# ACCESS AND USE OF ELECTRONIC DATABASES BY THE ACADEMIC STAFF OF BAYERO UNIVERSITY, KANO

By

**MUHAMMAD YUSUF (SPS/11/MLS/00039)**

**A DISSERTATION SUBMITTED TO THE DEPARTMENT OF LIBRARY AND INFORMATION SCIENCES BAYERO UNIVERSITY KANO IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF LIBRARY AND INFORMATION SCIENCE.**

**JANUAARY, 2016**

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## DECLARATION

I hereby declare that this research work is my original work undertaken under the supervision of Dr. Binta L. Farouk and has not been presented to any other institution of higher learning for academic award or any other purpose.

Muhammad Yusuf

Signature..... Date.....

## CERTIFICATION PAGE

This is to certify that, the research work for this dissertation and the subsequent preparation of this dissertation by Muhammad Yusuf (SPS/11/MLS/00039) was carried out under my supervision.

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Dr Binta L. Farouk — Date

Supervisor

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Asso. Prof S. O. Bello — Date

Head of Department

## APPROVAL PAGE

This to certify that this Dissertation has been read and approved as having met the requirements for the award of Master's Degree in Library and Information Science (MLS), Department of Library and Information Sciences. Bayero University, Kano.

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## DEDICATION

This research work is dedicated to my loving parents Yusuf Umar and Hafsat Muhammad who have given me moral training.

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## LIST OF ABBREVIATIONS

| | |
|---|---|
| ACM:- | Association for Computing Machinery |
| AGORA: - | Access to Global Online Research in Agriculture |
| AJOL:- | African Journal |
| BMJ:- | British Medical Journal |
| BUK:- | Bayero University Kano |
| CALC:- | Consortium of Academic Libraries of Catalonia |
| CINAHL:- | Cumulative Index to Nursing and Allied Health Literature |
| CSIRO:- | Commonwealth Scientific and Industrial Research Organization |
| DBMS :- | Database Management System |
| DOAJ:- | Directory of Open Access Journals |
| E-Databases:- | Electronic Databases |
| E-GRANARY:- | Electronic Granary |
| E-library:- | Electronic library |
| ERIC:- | Education Resource Information Center |
| E-THESES:- | Electronic Theses |
| HINARI:- | Health International Access to Research Initiatives |
| ICT:- | Information and Communication Technology |

| | |
|---|---|
| IEEE:- | Institute of Electrical and Electronics Engineers |
| IIT:- | Indian institute of technology |
| IT:- | Information Technology |
| JISC:- | Joint Information System Committee |
| JSTOR:- | Journal Storage |
| LA: - | The Library Association |
| NAACE: - | National Association of Advisors for Computers in Education |
| NALISE: - | National Association of Library Educators |
| NUC: | National Universities Commission |
| OARE:- | Online Access to Research in the Environments |
| OCW:- | Open Course Ware |
| OPAC:- | Online Public Access Catalogue |
| PLIM:- | Pharmacopoeial Laboratory for Indian Medicine |
| SAGE:- | Systematic Association of Geriatric Drug use via Epidemiology |
| TEEAL:- | The Essential Electronic Agricultural Literature |
| UCH:- | University Collage Hospital |
| UK:- | United Kingdom |
| USA:- | United States of America |

## ABSTRACT

The study was conducted to investigate access to and use of electronic databases by the academic staff of Bayero University, Kano. The aim was to examine their level of awareness, accessibility and use of electronic databases in the library. The study adopted a cross sectional survey research design. A sample of 142 respondents was drawn out of a population of 1,420 academic staff of the university. Questionnaire was used as instrument for data collection. One Hundred and Forty Two (142) copies of the questionnaire were administered but only one hundred and ten (110) were returned and used for the study. Descriptive statistic was used to analyze the data collected. The Borgman's Three Elements of Accessing Information in Networked World was used as a theoretical framework for the study. The study found that majority of the academic staff of the University were aware of the E-databases availability in the library and their level of awareness varies in respect of the databases available. Source(s) of their awareness include contact with the University Librarian/ Library staff and University Bulletin. Majority of the academic staff access the E- databases in the library. Strategies used in accessing the databases include using ID login and password. The respondents also had positive perception and attitude toward the use of the E-databases. They used online databases "sometimes" but "never" used the offline databases. Factors found facilitating the use of the E-Databases among the academic staff include the ICT skills of the respondents and internet access. Whereas, factors hindering use of the E-databases in the library were slow response of the network and irregular power supply. The study recommended the need to increase the level of awareness of users on databases available in the library; to develop a comprehensive access system by the library; to boost perception and attitude of users towards the E-databases and to develop plans that will improve the use of the E-databases by the users of the library.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the study

The world is currently passing through an era of rapid technological and socio-economic changes and the aura of such changes makes us believe that we are living in the information Age. These technological advances have transformed traditional library services and have introduced new form of resources. This technological revolution witnessed in the last few decades has broadened the walls of libraries operation and services. As a result of this, some resources of the libraries have changed from physical to virtual objects, from card catalogue to online public access catalogues and from usual traditional library settings to electronic database arrangement (Bell, 2009).

E-databases are collections of electronic information resources by publishers in various fields and disciplines which can be accessed online or off-line. Some of these databases are provided free of charge to libraries in developing countries by their publishers or vendors. These e-databases are categorized into Textual, Numerical, Bibliographic, Non Bibliographic, Online and Offline etc (Alhassan and Afolabi, 2007). Electronic databases have become important part of library collections and now serve as a complement for print materials in recent times (Swain, 2010). Based on the above assumption, university libraries in particular, started acquiring and subscribing to these electronic databases in order to provide adequate information resources to their users. Also, managers of these libraries started to inform, publicize the availability and existence of these databases in their libraries.

According to Baro (2011), awareness to the existence of e-resources in libraries is the first step to their use by the patrons. A deduction from Anaraki and Babalhavaeji's (2013) study was that when students are not aware of the existence of e-databases in their library system they tend to use general search engines to meet their information needs. Earlier on, Asemi and Riyahiniya (2007) found that users that are well informed about availability of electronic databases in their library are the greatest users if accessibility to the electronic databases is provided.

Electronic databases are widely available and can be accessed from anywhere and by many users at the same time. As well, these Electronic databases can be stored, accessed, and delivered as and when required; therefore, the services of the libraries are not confined within the four walls but are integrated into local, regional, national, and international networks (Kaur and Verma, 2009). Khan (2005) pointed out that the introduction of electronic databases to educational settings would benefit teachers and students because it would create opportunities for them to access information resources that are traditionally inaccessible outside school. In relation to the above, Atakan (2008) pointed that E-database not only does allow academic staff to access a vast number of resources from different areas of knowledge, but it also enables them to retrieve those resources systematically and use them efficiently. Scholars and researchers have long discussed the use and potential utility of electronic databases in enhancing learning, teaching and research.

Many library users now consult and utilize e-databases made available to them in their libraries for different purposes. In line with this, Nisha and Ali (2013) found that users of their library used electronic databases because of the currency of e-journals' articles and rich content of information resources.

In spite of numerous benefit derived from e-databases, users differ greatly in their feelings and sensations toward these databases. For example, Wu and Chen (2012) studied how graduate students perceive, use, and manage electronic resources in the National University of Taiwan found that humanities students perceived the e-resources less important compared to students of other disciplines. Sinh and Nhung (2012) argued that users' behaviour will influence the usage of e-databases. In this regard, Kwadzo (2015) noted that sheer attitude of users lead to non use of e-databases and that factors that influence usage of databases are the purpose of usage, preferred types of materials, ways to learn the search, search techniques, and difficulties and expectations in using the databases.

However, a university library has basic responsibility for providing adequate informational resources and services to support the university's information resource needs and to enhance the university's learning, teaching and research activities. A university library is an important segment and a factor in achieving academic excellence. Universities are engines of growth and development. They are increasingly recognized to have a broader role in the social, economic, technological and manpower development of a nation. In fact, the university services are the main source of supply of highly skilled manpower needed in the various sectors of the nation. It is acknowledged that university education make optimum contribution to nation by intensifying and diversifying its programme for the development of high level manpower within the context of the need of the nation. Universities produce needed manpower for the nation's economic, political environment, technological and socio – cultural development. In the same view, Okiy (2012) observed that "this major role of universities in national development is achieved through the programme of teaching, learning and research".

In addition, beside the opportunities offered by the university libraries to their users and the significance of E-databases to academic staff, little is known on the access and use of electronic databases in Nigeria (Achonna, 2008). Therefore, there is a great need to conduct this study on access and use of electronic databases by the academic staff in Bayero University Kano with a view to identify awareness, perception, attitude, accessibility and use of electronic databases by academic staff in the university.

**Brief Historical Background of Bayero University Kano and its Library**

Bayero University Kano is located in the central city of Kano State, and is one of the seven third generation universities established by the federal government of Nigeria in August 1975. The Bayero University Kano has grown from two faculties in 1976 to thirteen faculties (13) with about ninety four (94) academic departments. It has about one thousand four hundred and twenty (1420) academic staff, according to the preliminary study conducted by the researcher as at 23/1/2015. The university's vision, mission and core values are:

- To be a world class university in Africa, renowned for its excellence in teaching and research and the quality of its products.
- To provide world –class academic and professional training and community service; and conduct research for the advancement of society.
- To produce high level human resources with requisite skills for the development of the host community, the nation and humanity.
- humility, sacrifice, discipline and commitment
- Integration ,internationalization, professionalism and good governance, and
- Innovation, creativity, excellence and best practices ( BUK, consolidating the citadel, 2004).

In fact, university on its own cannot achieve the desired goals without a vibrant university library. A university library is therefore a partner, an important segment and a factor in achieving academic excellence. In this regard, Bayero university library was established. The historical background of this library could be traced to the 3rd February 1964 at the old Kano Air Port Road popularly known as Abdullahi Bayero College library. The library started in a room apartment and was later transformed into a wing of the main block and the hotel of the library was established in order to cater for the Faculty of Art and Islamic Studies. Its collection by then consisted of 1135 books, mainly on Arabic and Islamic studies, Hausa, English and History. It also contained some 65 periodical titles. These were all necessitated by the university strong Islamic backgrounds and the need to create an identity for itself alongside fulfilling its mission to its close dominant Islamic society and yet remain within the ambition of International community with the aim of dissemination of knowledge.

By March 1968 the physical location of the library was moved to the present Old Campus Science library. The construction of the library was made possible by grant of 225,000 pounds which the British government rendered to the northern Nigerian government. At first, the British building served as a multipurpose complex which provides accommodation for both the library, teaching department, lecture hall and the college administration. A huge progress was made in that time, the most important of this occurred between 1975 and 1977, when the country was rich and the economy was properly utilized.

The library is operating presently at the main library in the new campus of the institution. The middle floor is segmented for the administrative officers, circulation desk area, cataloging and classification unit, reference section and collection development section. The ground floor is used or occupied by the Reserve section and Automation sections at the extension area, also staff

officers attached to oversees its operation. The second floor is occupied by the circulation and staff officers attached to oversee its operation. The 3rd floor is occupied by Arabic section and serial section at the extension area, also staff officers attached to oversees its operation.

However, at the upper most area on the 3rd floor Document unit/ postgraduate research section is located. The main library at the new campus houses materials that are relevant to the programmes run by the faculties and departments of the institution, these are faculties of Education, Engineering, Art and Islamic studies, Agriculture, Allied Health Sciences, Bio-medical Sciences, Clinical Sciences, Computer Science and Information Engineering, Earth and Enviromental Sciences, Dentistry, Law, Science, Social and Management Sciences. There are also branch libraries which include: Science library, Pre-clinical library, Medical library Law library, Dentistry library, Mudi sipikin Library at Mambayya house, and Engineering library (K/Naisa and Bichi, 2008).

The new awareness in the Information Technology (IT) brought the need for library automation in Nigeria and this began with some professional discussion in the early 1970's. For instance, arising from the new global trends in Library Association (LA) conference held in 1971 was on computerization. Later, a workshop on library Automation was held in 1977 in Nigeria. There were also various section and extra professional groups such as National Association of Library and Information Science Educators (NALISE), the Committee of University Librarians of Nigerian Universities, (CULNU) and now the emerging interest groups manifest by the computer literacy project. Following this background some schools in Nigeria began to automate their libraries and Bayero University was one of them. In the year 1982, the institution automated its serial section index, as the Nigerian Universities Commission (NUC) enshrined and so, directed all universities to automate their libraries. The communication provided with provision of some

basic hardware equipment and software programme, which were put in place to begin with ( BUK consolidating the citadel, 2004).

However, the Bayero University Library did not make much progress initially. In 1999, the library committee concluded that Bayero University Library was left behind in this critical area, and thus set up a sub-committee of few members to go round some Nigerian universities that have fully automated their library system, access their level of success, discuss the appropriate officials and come up with a substantial report. History has shown that, Bayero university library started the services of providing full text electronic databases with an E-Granary server containing of about 2.2 million documents in October 2006. This marks the beginning when the users of library started accessing and using full text electronic databases in the library. Since then the library has continued to subscribe to electronic databases for the benefit of its users. (BUK consolidating the citadel, 2004).

It is important to note that, the Bayero University library was rated the best University of the year 2006, with the library contributing greatly to the achievement. Researchers and library users were enjoined to use the free internet facility. There is also a free wireless internet connection in some areas of the library (BUK official bulletin, 2006).

Thus, there is the need to empirically examine access to and use of e-databases by academic staff specifically in the study area.

## 1.2 Statement of the Problem

Electronic-Databases (e-databases) have become an established component of many academic libraries' collection. These databases often contain journal articles, or references to such articles,

e-books, reference sources, conference papers and reports among others. There are various types of these databases such as bibliographic, full-text, directory, numeric and multimedia.

The central purpose of libraries is to provide information resources and services that are useful and accessible to users. In recent years, various electronic databases have been used by academics, teachers, and students in higher education. To a certain extent, electronic versions have become preferable to print books and journal articles. The growth of information in electronic format forces users to learn how to find, select and use a wide variety of resources. Academic staff must develop these skills in order to produce qualified individuals, engaged in the lifelong pursuit of knowledge for personal and professional growth. The ability to effectively utilize electronic database is a key issue, since it may help them to enhance the quality of their teaching when they become professionals (Borrego et.al, 2007).

However, in his study on Awareness and Usage of Electronic databases by Geography and Resource Development Information Studies Graduate Students In The University Of Ghana Kwadzo (2015) indicated that, in spite of the value of e-databases and the library's efforts in ensuring that they are available for use by clients, studies have shown that usage is not up to level expected or is simply underutilized. In earlier view, Okiy (2005) observed that, many university libraries in Nigeria have embraced active provision of electronic databases but it appears that users of these libraries do not adequately access and use these resources. It is against this background that, this study investigated the level of awareness, accessibility and extent of use of electronic databases available in B.U.K library by the academic staff of the University, with a view to identifying attitude and perception of the academic staff towards the use of electronic database.

## 1.3 Research Questions

Based on the statement of the problems and in order to achieve the objectives of this study, the study raised the following questions:

1- What is the level of awareness of the academic staff of Bayero University with the electronic databases available in the University library?

2- How do the academic staff access the electronic databases available in the library under study?

3- What is the perception of the academic staff towards the electronic databases available in the library?

4- What types of attitude do the staff manifest towards the use of electronic databases in the library under study?

5- To what extent do academic staff use electronic databases in the library under study?

6 - What are the factors facilitating use of e-databases in the library under study?

7- What are the factors hindering use of e-databases in the library under study?

## 1.4 Research Objectives

This study is designed to achieve the following objectives.

1- To determine the level of awareness of academic staff in Bayero university with the electronic databases available in the University library.

2- To find out how academic staff of Bayero University access the electronic databases available in the University library.

3- To find out the perception of the academic staff with the electronic databases available in the library under study.

4- To find out the attitude of the academic staff toward the use of electronic databases in the University library under study.

5- To find out the extent of use of the electronic databases by academic staff in the library under study.

6- To identify factors facilitating the use of e-databases in the library under study.

7- To identify factors hindering the use of e-databases in the library under study.

## 1.5 Significance of the Studies

The research it is significant in justifying the roles and functions of the library itself, as the E-database use today tends to affect academic staff learning, teaching and research, and therefore can be considered an important tool in academic environment. Hence, it is expected to be useful for the patrons of academic libraries in particular and other libraries in general.

The findings of the study are expected to be used by Bayero University Library in improving access and use of electronic databases. It will enable the library to know the problems or barriers encountered by users in the use of the electronic databases subscribed or acquired by the library. Therefore, the study would help the library to improve on the existing electronic collection and services and as well, plan for future digital library services to meet the changing needs of it multi- dimensional staff.

Also, the findings of this study, the conclusion drawn and recommendations made can form the basis for the formulation and implementation of policy on the acquisition of IT hardware, software, staff recruitment, capacity building, and user education in Bayero University in particular and all Nigerian universities in general.

The research is also expected to contribute to the existing literature in E-databases management which will serve as reference source for different category of library users and researchers.

### 1.6 Scope and Limitation of the study

This study was focused on accessibility and the use of electronic databases by academic staff in Bayero University library, Kano. The study covers only the electronic databases that are available in Bayero University library.

However, this study is limited to the following Departments, institutes and centers: Fisheries, food science technology, forestry, Theatre &Film Studies, Anesthesiology, Information Technology, Software Engineering, Child Dental Health, Craniofacial Orthodontics, Dentistry, Oral & Maxillofacial, Oral Diagnostic Surgery, Preventive Dentistry, Geology, Urban and Regional Planning. A. K. C. D. R & T. C.R.N.L.F, CAER & T and Centre for Information Technology because they have fewer number of academic staff which could not allow the researcher to pick the ten percent (10%) of respondents taken as sample from all the clusters. Hence, this necessitated the researcher to exclude them from the study.

The study was constrained in several ways. First, the greatest part of the relevant literature comes from other developed nations and may not truthfully explain the situation in Nigeria. Secondly, method used in data collection (questionnaire) does call for any means of identification because of its impersonality. Hence, research will be required involving interview and observation that allows obtaining some significant information pertaining to the actual access and use of electronic databases in the university library.

In addition, the time within which the research is to be carried out, presented and defended posed a delay in the conduct of the study, this establishes a great limitation. The researcher, on the

other hand, pursued the research and ensured that, the effect of these limitations posed no significant threat to the successful completion of the study on schedule.

### 1.7: Definitions of Research Concepts / Terms

**Academic Staff**: This involves all teaching staff whose primary responsibility involves teaching and advancing the frontiers of knowledge through research.

**Access**: - This is the convenience and ease of retrieving or getting to information resources in the electronic databases. Access is used synonymously with the words gaining, attaining, retrieving, obtaining, finding and approaching etc.

**Attitude: -** It is a settled behaviour or manner of acting, as representation of feeling or opinion of library users toward Electronic databases. It involves positive or negative emotional feeling of library users with respect to E-databases. Attitude is used synonymously with the words: inclinations, feelings, prejudices, bias, preconceived notions, ideas, fears or convictions etc.

**Awareness: -** In the context of the study, this refers to the familiarity of the academic staff to the existence of the electronic databases in the University library.

**Perception: -** This is involve the feelings, impressions or understanding based on what is observed or thought by academics regarding to electronic databases.

**Use: -** This is the searching, browsing, examining or visiting of E-databases, downloading and printing it by the user.

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# CHAPTER TWO
# REVIEW OF RELATED LITERATURE

## 2.1 Introduction:

This section reviewed the related literature to the study. The areas covered by the review include the following:

2.2 Concept and Significance of Electronic Databases

2.3 Types of Electronic Databases in Academic Libraries

2.4 Awareness and Access to Electronic Databases by Library users

2.5 Perception and the Use of Electronic Databases

2.6 Attitude of Users Toward the Use of E-Databases

2.7 Factors Affecting the Use of E-Databases in Academic Libraries

2.8 Theoretical / Conceptual Framework

2.9 Summary of the Review and Uniqueness of the Study

## 2.2 Concept and Significance of Electronic--Databases

Electronic Database has been described variously by many scholars. According to Henderson (2009) "e-database is organized and designed to allow a large number of users to retrieval of information from it for many purposes and in different format". It is an electronic or digital document. It refers to a large collection of electronically organized data for one or more purposes. An electronic database as an organized collection of digital information focused on one or more subject areas. Afolabi (2007) viewed E-databases as collections of electronic information resources by publishers from various fields and disciplines which can be accessed online or off-line. According to Buffum (2008) electronic database is a compilation of

information that is stored electronically in a computerized system. It can be specific to one organization, a group of several facilities, or a nationwide effort. Also, Reitz (2004) define database as “a large regularly updated file of digitized information related to a specific subject or field, consisting of records of uniform format organized for ease and retrieval and manage with the aid of database management system.”

An Electronic database system allows several users to access the database concurrently answering different questions from different users with the same (base) data. Such concurrent use of data increases the economy of a system. Data capturing and data storage is not redundant. The system can be operated from a central control and the data can be updated more efficiently. Additionally, better use of the most often very expensive (geo) data can be made. A fundamental feature of the e-database does not only contain the data but also the complete definition and description of these data. These descriptions are basically details about the extent, the structure, the type and the format of all data and, additionally, the relationship between the data. This kind of stored data is called metadata ("data about data"). E-database is protected from unauthorized access (confidentiality) and unauthorized changes (Calvert, 2009).

