		Highly Utilized (4)		Moderately Utilized (3)		Not Utilized (2)		I do not know (1)	
	F	%	F	%	F	%	F	%	F	%
Print Resources										
Dictionaries	50	13.7	73	19.9	98	26.7	61	16.7	59	16.0
Encyclopedias	79	21.6	98	26.7	107	29.2	40	10.9	43	11.7
Journals	33	8.9	100	27.3	87	23.7	29	7.9	39	10.7
Magazines	65	17.7	77	20.9	58	15.8	45	12.3	40	10.9
Monographs	24	6.6	18	4.9	19	5.2	99	26.9	61	16.7
Maps & Atlas	19	5.2	21	5.8	12	3.3	65	17.7	56	15.3
Newspapers	69	18.8	113	30.9	72	19.6	59	16.0	47	12.8
Textbooks	71	19.4	110	29.9	79	21.6	38	10.4	41	11.2
Non-print Resources										
CD/DVD Rom	29	7.9	23	6.3	40	10.9	79	21.6	32	8.8
E-Books	57	15.6	62	16.9	89	24.3	44	11.9	36	9.8
E-journals	75	20.5	31	8.5	68	18.6	37	10.0	29	7.9
Online Databases	51	13.9	70	19.0	105	28.7	49	13.4	40	10.9
Offline Databases	33	8.9	41	11.2	75	20.5	59	16.0	46	12.6
Internet Resources	82	22.4	92	25.0	114	31.0	41	11.2	38	10.4
Microfiche	-	-	-	-	-	-	-	-	-	-
Microfilm	-	-	-	-	-	-	-	-	-	-

Key: Very Highly Utilized (VHU)=5, Highly Utilized (HU)=4, Moderately Utilized (MU)=3, Not Utilized (NU)=2, I do not know (IDK)=1

Table 4.16 reveals the extent to which print information resources were used, and the results show that, encyclopedias 79(21.6%) were very highly used followed by textbooks with 71(19.4%) and newspapers with 69(18.8). The non-print resources that were also indicated to be highly used were Internet resources with 82(22.4%), followed by e-journals with 75(20.5%) and e-books with 57(15.6%). Findings show that the print information resources highly used were encyclopedias with 79(21.6%) while maps and atlases were the least used with 19(5.2%) responses. In appraising the extent to which non-print information resources were used, Internet resources with 82(22.4%) responses were very highly used and microfiche and microfilms were not used at all.

The findings from this study show that the extent to which polytechnic students used encyclopedias and Internet resources was higher than every other information resources. It was observed by the researcher, that few information resources were highly used making the use of information resources generally low when compared to the various information resources available in the polytechnic libraries studied.

Table 4.17 Level of Satisfaction with Information Resources Use

Information Resources	Highly Satisfied (5)		Satisfied (4)		Moderately Satisfied (3)		Not Satisfied (2)		I do not know (1)	
	F	%	F	%	F	%	F	%	F	%
Print Resources										
Dictionaries	61	16.6	79	21.5	117	31.9	64	17.5	46	12.5
Encyclopedias	79	21.5	131	35.6	54	14.7	75	20.5	28	7.6
Journals	47	12.8	83	22.6	151	41.2	45	12.3	41	11.2
Magazines	46	12.5	69	18.8	138	37.6	77	20.9	37	10.0
Monographs	11	3.0	54	14.7	22	6.0	262	71.4	18	4.9
Maps & Atlas	16	4.4	64	17.4	114	38.4	112	30.5	34	9.3
Newspapers	69	18.8	123	33.5	97	26.5	30	8.2	48	13.0
Textbooks	71	19.4	97	26.5	121	32.9	38	10.4	40	10.9
Non-print Resources										
CD/DVD Rom	19	5.2	47	12.8	89	24.3	155	42.3	57	15.5
E-Books	49	13.4	62	16.9	143	38.9	49	13.4	64	17.5
E-journals	75	20.5	57	15.5	109	29.7	77	20.9	49	13.4
Online Databases	63	17.2	110	29.9	105	28.6	49	13.4	40	10.9
Offline Databases	33	8.9	41	11.2	100	27.3	117	31.9	76	20.7
Internet Resources	82	22.4	118	32.2	99	26.9	40	10.9	28	7.6
Microfiche	-	-	-	-	-	-	-	-	-	-
Microfilm	-	-	-	-	-	-	-	-	-	-

Key: Highly Satisfied (HS)=5, Satisfied (S)=4, Moderately Satisfied (MS)=3, Not

Satisfied (NS)=2, I do not know (IDK)=1

Table 4.17 reveals the level of satisfaction with print and non-print information resources, and the results show the print information resources which users were most satisfied with are, encyclopedias, 79(21.5%); followed by textbooks with 71(19.4%) and newspapers with 69(18.8%) responses respectively. The non-print information resources that respondents had higher satisfaction were the Internet resources with 82(22.4%), followed by e-journals with 75(20.5%) and online database with 63(17.2%) responses. Findings show that the level of satisfaction of users with print and non-print information resources was higher with encyclopedias and internet resources whereby 210(57.3%) and 200(54.5%) respondents indicated they were highly satisfied and satisfied respectively.