Moreover, an e- database has several users and each of them, depending on access rights and desire, needs an individual view of the data (content and form). Such a data view can consist of a subset of the stored data from the stored data derived data (not explicitly stored). A university manages the data about students. Beside matriculation number, name, address, etc. other information like in which course the student is registered, if he needs to do a resit, and so on is managed as well. According to Henderson (2009) electronic database has the following features:

• Concurrent use

• Structured Data

• Separation of data and application

• Data integrity

• Transaction

• Data persistence

• Data views

However, electronic databases historically were in existence for a very long period. Computerized database started in the 1960s, and the first databases to go online in the 1970s were bibliographic, containing references to and (usually) abstracts of articles in the academic and professional literature (examples include Chemical Abstracts and Medline, which aim to cover the worldwide literature of chemistry and medicine, respectively). Since then there has been a tremendous growth in the number and scope of online databases, as well as the introduction of the CD-ROM format in the early 1980s. Worldwide, there are no accurate statistics for the total number of databases in existence. As from 1997 to date, it was possible to identify over 10,000 databases including those on CD-ROM) (Walker and James 1999). The USA is by far the largest producer of internationally available databases, followed by the UK, Canada and Germany (Kim, 2006).

Electronic databases are valuable tools for study, learning and research. They can provide many advantages over traditional print-based resources: they contain current information because they are updated frequently. They offer advanced search capabilities, they offer flexibility in the storage of the results, and enable access to information without the restrictions of time and location. The access to electronic resources in higher education institutions is rapidly increasing. In view of the above, E-database not only allow users to access a vast number of resources from different areas of knowledge, but it also enables users to retrieve those resources systematically

and efficiently. Scholars and researchers have long discussed the potential utility of electronic databases in enhancing teaching and learning. For example, Diercks (2003) pointed out that the introduction of electronic databases to educational settings would benefit teachers and students because it would create opportunities for them to access information resources that have traditionally been inaccessible outside school. One of the benefits brought by these electronic resources is the availability to support classroom learning through the use of numerous books in online digital collections (Aina, 2009). Othman and Halima (2004) portrayed that the retrieval feature of e-databases are: basic and advanced searches using Boolean operators, proximity, lateral searching, query-by-example, and re-run saved search strategies.

Furthermore, Okiy (2005) suggested that, the introduction of electronic databases enhances self-guided learning as information resources become accessible for lecturers and students to explore questions of personal interest and equipped with the tools to conduct browsing and creative discovery. In recent years, various electronic databases have been used by academics, teachers, and students in higher education. To a certain extent, electronic versions have become preferable to print books and journal articles (Borrego et.al, 2007).The growth of information in electronic format forces users to learn how to find, select and use a wide variety of resources. Academic staff must develop these skills, in order to produce qualified individuals, engaged in the lifelong pursuit of knowledge for personal and professional growth. The ability to effectively utilize electronic e-database is a key issue, since it may help them to enhance the quality of their teaching when they become professionals.

In addition, it is expected that an educator comfortable in using electronic database may encourage his/her students to do the same, and thus contribute to their computer and information literacy. As stated by Mercado (2008:74) e-databases have the following benefits:

Benefit to Users

- Independent of space and time
- Interact with other electronic resources
- Save user's time
- Provides value addition such as searcheability
- Can be read by multiple users simultaneously
- Cannot be mutilated, stolen, lost and vandalized
- Multi-user accessibility etc

Benefit to libraries

- Superior resource delivery
- Improve services
- Potentiality of accurate usage to help collection development decisions
- More cost effective than print
- Reduced shelving, binding, maintenance etc
- Public relation opportunities etc

Similarly, credibility and prestige of electronic databases: The major barrier to the successful transition from the paper to e-databases in the academic community is the acceptance and the credibility of e-databases. This is more a sociological factor than a technical one. It is related to the role of the scholarly publication within the scholarly communication system. This plays an important role in selecting e-databases. Burgstahler (2009) is of the opinion that digital libraries can play a major role in promoting acceptance of e-databases among authors and readers by helping e-databases to gain visibility. In this way, libraries would be helping to transform the

scholarly communication system by making those publications more easily available to a larger readership than expensive print publications.

In addition, Okello-Obura and Magara (2008) stated that electronic databases provide wider access to information, faster to current/ up to-date information, easier access to information and improved academic performance as a result of access to quality information.

Moreover, electronic databases have speed in distribution and production. Calvert (2009) stated that, the printing processes are eliminated and the authoring and publishing systems can be integrated easily by computer readable texts. He added that electronic transmission and dissemination, especially in the review process, saves time and establishes network communication among authors, editors and referees. The speed and availability on the desktop facilitate the accessibility of e-databases and motivate researchers and create enthusiasm in use of e-databases. Kaur (2006) reported that e-resources can be good substitutes for conventional resources if the access speed is fast, access to all the important e-database is provided and more computer terminals are installed to provide access to e-resources.

Furthermore, due to the availability of equipment and connectivity, users can access and use a particular article or journal because E-databases are not time or geographic bound. It can be reached, searched and retrieved simultaneously and instantly without consideration of user's location. The active dissemination of e-information creates motivation to the users and pushes them to use the e-database if they are connected to the network. The dissemination mechanism needs the acceptance of new articles by the database. In that case the readers are alerted at their desktop. Rogers (2001) stipulated that E-databases allow intelligent full text retrieval based on past use and interest. Searching is the important advantage of a digital format.

E-databases have multimedia and interactive capabilities: Electronic page layout has the possibility of supporting full text, figures, graphics and other innovative ways of presenting research results. For this reason, e-database contains all features and has information for any scientific domain or any field of research. It also has Internal and External links: The publishers, research groups, and authors can be contacted through electronic mail. The networks created between the groups allow users the possibility of finding items of interest irrespective of the publisher. Links are important for users to provide faster, more direct access to more information and for librarians by supporting more effective information retrieval; Users have more creative ways to have their information queries answered (Rugengamanzi, 2013).

It is clear from the above discussion that, there are various conceptions of the electronic databases and many definitions are given especially from two perspectives:

a) From the perspective of computer science and
b) From the viewpoint of library and information science

However, the researcher had studied electronic databases from the perspective of library and information science.

### 2.3: Types of Electronic-databases in Academic Libraries

Many scholars and researchers have made a lot of categorization on e-databases subscribed by academic libraries. In view of the above Gray (2010) divided e-journals into the following:

**1.** E-journal databases**:** These contain collections of academic articles published a few times a year stored online. E.g. Sciencedirect, JSTOR.

**2.** Bibliographic databases**:** Bibliographic databases contain titles and abstracts. E.g. Proquest,Web of Knowledge.

**3.** Other databases**:** There are also a wide range of other library databases, including collection of old books, maps, dictionaries, parliamentary papers and more. e.g. Bankscope, JISC MediaHub.

In addition, Henderson (2009) sorted the e-databases into:

- Textual –Numerical
- Biliographic –Non Bibliographic
- Local- regional-Global
- Open source-Commercial
- Online-Offline

However, Bell (2009) classified electronic databases into:

- All subject electronic journal databases: these are e-databases which content cover many disciplines or field of knowledge. E.g. Cambridge, Informaworld, Ingenta, JSTOR, Oxford, Periodicals Archive Online, Sage, Springer, Wiley-Blackwell etc.
- Arts & Humanities electronic databases. These include: Baywood, Highwire, Peeters, Project Muse, ATLA Serials, Brill, Equinox Journals etc.
- Business, Social Science & Law. These include: Emerald, Highwire, Brill,Lawtel, Lexis etc.
- Education & Sports Sciences. These include: Symposium, Human Kinetics Journals etc.Health & Behavioural Sciences. These include: BioMed, BMJ, CINAHL, Cochrane Library, CSIRO, Irish Nurses Organization, Karger, Nature, Pavilion, PubMed, etc.

- Natural Sciences. These include: BioOne, Cell Press, Portland Press, Earthscan, Greenfile, Nature, Forestry - Atypon, EDP Sciences. Etc.
- Physical & Applied Sciences. These include: IEEE, NAACE, Rinton Press, IEEE, Institution of Civil Engineers (ICE), Euclid Open Access etc. As viewed by Buffum (2008) Types of databases include clinical, administrative, research, or combinations of these.

In Greece, Togia and Tsigili (2009) reported that, University of Aristotle of Thessaloniki subscribed to ERIC Database. In the same view, Tyagi (2011) in his study on use and awareness of electronic sources, found the availability of Springer, IEEE and Sciencedirect databases at Indian institute of technology library Roorkee.

Similarly, Academic Libraries of Puducherry Union Territory, India was surveyed by Radjagolpal and Chinnasamy (2013) to examine Users Attitudes and approaches Towards E-Resources and Services, the result indicated that the libraries subscribed online and offline e-databases. In addition, Upadhyay and Chakraborty (2008) found in their study of main library at institute of technology Barnabas Hindu University subscribed to Sciencedirect, Taylor and Francis e-databases.

In Malaysia, at Microelectronic Engineering University the study of Salleh (2012) found that, university library subscribed to IEEE Explore database for use of its patrons. In the same view, Abubakar (2013) pointed that, International Islamic University library, Malaysia had subscribed to online electronic databases for the use of its patrons. However, Bhukuvhani, Blessing, and Dorcas (2012) noted that, Bindura University of Science Education library, Zimbabwe subscribed to Emerald AJOL, Oxford University Press, AGORA, OARE and Geological Society databases.

In the Nigerian context, in his survey Aina (2014) reported that, Babcock university library Ogun state subscribed to AJOL, BOOKBOON, Dissertation and These, HINARI, EBISOHOST, SAGE databases. Similarly, Okiki (2012) indicated that, University of Lagos library subscribed to AGORA, EBSCOHost, Oxford Journal Online, JSTOR, OARES, Law Pavilion, and Legalpedia, Laws of the Federation of Nigeria (LFN) MetaPress, Ebrary and HINARI databases. In the same vein, Salaam and Aderigbe (2010) found that, University of Agriculture library, Abeokuta has TEEAL Database. In addition, Bashorun and Isah (2011) portray that, University of Ilorin library has the following e- databases for the use of it users namely: Emerald, ScienceDirect, Academic Search Premier, Ebscohost**,** Oare Sciences**,** Hinari**,** Virtual library etc., e-books collections, e-journals covering a variety of subjects, AGORA and MEDLARS.

However, despite the availability of literature on the types of electronic databases in libraries the research studies on types of electronic databases in Nigerian libraries are still scanty. Therefore, the current study investigated the types of electronic databases available in Bayero University Kano library.

### 2.4: Awareness and Access of Electronic-databases by Library Users

#### 2.4.1: Awareness of Electronic-databases by Library Users

A lot of research studies were conducted on awareness to e-databases in university libraries by academic staff. For Instance: In their study, Upadhyay and Chakraborty (2011) show that Science Direct was ranked (84.37%) and IEL online are the two most popular online journal databases packages about which researcher's and faculty members are aware. Springor links. (56.25%), Taylor and Farncis (46.87%), Science (46.87%, Nature (31.25%), Royal Society of Chemistry (28.12%) are the other important journals databases indicated by respondents which are licensed through UGC-infonet. In the same view, Chandran (2013) indicated that, library

users at Siva Institute of Frontier Technology India had 95.12% awareness of e-resources but only 4.88% of the respondents were not aware. The finding showed users were informed about the existence of e-databases through: library professional, institute website, official circular and library notice board.

Angello (2010) revealed that, the rate of awareness of electronic databases among livestock researchers in Tanzania was very low. Only 24.4% academicians were aware of AGORA and 11.1% were aware of HINARI databases. INFORM and OARE were known to 6.7% respectively and each of the remaining databases were known by 4.4% of academic staff. The findings of Velmurugan (2009) showed positive response of awareness by faculty members of Engineering College Chennai, Tamilmdu, India with almost 66 respondents (62.8 %) that are aware of online databases. Generally, the result has indicated that, there is a great awareness by the users to the electronic databases. Some were aware through school bulletin while some were via library website. Ndinoshiho's (2010) study of nursing students in the University of Namibia revealed that 86.4% of the students did not use the databases available to them because they were not familiar with the databases. Out of the 13.6% who used them, only 1.5% used them daily, 3.8% monthly and 3% rarely. Few who used them never used Medline database, one of the most prestigious medical databases because they were not familiar with it.

Furthermore, Bayugo and Agbeko (2007) reported on a survey of convenient access to, and use of, electronic databases (CD-ROM and online) with full-text journals and their effect on information seeking behavior of health sciences academics at the College of Health Sciences of the University of Ghana. The results showed that, Academics were unaware of the two full-text journal databases (HINARI and PERI) available at the Library. Hence they resorted to PUBMED as their source of access to full-text articles. They concluded that, most academics now prefer

using electronic databases to access information (CD-ROM/online databases) than traditional print indexes and abstracts. The academic staff became aware of these databases through e-mail alert from the library.

However, Bishop (1995) argued that if scholars are not aware of the existence of e-databases and any existing documents nobody will use them as sources of information. This is because knowing is the first stage for the conduct of any activity. Swain, (2010) in his study reveals that, majority of users are aware of EBSCOHOST and Emerald Management Xtra. Pharmaceutical Companies Library in Ahmadabad was surveyed by Chetan and Amrutbhai (2012) to examine user awareness and usage of e-journal databases. The result indicated that, there is high level of awareness by the users in the library. In addition, Ani and Edem (2011) in their study indicated that, online databases are mostly aware of by the users at University Calabar include: Science Direct, EBSCOHOST, AGORA and HINARI.

Studies by Okello-Obura (2010), Ercegovac (2009), Manda (2005), and Dadzie (2005) on the other hand found that respondents were not aware of most of the e-resources provided for them in their respective institutions and therefore affected their usage. Manda (2005) for example reported that PERI resources provided in academic and research institutions in Tanzania were underutilized because potential users were not aware of the resources due to lack of publicity.

A deduction from Anaraki and Babalhavaeji's (2013) study was that when students are not aware of the existence of e-resources in their library system they tend to use general search engines to meet their information needs. They found that only 16% of the medical students in Iran were well acquainted with the e-resources of the integrated digital library (IDL) portal provided for them. Ahmed (2013) also found that postgraduate students from Bangabandhu Sheikh Mujib Medical University (BSMMU) and undergraduate students from Bangladesh University of

Engineering and Technology used free electronic resources more than university subscribed resources because of lack of awareness of subscribed ones.

Other studies by Asemi and Riyahiniya (2007), and Baro *(*2011) argued that though awareness may lead to usage of a database; this is not always the case. It could happen that users' awareness level may be higher than usage. They reported that awareness level of their respondents about online resources was more than usage. For example, Baro found that whilst 23.2% were aware of Medline database only 17% used it. Also whilst 60.8% were aware of HINARI, only 38.8% used it. Swain (2010) pointed out that awareness could be influenced by the interest and exposure that a user or a student has in the database. In his study of students' keenness on the use of e-resources in the Business School of Orissa, India, he found that 62.5% of students were aware of EBSCO, 52.6% were aware of Emerald and below 40% were aware of other databases.

In the Nigerian context, in his study on the awareness, accessibility and use of electronic databases among academic staff of Babcock University Business school, Ogun state. Aina (2014) revealed that, the level of awareness of electronic databases among the academic staff of Babcock Business School is varied. For instance, majority of respondents were aware of Academic Journal (59:69.4%), followed by JSTOR (48:56.5%) as well as Dissertation and THESES and EBSCOHOST with (46:54.1) and (43:50.6%) respectively. The result revealed that majority of the respondents were not aware of Bookboon, World Bank Open Knowledge Repository and National Virtual Library with (22:25.9%), (28:32.9%) and 25(29.4) respectively. Findings also showed that nine out of thirteen databases under consideration were averagely aware of by the respondents. In the same vein, Salaam and Aderibigbe (2010) examined the awareness and extent of utilization of The Essential Electronic Agricultural (TEEAL) database

by the academic staff at the University of Agriculture Abeokuta Library. The study indicated that, 57.75% of the respondents were aware of the electronic database. Okiki (2012) indicated on a survey on Electronic Information Resources Awareness, Attitude and Use by Academic staff members of University of Lagos, that out of 113 respondents, 61 (54%) responded "No" to the level of awareness of e-databases when compared to 52 (46%) who agreed with their level of awareness of the-databases.

In his study on E-library use at University of Ilorin, Isah (2010) reported that, majority of the academic staff were aware to the existence of e-databases at University of Ilorin. This may be connected to occasional e-mail posting by the University library to sensitize members of the University community on the e-resources subscribed to by the University.

Similarly, studies by [Angello (2010) and Velmurugan (2009); and Upadhyay and Chakraborty (2013)] have found different levels of awareness among their subjects of research. Some academic staff were aware of e-databases in their libraries. Some knew about the existence of E-databases in the library via e-mails. Some are aware of it through library website. But still the literature shows a high level of awareness among academic staff at College of Health Sciences of the University of Ghana and Babcock University Business School, Ogun state.

In line with the studies investigating the use of electronic databases, this research study investigated the access and use of electronic databases by the academic staff of Bayero University Kano with a view to indentify the academic staff's level of awareness to the E-databases available in the BUK library.

### 2.4.2: Access to Electronic-databases by Library Users

According to Jaeger and Burnett (2005:465) Information access is the presence of a robust system through which information is made available to citizens and others. Such a system has physical, intellectual, and social components. Thus, information access is a combination of intellectual, physical, and social elements that affect the availability of information to individuals.

Access to information has attracted a lot of attention in the area of library and information sciences. In their study on e-resources Shukla and Mishra (2011) stated that, 60% of academic staff and research scholars use keyword as their search strategy for accessing e-databases, 36% to subject, 4% to author, 8% date of publication, 20% to journal title, 36% title of articles, 2% by abstracts.

However, Armstrong, *(2*009) observes that, "Electronic materials are no longer physically located in the library; control of access to them is no longer under the dictates of the library but that of the providers, who are publishers, vendors and aggregators". He also went further to state that, some electronic resources providers control access through: ID login and password, IP authentication and Licensing Policies.

Similarly, most commercial databases are subscription-based, or allow pay-per-view access such as emerald database, Blackwell and synergy among others while some electronic databases are provided free of charge to libraries in developing countries by their publishers or vendors. Others such as: AGORA, SCIENCEDIRECT, ELSEVIER among others require subscription fee.

Access to these databases provides researchers and students with thousands of scholarly articles in their fields of specialization or research (Fatoki, 2004).

Many universities subscribe to packages of electronic databases, so as to provide access to them to their academic staff, students and faculty, (Burgstahler, 2009). Users can access the library e-databases through remote systems by using computers connected to internet. The hardware and software to be used must fulfill the minimum requirements for advanced technology tools. In his study on Online Academic Databases among Croatian University Teachers and Researchers Dukic (2014) found high level of accessibility to the E-databases among the users.

In the same vein, Okiki and Asiru (2011) stated that, security adherence to licensing agreements and active maintenance ensures efficiency and effectiveness. He added that any content retrieved from the e-information sources, such as full text files, or other data, should be provided in formats which are accessible. Libraries should be free to include such URLs in their catalogue records or any other service designed to enhance user access to e-databases. The links to all e-databases should be through the university libraries' home page.

In India, Chakraborty and Upadhyay (2008) indicated that academic staff access to e-databases via library website or publisher's website at the main library of Institute of Technology Banaras Hindu University. In their study Das and Mahrana (2013) portrayed that, users at Berhampur University India access electronic databases with ease due to their high searching skill. Mercado (2009) indicated in his study that, library users should know how to search and learn critical thinking skills for databases and keyword selection. Moreover, electronic databases can be accessed by using certain techniques and strategies such as: Using the Boolean logic, controlled vocabulary, field searching, and proximity searching etc (Bell, 2009).

Similarly, Tenopir (2003) indicated the following as ways of accessing electronic databases:

- ID Login and Password
- Through searching on the basic search interface.
- Or through searching on the advanced search interface.

In the Nigerian context, Isah (2010) in his study on electronic library use at University of Ilorin reported that, 93.3% of the academic staff access e-databases from their offices through a computer connected to internet. However, a study by Oduwole and Akpati, (2003) on the level of accessibility of e-resources has indicated that Internet (mean = 3.23) was ranked highest in the Mean Score Rating, and followed by Electronic Databases (Mean = 2.19) respectively.

Furthermore, Aina (2014) found that, only (40:47.1%) and above academic staff had full accessibility to Academic Journal, Ebscohost and JSTOR databases. AJOR, Electronic Resources for Research Methods and International Research Journal were averagely accessible to the respondents (30:35.3%), (36:42.4%), (38:44.7%) respectively. It was also revealed that the following databases were not accessible to respondents with Bookboon (19:22.4%), Dissertation and Theses (19:22.4%), DOAJ (55:64.7%), HINARI (20:23.5%), SAGE (23:27.1%), World Bank Open Knowledge Repository 31 (36.5%) and National Virtual Library databases (25:29.4%).

This implies that, despite the fact that, these e-databases were subscribed to and respondents were aware of them, still, they are not all fully accessible due to one challenge or other reasons such as; inadequate internet facility and electricity supply.

However, this current study had investigated accessibility of electronic databases by academic staff in Bayero University Kano library.

## 2.5 Perception and Use of Electronic databases by Academic Staff

### 2.5.1 Academic Staff Perception of Electronic databases

Many perception studies were conducted on e-databases by different researchers and scholars: For instance, Borrego (2007) indicated perception to e-databases of the academic staff at the universities belonging to the Consortium of Academic Libraries of Catalonia (CALC). The result shows positive perception and extensive use of electronic journal databases among academics.

Similarly, Dukic (2014) conducted a survey on perceptions of online academic databases among Croatian University teachers and researchers; the result shows positive perception with the e-databases. The result ranked 73.5% of the respondents' use of online academic databases. These resources are more frequently used by university teachers holding a PhD, who are full, associate or assistant professors. It was also established that, users access online databases as an important source of information which reduces the time of research, but they also encounter certain difficulties in exploiting them. These refer primarily to the limited number of available commercial databases and the fact that, full texts are often not accessible. Based on the above findings the perception to e-databases among Croatian university teachers and researchers are divided into positive and negative. Wu and Chen (2012) studying how graduate students perceive, use, and manage electronic resources in the National University of Taiwan found that usage varied according to the subject background of the student. He found that humanities students perceived the e-resources less important compared to students of other disciplines. Similar assertions – that disciplinary differences can influence the use databases - were made by Atakan *et al* (2008), and Talja and Maula (2003).

In India, Renwick (2010) indicated in his study on knowledge and use of electronic information resource (inclusive of e-databases) that, there was positive perception by the academicians to e-

databases. The study result shows that, there was high use to e-database and the highest reasons for use were for communication (86%) and the reason with least responce was recreation (38%). However, Tyagi (2011) surveyed the self perceived ability to use electronic databases by academic scientist at Pharmacopoeial Laboratory for Indian Medicine (PLIM). The result of study indicated that 76.00% have average skill in the use of e-databases and 24.00% opined to have above average skill in the use of e-databases.

Similarly, in Malaysia a research was done by Bakar (2013) to examine the use and perceived importance of online resources including E-databases among the academics of the International Islamic University, Malaysia. The result shows that, 64 (47 %) of the library users ranked online resources as very important. On the other hand, few of them considered the online resources not very important or not important. Finally, 50 (36.7%) of the academics ranked online databases as important while, 7 (5.1%) ranked them as not very important.

In the study of perceived ease of use, perceived usefulness of IEEE Explore database among the users at Microelectronic Engineering University, Malaysia by Salleh (2012) findings have shown that most users of IEEE Explore agree with the usefulness of this bibliographic database. They believed that the use of it could improve their job performance, enable them to accomplish tasks more quickly, enhance their effectiveness on the job and increase their productivity. In the aspect of perceived ease of use, findings show that most users have positive perceptions towards perceived ease of use of IEEE Explore. Users found that it is easy to learn to use, easy to become skilful, flexible to interact with and clear and understandable. Hence, the finding revealed that the academic staff of Microelectronic Engineering University, Malaysia had positive perception of bibliographic database.

In the Nigerian context, Bashorun and Isah (2011) examined the user perception of the electronic resources by the academic staff of the University of Ilorin. Responses were received from 225 (90%) academic staff of the eight faculties. The result revealed that, frequency of use of electronic resources was low. Reasons alluded to this were lack of time required to focus on teaching and lack of awareness to electronic resources provided by the library.

However, it is evident from the review that few research studies exist on perception of academic staff on electronic databases. There is therefore the need for more studies that will give more insight on the perception of teaching staff towards electronic databases.

Thus, this study investigated the academic staff perception of electronic databases in Bayero University Kano.

### 2.5.2: Use of Electronic Databases by Academic Staff

Research studies were conducted on the use of e-databases in university libraries by academic staff. For instance: In his study on Use and Awareness of Electronic Information Sources at IIT Roorkee, India. Tyagi (2011) indicated the use of e-databases by academics and research scholars with the following percentages: Academic staff that use Science Direct was ranked 83.78%, IEEE/IEE IEL online 78.38%, Springer 70.27%, and INSIGHT 62.16% respectively. Research Scholars used Science Direct with a rank of 68.25%, IEEE online 49.21%, Springer 46.03%, and INSIGHT.

It is important to note that, Tenner and Yang (2009) observed that younger users are more likely to browse on the computers, while older users prefer print for browsing as a result of dislike to read from the screen. Monopoli (2009) studied that amongst the staff of the University of Patras, Greece, the male staff have frequent users of electronic databases because they have high

searching skills than female staff. He also went further to state that, users between the age 21 and 34 used E-databases most frequently. Similarly, Dukic (2013) for example, indicated that usage of E-databases in developed countries is more than that in developing countries basically because of poor ICT infrastructure and huge cost of such resources.

Similarly, Olle and Borrego (2010) tried to find out how the increase in number of electronic journal databases to academic scholars at Consortium of Academic Libraries of Catalonia (CALC) has changed their information-seeking or consulting behaviour, with respect to the amount and diversity of sources they read; strategies they use to keep up-to-date in their fields; use of personalized information services. The results revealed that by having greater and easier access to e-journal databases, scholars accessing the CALC read more articles from more disciplines. Scholars would prefer a simpler library interface to search for online content. Due to the complexity of finding article content, they use web search tools like Google and Google Scholar to get to what they need faster. The authors of this study believe that research should be conducted on the use of the Consortium's Meta search tool to reduce the complexity.

In addition, Use of e-databases by doctoral research scholars of Goa has been measured by Chirra and Madhusudhan (2009). The study revealed that hundred percent of the respondents were aware of the e-databases and access the UGC Infonet Digital Library Consortium through website. Majority of users use UGC-Infonet e-journal databases for their research work (thesis). The most common problem faced by the respondents is that there is difficulty in accessing full text and a majority of the respondents replied that more subscription of e-databases is needed. Kaur and Verma (2009) revealed the use of electronic databases and services provided at the central library of Indian Institute of Technology, Delhi. It has been found that usage of e-journal database is increasing; this is due to awareness among the users about the library e-resources and

services. Owing to an easy access available at various places in the institute, users are accessing these resources at hostels and departments more as compared to the library. The users coming to library have decreased.

It is important to note that, Moghaddam and Talawar (2008) investigated the use of E-databases at the Indian Institute of Science. The results of the survey reflect a growing interest among users at the IISc. The fact that users have free access to electronic databases at all hours from their own computers seems to be the most appealing feature. Furthermore, Istanbul University faculty was surveyed by Dilek-Kayaoglu (2008) to examine their use of electronic databases. The results of the study showed that almost two-third of the respondents stated that they were very frequent users of e-journal databases, a majority of whom were from health science, while just minor percentage of the respondents indicated that they were very frequent users.

Moreover, Ali (2005) carried out an analytical study on use of electronic databases at IIT Delhi Library and laid emphasis on the training of library staff, which plays a major role in encouraging the use of electronic databases. He found that, Boolean logic and truncation are most used search facilities. However, the users feel difficulty because of the lack of printing facilities and inadequate number of terminals, which discourages them from accessing e-databases. Chandran (2013) revealed that, patrons' use e-databases for obtaining general knowledge, preparing study note, writing book review, obtaining general knowledge and preparing for seminars or conferences. Madhusudhan (2008) opined that, e-databases have an important role in research; his study showed that there is an ever increasing demand for subscriptions of more e-databases. There appears to be some need for academics to be provided with training in using e-databases. Majority of the respondents strongly attest to the fact that they need proper training/orientation for searching e-databases.

However, Okello-Obura and Magara (2008) investigated the electronic information access and utilization at the East African School of Library and Information Science, Makerere University, Uganda. The study revealed that users derived a lot of benefits from electronic databases gaining access to a wider range of information and improved academic performance as a result of access to quality information. Sinh and Nhung (2012) argued that users' behaviour will influence the usage of e-databases, and that factors that influence usage of databases are the purpose of usage, preferred types of materials, ways to learn the search, search techniques, and difficulties and expectations in using the databases. Thus, in their survey on searching behaviour of users of six online databases subscribed to by the Central Vietnam National University in 2011 reported that 87.5% requested for full-text articles as compared with 12.5% who requested for abstracts.

Similar finding was reported by Coombs (2005) that full-text databases were preferred to other databases. Even among the full-text databases some are preferred to others because of the information architecture of the sites. Okello-Obura (2010) in assessing the problems of LIS postgraduate students in Makerere University found that students used some of the databases more than others. For example 92% used Emerald followed by Blackwell synergy with 76%. Nobody used AGORA, Royal Society of London, and Palgrave Macmillan Journals.

In the Nigerian context, Oduwole and Akpati (2003) investigated the accessibility and retrieval of electronic information at the University of Agriculture Library, Abeokuta, Nigeria. The study revealed that electronic information cuts across all members of the University community that it was to a greater extent easy to use and were satisfied with their search outputs. Some indicated that they use the e-databases in the library while others from the cybercafé. Ojo and Akande (2005) in a survey of 350 respondents examined student's access, usage and awareness of electronic information resources at the University College Hospital (UCH) Ibadan, Nigeria. The

study revealed that the level of usage of the electronic database is not high due to lack of searching skill. Aina (2009) also revealed that the highest usage point of any databases among academic staff of Babcock University was less than 17% as a result of unawareness and lack of online searching knowledge.

Also, In their study on User Perception of Electronic Resources at university of Ilorin, Bashorun, Isah and Adisa (2011) found that, the most used e-resources were e-journals with a frequency of (175:77.8%) online reference works with a frequency of (138:61.3%) virtual library with a frequency of 55.6%, full-text articles at a frequency of (111:49.3%), the online catalogue at a frequency of (105:46.7%) , use of e-books at a frequency of (86:38.2%) with less use reported for bibliographic databases with a frequency of (57:25.3%). This variation of use occurred as a result of differences in the level of computer knowledge and willingness of searching the e-databases among the academic staff. Aina (2014) indicated that only Academic Journal, Ebscohost, and JSTOR, were fully utilized with (38:44.7%), (40:47.1%) and (36:42.4%) respectively. Finding also depicts that, the following electronic databases were not utilized: SAGE (23:27.1%), World Bank Open Knowledge Repository (31:36.8%), International Research Journal and National Virtual Library with (25:29.4%) each. This is an indication that, the rate at which respondents were aware of electronic resources was not the same way these resources were used. These databases were used for getting information that will support teaching, research and training.

Also, in her study on the Use and Impact of Electronic Resources at the University of Lagos, Egberongbe (2011) revealed that, majority of the lecturers' use of Science Direct was ranked (60:53.6%), EbscoHost (32:28.6%) and Agora, (24:21.4%), whilst (48:67%) use Science Direct quite often and (20:28.5%) used both AGORA and lEEE often. (32:28.6%) lecturers and

(20:28.8%) research scholars sometimes use HINARI database, (30:26.8%) lecturers and (15:21.45%) scholars sometimes use ACM. A good number of both lecturers and research scholars had never used and are unfamiliar with these e-resources, (32:28.6%) and (30:26.8%) lecturers had never used both AGORA and Science Direct respectively. At the same time (20:18%), (16:14.3%) and (6:8%) were unfamiliar with Science Direct, AGORA and IEEE.

However, based on the review of the literature above, studies have shown that usage of electronic databases is not up to the level expected or is simply underutilized in most libraries. Therefore, this current study examines the extent of use of e-databases by academic staff in Bayero University library.

### 2.6 Attitude of Users toward the Use of Electronic Databases

From a physiological view, Anastasi (1992) defines attitude as "a tendency to react favourably or unfavourably towards a designated class of stimuli such as a national or ethnic group, a custom or an institution". He further explained that in objective terms, the concept of attitude may connote response consistency with regard to certain categories of stimuli. In actual practice, the term was frequently associated with social stimuli and with emotionally toned responses. Although a great variety of definitions of attitude can be found in the psychological literature, the most frequently occurring features are the positive or negative (affective) tone and the postural characteristics, that is, always predisposes its holder to one posture or the other.

Many studies have been conducted on the attitude of users toward the use of e-databases by different researchers and scholars. In a study conducted at the University of Patras in Greece, by Monopoli (2009), it was found that, e-journals databases were used by all age groups. The finding indicated positive attitude toward e-journal databases by all users but the readiness to the

use of e-journal databases by user group aged fewer than 35 years much higher than others. The respondents listed ease of use and access, research facilities, data recording and printing among their reasons for having positive attitude and preparedness toward use of electronic journal databases.

In addition, the findings of a survey of more than 3,000 teachers by Williams (2008) revealed a correlation between levels of use, skills, familiarity, and knowledge of ICT and teachers' positive attitudes contributed to their readiness toward use of e-databases.

Yaacob (2009) investigated the government-supported special libraries in Malaysia, and examined the relationship between the librarians' attitudes toward e-databases and other variables. A significant relationship was found among attitudes and use of e-databases, recency of attaining professional qualifications, and knowledge of IT. Academicians' level of knowledge of technology was good predictor of attitudes toward use of e-databases.

Moreover, in their study at Makerere University, Okello-Obura and Magara (2008) have shown that 90% of the respondents had positive attitude and zeal to the use of e-databases while 10% had negative attitude and had no zeal to the use of e-databases.

Similarly, a study conducted by Smith (2010) on 526 faculty members in the fields of natural and social sciences in Georgia University, has shown that natural scientists (77%) preferred e-databases more than social scientists (69%), and assistant professors (88%) read more e-journal databases than associate professors (69%) and professors (74%), reported to read at least one article in online sources every week. Moothart's (2009) study in Colorado State University concluded that 73.4% of the participants preferred e-databases over print. Among the same group, 75.0% used e-databases at least once every month. The study also inquired whether

participants would cancel membership to a print journal if it had e-databases, and 95.6% replied that both print and electronic databases should exist. This also indicated positive attitude and readiness to the use of both electronic databases and print sources.

Similarly, Dadzie (2005) found that faculty members used computers to a great extent when searching for information. The result from his study shows users have positive attitude to online databases but readiness for its use was very low compared to its counterpart. In a study by Atılgan and Bayram (2006) the finding indicated the most commonly used databases were Web-of Science, Science-Direct and Ebscohost. At the same time, they found that associate and assistant professors have more positive attitude to the use electronic databases than professors and research assistants.

Furthermore, Voorbij and Ongering (2006) researched on user studies in the past few years and revealed the results of a user survey carried out among faculty in the Netherlands. Aiming to explore users' e-database experiences, this study used two methods. To begin with, 750 faculty members from 9 universities were sent online questionnaire in the second half of 2003 and the first half of 2004. Response rate for this questionnaire was 40.7%. Secondly, in-depth information was obtained about the questions in the questionnaire by semi-structured interviews with 22 respondents. The results showed that e-databases were largely accepted in Holland; their point of attraction was the ease of access. This created positive attitude and readiness of use to e-databases.

Borrego (2007) studied the print and e-journal databases use of academic personnel working at universities included in the Consortium of Academic Libraries of Catalonia (CBUC), between May and June 2005, using questionnaire. The results showed that more than 95.0% were aware of e-journal databases. Also, academic staff aged below 40 were found to use e-journal databases

more. Of all the respondents, 76.0% stated that they would choose the e-journal databases even if both versions were available. Print journals were favored by 19.98 percent and stated their unfamiliarity with e-journal databases and their lack of an Internet connection as their reasons for preferring print journals. Some others stated that they preferred print journals out of habit and the desire to read from paper, and yet others mentioned their low technological skills.

In Ghana, Bayugo and Agbeko (2007) reported on a survey of convenient access to, and use of, electronic databases. The academic resorted to PUBMED as their source of access to full-text articles. They concluded that most academics' attitude now prefer using electronic access to information (CD-ROM/online databases) over traditional print indexes and abstracts because of multi-user accessibility and wide subject coverage. Allen (2009) analyzed some studies undertaken to analyse patron's response to using bibliographic databases on CD-ROM in academic libraries and found that patrons prefer CD-ROM to comparable printed reference tools, the result indicated positive attitude and readiness to the use of CD-ROM Databases than printed ones.

In the Nigerian context, the study of Eguavoen (2011) surveyed on users attitude on a computerize services in Kenneth Dike library University of Ibadan; the results of the findings showed positive attitudes of respondents towards e-database in the library. Especially that, nearly all positive statements attracted very favorable responses by majority of respondents while the negative ones received otherwise.

Hence, this study investigated on access and use of electronic databases in Bayero University Kano and had found out the attitude of the academic staff toward use of the E-databases in the University.

## 2.7: Factors Affecting the Use of E-databases by Academic Staff in Academic Libraries

According to Tyagi (2011) adequate work stations, staff training and ICT Policy are factors that facilitate the use of online databases. In the same vein, Anas (2012) revealed that, management support, adequate staff for help in a library, internet accessibility and conducive environment are motivating factors to the access and use of any e-resources. Bar-Ilan et al. (2003) found that, IT skills of the academic staff and readiness to adapt to change as the main advantages encourage users to electronic databases. In addition, Kaur, (2012) opined that, awareness, usefulness of content and search potentiality that facilitate electronic-database access and use among library users. Okiki (2013) reported that e-databases can be good substitutes for conventional resources if the access speed is fast. More computer terminals are installed to provide access to e-databases, home access, ease of retrieval and hyperlinks to outside content, motivate, capture and attract users for access and use of it.

Libraries can have the greatest number of resources but if patrons are not using them, they are worth nothing and a waste of resources. It is for this reason that usage of e-databases is critical in relation to its provision. Various studies have been conducted on the usage of e-databases concerning whether they are being optimally utilized or not. Factors such as convenience, familiarity, exposure, infrastructure, search skills, relevance, and training, have been cited as factors influencing usage of e-databases.

However, in their studies Kumar and Singh (2011) identified poor network connectivity, improper orientation, lack of awareness, incompatible user interface to library website and lack of advanced searching techniques were among factors that deter access and use of electronic databases in academic libraries. However, Dhanavandra, Esma'il and Nagarajan (2012) observed that respondents face problems when accessing electronic resources due to overload of information

and lack of training on searching skills. Coombs (2005) stated that reasons most often advanced for not using the databases include lack of awareness, preference for other sources like general search engines such as Google, lack of search skill, lack of adequate ICT infrastructure, bad downloading time, and at times sheer attitude of users.

In addition, Das and Mahrana (2013) indicated slow internet access, problems in locating the most appropriate information resources and lack of knowledge of searching techniques among the factors that hinder accessibility and use of e-databases. In his surveys Waddell (2007) identified, lack of awareness as a reason for non-use. Similarly, in Tomney and Burton's survey (2008), the most common reason given for non-use of e-databases was lack of awareness of any relevant publications. The technology itself can be a barrier to the use. The effort of obtaining passwords and uploading viewing software, combined with delays on the network and the numerous screens to navigate through, were identified as significant deterrents in Woodward's survey (2009). Similarly, most people dislike reading from a screen and will print out articles for reading. Shukla and Mishra (2011) indicated that, low internet connectivity, insufficiency of work station and compatibility of systems were the major hindrances to accessibility of e-databases at Banaras Hindu university, India.

In the African context, Manda (2005) studied the use of electronic resources in Tanzania by academics. He found that use was low, due to inadequate end-user training, slow connectivity, and limited access to PCs, poor search skills, and budget cuts. Smith (2007) looked at South Africa, finding that lack of bandwidth was a major problem, and the range of electronic databases in the respondents' field of interest fairly limited. However, users considered the passwords as obstacles to access. For this reason, they perceive the systems incorporating user authentication and registration process such as: technical problems with access, privacy

concerns, and length of registration process as additional obstacles. Ibrahim (2004) found that, online databases have not been equally patronized by clients. Some reasons attributed to low patronage of the online databases includes: lack of awareness to electronic resources, lack of time to access and the use too many passwords which are difficult to remember.

In the University of Ilorin, Bashorun, Isah and Adisa (2011) stated factors that might inhibit use of e-resources include the irrelevancy of search results from databases, irregular supply of electricity, Communication gap between librarian and academic staff, and lack of trained librarian. Bamgbade (2014) found that difficult to retrieve information needed, not easy to navigate between the e-resources and lack of requisite computer use skills were the deterrents to access and use of e-databases in two agricultural colleges of south- western region of Nigeria. Adomi (2005) stated lack of adequate ICT skills among staff and users and prohibitive cost in developing countries to gain access to internet through cybercafé were the main barriers to the access and use of e-resources. In his study on Emerging Challenges to Effective Library Automation and An E-Library, Gbadamosi (2012) indicated lack of guidance; technical problem and interrupted power supply are the barriers to the access and use of e-database by academic staff.

## 2.8 Theoretical Framework

According to McNabb (2009) a theoretical framework refers to the theory a researcher chooses to guide him/her in his/her research. Thus, a theoretical framework is the application of a theory, or a set of concepts drawn from one and the same theory, to offer an explanation of an event, or shed some light on a particular phenomenon or research problem. Theoretical framework of a study is thus the structure that holds and supports the theory of a research work. It serves as the

lens a researcher uses to examine a particular aspect of his or her subject field. In other words, it elucidates or explains the rationale, justification or basis of the study (Khan, 2010).All the same, Ajala (1996) defined a conceptual framework as a visual or written product, one that explains, either graphically or in narrative form, the main things to be studied, the key factors, concepts, or variables and the presumed relationships among them.

Similarly, a theoretical framework found worthy of supporting this study is Borgman's three element of accessing information in networked world model which aims to describe the patterns and explain the mechanism on how electronic information can be accessed and used. The model has a potential to be applied in the areas of information and communication technology. Borgman's three elements of accessing information in networked world model the most appropriate for investigating access and use of electronic databases in the libraries of higher institutions of learning.

On the other hand, the model was applied by Rugengamanzi (2013) in his study of access to and use of electronic journals in the National University of Rwanda. In this study the researcher also found it relevant to use the Borgman's (2003) three elements of accessing information in networked world model as a framework for this study.

### 2.8.1 Borgman's (2003) three elements of accessing information in networked world model

The Borgman's (2003) model is a combination of reviewed studies in various fields, including information science, information access, and information behaviour (McCreadie and Rice, 1999). This model has seven elements under three core components. These include: connectivity, content and usability. However, content consists of: relevance, accuracy, reliability and coverage

of the materials, while usability consists of: features of computer, skill or literacy and utilization of content of the material.

1. ***Connectivity***: The first column of the Borgman's model has connectivity as its components. This is the capacity of the computer to communicate to other computer and information sources (Borgman, 2003). It can connect users to the internet and many computers data banks and other sources of information lies well beyond the user's desk (Rugengamanzi, 2013). Connectivity to the internet and information is a pre-requisite for accessing electronic resources (E-databases) without which access to the online information cannot be possible.