The findings from this study show that the level at which polytechnic students were satisfied with the use of encyclopedias and Internet resources was higher than every other information resources. It is observed by the researcher, that the level of satisfaction with other information resources were generally low when compared to the various information resources available in the polytechnic libraries studied.

4.3.5.1 User Satisfaction with the Use of Information Resources in their Polytechnic Libraries

Respondents were asked to indicate their level of satisfaction with respect to the use of information resources in their polytechnic libraries. Table 4.18 shows the summary of their responses on the level of satisfaction derived.

Table 4.18 User Satisfaction with Information Resources.

S/N	Level of Satisfaction	Freq	%
1	Highly Satisfied (5)	20	5.5
2	Satisfied (4)	70	19
3	Fairly Satisfied (3)	184	50.2
4	Not Satisfied (2)	60	16.4
5	Undecided (1)	33	8.9
	Total	367	100

Key: Highly Satisfied (HS)=5, Satisfied (S)=4, Not Satisfied (NS)=3, Highly Not Satisfied (HNS)=2, Undecided (UD)=1

Table 4.18 shows that half of the respondents, 184(50.4%) were fairly satisfied with the use of information resources in their polytechnic libraries, followed by 70(19%) who were ‘satisfied’, 60(16.4%) of the respondents indicated ‘not satisfied’ with using the information resources, while 33(8.9%) indicated ‘undecided’. However, only 20(5.5%) of the respondents were ‘highly satisfied’ using the information resources.

Findings from this study show that users were generally fairly satisfied with information resources use in the polytechnic libraries studied. Therefore, academic libraries in general, particularly polytechnic libraries studied should make way to enhance user satisfaction with the information resources available in their libraries.

4.3.5.2 Ways of Getting Information Resources

Respondents were asked to indicate what they did to get information resources to satisfy their needs. Table 4.19 shows the summary of their responses

Table 4.19 Ways of Getting Information Resources.

S/N	Responses	Freq	%
1	Ask library staff for help	33	8.9
2	Visit Another Library	93	25.4
3	Search the Internet	228	62.2
4	Abandon the Search	29	7.9
5	Others	63	17.2

Table 4.19 shows that more than half of the respondents, 228(62.2%) searched the Internet, followed by 93(25.4%) who visited another library, 63(17.2%) indicated other reasons best known to them, while 33(8.9%) indicated they asked library staff for help with the least, 29(7.9%) who said they abandoned the searches.

Findings from this study show what users do if they are not satisfied with information resources in the polytechnic libraries studied was to search the internet. This implies that the polytechnic libraries studied did not allow for easy access for use of information resources. Therefore, academic libraries in general, particularly polytechnic libraries studied should make way to enhance user satisfaction with the use of information resources.

4.3.6 Challenges Faced With the Access and Use of Information Resources

The access and use of information resources in the libraries studied was confronted with series of challenges as indicated by the respondents. Table 4.20 shows the responses of the students on the challenges faced in respect of access and use of information resources in their polytechnic libraries.

Table 4.20 Challenges Faced with the Access and Use of Information Resources.

S/No	Challenges	Frequency	Percentage (%)
a.	Inability to access materials from the shelves	95	25.9
b.	Inability to access materials from the Internet	39	10.7
c.	Inadequate knowledge of information technologies operation by users	97	26.5
d.	Inadequate facilities	47	12.8
e.	Inadequate staff enthusiasm	61	16.7
f.	Inefficiency of retrieval tools	99	26.9
g.	Inefficiency of information resources in area of study	76	20.7
h.	Poor search skills	101	27.6
i.	Inadequate power supply	103	28
J	Lack of assistance from libraries	53	14.5
k.	Lack of awareness of information resources/services	188	51.3

Table 4.20 presents students responses on the challenges hindering access and use of information resources available in their polytechnic libraries. One respondent may indicate as many challenges as possible as it applies to him or her. From the table, majority, 188(51.3%) of the respondents indicated lack of awareness of information resources/services, followed by inadequate of power supply with 103(28.0%), poor search skills with 101(27.6%) followed by inefficiency of retrieval tools with 99(26.9%), inadequate knowledge of information technologies operation by users with 97(26.5%), inability to access materials from the shelves with 95(25.9%),

followed by insufficiency of information resources in area of study with 76(20.7%), inadequate staff enthusiasm with 61(16.7%), lack of assistance from libraries with 53(14.5%), then inadequate facilities with 47(12.8%) and finally, inability to access materials from the Internet with 39(10.7%) responses respectively.