2. ***Content***: The second column of the Borgman's model has content as its components. This refers to the intellectual information of the material (E-database). Borgman's (2003) model emphasizes on the content of materials which involve: i) Relevance of the materials. This means the importance and significance of the materials to the user (Borgman, 2003). . ii) Accuracy of the material. The user's sensation or feeling to the materials as accurate (Borgman, 2003). iii) Reliability of the materials: iv) Coverage of the materials. This is the user's knowledge to the subject coverage or scope of the materials (Borgman, 2003).

3. ***Usability.*** The third column of the Borgman's model has usability as its components. This is the capability to manipulate the computer and the computer network (E-databases). The achievement needs three elements such as features of computer, skills or literacy and utilization of content of the materials (Borgman, 2003).

   a**)** Features of computer. For the network (E-databases) to be considered accessible, it must be usable by most users in need of its use instead of being designed for technical specialist

(Borgman, 2003). b**)** Skills or literacy. This means that users need skills allowing them to use the system (e-databases). Its achievement necessitates the training to facilitate access and use (Borgman, 2003). c**)** Utilization of content. Here the author means that for the e-resources and e-databases to be utilized, they need to be searched and retrieved for viewing and reading (Borgman, 2003).

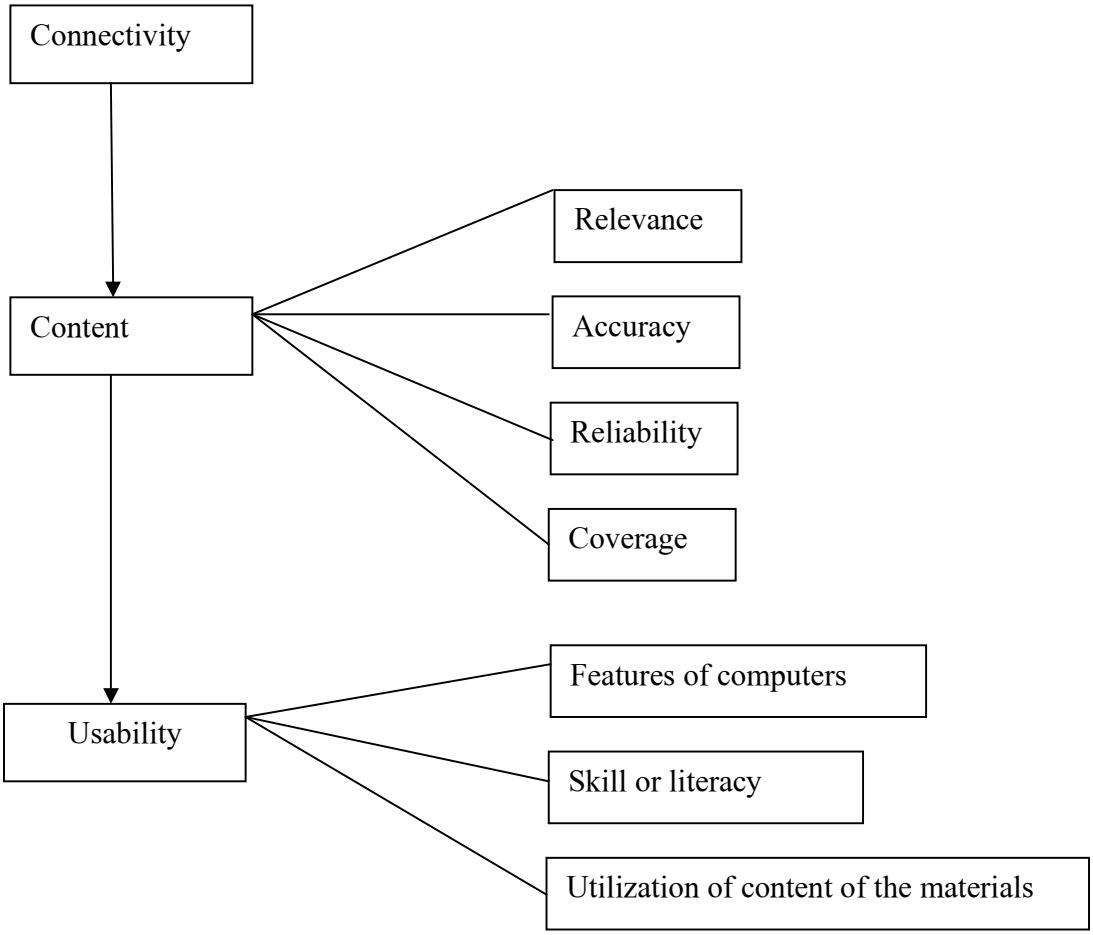



Figure.1 Borgman's (2003) three elements of accessing information in networked world model

**Strength of the Borgman's Model**

Borgman's model was selected for this study because it provides a familiar framework to determine elements that can enable access and use of e-databases. Applying Borgman's model can also advance understanding of access and use of e-databases among academic staff. The model had indicated patterns and mechanisms upon which an electronic database can be access and used. The model vividly explained that, conformity between software and hardware will help and enhance access and use of e-databases. It is very realistic in its explanation because the

model stated that, connectivity is pre-requisite for the access and use for the e-databases. The model is very self explanatory.

Other strengths which encouraged the researcher to use Borgman's three element of accessing information in networked world model as brought by Rugengamanzi's (2013) include:

- It allows users to search and retrieve information to their satisfaction if there is connectivity.
- The model indicated that, databases which contained relevant, reliable' accurate and up-to date resources influence access and use of e-resources.
- It allows users to use e-resources for different purposes.
- It indicated that trained users have an increased level of accessibility and use of e-resources.

**Weaknesses of the Borgman's Model**

Similar to other theories, Borgman's model is not free from weaknesses. The model did not explain clearly how E-database could be accessed and used offline rather it concentrated more in online resources. Also the model did not consider societies that have poor connectivity or low response of network. It is also too hierarchical in elucidating mechanism for access and use of e-databases. The limitations of the Borgman's model are well documented. For example, Rugengamanzi's (2013) indicated the weaknesses of Borgman's model as follows:

- It indicated that, old computers deny users faster access and use of electronic resources. Here the model neglected libraries with old version computers.
- Poor internet connectivity deters quick access and use of e-resources. The model did not consider location with inadequate bandwidth.

- Lack of computer skills by users especially in searching and retrieval of information resources hinder users from having full access and use of e-resources. The model did not specify clearly on how untrained users could access and use e-resources.

Despite these weaknesses, the model covers many aspects of the researcher's major variables which are access and use of electronic databases. Therefore to the best knowledge of the researcher the model is considered useful in the conduct of the current study.

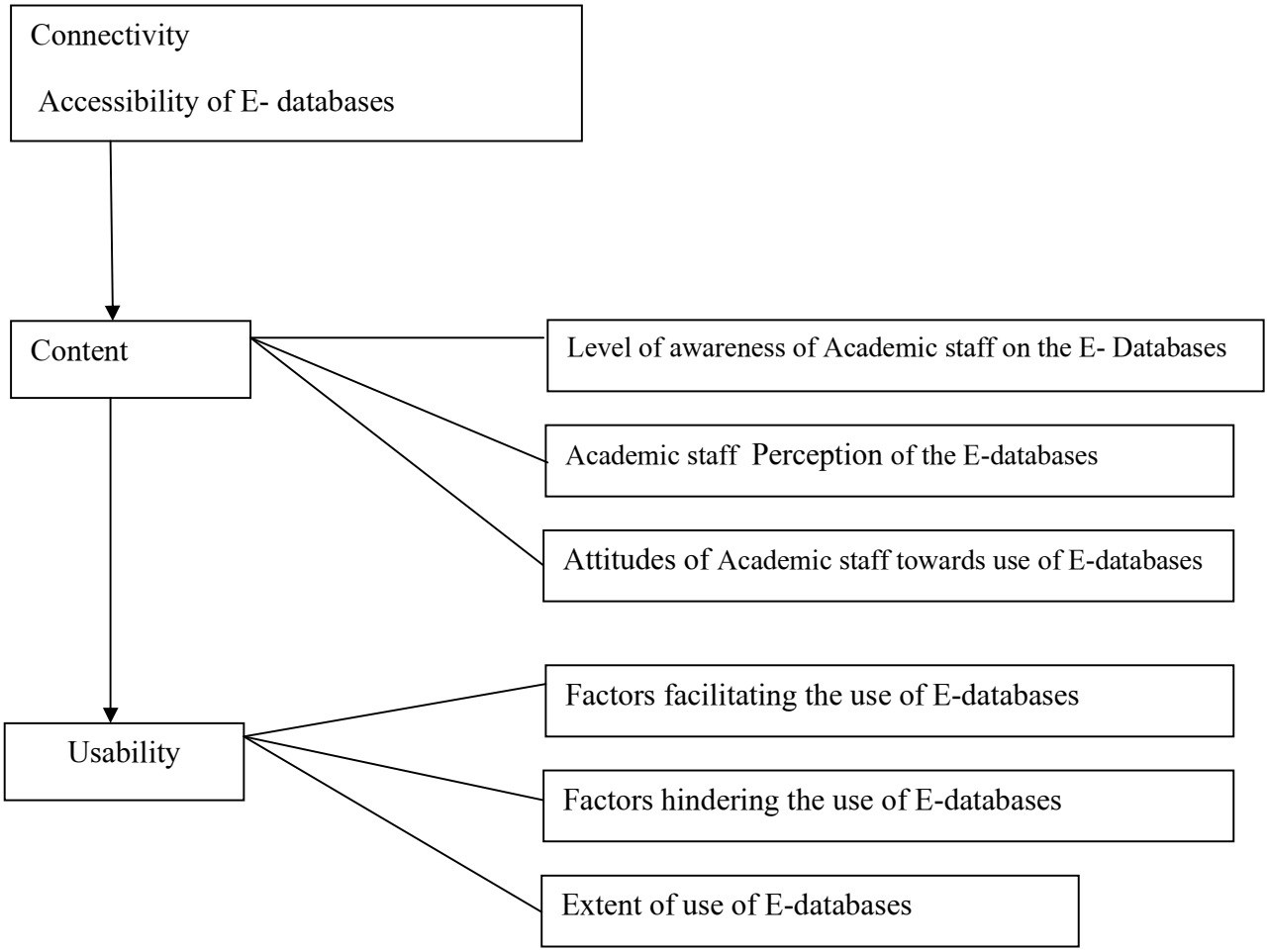
## 2.9 Conceptual Framework

Ajala (1996) defined a conceptual framework as a visual or written product, one that explains, either graphically or in narrative form, the main things to be studied, the key factors, concepts, or variables and the presumed relationships among them. The conceptual framework is used when the concepts of different theories and/or that of research findings are used in order to guide a study. Borgman's (2003) three element of accessing information in networked world model was adapted as conceptual model for the study with some modifications. The model was developed to describe the patterns and explain the mechanism on how electronic information can be accessed and used by clienteles. This is because some of the elements depicted in the model could be useful to address the main research questions. It is necessary to identify and discuss different concepts of the current study and that of the model, in order to make a clear understanding to the present study.

The components which considered being relevant in the conduct of the present study are: **connectivity**, **content** and this consists of: relevance, accuracy, reliability and coverage of the materials, **usability** consists of: features of computer, skill or literacy and utilization of content

of the material. And the variables of the present study are: awareness, perception and attitude of users, access and use of e-databases.

Moreover, the diagram below depicts the direction of the variables in the modified model




Borgman's (2003) three elements of accessing information in networked world model modified

Defecting from figure 2 it shows how electronic databases can be accessed and used as bellow:

**Connectivity: -** Borgman define it as the inter-connection between the international network (Internet) or between computer and its peripheral devices is a pre-requisite for using computer network or electronic resources.

**Content: -** This refers to the intellectual text of a document (e-databases) and this consists of: relevance, accuracy, reliability and coverage of the materials. In the context of this study, ***Relevance*** means level of awareness of the academic staff with the electronic databases available in Bayero University Kano Library. In the same vein, Angello (2010) and Velmurugan (2009) in their studies have found different level of users' awareness with regards to e-databases. ***Accuracy*** refers to the perception of the academic staff to the electronic databases. Dukic, (2014), Bashorun, Isah and Adisa (2011) in their studies have found both positive and negative perception of users toward use of E-databases. Reliability (not relevant), ***Coverage*** means attitude of the academic staff towards use of electronic databases. Monopoli (2009) and Williams (2008) in the libraries they studied have found positive attitude of users toward use of electronic databases.

**Usability:** Borgman define it as the utilization of the content of the resources electronically and usability consists of: ***Features of computer*** means factors hindering the use of e-databases. Waddell (2007), Das and Maharana (2013) in their studies have found different obstacles hindering access and use of e-databases. ***Skill or literacy*** means factors facilitating access and use of e-databases. Kaur (2012) and Anas (2012) indicate factors motivating users' access and use of e-databases, ***utilization of content of the materials*** means extent of use on the electronic databases by academic staff. Aina (2009), Ojo and Akande (2008) have revealed users' extent of use on e-databases.

## 2.10 Summary of the Review and Uniqueness of the Study

The basic objective of the study is to study and present the findings on the access to and use of e-databases by the academic staff of Bayero University Kano. Literature was reviewed on E-

databases patterning to issues like definitions, characteristics, origin and significance with a view to providing focus for the study. This had attracted the attention of scholars like Okiy (2012), Fatoki (2004), Bates (2011), Maurer (2007),Mercado (2008), Borrego et.al (2007) Egberongbe (2011) etc.

The literature reviewed indicates the focus and the direction of the research. For example, at the beginning, the literature shows that E-databases enable access to information without the restrictions of time and location. The information is reached, searched and retrieved simultaneously and instantly without consideration of user's location. Other advantages include: superior resource delivery, improve services, potentiality of accurate usage to help collection development decisions, cost effective than print, reduced shelving, binding and maintenance. Also, the information cannot be mutilated, stolen, lost and vandalized.

Other parts of the literature deal with types of E-databases subscribed to by different academic libraries in Europe and Asia. This view is shared by Togia and Tsigilis, (2009); Upadhyay and Chakraborty, (2011); Tyagi, (2011); Salleh, (2012); Bakar, (2008). Also the literature portrays e-databases mostly subscribed by libraries in Africa and in Nigeria particularly, as found by Salaam and Aderigbe, (2010); Okiki, (2013); Bhukuvhani, Blessing, and Dorcas, (2012); and Bashorun, Isah and Adisa (2011).

Awareness of e-databases had attracted the attention of researchers like [Angello (2010) and Velmurugan (2007); Bugayo and Agbeko (2007); and Upadhyay and Chakraborty (2013)]. It was indicated that, academic staff at College of Health Sciences of the University of Ghana, Institute of Technology Barnabas University India; University of Agriculture Abeokuta library, and Babcock University Business School, Ogun state, are categorized by having different levels of awareness. Some academic staff were aware of e-databases in their libraries. Some knew of

the existence of e-databases in the library via e-mails. Some are aware of it through library website. But still the literature shows a high level of awareness among academic staff at College of Health Sciences of the University of Ghana and Babcock University Business School, Ogun state.

Accessibility of academic staff to E-databases has received the contribution of Shukla and Mishra (2011) and Burgstahler (2009); Dukic (2014); and Bell (2009); Tenopir (2010]. The portion indicated that, academic staff use ID login and password, search by keywords, author, and title of article, Boolean logic and controlled vocabulary to access electronic databases. It is obvious that, academic staff at Institute of Technology Barnabas Hindu University, Berhampur University India, University of Ilorin and Babcock University Business School, Ogun are categorized by having different extent of accessibility as indicated in the studies of Chakraborty and Upadhyay (2008); Das and Maharana (2013); Isah (2010) and Aina (2014).

Perception of academic staff to electronic databases was also reviewed. Scholars that contributed on this include: Borrego,(2007) Dukic, (2014); Tyagi, (2011), and Salleh,(2012). The reviewed literature shows positive perception of E- databases by academic staff at universities belonging to the Consortium of Academic Libraries of Catalonia, Microelectronic Engineering University Malaysia, Croatian University and University of West Indies, India. This opposed the result found by Bashorun, Isah and Adisa (2011) who's study shows the existence of negative perception among academic staff of University of Ilorin toward the use of E-databases.

In a section of the literature, attitude of users toward e-databases was reviewed from the works of Monopoli (2009); Yaacob (2009); Smith (2010) and Mootharts (2009), library users in the University of Patras in Greece, Government supported special libraries in Malaysia, Georgia

University and Colorado State University have positive attitude to e-databases. Also, Williams (2008) and Yaacob (2009) in their studies indicated that, users with high searching skill and IT knowledge have more positive attitude to the use of e-databases than those without. Dadzie (2005) found positive attitude of users to e-databases.

In a segment of the reviewed literature, the extent of use, purpose of use and place of use of E-databases by the users were discussed from the studies of: Tenner and Yang (2009) Tyagi(2011) Olle and Borrego (2010) Monopoli (2010), Chirra and Madhusudhan (2009), Dilek-Kayoaglu (2008), Ali (2005), Ojo and Akande (2008) Aina (2009) and Bashorun and Isah (2011) respectively.

Factors that affect the use of e-databases by academic staff in academic libraries were divided into facilitating factors and hindering factors as viewed from the literature. Awareness of academic staff to electronic database potentiality, Familiarity with the search system by users, Understanding the database structure by academic staff, Familiarity with the database by the academic staff, Internet access, Management support are regarded as facilitating factors to the access and use of e-databases as in the works of Anas (2012),Tyagi (2011), Bar-Ilan et al (2003) and Kaur (2012), Okiki (2013) etc.

The factors which hinder the accessibility and use of electronic databases were also reviewed based on the contributions of scholars such as kumar and Singh (2011); Dhanavandra, Esma'il and Nagarajan (2012); Das and Maharana (2013); Waddell (2007); Shukla and Mishra (2011); Manda (2005); Smith (2007); Bashorun, Isah and Adisa (2011); Bamgbade (2014); and Gbadamosi (2012)] as identified by these scholars the factors include: poor network connectivity, improper orientation, lack of awareness, incompatible user interface to library website, lack of advanced searching techniques, inadequate end-user training, slow connectivity, and limited

access to PCs, poor search skills, budget cuts, lack of bandwidth, irrelevancy of search results from databases, irregular supply of electricity, communication gap between librarian and academic staff, lack of trained librarian, difficult to retrieve information needed, not easy to navigate between the e-resources and technical problem. Similarly, as found in the literature the theoretical framework found worthy of supporting this study is Borgman's Three Elements of Accessing Information in Networked World. Its strength, weaknesses and its usage were elucidated in the literature.

The uniqueness of this study lies in the fact that most of the previous studies as reviewed from the literature concentrated on the developed countries with little or no attention given to African countries and institutions like Bayero University, Kano. Also it is obvious to note from the literature that, many researchers applied TAM theory to measure the access and use based on the constructs of Perceived Usefulness and perceived ease of use but the current study applied Borgman's Three Element of Accessing Information in Networked World to see whether different results would be obtained.

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# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter presents the methodology adopted for the study, which includes research design, population of the study, sampling techniques and sample size for the study, instrument for data collection, validity and reliability of the instrument, administration of the instrument and method of data analysis.

The researcher adopted quantitative research methodology for the study. According to Creasy, (2006) Quantitative research methodology is the systematic, empirical investigation of social phenomenon via statistical, mathematical or computational techniques to analyze data collected from the respondents.

In the same vein, Pickard (2007) associated quantitative research with the following features:

- The data is usually gathered using structured research instruments.
- The results are based on larger sample sizes that are representative of the population.
- The research study can usually be replicated or repeated, given its high reliability.
- Researcher has a clearly defined research question to which objective answers are sought.
- Data are in the form of numbers and statistics, often arranged in tables, charts, figures, or other non-textual forms.
- Project can be used to generalize concepts more widely, predict future results, or investigate causal relationships.

- Researcher uses tools, such as questionnaires or computer software, to collect numerical data. The overarching aim of a quantitative research study is to classify features, count them, and construct statistical models in an attempt to explain what is observed.

  As such the choice of this methodology would enable the researcher to generalize the findings of the study to the general population.

## 3.2 Research Design

Research design is a plan or blueprint of how the researcher intends to conduct the research. According to Haruna (2013) Survey research design is a type of research in which few individuals or items are studied from the entire population by collecting and analyzing data obtained from the sample. Descriptive Surveys are most appropriate for studies that have individual people as the unit of analysis.

Thus, for the purpose of this study, cross sectional survey research was used. According to Gay, Mills and Airesian (2006) a cross sectional survey design is one in which data is collected from selected individuals in a single time of one month, week or one day. It is a single, stand-alone study. This method was chosen because of its simplicity, time saving and cheap; fewer resources are required to run the study. It is relatively inexpensive and takes up little time to conduct, it allow generalization to be made on the entire population. Many researchers conducted in the field of Information Technology using cross sectional research design and obtained valid result, among them include, Ojo and Akande (2005); Aina (2009) and Dukic (2014). These reasons therefore are very crucial to this research that is why the research considered cross sectional research design appropriate for this study.

### 3.3 Population of the Study

Population in everyday usage refers to all the inhabitants of a geographical area. In research, the term is used in a specialized sense to mean all the possible objects of a particular type as defined by the aims and objectives of the research or any set of persons or objects that possess at least one common characteristic (Adamu, 2006). The population of this study comprises all academic staff working in Bayero University, Kano.

#### 3.3.1 Preliminary study and its result

Preliminary study was conducted by the researcher between 19th January, 2015 to 23rd January, 2015 in Bayero University Library and Registry of Bayero University Kano. The preliminary study has the following objectives:

- to ascertain the types of electronic databases available in the University library,
- to find out the number of faculties and departments in the University,
- to find out the number of academic staff in the University

The first preliminary survey was conducted in Bayero University Library on 19th January, 2015 by the researcher in order to find out information on the types of electronic databases available in the University Library. The researcher solicited for the above information, using Open-ended Questionnaire from the head of automation of the University library. The Questionnaire comprises of section A and B. Section A was designed to solicit for information on the background information of the respondents while section B solicited for information on the electronic databases available in the library.

The result revealed that, electronic databases are provided in Bayero University Kano, library. These electronic databases are divided into online and offline databases. Under online databases the library has Ebscohost, Elsevier Sciencedirect, Jstor, AGORA, African Digital Library, Nigerian Virtual Library, HINARI and Indiana University Press while under offline databases these include: e-Granary, Caliber, LANTEEAL, OCW, SHAMELA, Databases on CD-ROM and E-THESES.

Similarly, the second segment of the preliminary investigation took place on 20th January, 2015 to 23rd January, 2015 in the Registry of Bayero University Kano. With a view to identifying (a) what is the number of faculties (b) what is the number of department in each faculty (c) what is number of the academic staff in each department of the university. The researcher collected an introduction letter from the Department of Library and Information Science and was directed to registrary of the University. The letter was approved and endorsed to the Director of establishment Matters.

The researcher solicited for information, using Open-ended Questionnaire from Director of establishment Matters concerning the number of Faculties, Departments and Academic Staff are in Bayero University, Kano. The result of the survey indicated that, there are thirteen (13) Faculties, Ninety four (94) Departments and One thousand four hundred and twenty (1420) academic staff in the University as at 23rd January, 2015.( for more details see appendix vi p. 160) Table 3.1 provides the number of the staff of the university based on their faculties and departments.

Based on the finding of this survey, the target population of this study is one thousand four hundred and twenty (1420) academic staff of Bayero University Kano.

### 3.4 Sampling Technique

A sampling technique is a tool employed in the choosing of representative members, objects or elements from a given population**.** The researcher employed the use of cluster sampling techniques in determining its sample size. According to Haruna (2013) when the population is vast and spread over cluster sampling is used. A sample can be taken by dividing the area into a number of smaller non-overlapping areas and then a number of these small areas are selected, with ultimate sample consisting of all units in these small clusters.

In this study for fair representation, the population of the study was divided into main clusters of fourteen (14) under faculties and others (these are departments, institutes and centers that are not under faculties); as well these were further sub-divided into small clusters of ninety four (four) departments. Lastly ten percent (10%) was picked from each Department or cluster, in situations where any number with 0.5 to above was obtained in a department or cluster that number was approximated to one whole number so as to get its ten percent (10%). Hence, 142 is cumulative ten percent (10%) of all the departments with the exclusion of some newly created departments, institutes and centers that has fewer number of academic staff which could not allow picking the required ten percent (10%).

### 3.5 Sample Size of the study

In an effort to get an appropriate sample size, and considering the nature of the population, 10% was drawn from the academic staff population of each department and the cumulative percentages of the entire departments formed the sample size of the study. This is in line with the view of Haruna (2013) who stated that “For the population that runs in hundred, a 50% sample is recommended but for the population that run in thousand a 5% to 20% may be drawn”.

Therefore, the sample size for the current study is one hundred and forty two (142) academic staff. This can be seen in the table 3.1

**Table 3.1: Sample Size**

| S/N | Faculties | Department | Number of Academic Staff | 10% of the Academic Staff from each Dept. |
|---|---|---|---|---|
| 1 | Agriculture | Agric Economic & Extension | 17 | 2 |
| | | Agronomy | 20 | 2 |
| | | Animal Science | 15 | 2 |
| | | Crop Protection | 13 | 1 |
| | | Fisheries | 2 | - |
| | | Food Science Technology | 3 | - |
| | | Forestry | 1 | - |
| | | Soil Science | 12 | 1 |
| 2 | Allied Health Sciences | Medical Lab Sciences | 13 | 1 |
| | | Nursing Science | 9 | 1 |
| | | Optometry | 1 | - |
| | | Physiotherapy | 18 | 2 |
| | | Radiography | 7 | 1 |
| | | | | |
| 3 | Art & Islamic studies | Arabic | 34 | 3 |
| | | English & Literary Studies | 25 | 3 |
| | | Foreing Language | 6 | 1 |
| | | History | 24 | 2 |
| | | Islamic Studies & Shari'a | 35 | 3 |
| | | Linguistics | 10 | 1 |
| | | Nigerian Languages | 22 | 2 |
| | | Theatre &Film Studies | 4 | - |
| | | | | |

| | | | | |
|---|---|---|---|---|
| 4 | Bio-medical Sciences | Anatomy | 16 | 2 |
| | | Biochemistry | 31 | 3 |
| | | Physiology | 24 | 2 |
| | | | | |
| 5 | Clinical sciences | Anaesthesiology | 3 | - |
| | | Chemical Pathology | 6 | 1 |
| | | Communty Medicine | 12 | 1 |
| | | Haematology | 6 | 1 |
| | | Histopathology | 5 | 1 |
| | | Medical Microbiology & Parasitology | 19 | 2 |
| | | Medicine | 22 | 2 |
| | | Obstetrics & Gynaecology | 19 | 2 |
| | | Opthalmology | 7 | 1 |
| | | Otorhinolaryngology (ENT) | 7 | 1 |
| | | Paediatrics | 17 | 2 |
| | | Pathology | 2 | - |
| | | Pharmaceutical Science | 13 | 1 |
| | | Pharmacology | 13 | 1 |
| | | Psychiatry | 9 | 1 |
| | | Radiology | 9 | 1 |
| | | Surgery | 17 | 2 |
| | | | | |
| 6 | Computer & Information Technology | Computer Science | 21 | 2 |
| | | Information Technology | 1 | - |
| | | Software Engineering | 4 | - |
| | | | | |

| | | | | |
|---|---|---|---|---|
| 7 | Dentistry | Child Dental Health | 1 | - |
| | | Craniofacial Orthodontics | 1 | - |
| | | Dentistry | 2 | - |
| | | Oral & Maxillofacial | 2 | - |
| | | Oral Diagnostic Surgery | 1 | - |
| | | Preventive Dentistry | 3 | - |
| | | | | |
| 8 | Earth and Environmental sciences | Architecture | 5 | 1 |
| | | Environmental Management | 5 | 1 |
| | | Geology | 1 | - |
| | | Quantity Survey | 8 | 1 |
| | | Urban and Regional Planning | 1 | - |
| | | | | |
| 9 | Education | Adult Education | 20 | 2 |
| | | Education | 30 | 3 |
| | | Library & Information Science | 22 | 2 |
| | | Physical Health Education | 18 | 2 |
| | | Science & Technical Education | 19 | 2 |
| | | Special Education | 17 | 2 |
| | | | | |
| 10 | Engineering | Agricultural Engineering | 17 | 2 |
| | | Chemical & Petrol Engineering | 7 | 1 |
| | | Civil Engineering | 36 | 4 |
| | | Electrical Engineering | 42 | 4 |

| | | | | |
|---|---|---|---|---|
| | | Mechanical Engineering | 34 | 3 |
| | | Mechatronics | 13 | 1 |
| 11 | Law | Islamic Law | 11 | 1 |
| | | Private & Commercial Law | 14 | 1 |
| | | Public Law | 13 | 1 |
| | | | | |
| 12 | Science | Biological Sciences | 24 | 2 |
| | | Chemistry | 49 | 5 |
| | | Mathematical Science | 32 | 3 |
| | | Microbiology | 19 | 2 |
| | | Physics | 39 | 4 |
| | | Plant Biology | 17 | 2 |
| | | | | |
| 13 | Social & management sciences | Accounting | 26 | 3 |
| | | Business Administration | 26 | 3 |
| | | Economics | 31 | 3 |
| | | Geography | 36 | 4 |
| | | Mass Communication | 33 | 3 |
| | | Political Science | 32 | 3 |
| | | Sociology | 31 | 3 |
| 14 | Others | A. K. C. D. R & T | 4 | - |
| | | C.R.N.L.F | 11 | 1 |
| | | CAER&T | 4 | - |
| | | Centre for Bio-Technology Research | 2 | - |
| | | Centre for Dryland Agric | 5 | 1 |
| | | Centre for Information | 2 | - |

| | | | | |
|---|---|---|---|---|
| | | Technology | | |
| | | Centre for Qur'anic Studies | 9 | 1 |
| | | IIIB&F | 9 | 1 |
| | | Institute of Continuing Education | 29 | 3 |
| | | University Library | 32 | 3 |
| Total | 14 | 94 | 1420 | 142 |

**Source**: Establishments Unit Bayero University Kano (2015)

### 3.6 Instrument for Data Collection

The instrument used for this study is questionnaire. Questionnaires contain predetermined sets of questions for individual responses or are printed forms that ask the same questions of all individuals in the sample and for which respondents record their answers mostly in written responses (Mohammed, 2006). The use of questionnaire in this research is very crucial thus, it was considered the most effective tool through which reliable and less biased information can be generated.

#### 3.6.1 Questionnaire

A Questionnaire was developed and constructed by the researcher. The questionnaire consists of closed and open-ended questions, Likert scales and free text boxes for ticking. This questionnaire was administered to the 142 academic staff. The questionnaire consists of six sections: Section A: Respondents were asked to state background information in the first part of the questionnaire, including age range, gender, academic qualification and ICT skills. Section B: Sought for responses from the respondents on their level of awareness and accessibility to e-databases.

Section C: Sought for answers from the respondents on their attitudes toward the use of e-databases. Section D: This consists of questions from the respondents on perception of the academic staff to the electronic databases. Section E: Consists of questions on the use of electronic databases. Section F: Consists of questions on the factors affecting access and use of electronic databases

### 3.7 Validity and Reliability of the Instrument

According to Akuezuilo and Agu (2003), instrument is said to be reliable to the degree that it measures accurately and consistently, yielding comparable results when administered a number of times. Validity on the other hand means that correct procedures have been applied to find answers to research questions. It refers to the degree to which the test or other measuring device is truly measuring what was intended to measure (Haruna, 2013).

#### 3.7.1 Validity of the Instrument

The validity of the instrument used for data collection was established through face validation by consulting six experts in different fields: two of which were lecturers including the researcher's supervisor from the Department of Library and Information Science Bayero University, Kano. Other two from Umaru Musa Yar'aduwa University Katsina library and the remaining two were from the Center of Information and Communication Technology Bayero University Kano. They validated the content of the instrument and necessary corrections were made. In line with the above assertion, Haruna (2013) stated that "there is no easy way to determine content validity aside from experts' opinion".

### 3.7.2 Reliability of the Instrument

For the conduct of this study and as a means of ensuring the reliability, the researcher conducted a pilot test of the research instrument so as to establish its reliability. The purpose of pilot testing is to know whether or not the questions asked were understood by the respondents and also to ensure that the instrument can be relied on to answer what it is intend to study consistently. Babbie and Mouton (2001) state that pre-testing the questionnaire is the surest protection against error in the instrument. Hence, the researcher tested the instrument on the academic staff at Northwest University Kano who were not part of the respondents of the study. Out of the 30 copies of the questionnaire distributed to the academic staff, 25 of them returned the instrument and have adequately responded to all the items of the research instrument.

The Reliability assessments of the scales were also conducted in SPSS 16.0 All observed measures (items) were categorized in relation to the variables they were meant to measure, and Chronbach Alpha (α) was calculated for all the variables. The reliability index of Cronbach's alpha by variables vis-à-vis research questions or constructs of the study under each research question. Thus, the reliability index for the research questions items are as given in table 3.2.

**Table 3.2 Indicates the Reliability Indices of the Research Questions Items**

| S/N | **Research Questions Variables** | **Number of items** | **Cronbach's alpha index** |
|---|---|---|---|
| 1. | Awareness to Electronic databases | 25 | 0.932 |
| 2. | Access to Electronic Databases | 28 | 0.861 |
| 3. | Attitudes of Users toward the Use of E-Databases | 8 | 0.843 |
| 4. | Academic Staff Perception of the E-databases | 16 | 0.828 |
| 5. | Use of Electronic Databases | 25 | 0.877 |
| 6. | Factors Affecting Access and Use of E-Databases | 25 | 0.877 |

**Source**: Generated by the researcher using SPSS 16.0 from the questionnaire responses, 2015.

According to Creasy, (2006), the acceptable Cronbach's alpha value should be at least 0.7. The Cronbach alpha of all variables of the current study was between 0.828 to 0.932. This value has exceeded the minimum requirement for the internal reliability test, i.e. 0.7. Therefore the items for these variables are categorized as having acceptable reliability. Consequently, the instrument used in this study deemed reliable and valid for this purpose.

### 3.8 Administration of Research Instrument

The researcher personally administered the questionnaire between 6th March, 2015 to 30th April, 2015 to all the respondents in their offices in order to ensure that they receive and complete them in good time. The questionnaire was returned through the same process. This approach has the significance of ensuring optimum response and at the same time clarification of mistakes or misunderstanding of any part of the questionnaire. As highlighted by Hassan (2004) that administering questionnaire personally enables the respondents to ask questions to clarify areas that need further clarification.

### 3.9 Method of Data Analysis

The researcher used quantitative methods of descriptive analysis in analyzing the data collected. Descriptive statistic is a set of tools used to summarize and consolidate a given data which can either be a representation of the entire population or a sample (Pickard, 2007). For the purpose of this research, descriptive statistic using frequencies and percentages was used in reporting the data collected for the study. The responses were extracted, collated and coded using the Statistical Package for the Social Sciences (SPSS) version 16.0 to analyze the data collected for this study.

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# CHAPTER FOUR
# 4.0 DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

## 4.1 Introduction

This chapter is presented under the following major sub-heading:

4.2 Response Rate

4.3 Background Information of the Respondents

4.4 Academic Staffs' level of Awareness of the Electronic Databases available in the Library

4.5 Access to Electronic Databases in the library

4.6 Academic Staff Perception of the Electronic databases

4.7 Attitude of Users to the Use of E-databases

4.8 Extent of Use of the Electronic Databases by Academic Staff

4.9 Factors Facilitating Access and Use of E-databases by Academic Staff

4.10 Factors hindering the Use of E-databases

## 4.2 Response Rate

The response rate of the academic staff to the questionnaire administered is presented below:-

**Table 4.1: Response Rate**

| S/N | Faculties | Questionnaire Administered | Questionnaire Returned | Not Returned | Percentage (%) Returned | Percentage (%) Not Returned |
|---|---|---|---|---|---|---|
| 1 | Others | 10 | 7 | 3 | 4.92 | 1.48 |
| 2 | Agriculture | 8 | 6 | 2 | 4.22 | 0.74 |
| 3 | Allied Health Sciences | 5 | 5 | 0 | 3.52 | 0 |
| 4 | Arts & Islamic studies | 16 | 11 | 5 | 7.74 | 3.52 |
| 5 | Bio-Medical Sciences | 7 | 6 | 1 | 4.22 | 0.70 |
| 6 | Clinical sciences | 20 | 16 | 4 | 11.26 | 2.81 |
| 7 | Computer Sc. & Information Technology | 2 | 2 | 0 | 1.40 | 0 |
| 8 | Dentistry | 0 | 0 | 0 | 0 | 0 |
| 9 | Earth and Environmental Sciences | 2 | 1 | 1 | 0.70 | 0.70 |
| 10 | Education | 13 | 10 | 3 | 7.04 | 2.11 |
| 11 | Engineering | 16 | 12 | 4 | 8.45 | 2.81 |
| 12 | Law | 3 | 2 | 1 | 1.40 | 0.70 |
| 13 | Sciences | 18 | 15 | 3 | 10.56 | 2.11 |
| 14 | Social &Management Sciences | 22 | 17 | 5 | 11.97 | 3.52 |
| 14 | Total | 142 | 110 | 32 | 77.5 | 22.5 |

Table 4.1: Indicated that a total of 142 copies of questionnaire were distributed to respondents out of which 110 were returned and that represent 77.5% response rate for the study. This response rate is sufficient to actualize the objectives of the study. The researcher made several efforts to reduce the number of unreturned copies of the questionnaire but found abortive due to the fact that some of them do not want to respond to questionnaire.

As such it is not easy to deal with the subject (respondents) of the study in terms of responding to the questionnaire, though the response rate has not in any way affected the conduct of the study.

### 4.3: Background Information of the Respondent

This section presents the analysis of the background information of the respondents which includes: Qualification, Gender, Age and ICT skills and of the respondents.

#### 4.3.1: Level of Academic Qualification

In order to gather adequate information on the characteristics of the respondents they were asked to indicate their highest level of academic qualification. Table 4.2 provides the summary on the highest academic qualifications of the subjects of this research.

**Table 4.2: Level of Academic Qualification**

| Qualification | Frequency | Percentage |
|---|---|---|
| Bachelor Degree | 43 | 39 |
| Masters | 50 | 45.5 |
| PhD | 17 | 15.5 |
| Total | 110 | 100 |

From table 4.2 it can be observed that (50:45.5%) of the respondents obtained master degree, followed by bachelor degree with, (43:39%) and only (17:15.5%) have PhD. The analysis thus revealed that, there were more respondents with masters' degrees in the study.

#### 4: 3.2: Gender of the Respondents

In the same vein, respondents were asked to indicate their gender and the summary of the responses received are provided in table 4.3.

**Table 4.3: Gender of the Respondents**

| Gender | Frequency | Percentage |
|---|---|---|
| Male | 77 | 70 |
| Female | 33 | 30 |
| Total | 110 | 100 |

Table 4.3 indicates the gender of the respondents. (77:70%) of the respondents were male while (33:30%) of the respondents were female. This shows that more than half of the respondents of the study, representing 70% male, though with adequate presentation of the female population of about 30%.

### 4.3.3: Age of the Respondents

Respondents were also asked to indicate their age and the summary of the responses received are provided in Table 4.4

**Table 4.4: Age of the Respondents**

| Age of Respondents | Frequency | Percentage |
|---|---|---|
| 16-25 Years | 5 | 4.5 |
| 26-35 Years | 52 | 47.3 |
| 36-45 Years | 51 | 46.4 |
| 46-55 Years | 2 | 1.8 |
| 56 and above years | 0 | 0 |
| Total | 110 | 100 |

The data in Table 4.4 shows that, respondents between the age range of 26-35 years are the highest with (52:46.8%), followed by respondents with 36-45 years (51:45.9%) whereas, respondents between 16-25, 46-55 and 56 above years had only (5:4.5%), (2:1.8%) and 0(0%) respectively. This apparently shows that, the large number of respondents are between the age of 26-35 and 36-45.

### 4.3.4: ICT Skills of the Respondents

In order to generate information on the ICT skills they possess, the respondents were asked to indicate their ICT skills level in 3 areas i.e. use of computer, internet searching and e-databases searching and retrieval, the summary of the data obtained is provided in Table 4.5

**Table 4.5: ICT Skills of the Respondents**

| ICT Skills | VHigh/High | % | Average | Low /VLow | % |
|---|---|---|---|---|---|
| Use of computer | 70 | 63.6 | 31(28.2%) | 9 | 8.2 |
| Internet searching | 82 | 74.5 | 12(10.9%) | 13 | 11.8 |
| Electronic database searching and retrieval | 52 | 47.2 | 12(10.8%) | 33 | 30.0 |

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Table 4.5 shows ICT Skills level of the respondents. More than half (70:63.6%) of the respondent were found “high” in the use of computer, also (31:28.2%) respondents indicated their skills’ level as “average” and only (9:8.2%) respondents indicated “low” in the use of computer.

Also, majority (82:74.5%) of the respondents indicated their skills level “high” to the internet searching, followed by (12:10.9%) who ranked their skills level “average” whereas, only (13:11.8%) rated their skills level “low”.

In the same vein, (52:47.2%) indicated their skills level on electronic databases searching and retrieval as “high”. Another (12:10.8%) ranked their skill level “average”. However, (33:30.0%) rated their skills level “low”. This clearly shows that, the large number of respondents are very good in the use of computer, internet searching, and e- databases searching and retrieval. This

indicates that the staff could answer the questionnaire and therefore leading to high level quality of responses.

### 4.4. Academic Staffs' level of Awareness of the Electronic Databases available in the Library

Respondents were asked to indicate their level of awareness with the electronic databases available in the library and the summary of the responses received are provided in Table 4.6

**Table 4.6: Academic Staffs' Level of Awareness**

| LEVEL OF AWARENESS | High | Average | Low | I Don't know |
|---|---|---|---|---|
| **Online Databases** | | | | |
| EBSCOHOST | 12(10.9) | 65(59.1) | 8(7.3) | 25(22.7) |
| Elsevier Sciencedirect | 33(29.7) | 60(54.6) | 4(3.6) | 13(11.8) |
| JSTOR | 20(21.8) | 60(54.5) | 6(5.5) | 20(18.2) |
| AGORA | 16(14.5) | 60(54.5) | 5(4.6) | 29(26.4) |
| African Digital Library | 15(13.6) | 64(58.2) | 6(5.5) | 10(9.1) |
| Nigerian Virtual Library | 11(10.0) | 75(68.2) | 8(7.3) | 16(14.5) |
| HINARI | 14(12.7) | 63(57.3) | 9(8.2) | 24(21.8) |
| Indiana University Press | 15(13.6) | 60(54.5) | 25(22.7) | 10(9.1) |
| **Offline Databases** | | | | |
| E-Granary | 17(15.5) | 20(18.2) | 6(5.5) | 67(60.9) |
| Calibre | 6(5.5) | 15(13.6) | 5(4.6) | 84(76.4) |
| LANTEEAL | 5(4.5) | 13(11.8) | 24(21.8) | 63(57.2) |
| OCW | 9(8.2) | 12(10.9) | 11(10.0) | 78(70.9) |
| SHAMELA | 16(14.5) | 18(16.4) | 7(6.5) | 69(62.7) |
| Databases on CD-ROM | 3(2.7) | 37(33.6) | 10(9.0) | 60(54.5) |
| E-THESES | 11(10.0) | 11(10.0) | 1(0.9) | 87(79.1) |

From Table 4.6 it is very clear that, more than half (65:59.1%) of the respondents ranked their level of awareness to EBSCOHOST "average", other (12:10.9%) respondents ranked their level "high", another (8:7.2%) respondents ranked their level "low", whereas, only 25(22.7%) of the respondents indicated that they "don't know" their level of awareness on EBSCOHOST.