The findings from this study show that lack of awareness of information resources/services and poor search skills were the major problems associated with the use of information resource in the polytechnics studied.

4.3.7 Solutions to the Identified Challenges

Several solutions were suggested by the respondents for the identified challenges besieging the access and use of information resources in the polytechnic libraries studied. The following were the suggested solutions to the identified challenges.

Table 4.21 Solutions to the Challenges of Non-print Information Resources.

S/No	Challenges	Frequency	Percentage (%)
a.	Information resources should be continuously organized in a manner that allows for ease of access and use	73	19.9
b.	Users should be trained in the use of information technologies and other retrieval devices	85	23.2
c.	Library staff should help in assisting the library users in accessing and using information resources	95	25.9
d.	Library management should make up ways to increase ease of access to print and non-print resources.	81	22
e.	Adequate staff training	17	4.7
f.	Fund should be made available for continuous management of information resources and services.	79	21.6
g.	There should be proper awareness in the access, use and importance of print and non-print information resources	187	50.9

Table 4.21 shows that majority, 187(50.9%) of the respondents suggested that information resources should be continuously organized in a manner that allows for ease of access and use, followed by 95(25.9%) who suggested that library staff should help in assisting library users in accessing and using information resources available; 85(23.2%) suggested that users should be properly trained in the use of information technologies and other retrieval devices, 79(21.6%) suggested that funds should be

made available for continuous management of information resources and services, followed by 73(19.9%) who suggested that information resources should be continuously organized in manner that allows for ease of access and use, and only 10(4.7%) respondents suggested adequate staff training.

From the results, the researcher observed that more than half of the respondents emphasized on proper awareness in the access use, and importance of print and non-print information resources, followed by library staff should help in assisting the library users in accessing and using information resources.

This suggests that continuous and captivating awareness strategies should be carried out by the polytechnic libraries under study to sensitize the students on the needs importance and use of all types of information resource. Furthermore, the library management should see to it that library staffs are trained to meet the needs of users in the information age.

4.4 Presentation and Analysis of Qualitative Data

This section deals with the presentation, analysis and interpretation of data collected from the interview method. The analysis was done in line with the objectives of the study. The data collected were analyzed using coding accordingly; codes were used to represent the heads of reader services from the five (5) polytechnic libraries in north-eastern zone of Nigeria. The section is presented in the following manner.

4.4.1 Demographic Characteristics of the Participants

The demographic information of the heads of readers' services in form of level and the institutions are provided below.

Table 4.22 Codes Ascribed to the Libraries and the Demographic Data of the Participants.

Polytechnics	Codes	Gender	Educational Qualifications	Working Experience	Interview Date, Start and Stop Time
Federal Polytechnic, Bauchi	P1	Female	MLS	34years	13/11/18 11:05am- 11:35pm
Federal Polytechnic, Mubi	P2	Male	MLS	28years	10/12/18 10:10am- 10:40pm
Ramat Polytechnic, Maiduguri	P3	Male	MLS	30years	26/11/18 10:00am- 10:30am
Abubakar Tatari Ali Polytechnic, Bauchi	P4	Male	MLS	23years	19/11/18 9:45am- 10:15am
Adamawa State Polytechnic, Yola	P5	Female	MLS	20years	03/12/18 10:15am- 10:45am

Table 4.22 reveals various codes assigned to each library in the polytechnic studied. This code is in conformity with the use of thematic method of analysis when qualitative method is adopted in a research work. Code P1 was assigned to Federal Polytechnic, Bauchi, Code P2 to Federal Polytechnic, Mubi, Code P3 to Ramat Polytechnic, Maiduguri, Code P4 to Abubakar Tatari Ali Polytechnic, Bauchi and

finally, Adamawa State Polytechnic, Yola has Code P5. The Table shows that three heads of reader services were males, and two were females. Regarding their experience the table shows that the P1 head of reader services had 34years working experience which was the highest when compared to others, followed by P3 who had 30years experience, then P2 had 28years experience, P4 had 23years experience and, lastly, P5 had the least, 20years experience. The interview was conducted at various times and days in their various offices, as reflected in Table 4.22.

4.4.2 Types of Information Resources Available in the Libraries

With regard to the types of information resources available in the polytechnic libraries studied, heads of reader services were asked to mention the types of information resources available in their libraries.

P1: The information resources available in the library include textbooks, reference materials, journals, newspapers, literacy books, government publications, e-books, e-journals and internet resources

P2: Information resources in this library range from print to non-print resources such as textbooks, encyclopedias, dictionaries, journals, newspapers, e- database, internet resources.

P3: The information resources available in this library are books, journals, newspapers, reference materials, e- resources.