In addition, above half (33:29.7%) respondents ranked their level of awareness to Elsevier Sciencedirect “high”, other (60:54.5%) respondents ranked their level “average”, also, (4:3.6%) respondents ranked their level of awareness about Elsevier Sciencedirect “low”, but (13:11.7%) respondents indicated that they “don’t know” their level of awareness about Elsevier Sciencedirect.

More than half (24:21.8%) respondents ranked their level of awareness as “high” to JSTOR, other (60: 54.5.0%) respondents ranked their level of awareness “average” about JSTOR. Another (6:5.4%) respondents indicated their level of awareness “low”, whereas, (20:18.2%) of the respondents indicated that they don’t know their level of awareness about JSTOR,

In the same vein, above half (60:54.5%) respondent rated their level of awareness on AGORA “average”, other (29:26.4%) respondents ranked their level of awareness “average” on AGORA, some (5:4.6%) respondent rated their level of awareness “low” about AGORA, however, ( 16:14.5%) respondents indicated that they “don’t know” their level of awareness about AGORA.

Also, (64:58.2%) of the respondent rated their level of awareness “average” on African Digital Library. Other (15:13.6%) respondents ranked their level “high”, some (6:5.5%) respondent rated their level of awareness “low”, whereas, (10:9.1%) respondents indicated that they “don’t know” their level of awareness about African Digital Library.

Similarly, (75:68.2%) respondents ranked their level of awareness “average” about NIGERIAN VIRTUAL LIBRARY; other (11:9.9%) respondents rated their level of awareness “high”. Other (8:7.3%) respondents ranked their level “low”. However, (16:14.4%) respondents indicated that they “don’t know” their level awareness.

More than half (63:57.8%) respondents indicated that their level of awareness “average” on HINARI. Other (14:12.7%) respondents ranked their level of Awareness “high” on HINARI, some (9:8.2%) respondents ranked their level “low” on HINARI, whereas, (24:21.8%) respondents indicated that they “don’t know” their level of awareness about HINARI.

On Indiana University Press (60:54.5) respondents indicated that their level of awareness was “average”, other (15:13.6%) respondents ranked their level of Awareness “high”. On Indiana University Press and some (25:22.7%) the respondents ranked their level “low” on Indiana University Press, whereas, (10:9.0%) of the respondents indicated that they “don’t know” their level of awareness about Indiana University Press.

However, (67:60.9%) respondents indicated that they “don’t know” their level of awareness on E-GRANARY. Other (20:18.2%) respondents ranked their level of awareness “average”, and (6:5.5%) respondents ranked their level “low”, whereas only (17:15.3%) respondents ranked their level “high”.

More than half (84:76.4%) respondents reported that they “don’t know” their level of awareness about CALIBRE. Other (5:4.5%) respondents ranked their level “low”, another (15:13.6%) of the respondents ranked their level “average”. Whereas, only (6:5.5%) of the respondent ranked their level as “high”.

Above half (68:61.8%) respondents reported that they “don’t know” their level of awareness to LANTEEAL, other (24:21.8%) respondents ranked their level as “low” on LANTEEAL, whereas, some (13:11.7%) respondents ranked their level “average”, whereas only (5:4.5%) respondents ranked their level of awareness “high”.

Also, (78:70.9%) respondents indicated that they “don’t know” their level of awareness about OCW. Other (12:10.8%) respondents rated their level “average”; another (11:9.9%) respondents ranked their level “low” whereas, only (9:8.1%) respondents ranked their level “high”.

Above half (69:62.7%) respondents indicated that they “don’t know” their level of awareness about SHAMELA. Other (18:16.4%) of the respondents ranked their level “average”, another (16:14.4%) of the respondents ranked their level “high”, and only (7:6.5%) of the respondents ranked their level of awareness “low”.

More than half (60:54.5%) respondent indicated that “they don’t” know their level of awareness about Databases on CD-ROM, however, (37:33.3%) ranked their level “average”, while, some (10:9.0%) respondents ranked their level “low” and only (3:2.7%) respondents ranked their level of awareness “high”.

Also, majority (87:79.1%) respondents indicated they “don’t know” their level of awareness about E- THESES, whereas, other (11:9.9%) respondents rated their level “high”, also, (11:9.9%) respondents indicated their level “average”, and only (1:0.9%) respondents ranked their level “low”.

However, the finding of the study reveals that more than half of the respondents indicated their level of awareness as “Average” about JSTOR, Elsevier Sciencedirect, AGORA, HINARI, African Digital Library, NIGERIAN VIRTUAL LIBRARY, Indiana University Press and EBSCOHOST. But they “don’t know” their level of awareness on E-GRANARY, Calibre, Databases on CD-ROM, E-theses, SHAMELA, OCW, and LANTEEAL in Bayero University Kano library.

### 4:4.1: Sources of Awareness on the availability of Electronic databases in the Library

Respondents were asked to indicate their Sources of awareness about electronic databases provided in the library and summary of the responses received are presented on Table 4.7

**Table 4.7: Sources of Awareness**

| Responses | Frequency / percentages | |
|---|---|---|
| | Yes | No |
| Through visiting library website | 48(43.6) | 62(56.4) |
| Through reading University bulletin | 70(63.6) | 40(36.4) |
| Through contact with Librarian/library staff | 62(56.4) | 48(43.6) |
| Through reading notice board | 30(27.3) | 80(72.7) |
| Through the use of search engine | 70(63.6) | 40(36.4) |
| Through workshop, seminar and conference | 44(40) | 66(60) |
| Others | 34(30.9) | 76(69.1) |

Table 4.7 indicated sources through which academic staff became aware of the electronic databases available in the university library. Over half (70:63.6%) respondents reported that they came to know about the E-databases provided in the library via the University bulletin.

However, other (70:63.6%) respondents reported that they became aware of the E-databases through the use of search engine.

Similarly, over half (62:56.4%) respondents reported getting the awareness of electronic databases provided through contact with librarian/library staff. Also, less than half, (48:43.2%) of the respondents reported that they became aware of the electronic database via visiting the library website.

Also, (44:40%) of the respondents reported that they became aware of the E-databases through workshop, seminar and conferences, only (34:30.9%) reported that they became aware of the E-

databases thorough other sources and only (30:27.3%) reported that they became aware about e-databases thorough notice board.

The study found out that, the academic staff became aware with the availability of electronic databases in Bayero University Kano Library through: Contact with librarian/library staff, reading University Bulletin, use of search engine and reading notice board.

**4:5. Access to Electronic Databases in the library**

Respondents were asked to indicate how they access the electronic databases in the library and responses received are presented in Table 4.8

**Table 4.8: Access to the Electronic Database**

| Statement | SA/A | % | UD | DA / SD | % |
|---|---|---|---|---|---|
| I access it easily and meet information need | 106 | 96.4 | 1(0.9) | 3 | 2.7 |
| I don't access at all | 9 | 8.2 | 6(5.5) | 95 | 86.4 |
| I access but not easily | 18 | 16.3 | 6(5.4) | 86 | 78.2 |

Table 4.8 indicates the access of electronic databases. Majority (106:96.4%) of the respondents reported that they access electronic database easily for their meet information need, whereas, (3:2.7%) reported do not agreed and only (1:0.9%) of the respondents were found undecided,

Also, majority (95:86.4%) of the respondents reported that they do not agree that they don't access the e-databases at all, other (9:8.1%) respondents agreed with the statement, while (6:5.6%) were undecided,

Over half (86:78.2%) of the respondents do not agree that they access electronic databases but not easily, another (18:16.3%) were found to have agreed, whereas, only (6:5.4%) of the respondents were found undecided.

The finding reveals that majority of the academic staff of Bayero University Kano access the electronic databases easily and meets their information need.

### 4.5.1: Facilities Use to Access to the Electronic Databases

Respondents were asked to indicate the facilities they use to access the electronic databases and responses are presented in Table 4.9

**Table 4.9: Access Facilities**

| **Response** | **Frequency/ Percentages** | |
|---|---|---|
| | **Yes** | **No** |
| Personal computers with or without modem | 98(89.1) | 12(10.9) |
| Cell phone | 76(69.1) | 34(30.9) |
| Internet café facilities | 25(22.7) | 85(77.3) |
| University library e- learning computers | 18(16.4) | 92(83.6) |
| Others | 14(12.7) | 96(87.3) |

Table 4:9 indicates facilities used to access the electronic databases. Majority (98:89.1%) of the respondents use personal computers with or without modem to access electronic databases, while, other (12:10.9%) respondents do not use personal computers to access personal.

Also, over sixty percent (76:69.1%) of the respondents reported that they access electronic databases using their cell phones, whereas, other (34:30.9) respondents do not use cell phones in their use of E-databases.

However, on the use of internet café facilities to access databases, only (25:22.7%) have reported that they use Internet café facilities to access e-databases, while (85:77.3%) reported that they do not use Internet cafe facilities to access the E-databases.

Similarly, (92:83.6%) respondents reported that they do not use the university library e-learning computers to access the electronic databases, only (18:16.4%) reported that they University library e-learning computers to access the electronic databases.

It is important to note that, majority of the respondents (96(87.3%) reported that they use other facilities beside those mentioned to access the electronic databases, with only (14:12.7%) who reported that they do not use other facilities to access the e-databases.

The finding reveals that majority of the academic staff in Bayero University Kano access the electronic databases available in the library using their cell phones and personal computers with modem.

### 4. 5.4: Location of Accessing Electronic Databases

Respondents were asked to indicate the location in which they access the electronic databases and Responses received are presented in Table 4.10

**Table 4. 10: Access location**

| **Responses** | **Frequency / percentages** | |
|---|---|---|
| | **Yes** | **No** |
| In office | 90(81.8) | 20(18.2) |
| At home | 39(35.5) | 71(64.5) |
| University library e-learning | 42(38.2) | 68(61.8) |
| Cyber café | 40(36.4) | 70(63.6) |
| Others | 31(28.2) | 79(71.8) |

Table 4.10 indicates the location of accessing electronic databases. Majority (90:81.8%) of the respondents reported that they access electronic databases in their offices. Another (42:38.2%) reported that they access the electronic databases in the University library e-learning, whereas, (40:36.4%) indicated that they the access electronic databases in the cyber café.

On the other hand, 39(35.5%) of the respondents reported that they access the electronic databases at home, but only 31(28.2%) indicated that they access the electronic databases in other places.

However, the finding reveals that majority of the academic staff access the electronic databases in their offices.

### 4.5.2: Strategies Used in Accessing the Electronic Databases

Respondents were asked to indicate the strategies they use in accessing the Electronic Databases and responses received are presented in Table 4.11

**Table 4.11: Strategies Used in Accessing the Electronic Databases**

| Strategies | Frequency/ Percentages | |
|---|---|---|
| | Yes | No |
| Through the use of ID login and password | 79(71.8) | 31(28.2) |
| Through Library staff guide | 72(65.5) | 38(34.5) |
| Through proximity searching | 31(28.2) | 79(71.8) |
| Through searching on basic & advanced search interfaces of the e-databases | 60(54.5) | 50(45.5) |
| Through using the field search interface | 29(26.4) | 81(73.6) |
| Through the use of controlled vocabulary | 28(25.5) | 82(74.5) |
| Through using author, subject, title of an article or journal | 64(58.2) | 46(41.8) |
| Through the use of date of publication | 49(44.5) | 61(55.5) |
| Through using keywords | 74(67.3) | 36(32.7) |
| Through the use of library e-database search guide | 70(63.6) | 40(36.4) |
| Through downloading the desired search result | 42(38.2) | 68(61.8) |
| Through printing out of the search results | 52(47.3) | 58(52.7) |

Table 4.11 indicates the strategies used to accessing the electronic databases in the library. Majority of the respondents (79:71.8%) reported that they access electronic database by using ID login and password. Another (74:67.3%) indicated that they access the electronic databases through using keywords and (72:65.5%) reported that they access through Library staff guide. Also, (70:63.6%) of the respondents agreed that they access the E-databases through the use of library E-database search guide. Other (64:58.2%) respondents reported that, they use author, subject, and title of an article or journal as strategies for accessing the electronic databases. Another (60:54.5%) indicated that they use basic & advanced search interfaces of the E-databases as a strategy for accessing the E-database.

On the other hand, (52:47.3%) respondents indicated that, they access the electronic databases through printing of the search results. Other (49:44.5%) respondents reported that, they use date

of publication for accessing the E-databases and (42:38.2%) indicated that they access the electronic databases through downloading the desired search result. Another (31:28.2%) reported that they are use proximity searching interface for accessing the electronic databases, while (29:26.4%) indicated that they are accessing the E-databases through using the field search interface. Whereas, only (28:25.5%) respondents reported that they use controlled vocabulary to access the electronic databases.

However, the overall finding of this study on the strategies use for accessing the E-databases shows that over sixty percent (60%) of the respondents access the E-databases available in the library through using ID login and password and through using keywords and Library staff guide.

### 4.6: Academic Staff Perception of the Electronic databases

Respondents were asked to indicate their perception on the electronic databases in the library as good sources of information resources and the responses received are summarized in Table 4.12

**Table 4.12: Academic Staff Perception of the Electronic databases**

| Perception on the Electronic Databases | VImportant / Important | % | Undecided | NIm /NVImportant | % |
|---|---|---|---|---|---|
| **Online Databases** | | | | | |
| EBSCOHOST | 88 | 80.0 | 6(5.5%) | 16 | 14.5 |
| Elsevier Sciencedirect | 102 | 92.7 | 1(0.9%) | 7 | 6.4 |
| JSTOR | 102 | 92.7 | 3(2.7%) | 5 | 4.5 |
| AGORA | 70 | 63.6 | 15(13.5%) | 25 | 22.7 |
| African Digital Library | 66 | 60.0 | 17(15.5%) | 27 | 24.5 |
| Nigerian Virtual Library | 65 | 59.0 | 6(5.5%) | 39 | 35.5 |
| HINARI | 78 | 70.9 | 9(8.2%) | 23 | 20.9 |
| Indiana University Press | 92 | 83.6 | 6(5.5%) | 12 | 10.9 |
| **Offline Databases** | | | | | |
| E-Granary | 25 | 22.7 | 15(13.6%) | 70 | 63.6 |
| Calibre | 32 | 29.1 | 11(10%) | 67 | 60.9 |
| LANTEEAL | 36 | 32.7 | 6(5.5%) | 68 | 61.8 |
| OCW | 21 | 19.1 | 8(7.3%) | 81 | 73.6 |
| SHAMELA | 25 | 22.7 | 12(10.9%) | 73 | 66.4 |
| Databases on CD-ROM | 35 | 31.8 | 4(3.6%) | 71 | 64.6 |
| E-THESES | 17 | 15.5 | 12(10.9%) | 81 | 73.6 |

Table 4.12 indicates the perception of respondents to electronic databases as sources of information. Majority of the respondents (88:80.0%) of the respondents perceive EBSCOHOST as an "important" source of information resource, whereas, less than half (16:14.5) of respondents perceive Ebscohost as "not important" source of information resources, only (6:5.5) respondents were "undecided" about the importance of Ebscohost.

Similarly, (102:92.7%) of the respondents perceive Elsevier Sciencedirect as an "important" source of information, whereas, some (7:6.3%) of the respondents perceive Elsevier Sciencedirect as "not important" source for their information. However, (1:.9%) respondent was "undecided" about Elsevier Sciencedirect.

On JSTOR, majority (102:92.7%) of the respondents perceive it as an “important” source of information, while, less than quarter (5:4.6%) perceives JSTOR as “not important” source of their information and other (3:2.7%) respondents were “undecided” about the importance of JSTOR,

Also, more than half (70:63.6%) of the respondents perceive AGORA as an” important” source of information, whereas, (25:22.7%) respondents perceive AGORA, as “not important” source of their information and about 15(13.5%) respondents were “undecided” about the importance of AGORA.

Over half (66:60.0%) of the respondents perceive African Digital Library as “important” source of their information, but (27:24.5%) respondents perceive African Digital Library as “not important” source of their information and (17:15.5%) respondents were “undecided” about the importance of African Digital Library.

More than half (65:59.1%) of the respondents perceive NIGERIAN VIRTUAL LIBRARY as an “important” source of their information, whereas, (39:35.4%) respondents perceive NIGERIAN VIRTUAL LIBRARY as “not important” source of their information and (6:5.5%) respondents were “undecided”.

Also, over (78:70.9%) of the respondents perceive HINARI as an important source of information, another (9:8.2%) group of the respondents were undecided about HINARI, while, (23:20.9%) respondents perceive HINARI as not an important source of their information.

While (92:83.6%) of the respondents perceive Indiana University Press an “important” source of their information, (12:10.9%) respondents were “undecided” about Indiana University Press and

(23:20.9%) respondents perceive Indiana University Press as “not important” source of their information.

More than half (70:63.6%) of the respondents perceive E-GRANARY as “not important” source of information to them, and (15:13.5%) respondents were “undecided”, while, only (25:22.7%) of the respondents perceive E-GRANARY as an “important” source of their information.

On the other hand, (67:60.9%) of the respondents perceive CALIBRE as “not important” source of information to them, whereas, less than half (32:29.1%) respondents perceive CALIBRE as “important” source of their information and (11:10%) respondents were “undecided” about the importance of CALIBER.

Similarly, (68:61.8%) of the respondents perceive LANTEEAL as “not important” source of information, whereas, (36:32.7%) respondents perceive LANTEEAL as “important” source of their information and about (6:5.5%) respondents were “undecided” about the importance of LANTEAL.

However, majority (81:73.6%) of the respondents perceive OCW as “not important” source of their information, other (21:19.1%) respondents perceive OCW as “important” source of their information and (8:7.3%) respondents were “undecided” about the importance of OCW.

More than half (73:66.3%) of the respondents perceive SHAMELA as “not important” source of their information, 25(22.7%) perceive SHAMELA as “important” source of their information and 12(10.9%) of the respondents were “undecided” about the importance of SHAMELA.

More than half (71:64.5%) respondents perceive Databases on CD-ROM as “not important” source of information, whereas, (35:31.8%) respondents perceive Databases on CD-ROM as

“important” source of information and 4(3.6%) were “undecided” about importance of Databases on CD-ROM.

Over half (81:73.6%) of the respondents perceive E-THESES as “not important” source of their information, whereas, 17(15.5%) perceive E-THESES as “important” source of their information and 12(10.9%) were “undecided” about the importance of E-THESES.

However, the finding on the academic staff perception of the electronic databases available in the library shows that, majority of the academics have positive perception of the online e-databases of the library as good sources of information but they have negative perception to the offline databases of the library.

### 4.7: Academic Staff Attitudes toward Use of Electronic Databases

Respondents were asked to indicate their Attitudes toward use of Electronic Databases through a series of statements on their attitudes and the responses received are summarized in table 4.13

**Table 4.13: Academic Staff Attitudes toward Use of Electronic Databases**

| Statements | SA / A | % | UD | D / SD | % |
|---|---|---|---|---|---|
| **Positive attitude** | | | | | |
| I use electronic-databases because of easy access | 92 | 83.6 | 8(7.3%) | 10 | 9.1 |
| I prefer to use electronic-databases than print | 84 | 76.4 | 13(11.8%) | 13 | 11.8 |
| Multi-user access of e-databases attracted my attention to its usage | 86 | 78.2 | 8(7.2%) | 16 | 14.6 |
| I use electronic database because it saves my time | 89 | 80.9 | 6(5.5%) | 15 | 13.6 |
| **Negative attitude** | | | | | |
| I tend to avoid using e-databases for I don't have IT knowledge/ skills | 30 | 27.3 | 1(0.9%) | 79 | 71.8 |
| I don't use e-databases for I can do effectively without it | 13 | 11.8 | 5(4.6%) | 92 | 83.6 |
| I don't use e-database for I don't like it | 9 | 8.2 | 8(7.3%) | 93 | 84.5 |
| I can perform better service even if I don't use e-databases, so for that, I keep away from it. | 88 | 80.0 | 5(4.6 %) | 17 | 15.4 |

Table 4.13 shows attitudes of the Academic Staff to the use of Electronic Databases. Majority of the respondents (92:83.6%) reported agreed, to have positive attitude to the use of E-databases because of the ease of access, other (8:7.3%) respondents were undecided, whereas, only (10:9.1%) respondents do not agreed to have positive attitude to the use of the E-databases because of the ease of access.

Similarly, (84:76.4%) of the respondents agreed to have positive attitude to the use of E-database because of their preference of the E-database over print, another (13:11.8%) respondents were undecided, whereas, (13:11.8%) respondents do not agreed to the preference of the E-database over print.

It is important to note that, (86:78.2%) respondents agreed to have positive attitudes to the use of electronic database because of its multiple access point and (8:7.2%) respondents were

undecided, whereas, 16(14.6%) do not agree to have positive attitudes to the use of electronic database because of its multiple access point.

Also, majority of the respondents (89:80.9%) agreed to have positive attitudes to the use of electronic database because it's save time, others (6:5.5%) were undecided, whereas, only (15:13.6%) respondents do not agree to have positive attitudes to the use of electronic database because it's save time.