P4: This Library has print and non-print information resources some of which include books, reference materials, serial publications and e- databases.

P5: information resources available in this library are books, journals, and reference materials, non-print resources such as e-books, e-journals, online databases and offline databases.

4.4.3 Access to Information Resources

The heads of reader services were asked to briefly explain the level of access to information resources by polytechnic students in the polytechnic libraries. The outcome of the interview is presented below:

P1: The level of access to the information resources is quite high. Students come and access them for assignment and also write their projects, while the staff also access the information resources often. The textbooks, reference resources, e-books and e-journals and internet resources have been of greater help to staff, students and other researchers in the polytechnic community.

P2: The level of access to is impressive, students and staff accesses the information resources in the library.

P3: Information resources are accessible. Most students access the information resources for their academic work. The level of access is good.

P4: The level of access is on the average because they access it for their assignments and research, according to their schools.

P5: The level of access to information resources by polytechnic students is moderate.

4.4.4 Level of Use of Information Resources

The heads of reader services were asked to briefly explain the level of use of information resources by polytechnic students in the polytechnic libraries.

P1: The level of use of the information resources is high. The staff comes to use them; students also come in their large numbers to use them for their assignments and projects. The textbooks, Internet resources and e- databases have been of greater help to staff, students and other researchers in the polytechnic community.

P2: The level of use of information resources is quite impressive.

P3: Information resources are used adequately. Many students use especially the internet resources properly for their academic work. The level of use of the resources level is good.

P4: The level of use is about 50 percent because they use them for their lectures and research, according to their schools.

P5: The level of use of information resources by polytechnic students is quite impressive.

4.4.5 Users' Satisfaction with the Information Resources

The heads of reader services were asked to briefly explain on users' satisfaction with information resources by students in the polytechnic libraries.

P1: The level of users' satisfaction with the information resources is moderate; the users use the information resources to write assignments, prepare for examinations and carry out research. The encyclopedias, e-books and e-journals and Internet resources have been of greater help to staff, students and other researchers in the polytechnic community.

P2: The level of user satisfaction with the information resources is encouraging. Users are most satisfied with the use of internet resources and encyclopedias.

P3: Users are averagely satisfied with using the information resources. Most students do not use them properly for their academic work. The use level is moderate.

P4: The level of user satisfaction is on average because they use them for their lectures and research, and also to write assignments.

P5: The level of use of information resources by polytechnic students is not impressive, because they used them mostly to prepare for examinations.

4.4.6 Challenges Faced in Ensuring the Access and Use of Information Resources

In order to determine challenges (if any) the libraries faced in ensuring the access and use of information resources in their respective libraries, heads of readers' services were asked during the interview to freely discuss about such challenges.

Challenges faced in ensuring the access and use of information resources as indicated by the participants are as follows:

P1: Inadequate funding in maintaining both printed and non-printed information resources, inadequate power supply, theft and mutilation of resources, lack of adequate competent and skilled personnel in the area of e-library operations in the library.

P2: Low patronage of information resources, delinquent behavior of users, inadequate power supply, low patronage, inadequate skilled personnel, network challenges.

P3: Inadequate facilities, theft and mutilation of resources, inadequate funds, inadequate skilled personnel in the area of information resources management.

P4: No proper funding, epileptic power supply, inadequate knowledge of users in manipulating both print and non-print resources.

P5: Inadequate knowledge of users in manipulating both print and non-print resources, lack of adequate power supply, at times network failure, inadequate staff to assist users, lack of adequate funds for the proper running and maintaining non-print information resources.

Based on the analysis, the study established the following: inadequate funding, inadequate knowledge of users in manipulating both print and non-print resources, low patronage on the part of the students, inadequate competent and skilled personnel, epileptic power supply, theft and mutilation of resources.

4.4.7 Solutions to the Identified Challenges

Several solutions were suggested by the participants for the identified challenges faced with the access and use of information resources in the polytechnic libraries studied. The following were suggested solutions to the identified challenges given by the heads of reader services.

P1: There should be adequate funds to maintain continuously print and non-print resources, funds should also be provided to eliminate problems of power supply, more security measures should be put in place to reduce delinquent behavior of users.

P2: The provision of alternative stable power supply which would be useful for security gadgets also, students should be encouraged and sensitized in captivating manner on the need, importance and use of print and non-print resources in their academic activities, personnel should be trained to be able to relate properly with users.

P3: Suggests sourcing for resources outside the government and depending solely on only the government. Also, lecturers should carry out researches that will fetch money to the polytechnic.

P4: Suggests that more funds should be made available in the library to improve on the services provided. Alternative power supply should also be provided; users should be trained in the use of information resources.

P5: Users should be trained to manipulate the information resources effectively, improvement and increase in bandwidth to perfect the internet signal. Other means of getting funds should be carried out by libraries such as researchers; also funds provided by government should be judiciously used for both print and non-print resources.

The responses given as perceived by the researchers are concise and factual which are good enough to enhance and improve any library to perform its services at a greater rate. Most of the responses are also directed to the authority of the libraries, these shows that great commitment is required of the polytechnic libraries to see that efforts are made to improve the services of the library.

4.5 Discussion of Findings

The following discussions are provided in line with the research questions, objectives as well as the summary of results or findings provided above.

The findings of this study showed that majority of the respondents were within the ages of 20-35. This implies that they could be categorized under the young adult age students as posited by Andone, (2013). As such, they will be in the best position to

relate their experiences and skills that are peculiar to the target population who are polytechnic students the north-eastern zone of Nigeria.

Having defined characteristics, the findings further revealed that the polytechnic libraries had available information resources that cut across print and non-print resources which included dictionaries, encyclopedias, journals, magazines, monographs, maps and atlases, newspapers, CD/DVD ROMs, e-books, e-journals, online databases, offline databases, internet resources. This corroborates the findings of Anunobi and Okoye, (2012) who stated that, information resources occur in hybrid form. The findings of this study further support Anunobi and Okoye, (2012) whereby despite the availability of both kind of information resource (print and non-print), the non-print information resources were found to be highly used than the print information resources. The study equally found that the information resources available in polytechnic libraries were fairly adequate, but the finding of current study with regard to this issue slightly differed from that of Anunobi and Okoye, (2012) where non-print information resources were found to be more than the print information resources. The study equally found that, the information resources available in the polytechnic libraries were fairly adequate.

With regards to access to the information resources, the findings revealed, that majority of the respondents had access to non-print information resources in their polytechnic libraries. This corroborates the findings of Bamigboye and Agboola, (2014) who observed that access to traditional/print information resources is gradually becoming a thing of the past as more up-to-date information resources are becoming more available on the Internet. This by implication shows that most of the

polytechnic libraries under study provided free Internet cafes to assist students in accessing non-print information resources but majority of the respondents did not make use of the catalogue in accessing print information resources. The libraries did not make available the fliers and user guides to help students in accessing all available information resources. This implies that the polytechnics studied made available Internet facilities for their students to access non-print information resources freely but did not make available guides that were useful in accessing both print and non-print information resources available in their libraries. Eisenberg and Fullerton, (2013) stated that, libraries provide access to print and non-print information resources. Ogbomo and Ogbomo, (2012) also noted that surviving in the information age largely depends on not just availability of the information resources but being accessible.

With regard to use of information resources, the findings revealed that, (50.9%) of the respondents in the polytechnics under study did not use information resources. This implies that the frequency of use of information resources was quite low, which may be due to inadequate access to information resources as well as ineffective retrieval skills and poor search skills of some polytechnic students which could lead to under use of information resources in the polytechnic libraries studied. This is in line with the findings of Mohammed, (2014) where he stated that the problems of use of information resources in libraries are associated with the in access to the information resources due to ineffective retrieval devices and poor search skills. This is however slightly at variance with the study carried out by Dorch, (2014) which observed that challenges associated with low use of information resources in libraries is not

restricted to poor search skills but also includes lack of time by the users. Also, Pinelli, (2007) observed that literacy level of the library users limits their use of the resources.

However, the findings further show that Internet resources were mostly used by polytechnic students in the polytechnic libraries studied and microfiche and microfilm were not even used at all because they were not available to polytechnic students. This is corroborated by Oketunji, (2010) who stated that library users use Internet resources most because the Internet gives access to a vast wealth of knowledge and access tools that facilitate research. Meanwhile, the high use of internet resources by polytechnic students could be due to the fact that free Internet cafes were available in all the polytechnics studied. It can therefore be inferred generally that the degree of use of most of the information resources by polytechnic students was not encouraging in the libraries studied. This implies that, the use level of the various information resources available in the polytechnic libraries was poor.

Furthermore, majority of the respondents had other reasons for using information resources. This position may be due to the previous analysis in which about more than half of the respondents indicated not using information resources and since majority of the respondents did not use information resources, they still might not have any reason for using them. Owing to this, most prominent reason of those polytechnic students who used information resources were to carryout research. This implies that, the few respondents that used information resources were students of higher classes like the HND II and PGD students.