However, majority of the respondents (79:71.8%) reported that they do not agreed to have negative attitude to use of E-database because of poor IT skills, another (1:0.9%) respondent was undecided, on other hand, only (30:27.%) reported agreed to have negative attitude to use of E-database because of poor IT skills.

Similarly, 93(84.5%) respondents reported that they do not agree to have negative attitude to the use of E-database just because they can do effectively without it, others (6:5.4%) were undecided, whereas, 9(8.18%) respondents agreed to have negative attitude to use of E-database.

It is important to note that, majority of the respondents (93:84.5) have reported that they do not agree to have negative attitude to the use of E-database because of their dislike to it, another 8(7.3%) were undecided, whereas, 9(8.2%) agreed to have negative attitude to the use of E-database because their dislike it.

In the same vein, majority of the respondents (88:80.0%) indicated that they do not agree to have negative attitude to the use of E-database just because they can perform better service without it, others (5:4.6%) were undecided. However, 17(15.5%) reported agreed to have negative attitude to the use of E-database because they can perform better service without it.

However, the overall finding on the attitude of the academic staff of Bayero University Kano to the use of E-database is positive because all the positive statements attracted very favourable responses by majority of respondents while the negative ones received otherwise.

### 4.8: Extent of Use of the Electronic Databases

In order to gather adequate information on the extent of use of the E-databases respondents were asked to indicate their extent of use on the electronic databases available in the library and the responses received are presented in Table 4.14.

**Table 4.14: Extent of Use of the Electronic Databases**

| Responses | Always | Sometime | Rarely | Never |
|---|---|---|---|---|
| **Online Databases** | | | | |
| EBSCOHOST | 11(10) | 57(51.8) | 30(27.3 | 12(10.9) |
| Elsevier Sciencedirect | 34(30.9) | 58(52.7) | 15(13.6) | 3(2.7) |
| JSTOR | 30(27.3) | 68(61.8) | 3(2.7) | 5(4.6) |
| AGORA | 12(10.9) | 63(57.2) | 5(4.6) | 30(27.3) |
| African Digital library | 8(7.2) | 58(52.3) | 9(8.2) | 35(31.8) |
| Nigerian Virtual Library | 15(13.6) | 64(58.2) | 8(7.2) | 23(20.9) |
| HINARI | 11(10) | 63(57.2) | 5(4.6) | 31(28.2) |
| Indiana University Press | 20(18.2) | 62(56.4) | 13(11.8) | 15(13.6) |
| **Offline Databases** | | | | |
| E-Granary | 8(7.3) | 28(25.5) | 4(3.6) | 70(63.6) |
| Calibre | 7(6.4) | 28(25.5) | 8(7.2) | 67(60.9) |
| LANTEEAL | 9(8.2) | 22(20) | 5(4.5) | 74(67.2) |
| OCW | 4(3.6) | 30(27.3) | 5(4.6) | 68(61.8) |
| SHAMELA | 7(6.4) | 32(28.8) | 8(7.2) | 63(56.8) |
| Databases on CD-ROM | 9(8.2) | 20(18.2) | 25(22.7) | 56(50.9) |
| E-THESES | 4(3.6) | 6(5.5) | 3(2.7) | 97(88.2) |

Table 4.14 shows the extent of use of the electronic databases. More than half (57:51.8%) of the respondents reported that they use EBSCOHOST “sometimes”; other Less than quarter (11:10%) reported that they use EBSCOHOST “always”. However, 30(27.3%) respondents “rarely” use EBSCOHOST, and only 12(10.9%) “Never” use EBSCOHOST.

Also, 58(52.7%) respondents “sometime” use Elsevier Sciencedirect, but less than half (34:30.9%) respondents “always” use Elsevier Sciencedirect. Others (15:13.6%) “Rarely” use Elsevier Sciencedirect, whereas, only 3(2.7%) respondents “never” use Elsevier Sciencedirect.

It can be seen that, (68:61.8%) of the respondents “sometime” use JSTOR and 30(27.3%) “Always” use JSTOR. Whereas 7(6.3%) and 5(4.6%) of the respondents “rarely” and “never” use JSTOR in respective order.

On the use of AGORA database, 61(57.2%) of the respondents to “sometime” use AGORA, another 12(10.9%) of the respondents “always” use AGORA, and 5(4.6%) “Rarely” use AGORA. But 30(27.3%) “Never use” AGORA.

More than half (58:52.3%) of the respondents reported that they use African Digital library “sometime”, but 35(31.8%) were reported that they “never” use African Digital library, whereas, 8(7.2%) and 9(8.2%) respondents indicated “always” and “rarely” respectively that they use African Digital library in their respective order.

However, 62(56.3%) respondents reported that they use NIGERIAN VIRTUAL LIBRARY, “sometime”, 15(13.5%) indicated that they “always” use NIGERIAN VIRTUAL LIBRARY, another 15(13.5%) and 8(7.2%) of the respondents “never” and “rarely” respectively use NIGERIAN VIRTUAL LIBRARY in their respective order.

Similarly, over 63(56.8%) of the respondents to “sometime” use HINARI, 11(10%) indicated they “always” use HINARI, and 5(4.5%) respondents “rarely” respectively use HINARI while 31(28.2) of the respondents ‘’never’’ use it.

On the use of Indiana University Press, 62(56.4%) of the respondents reported that they "sometime" use Indiana University Press, and 20(18.2%) "Always" use, other 13(11.8%) of the respondents "rarely" use Indiana University Press, whereas, only 15(13.6%) of the respondents "never" use Indiana University Press.

Also, more than half (66:63.6%) of the respondents reported that they "never" use E-GRANARY, others 4(3.6%) were found to "rarely" use E-GRANARY, and 28(25.5%) "Sometime" use E-GRANARY, whereas, 8(7.3%) of the respondents "always" use E-GRANARY.

On extent of using CALIBRE, 67(60.9%) of the respondents reported that they "never" use CALIBRE, 8(7.2%) "Rarely use" CALIBRE, 28(25.5%) respondents "sometime" use CALIBRE, while 4(3.6%) respondents "always" use CALIBRE.

It is important to note that, 74(67.2%) of the respondents reported that they "never" use LANTEEAL, and 22(20%) respondents "sometime" use LANTEEAL, other (5:4.6%) respondents reported that they "rarely" use LANTEEAL, while 9(8.2%) of the respondents "always" use LANTEEAL.

It can also be observed from the table that, 68(61.8%) respondents reported that they "never" use OCW. Another 8(7.2%) "Rarely" use OCW, and 30(27.3%) of the respondents "sometime" use OCW, while 5(4.6%) of the respondents reported that they "always" use OCW. Also, 63(56.8%) of the respondents indicated that they "never" use SHAMELA, other (8:7.2%) respondents "rarely" use SHAMELA, and 32(28.8%) "Sometime" use SHAMELA, while 7(6.3%) of the respondents reported that they "always" use SHAMELA.

On extent of using Databases on CD-ROM, 56(50.9) of the respondents indicated that they "never" use Databases on CD-ROM, another 25(22.7) "Rarely" use Databases on CD-ROM, and 20(18.2) reported that they "sometime" use Databases on CD-ROM, while 9(8.2) of the respondents indicated that they "always" use Databases on CD-ROM. Also, majority (97:88.2%) of the respondents reported that they "Never" use E-THESES, other (3:2.7%) respondents reported that they "rarely" use E-THESES, and 6(5.5%) of the respondents "sometime" use E-THESES, while, 4(3.6) of respondents reported that they "always" use E-THESES.

However, the finding on the extent of use of electronic databases by academic staff Bayero University Kano library revealed that more than half of the academic staff use the online databases of the library to sometime but they never use the offline databases available in the library.

### 4.8.1: Purpose of the Use of Electronic databases

Respondents were asked to indicate their purpose of use of the electronic databases and summary of the responses received are presented in Table 4.15

**Table 4.15: Purpose of Use of the Electronic Databases**

| | Frequency/Percentage | |
|---|---|---|
| | **Yes** | **No** |
| I use e-databases for research work | 85(77.3) | 25(22.7) |
| I use e-databases to update my subject knowledge | 78(70.9) | 32(29.1) |
| I use e-databases for preparing lecture note | 67(60.9) | 43(39.1) |
| I use e-databases for writing report | 70(63.6) | 40(36.4) |
| I use e-databases for current awareness | 76(69.1) | 34(30.9) |
| I use e-databases for internal and external presentation | 62(56.4) | 48(43.6) |
| I use e-databases for any other purpose | 58(52.7) | 52(47.3) |

Table 4.15 shows that 85(77.3%) of the respondents reported that they use the electronic databases for "research work". However 78(70.9%) reported that they use the electronic databases "to update subject knowledge".

It is observed that, 76(69.1%) of the respondents indicated that they use the electronic database "for current awareness". Whereas, more than half (67:60.9%) of the respondents reported that they use the electronic databases "for preparing note".

On the other hand, 62(56.4) of the respondents agreed that they use electronic databases for "internal and external presentation" whereas, 70(63.6) respondents use of electronic database for "writing reports". However, 58(52.7%) of the respondents reported that they use the electronic databases for "any other purpose".

The finding shows that more than 65% of the respondents are using the electronic databases for research work, update of subject knowledge and current awareness.

### 4.9.1: Factors that Facilitate the Use of the Electronic databases

Respondents were asked to indicate Factors facilitating their use of the electronic databases and summary of the responses received are presented in Table 4.16

**Table 4.16: Factors that Facilitate the Use of the Electronic databases**

| **Response** | **Frequency / Percentage %** | |
|---|---|---|
| | Yes | No |
| Awareness of academic staff to electronic database potentiality | 91(82.7) | 19(17.3) |
| Familiarity with the search system by users | 54(50.9) | 54(49.1) |
| Understanding the database structure by academic staff | 66(60) | 44(40) |
| Internet access | 92(83.6) | 18(16.4) |
| Management support | 75(68.2) | 35(31.8) |
| ICT Policy | 59(53.6) | 51(46.4) |
| ICT Skills of the academic staff | 75(68.2) | 35(31.8) |
| Stable power supply | 40(36.4) | 70(63.6) |
| Adequate work stations | 74(67.3) | 36(32.7) |
| Training | 68(61.8) | 42(38.2) |
| Conducive environment | 64(58.2) | 46(41.8) |
| Readiness to adapt to change | 82(74.5) | 28(25.5) |
| Others | | |

Table 4.16 shows that 91(82.7%) of the respondents indicated their awareness with the electronic databases potentiality facilitate their use of the E-databases, however, 56(50.5%) indicated their Familiarity with the search system facilitate their use to the E-databases.

It is observed that, 66(60%) of the respondents indicated that their “understanding of the database structure” facilitate their use of the E-databases. Similarly, 92(83.6%) reported that “Internet access” facilitate their use of The E-databases, whereas, 75(68.2%) indicated that “management support” is another factor that facilitate their use of the E-databases.

On ICT Policy, 59(53.6%) of the respondents indicated that it facilitates their use of the E-databases. On the other hand, 75(68.2%) respondents indicated that “ICT Skills” of the academic

staff facilitate their use of the electronic databases. On “Stable power supply” only 40(36.4%) respondents reported that it facilitates their use of the E-databases.

In addition, more than half (74; 67.3%) of the respondents reported that “adequate work stations” facilitate their use of the electronic databases. However, On Training 68(61.8%) of the respondents reported that it facilitate their use of the electronic databases.

On the other hand, 64(58.2%) respondents reported that “Conducive environment” facilitate their use of the electronic databases. Whereas, 82(73.9%) respondents indicated “Readiness to adapt to change” by the academic staff facilitate their use of the electronic databases.

However, the finding of the study reveals that more than 60% of the respondents have indicated the factors facilitate the academic staff use of the electronic databases in Bayero University Kano library include: Readiness to adapt to change, adequate work stations, ICT skills of the respondents, Internet access, and awareness of the academic staff to the electronic database potentiality and management support.

### 4.10: Factors that hinder the Use of the Electronic databases

Respondents were asked to indicate the factors hindering their use of the electronic databases and responses received are presented in Table 4.17

**Table 4.17: Factors that Hinder the Use of the Electronic databases**

| Statement | Percentage/ Frequency | |
|---|---|---|
| | Yes | No |
| Slow response of network | 101(91.8) | 9(8.2) |
| Lack of trained staff for help | 36(32.7) | 74(67.3) |
| Printing problems | 38(34.5) | 72(65.5) |
| Lack of existence of relevant online databases in the user's field | 79(71.8) | 31(28.2) |
| Non subscription of relevant databases by the university library | 68(61.8) | 42(38.2) |
| Lack of access to relevant online databases | 69 (62.7) | 41(37.3) |
| Lack of user education on access and use of e-databases | 81 (73.6 ) | 29(26.4) |
| Cost of access and usage of online databases | 79(71.8) | 31(28.2) |
| Inadequate internet facilities | 76 (69.8) | 34(30.6) |
| Lack of searching capacity across a wider range or within articles | 36(32.7) | 74(67.3) |
| Discomfort of reading from computer screen | 73(66.4) | 37(33.6) |

Table 4.17 shows that majority of the respondents (101:91.8%) reported that "Slow response of the network" is hindering their use of the electronic databases. whereas, 74(67.3%) indicated "Lack of trained staff for help" as a factor hindering their use of the electronic database in Bayero University Library.

Similarly, more than half (72:65.5%) respondents reported "Printing problems" as factors hindering their use of the electronic databases. However, 79(71.8%) respondents indicated that "Lack of existence of relevant online databases in the user's field" is hindering their use of the electronic databases.

It is important to note that, 68(61.8%) of the respondents indicated that "Non subscription of relevant E-databases by the university" is hindering their use of electronic databases. Whereas, 69 (62.7%) reported that "Lack of access to relevant online databases" serves as the hindrance to the use of the electronic databases.

On the other hand, 81 (73.8%) respondents indicated that “Lack of user education on use of the E-databases” is a barrier to the use of the electronic databases. Whereas, 79(71.8%) of the respondents reported that “cost of access and usage of online databases” is a barrier to the use of the electronic databases.

In addition, 76 (69.1%) of the respondents reported that “Inadequate internet facilities” are hindrance to the use of the electronic databases. On the other hand, 74(67.3) respondents indicated that “Lack of searching capacity across a wider range or within article” is another hindrance to the use of the electronic databases.

It is seen that, 73(66.4%) respondents have reported that “discomfort of reading from the computer” is hindering the use of the electronic databases, whereas, 35(31.8%), 25(22.7%), 20(18.2%) and 30(27.3%) of the respondents in their respective order specified: irregular power supply, lack of awareness campaigns to the available electronic databases in the library, inadequate internet facilities and inadequate training as “other” factors hindering use of the E-databases.

Finally, the finding reveals that more than half of the respondents indicated factors hindering use of the electronic databases by the academic staff in Bayero University Kano library to include: Slow response of the network, lack of existence of relevant online databases, cost of access and use of online databases and lack of user education to the use of the E-databases.

### 4.11: Suggestions of the Respondents for Enhancing the Use of the E-databases

Suggestions made by the respondents are presented below in Table 4.18

**Table 4.18: Suggestions of the Respondents for Enhancing the Use of the E-databases**

| | Suggestions | Frequency | Percentage |
|---|---|---|---|
| 1 | Provision of adequate internet facilities | 20 | 18.2 |
| 2 | Stable power supply | 10 | 9.1 |
| 3 | Reliable internet service, | 40 | 36.4 |
| 4 | Constant renewal of subscription to relevant electronic databases | 15 | 13.6 |
| 5 | Adequate training of users | 25 | 22.7 |
| Total | | 110 | 100 |

Table 4.18 Shows Suggestions of the Respondents for Enhancing the Use of the E-databases. 40(36.4%) suggested that having "Reliable internet service" would enhance the use of the E-databases, followed by 25(22.7%) respondents who suggested "Adequate training of users" and 20(18.2%) respondents suggested "Provision of adequate internet facilities", another 15(13.6%) suggested "Constant renewal of subscription to relevant electronic databases" and 10(9.1%) respondents suggested "Stable power supply" so as to enhance the use of the electronic databases.

However, suggestions made by the respondents in order to enhance the use of the electronic databases include: provision of adequate internet facilities, stable power supply, reliable internet service, constant renewal of subscription to relevant electronic databases and adequate training of the users.

### 4.12 Discussion of Findings of the Study

Data collected from the respondents for this research were analyzed. From the data analyzed, some findings were made. These are discussed below:

The study found that, the academic staff's level of awareness is "average" in respect of Elsevier Sciencedirect, JSTOR, EBSCOHOST, AGORA, African Digital Library, Nigerian Virtual Library, HINARI and Indiana University press but "never" to all offline databases in the library. Thus, it is not surprising that, this finding goes in line with the finding of Aina (2014) who revealed that, the level of awareness of electronic databases among the academic staff of Babcock Business School Ogun State is varied. And also, the findings of Swain (2010) and Upadhyay and Chakraborty (2008) who found that users of their libraries were aware of the availability of AGORA, EBSCOHOST, SCIENCEDIRECT, HINARI and JSTOR in the libraries they studied.

The study also revealed that the academic staff are aware of the availability of the electronic databases in the University Library through various sources which include: contact with the University Librarian/ Library staff, University Bulletin, use of search engine and reading notice board. This is similar to findings by Mbabu , Bertram and Varnum, (2013) who found that students became aware about the library online resources through a variety of sources, for example, through professors and teaching assistants, library-user classes, librarians, friends and even looking it up by themselves.

Another area of interest to this study is the access to the E- databases by the academic staff of Bayero University, Kano. The study has revealed that the staff access the electronic databases available in the library easily and meet their information need. They access the electronic

databases using their Cell phones and personal computers with modem. The study also found that the strategies used by the academic staff in accessing the electronic databases include: using ID login and password, keyword search strategy and library staff guide. This finding is goes in line with the findings of Shukla and Mishra (2011) who found that in their libraries users and research scholars use ID login and password as well as keyword search strategy for accessing electronic databases.

However, another area of this study is the academic staff's perception to the E-databases. The study also found out that majority of the academic staff have positive perceptions of the online electronic databases available in BUK library as their sources of information but they have negative perception toward the offline E- databases.

It is important to note that, another area of this study is attitude of users toward use of electronic databases. The finding also revealed that majority of the academic staff in Bayero University Kano have positive attitude toward use of electronic databases. This finding is in line with findings of Okello-Obura and Magara (2008), and also, Smith (2010) who found in their studies evidence of positive attitude of library users towards use of electronic databases in the libraries they studied.

Also, another relevance of this study is the extent of the use of the electronic databases in the library. The study established that majority of the academic staff use the online databases of the library "sometime". It also revealed that the staff use the electronic databases in their "offices" using their "cell phones, and personal computers with modem". As found in the study the purpose of using the E – databases by the academic staff include: research work, update subject knowledge, preparing lecture note and current awareness among others. This finding is similar with a finding of Chandran (2013) who revealed that, patrons use the E-databases for obtaining

general knowledge, preparing study note, writing book review, obtaining general knowledge and preparing for seminars or conferences.

On the other hand, another area of interest to this study is the factor affecting the use of E-databases. The study revealed factors facilitating use of E – databases among academic staff in Bayero University Kano include: Readiness to adapt to change, adequate work stations and ICT skills of the respondents, internet access, management support, and awareness of the academic staff to the electronic database potentiality. It also revealed that the factors hindering use of electronic databases in the university library include: slow response of the network, lack of existence of relevant online databases, cost of access and use of online databases, irregular power supply, lack of awareness campaign and too many password which are difficult to remember. These findings corroborates with the findings of Anas (2012), Tyagi (2011) and Bar-llan, Peritz and Wolman (2003) who found in their studies that IT skills, internet connectivity, usefulness of content, adequate work stations are motivating factors to the use of any e-resources. And also, findings of Bashorun and Isah (2011) and Ibrahim (2004), Shukla and Mishra (2011) who found in their studied that slow internet connectivity, insufficiency of work station, problems in locating the most appropriate information resources, irregular supply of electricity were among factors that deter the use of electronic resources in academic libraries.

Suggestions made by the respondents to enhance the use of electronic databases include: provision of adequate internet facilities, stable power supply, reliable internet service, subscription to relevant electronic databases, purchase of more computers in the main library and its branches, proper maintenance to the library electronic databases and adequate training of users among others.

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# CHAPTER FIVE
## 5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

### 5.1 Introduction

This chapter presents the summary of the study, summary of the major findings, the conclusion based on the analysis and recommendations where necessary.

### 5.2 Summary of the Study

The entire study was organized in five chapters in order to ensure consistency and proper coordination.

Chapter one covers the general back ground and the overview of the study, statement of the research problem, research questions and objectives, significance of the study, scope and limitations of the study as well as operational definition of concept and key terms.

Chapter two presents a review of relevant literature on the research topic. Issues on which the literature is reviewed include: concept and significance of electronic databases, awareness and access of electronic databases by library users, types of electronics databases in academic libraries, attitude of users toward the use of electronic databases, perception and the use of electronic databases, factors affecting use of electronic databases in academic libraries and theoretical/ conceptual framework.

Chapter three presents the research methodology, the research design and procedures used in carrying out the research work.

Chapter Four is the second to the last chapter of the study which provides the data presentation, analysis and discussion of the findings of the study.

Chapter five is the final chapter of the study where summary of the findings; conclusion and recommendations from the study are presented. The recommendations are solely based on the research findings.