Also in regard to the issue of use, the study found that the extent to which polytechnic students' used encyclopedias and Internet resources was higher than every other information resources. It was therefore observed by the researcher that few information resources were very highly utilized as well as highly utilized, making the use of information resources generally low when compared to the various information resources available in the polytechnic libraries studied. Due to this reason, the users were fairly satisfied with information resources in the polytechnic libraries studied. This implies that the polytechnic libraries studied did not provide for easy access for use of information resources. Corroborating this, Moncrieff, (2011) observed that students are no longer interested in visiting the libraries physically nowadays and prefer retrieving information resources electronically. Therefore, academic libraries as well as polytechnic libraries in particular should make way to enhance user satisfaction with the information resources available in their libraries. Therefore, when users were not satisfied with information resources in the polytechnic libraries studied, they did look for the alternative source such as searching the Internet. This implies that the polytechnic libraries studied did not allow for easy access for use of information resources. Therefore, academic libraries in general, particularly polytechnic libraries studied should make way to enhance user satisfaction with the use of information resources.

However, the findings revealed that lack of awareness of information resources/services and poor search skills were the major problems associated with the use of information resource in the polytechnic libraries studied. From the above results, it is observed that more than half of the respondents emphasized on proper

awareness in the use and importance of print and non-print information resources, followed by library staff should help in assisting the library users in using information resources. This is contrary to the findings of Dike, (2008) who observed that scarcity of books in Nigeria is a threat to satisfying the information needs of students. Contrary to the findings of this study is the findings of Burgstahler, (2013) who found that challenges of use of information resources is in access to the information resources to people with special needs. However, Dafiagbor, (2013) observed that problems militating against the effective use of information resources in libraries are acquisition cost, maintenance cost, erratic power supply, inadequate retrieval skills amongst others. This means that continuous and captivating awareness strategies should be carried out by the polytechnic libraries under study to sensitize the students on the needs, importance and use of all types of information resource. Furthermore, the library management should see to it that library staff is trained to meet the needs of users most especially in this information age.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

1.1 Introduction

This chapter presents the summary of the study, summary of findings, conclusion and recommendations based on the research findings.

1.2 Summary of the Study

Chapter one covered the background to the study. It consist of the introduction, statement of the research problem, research questions, objectives of the study, significance of the study, scope, limitations and operational definition of concepts were clearly discussed.

Chapter two addressed the review of related literature; concept and significance of information resource in academic libraries; types of information resources available in academic libraries; access to information resources available in academic libraries; use of information resources in academic libraries; user satisfaction with the access and use of information resources in academic libraries; challenges associated with the access and use of information resources, theoretical/conceptual framework; information need, access and use model and finally summary of review and uniqueness of the study.

Chapter three centered on the research methodology, explaining the procedures for conducting the study. It included research techniques for conducting the study. It includes the research techniques employed, which established that survey research design using the cross sectional survey, the population of the study included the polytechnic students and the heads of reader services, sampling techniques and

sample size, data collection instruments include the questionnaire was used to collect primary data from the sampled of polytechnic students in north-eastern zone of Nigeria. Also, interview was used to collect data for the heads of reader services.

Chapter four covered the presentation, analysis and interpretation of data collected from respondents and heads of reader services. The chapter comprises of response rates, demographic characteristics of the respondents, types of information resources available in the libraries, access to information resources, use of information resources, user satisfaction with the information resources, challenges faced with use of information resources .Also participants mentioned information resources available in their libraries, access to information resources, use of information resource, challenges faced with access and use of information resources and solutions associated with the access and use of information resources. Chapter five comprise of the summary, conclusion and recommendations of the study.

5.2.1 Summary of Findings

1. Study found that the polytechnic libraries studied have available information resources which cut across the print and non-print information resources which included dictionaries, encyclopedias, journals, magazines, monographs, maps and atlases, newspapers, CD/DVD ROMs, e-books, e-journals, online databases, offline databases, internet resources.
2. The study also found that the frequency of access to print and non-print information resources in the libraries studied was low. The study found that the information resources were fairly accessible and majority of the respondents attested to the fact that textbooks and Internet resources were the

major resources they accessed in their libraries. This is followed by encyclopedias, e-journals, e-books, newspapers and journals, offline databases, magazines, CD/DVD Rom, monographs, maps and atlas and lastly, OPACs.

3. The extent to which polytechnic students used encyclopedias and Internet resources was higher than every other information resources, and that few information resources were very highly utilized as well as highly utilized making the use of information resources generally low when compared to the various information resources available in the polytechnic libraries studied.
4. Users were generally fairly satisfied with the use of information resources in the polytechnic libraries studied, which implies that the libraries studied did not provide for easy access for use of the information resources.
5. Lack of awareness of the information resources/services and poor search skills were the major problems associated with the access and use of information resources in the polytechnic libraries studied.

5.3 Conclusions

Information is a key resource/asset to the attainment of whatever goal that is targeted by individuals. Thus, it has become clear that the essence of providing effective and efficient access to the information in a polytechnic library will be inconsequential if the resources are not used by the intended users. However, textbooks and Internet resources were the major resources the polytechnic students access in the polytechnic libraries in north-eastern zone of Nigeria. But, the use of information resources was generally low in the libraries because of lack of awareness of information

resources/services and poor search skills. Therefore, the access to and use of information resources by students is facing challenges in polytechnic libraries in north-eastern zone of Nigeria. Meanwhile, various challenges are hindering the access to and use of information resources by students in the polytechnic libraries studied. The major challenges included inadequate knowledge of information technologies operation by the users, insufficient materials in various areas of study, inadequate electricity or power supply, lack of adequate skilled, trained and professional personnel, lack of staff enthusiasm as well as lack of adequate awareness about the library materials/services.

5.4 Recommendations

Based on the findings of this study, the following recommendations were made:

1. The library management should ensure that both the available print and non-print resources should be adequate, current and relevant to the needs of the polytechnic students in the polytechnic libraries studied through continuous review of the information resources available.
2. Provision of effective means of access to the libraries information resources irrespective of their formats can stimulate change and create an environment that makes learning more meaningful and responsive. Therefore, there is the need for the management to put in place an effective system that will create equal access to information resources in the polytechnic libraries.
3. Appropriate measures should be taken in order to maximize the extent to which information resources are used by the polytechnic students in the

polytechnic libraries studied through the provision of illustrative guides on how to search for information resources.

4. Appropriate and modern ways that could enhance ease of access to information of the libraries studied should be effectively provided such as state-of-the-art libraries which in recent times enhance access to information resources through the provision of OPAC, databases (online/offline) etc. also, the management of the polytechnic libraries studied may consider this available option in order to improve access to their resources.
5. User education via orientation, carnivals, awareness campaign, use of fliers etc, should be provided by the librarians to the polytechnic students of the polytechnic libraries studied in order to improve access, use and user satisfaction with the information resources available in the libraries studied.

5.5 Suggestion for Further Research

Considering the scope and limitations of the study, there are many areas through which other researches can be conducted. This study covered only polytechnic libraries in north-eastern zone of Nigeria. It is therefore to say further researches may be focused on college libraries or both. Similarly, the access to and use of electronic information resources by students in polytechnic libraries in Nigeria could also be developed.

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Appendix I: STUDENTS' QUESTIONNAIRE

Department of Library and Information Sciences,
Bayero University, Kano,
P.M.B. 3011, Kano,
Kano-Nigeria

Dear Student,

REQUEST TO COMPLETE A QUESTIONNAIRE

I am a post-graduate student of the above named department currently conducting a research titled “access to and use of information resources by students in polytechnic libraries in north-eastern zone of Nigeria”

I hereby crave your indulgence to respond to the questions in this questionnaire attached. All information supplied by you in this regard will be treated with utmost confidentiality and used exclusively for the purpose of this study.

Thank you in anticipation of your cooperation.

Suleiman Bala Abdul

(SPS/15/MLS/00011)

07066660574

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QUESTIONNAIRE FOR STUDENTS
SECTION A: Demographic Information of the Respondents
(Please tick appropriately as applicable to you.)

1. Institution.....

2. Class.....

3. Gender: Male () Female ()

SECTION B: Types of Information Resources Available

4. What types of information resources are available in your polytechnic library?

(Please tick as appropriate)

Types of Resources			
S/N	Print Resources	Yes	No
a	Dictionaries		
b	Encyclopedias		
c	Journals		
d	Magazines		
e	Monographs		
f	Maps and atlas		
g	Newspapers		
h	Textbooks		
Non-print Resources			
i	CD/DVD Rom		
j	E-Books		
k	E-Journals		
l	Online Databases		
m	Offline Databases		
n	OPACs		
o	Internet Resources		
p	Microforms		

5. How do you consider the level of adequacy of information resources in your polytechnic library?

S/N	Format of the Resources	Highly Adequate	Adequate	Fairly Adequate	Inadequate	Indifferent
a	Print Information Resources					
b	Non-print Information Resources					

6. How do you consider the relevancy of information resources in your library?

S/N	Format of the Resources	Highly Relevant	Relevant	Fairly Relevant	Irrelevant	Indifferent
a	Print Information Resources					
b	Non-print Information Resources					

7. How do you describe the level of currency of information resources in your library?

S/N	Format of the Resources	Very Current	Current	Fairly Current	Not Current	Indifferent
a	Print Information Resources					
b	Non-print Information Resources					

SECTION C: Access to Available Information Resources

(Please tick as appropriate)

8. Do you have access to information resources in your polytechnic library?

a. Yes ()

b. No ()

9. Which of the following information resources do you have access to in the library?

Types of Resources			
S/N	Print Resources	Yes	No
a	Dictionaries		
b	Encyclopedias		
c	Journals		
d	Magazines		
e	Monographs		
f	Maps and atlas		
g	Newspapers		
h	Textbooks		
Non-print Resources			
i	CD/DVD Rom		
j	E-Books		
k	E-Journals		
l	Online Databases		
m	Offline Databases		
n	OPACs		
o	Internet Resources		
p	Microforms		

10. How do you access information resources available in your library?

S/N	Ways of Accessing the Resources	Yes	No
a	Through the card catalogue		
b	Through the shelves		
c	My library has free internet café		
d	My library has fliers and user guides for accessing information resources		
e	Through assistance from friends and colleagues		

11. How would you rate the level of access to information resources in your polytechnic library?

S/N	Format of the Resources	Very Highly Accessible	Highly Accessible	Fairly Accessible	Not Accessible	Indifferent
a	Print Information Resources					
b	Non-print Information Resources					

12. How often do you access information resources in your library?

S/N	Format of the Resources	Daily	Weekly	Monthly	Rarely	I do not access it
a	Print Information Resources					
b	Non-print Information Resources					

SECTION D: Use of Information Resources

(Please tick as appropriate)

13. Do you use the information resources in your polytechnic library?

Yes () No ()

14. How often do you use the information resources in your polytechnic library?

S/N	Format of the Resources	Daily	Weekly	Monthly	Rarely	I do not use it
a	Print Information Resources					
b	Non-print Information Resources					

15. What are your reasons for using the information resources available in your library?

- a For research work ()
- b To write my assignments ()
- c To prepare for examinations ()
- d General reading and leisure ()
- e Others (please specify).....

16. What are your major reasons for not using the information resources available in the polytechnic library?

- a Not aware of it ()
- b Not easy access ()
- c Do not know how to search ()
- d No help available ()
- e Others (please specify).....

17. How can you rate the extent of your use of the various non-print resources?

(Please tick as appropriate)

S/N	Print Resources	Very Highly Utilized	Highly Utilized	Moderately Utilized	Not Utilized	I do not know
a	Dictionaries					
b	Encyclopedias					
c	Journals					
d	Magazines					
e	Monographs					
f	Maps and atlas					
g	Newspapers					
h	Textbooks					
Non – print Resources						
i	CD/DVD Rom					
j	E-Books					
k	E-Journals					
l	Online Databases					
m	Offline Databases					
n	OPACs					
o	Internet Resources					
p	Microforms					

18. What is your level of satisfaction with the use of information resources in your polytechnic library?

S/N	Print Resources	Highly Satisfied	Satisfied	Moderately Satisfied	Not Satisfied	I do not know
a	Dictionaries					
b	Encyclopedias					
c	Journals					
d	Magazines					
e	Monographs					
f	Maps and atlas					
g	Newspapers					
h	Textbooks					
Non – print Resources						
i	CD/DVD Rom					
j	E-Books					
k	E-Journals					
l	Online Databases					
m	Offline Databases					
n	OPACs					
o	Internet Resources					
p	Microforms					

SECTION E: Users' Satisfaction with Information Resources

19. How satisfied are you with the use of information resources in your polytechnic library?

- a Highly satisfied ()
- b Satisfied ()
- c Fairly satisfied ()
- d Not satisfied ()
- e Highly not satisfied ()

20. If your answer to question (19) above is either c or d, what do you do to get the information resources to satisfy your needs?

- a Ask library staff for help ()
- b Visit another library ()
- c Search the internet ()
- d Abandon the search ()
- e Others (please specify).....

SECTION F: Challenges Faced with Accessing and Using Information Resources

21. What challenges do you encounter when accessing and using information resources in your polytechnic library?

- a Inability to access materials from the shelves ()
- b Inability to access materials from the internet ()
- c Inadequate knowledge of information technologies operation by users ()
- d Inadequate facilities ()
- e Insufficiency of information resources in area of study ()
- f Lack of awareness of information resources/services ()
- g Poor search skills ()
- h Others (please specify).....

SECTION G: Solution(s) to the Challenges Faced with Accessing and Using Information Resources

22. Please suggest possible solutions to the challenges you indicated, above

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**Appendix II: INTERVIEW GUIDE FOR THE HEADS OF READER SERVICES
DIVISIONS**

SECTION A: Personal Bio-data:

- 1 Status/Rank.....
- 2 Educational qualification.....
- 3 Years of working experience.....
- 4 What is the name of your polytechnic.....

SECTION B: Types of Information Resources Available:

1. Could you mention the various information resources available in your library for the students?

SECTION C: Access to Information Resources:

1. Briefly explain how accessible the information resources are to the students in your library?

SECTION D: Use of Information Resources:

1. Briefly explain the level of use of the information resources by students in your library?

SECTION E: Challenges Faced in Access to Information Resources in Polytechnic Libraries:

1. Could you mention your major challenges that you face in ensuring effective use of information resources in your library?

SECTION F: Solutions to the Challenges Faced in Access to Information Resources in Polytechnic Libraries:

1. In your own opinion, what do you think the library can do to solve these challenges?