### 5.3 Summary of the Major Findings

Based on the reviewed literature, summary of the work done as well as the results from the data analysis in chapter four, the major findings are discussed in line with the research questions:-

1- The study found out that, the level of awareness of the academic staff of Bayero University Kano is "Average" in respect of Elsevier Sciencedirect, JSTOR, EBSCOHOST, AGORA, Indiana University Press, African Digital library, Nigerian Virtual Library and HINARI but the Staff do not know their level of awareness of the "offline databases" in the library. The academic staff's sources of awareness to the availability of the electronic databases in the university library includes: contact with the University Librarian/ Library staff, reading University Bulletin and notice board

2- On the access of E-databases the study revealed that, the academic staff access the E-databases easily and meets their information need. They access the electronic databases with their cell phones and personal computers with their modem using ID login and password.

3- Academic staff perception of the E-databases found is positive toward online electronic databases available in the library as sources of information but they have negative perception with the offline E- databases of the library.

4- The study also established that the academic staff have positive attitude toward use of electronic databases.

5- On the extent of use of E-databases the study found that, the academic staff “sometime” use the online databases available in the library but they “never” use the offline databases of the library.

6- Factors that facilitate the use of E –databases among the academic staff were found to be readiness to adapt to change, adequate work stations and ICT skills of the respondents, internet access, and awareness of the academic staff to the electronic database potentiality.

7- The study found out factors that hinder the use of electronic databases among academic staff to include: Slow response of the network, cost of access and use of online E-databases, lack of user education, irregular power supply and lack of awareness campaign.

## 5.4 Conclusion

The patronage of electronic database is relatively a recent phenomenon in this part of the world, so the access and use of electronic database by users has not been explored in great detail in literature. Electronic database is one of the transformative electronic information resources of the present information age and one in which academic staff are in need of accessing and using for different purposes.

It is proven and could be concluded from the study that use of electronic databases recorded some success among the academic staff of Bayero University Kano. The staff's level of awareness of the E-databases plays a role in using of these resources.

Perception and attitude shown by the users affect use of online databases available in the library; these include: Elsevier Sciencedirect, JSTOR, EBSCOHOST, AGORA, African Digital Library, Nigerian Virtual Library, HINARI and Indiana University Press but do not affect their use of the offline databases of the library.

Readiness to adapt to change, ICT skills of the respondents and internet access among others are found as factors facilitating the use of online databases by academics at BUK library but these factors do not facilitate their use of offline databases.

## 5.5 Recommendations

(1) For more awareness on the availability of E-databases in the library, there is the need to increase the level of awareness of users on the electronic Electronic databases available in the library through active publicity programme by the library. This should involve the use of the following channels:

   (a) The library should use the BUK FM radio station to advertise the availability of E-databases in the University library.

   (b) Create an e-mail alert massage or network in which academic staff and other users can be informed about any purchase or subscription to the E-databases in the library.

   (c) The library should Prepare brochures or leaflets pertaining to electronic databases of the library and distribute to the academic staff across all the departments of the university.

(2) The library should develop a comprehensive access system which could provide access to the electronic databases via one password as opposed to individual passwords for each publisher's server.

(3) The library should boost perception and attitude of users toward efficient and effective use of the electronic databases through a massive publicity on benefits derived from the use of the electronic databases.

(4) To improve use of E-databases, it is recommended for the library to develop plan that will improve use of electronic databases by users of the library through following ways :

   (a) Offering training programmes on regular basis for the users in effective access system, searching of databases and downloading articles among others.

(b) The list of all the available databases of the library should appear on the home page of the library website. This will assist the users to have a look at the databases and select the one they want use.

(c) There is also the need to involve the Head of departments, Dean of faculties or their representatives in the selection of electronic databases to be subscribed to or purchased by the University library.

(d) The BUK library management should expand its e-library services to all the branch libraries. This will enable the academic staff that have no time to go to the main library visit the nearest library to him/her to access e- databases in particular and other types of e-resources in general.

(5) The University Management should find an alternative way to generate power supply such as a standby generator, inverter or solar energy system in order to provide constant supply of electricity in the library and in the lecturers' offices.

(6) There is the need for the University management through the Federal Ministry of Education to liaise with the internet service providers so as to improve the internet bandwidth in order to have speedy response of the network.

## 5.6 Suggestions for Further Studies

Since research is a continuous process, and in view of the scope, limitations and findings of this study, it is here by recommended that further studies should be carried by other researchers in the following areas:

1. Perceived usefulness and Ease of access of Offline databases by Academic Staff of Bayero University Kano.
2. Preference to the Use of Electronic databases over Prints by Academic Staff of the Universities in Kano State.
3. Awareness, Accessibility and Use of Electronic databases by postgraduate students of the Universities in the Northwestern State of Nigeria.

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**Appendix i**

*DEPARTMENT OF LIBRARY & INFORMATION SCIENCES*
*FACULTY OF EDUCATION*
*BAYERO UNIVERSITY, KANO*

**BUK/DLS/216** 20th January, 2015

The Registrar,
Bayero University,
Kano.

Dear Sir,

**INTRODUCTORY LETTER IN RESPECT OF MUHAMMAD YUSUF (SPS/11/MLS/00039)**

The bearer whose name and registration number appeared above is a Postgraduate Student of the Department of Library and Information Sciences, Bayero University Kano.

He is conducting a research **Title: Access and use of electronic databases by Academic staff of Bayero University, Kano**

Kindly give him all the necessary assistance he may need.

Thank you.

**Dr. S.O. Bello**
Head of Department

**Appendix ii**

## Preliminary Study Questionnaire for the Head of Automation

**Objectives of the study**

This study is designed to achieve the following objectives.

1. To find out information on the types of electronic databases available in the University Library.
2. To know the location of accessing the E-databases in the library.

## Instruction: please read carefully and write answers in the spaces provided

## Section A: Background information

1) What is the name of the section your are working in? Kindly indicate

   ……..……..…...

2) Please indicate your Gender ……..

## Section B: Provision of Electronic Databases in the Library

3) Do your library provide electronic databases ? Kindly indicate……..

   ……..……

4) If yes, what types of electronic databases are available in your library? Please write Below……..…….

5) Please under each type indicate the electronic databases available in the library

   ……..…….

6) Please do you have a place in which academic staff access e-databases? Kindly indicate

   ……..……

   ……..…….

**Appendix iii**

**PRELIMINARY STUDY QUESTIONNAIRE TO THE CUSTODIAN OF STAFF RECORD BAYERO UNIVERSITY KANO**

**Objectives of the study**

This study is designed to achieve the following objectives:

1- To find out the number of faculties and departments in the University,
2- To find out the number of academic staff in the University

## Instruction: please read carefully and write answers in the spaces provided

## Section A: Background information

1. What is the name of the section your are working in? Kindly indicate ……..……
   ……..……
2. Please indicate your Gender……..……

## Section B: Information on Academic Staff

4) Please indicate number of academic staff and their faculties in Bayero University Kano……..……..

5) Under each faculty please indicate number of academic staff by Departments

……..……..

……

……

……

……

……

## Appendix iv

Department of Library and Information Science

Bayero University Kano
P.M.B. 3011
19TH January, 2015.

Dear Sir / Madam

**LETTER OF INTRODUCTION**

I am a Post-graduate student of the above named Department currently undergoing research study on the Access and Use of Electronic Databases by Academic Staff in Bayero University, Kano.

In view of the above, I am soliciting for your time to complete this questionnaire. Your responses would be treated with uttermost confidentiality, as it is purely required for academic exercise only. Thank you in anticipation of your cooperation.

Yours faithfully,
Signed
Muhammad Yusuf
(08116614025/ 08095097089)

**Appendix v**

## QUESTIONNAIRE FOR THE ACADEMIC STAFF

**Instruction:** please, read the following questions carefully and answer them by either ticking in the Box ( ) or write where appropriate

### Section A: Background information of the respondents.

1) Level of academic qualification

| | Please Indicate your level of academic qualification | Tick one |
|---|---|---|
| A | Bachelor Degree | |
| B | Masters | |
| C | PhD | |

2) Gender of the respondents

| | Kindly indicate your gender | Tick one |
|---|---|---|
| A | Male | |
| B | Female | |

3) Age of the Respondents

| | Please indicate your age according to the range | Tick only one |
|---|---|---|
| A | 16-25 Years | |
| B | 26-35 Years | |
| C | 36-45 Years | |
| D | 46-55 Years | |
| E | 56 and above Years | |

4) Level of ICT skills of the respondents

Kindly, indicate your level of ICT skills using 5 Likert-scale (very high, high, average, low, very low).

| ICT Skills | Very High | High | Average | Low | Very Low |
|---|---|---|---|---|---|
| Use of computer | | | | | |
| Internet searching | | | | | |
| Electronic database searching and retrieval | | | | | |

**Section B: Awareness and Accessibility to electronic – Databases**

5) Are you aware that electronic databases are available in your university library?

a) Yes b) No

6) If aware, please indicate your awareness level with the types of the E-databases available in your library

| | Electronic Databases | High | Average | Low | I Don't know |
|---|---|---|---|---|---|
| | **Online Databases** | | | | |
| A | EBSCOHOST | | | | |
| B | ELSEVIER SCIENCEDIRECT | | | | |
| C | JSTOR | | | | |
| D | AGORA | | | | |
| E | African Digital Library | | | | |
| F | Nigerian Virtual Library | | | | |
| G | HINARI | | | | |
| H | Indiana University Press | | | | |
| | **Offline Databases** | | | | |
| I | E-Granary | | | | |
| J | Calibre | | | | |
| K | LANTEEAL | | | | |
| L | OCW | | | | |
| M | SHAMELA | | | | |
| N | CD-ROM Databases | | | | |
| O | E-THESES | | | | |

7) How do you get awareness on the Electronic databases provide in the Library

| | **Sources of awareness to electronic databases** | **Tick as applicable** |
|---|---|---|
| A | Through visiting library website | |
| B | Through reading University bulletin | |
| C | Through contact with Librarian/library staff | |
| D | Through reading notice board | |
| E | Through the use of search engine | |
| F | Through workshop, seminar and conference | |
| G | Others | |

8) Do you have access to E-databases?

a) Yes b) No

9) How do you access the electronic databases? Please tick where appropriate to indicate your agreement or disagreement with the following statement using 5 likert scale Strong agree (SA) = 5 Agree (A) = 4 Undecided (UD) = 3 Disagree (DA) =2 strongly disagree (SD) = 1

| S/No. | statement | SA | A | UD | DA | SD |
|---|---|---|---|---|---|---|
| A | I access it easily and meet information need | | | | | |
| B | I don't access at all | | | | | |
| C | I access but not easily | | | | | |

10) What ICT Facilities do you use to access electronic databases provided in the library?

| ICT Facilities | Please tick as applicable |
|---|---|
| Personal computers with or without modem | |
| Cell phone | |
| Internet of Cyber café | |
| University library e- learning computers | |
| Others | |

11) Please indicate the place in which you access the electronic databases

| Places of use to e-databases | Please tick as applicable |
|---|---|
| In office | |
| At home | |
| University library e-learning computers | |
| Cyber café | |
| Others | |

What strategies do you use in accessing the electronic databases?

| S/No. | Access to E – databases | Please tick as applicable |
|---|---|---|
| A | Through the use of ID login and password | |
| B | Through Library staff guide | |
| C | Through proximity searching | |
| D | Through searching on basic & advanced search interfaces of the e-databases | |
| E | Through using the field search interface | |
| F | Through the use of controlled vocabulary | |
| G | Through using author, subject, title of an article or journal | |
| H | Through the use of date of publication | |
| I | Through using keywords | |
| J | Through the use of library e-database search guide | |
| K | Through downloading the desired search result | |
| L | Through printing out of the search results | |

**SECTION: C Attitude of users to the use of electronic databases**

12) Please, indicate your attitude to the use of electronic databases

| S/No. | Statements | SA | A | UD | D | SD |
|---|---|---|---|---|---|---|
| | **Positive attitudes** | | | | | |
| A | I use electronic-databases because of easy access | | | | | |
| B | I prefer to use electronic-databases than print | | | | | |
| C | Multi-user access of e-databases attracted my attention to its usage | | | | | |
| D | I use electronic database because it saves my time | | | | | |
| | **Negative attitudes** | | | | | |
| E | I tend to avoid using e-databases for I don't have IT knowledge/ skills | | | | | |
| F | I don't use e-databases for I can do effectively without it | | | | | |
| G | I don't use e-databases for I don't like it | | | | | |
| H | I can perform better service even if I don't use e-databases, so for that, I keep away from it. | | | | | |

**SECTION: D Perception of academic staff to the electronic databases**

13) Kindly, indicate your perception with the following electronic databases as good sources of information resources in your library.

| | Electronic Databases | Very Important | Important | Undecided | Important | Not Very Important |
|---|---|---|---|---|---|---|
| | **Online Databases** | | | | | |
| A | EBSCOHOST | | | | | |
| B | Elsevier Sciencedirect | | | | | |
| C | JSTOR | | | | | |
| D | AGORA | | | | | |
| E | African Digital LIBRARY | | | | | |
| F | Nigerian Virtual Library | | | | | |
| G | HINARI | | | | | |
| H | Indiana University Press | | | | | |
| | **Offline Databases** | | | | | |
| I | E-Granary | | | | | |
| J | Calibre | | | | | |
| K | LANTEEAL | | | | | |
| L | OCW | | | | | |
| M | SHAMELA | | | | | |
| N | DATABASES ON CD-ROM | | | | | |
| O | E-THESES | | | | | |

**Section E: Use of Electronic – databases**

14) Do you use the E-Databases available your University Library?

a- Yes ( ) b- No ( )

15) If yes, indicate the extent in which you use the following electronic databases in the library?

| | Electronic Databases | Always | Sometime | Rarely | Never |
|---|---|---|---|---|---|
| | **Online Databases** | | | | |
| A | EBSCOHOST | | | | |
| B | Elsevier Sciencedirect | | | | |
| C | JSTOR | | | | |
| D | AGORA | | | | |
| E | African Digital Library | | | | |
| F | Nigerian Virtual Library | | | | |
| G | HINARI | | | | |
| H | Indiana University Press | | | | |
| | **Offline Databases** | | | | |
| I | E-Granary | | | | |
| J | Calibre | | | | |
| K | LANTEEAL | | | | |
| L | OCW | | | | |
| M | SHAMELA | | | | |
| N | Databases on CD-ROM | | | | |
| O | E-THESES | | | | |

16) Indicate the purpose in which you use the electronic databases?

| **Purpose** | **Please tick as applicable** |
|---|---|
| I use e-databases for research work | |
| I use e-databases to update my subject knowledge | |
| I use e-databases for preparing note | |
| I use e-databases for writing report | |
| I use e-databases for current awareness | |
| I use e-databases for internal and external presentation | |
| I use e-databases for any other purpose | |

**SECTION F: Factors affecting the use of E-databases**

17) In your opinion, what factors facilitate your use of the electronic databases?

| S/No. | Facilitating factors | Tick as applicable |
|---|---|---|
| 1. | Awareness of academic staff to electronic database potentiality | |
| 2. | Familiarity with the search system by users | |
| 3. | Understanding the database structure by academic staff | |
| 4. | Internet access | |
| 5. | Management support | |
| 6. | ICT Policy | |
| 7. | ICT Skills of the academic staff | |
| 8. | Stable power supply | |
| 9. | Adequate work stations | |
| 10. | Training | |
| 11. | Conducive environment | |
| 12. | Readiness to adapt to change | |

18) In spite of the above facilitating factors, which among the following factors you think are hindrances to the academic staff's use of E-databases?

Slow response of network ( )

Lack of trained staff for help ( )

Printing problems ( )

Lack of existence of relevant online databases in the user's field ( )

Non subscription of relevant databases by the university library ( )

Lack of access to relevant online databases ( )

Lack of user education on access and use of e-databases ( )

Cost of access and usage of online databases ( )

Inadequate internet facilities ( )

Lack of searching capacity across a wider range or within articles ( )

Discomfort of reading from computer screen ( )

Others please specify _____

_____

19) Please what can you suggest for enhancing access and use of e- databases

_____

**Appendix vi**

**Results of Preliminary Study in the Library on 19th January, 2015.**

**1- Automation section**

**2- Gender: Male**

**3- Yes**

**4- Online and offline databases**

**5- Types of Electronic Databases Provided in the library**

| | Types of Electronic Databases available in the library |
|---|---|
| | **Online Databases** |
| A | EBSCOHOST |
| B | Elsevier Sciencedirect |
| C | JSTOR |
| D | AGORA |
| E | African Digital Library |
| F | Nigerian Virtual Library |
| G | HINARI |
| H | Indiana University Press |
| | **Offline Databases** |
| I | E-Granary |
| J | Calibre |
| K | LANTEEAL |
| L | OCW |
| M | SHAMELA |
| N | OPAC |
| O | Databases on CD-ROM |
| P | E-THESES |

**6- University Library e- learning**

**Results of Preliminary Study in the Registry on 19th January, 2015.**

**1- Establishment Unit**

**2- Gender: Male**

**3- Number Academic Staff by faculties & Departments in Bayero University, Kano**

| Faculties | Departments | Number of Academic Staff |
|---|---|---|
| Others | A. K. C. D. R & T | 4 |
| | C.R.N.L.F | 11 |
| | CAER&T | 4 |
| | Centre for Bio-Technology Research | 2 |
| | Centre for Dry land Agric | 5 |
| | Centre for Information Technology | 2 |
| | Centre for Qur'anic Studies | 9 |
| | IIIB&F | 9 |
| | Institute of Continue Education | 29 |
| | University Library | 32 |
| Agriculture | Agric Economic & Extension | 17 |
| | Agronomy | 20 |
| | Animal Science | 15 |
| | Crop Protection | 13 |
| | Fisheries | 2 |
| | Food Science Technology | 3 |
| | Forestry | 1 |
| | Soil Science | 12 |
| Allied Health Sciences | Medical Lab Sciences | 13 |
| | Nursing Science | 9 |
| | Optometry | 1 |
| | Physiotherapy | 18 |
| | Radiography | 7 |

| | | |
|---|---|---|
| Art & Islamic studies | Arabic | 34 |
| | English & Literary Studies | 25 |
| | Foreign Language | 6 |
| | History | 24 |
| | Islamic Studies & Shari'a | 35 |
| | Linguistics | 10 |
| | Nigerian Languages | 22 |
| | Theater Film Studies | 4 |
| | | |
| Bio-medical Sciences | Anatomy | 16 |
| | Biochemistry | 31 |
| | Physiology | 24 |
| | | |
| Clinical sciences | Anesthesiology | 3 |
| | Chemical Pathology | 6 |
| | Community Medicine | 12 |
| | Haematology | 6 |
| | Histopathology | 5 |
| | Medical Microbiology & Parasitology | 19 |
| | Medicine | 22 |
| | Obstetrics & Gynaecology | 19 |
| | Opthalmology | 7 |
| | Otorhinolaryngology (ENT) | 7 |
| | Paediatrics | 17 |
| | Pathology | 2 |
| | Pharmaceutical Science | 13 |
| | Pharmacology | 13 |
| | Psychiatry | 9 |

| | | |
|---|---|---|
| | Radiology | 9 |
| | Surgery | 17 |
| | | |
| Computer & Information Technology | Computer Science | 21 |
| | Information Technology | 1 |
| | Software Engineering | 4 |
| | | |
| Dentistry | Child Dental Health | 1 |
| | Craniofacial Orthodontics | 1 |
| | Dentistry | 2 |
| | Oral & Maxillofacial | 2 |
| | Oral Diagnostic Surgery | 2 |
| | Preventive Dentistry | 3 |
| | | |
| Earth and Environmental sciences | Architecture | 5 |
| | Environmental Management | 5 |
| | Geology | 1 |
| | Quantity Survey | 8 |
| | Urban and Regional Planning | 1 |
| | | |
| Education | Adult Education | 20 |
| | Education | 30 |
| | Library & Information Science | 22 |
| | Physical Health Education | 18 |
| | Science & Technical Education | 19 |
| | Special Education | 17 |
| | | |

| | | |
|---|---|---|
| Engineering | Agricultural Engineering | 17 |
| | Chemical & Petrol Engineering | 7 |
| | Civil Engineering | 36 |
| | Electrical Engineering | 42 |
| | Mechanical Engineering | 34 |
| | Mechatronics | 13 |
| | | |
| | | |
| Law | Islamic Law | 12 |
| | Private & Commercial Law | 14 |
| | Public Law | 12 |
| | | |
| Science | Biological Sciences | 24 |
| | Chemistry | 49 |
| | Mathematical Science | 32 |
| | Microbiology | 19 |
| | Physics | 39 |
| | Plant Biology | 17 |
| | | |
| Social & management sciences | Accounting | 26 |
| | Business Administration | 26 |
| | Economics | 31 |
| | Geography | 36 |
| | Mass Communication | 33 |
| | Political Science | 32 |
| | Sociology | 31 |
| Total 14 | 94 | 1420 |

**Source:** Establishment Unit Bayero University Kano (2015)

| Number of the Academic Staff by faculties & Departments in Bayero University, Kano | | | |
|---|---|---|---|
| Count | | | |
| Faculty | | | No of Academic staff |
| | Departments | A. K. C. D. R & T | 4 |
| | | C.R.N.L.F | 11 |
| | | CAER&T | 4 |
| | | Centre for Bio-Technology Research | 2 |
| | | Centre for Dryland Agric | 5 |
| | | Centre for InformationTechnology | 2 |
| | | Centre for Qur'anic Studies | 9 |
| | | | |
| | | IIIB&F | 9 |
| | | Institute of Continue Education | 29 |
| | | University Library | 32 |
| | | | |
| Agric | Departments | Agric Economic & Extension | 17 |
| | | Agronomy | 20 |
| | | Animal Science | 15 |
| | | Crop Protection | 13 |
| | | Fisheries | 2 |
| | | Food Science Technology | 3 |

| | | | |
|---|---|---|---|
| | | Forestry | 1 |
| | | Soil Science | 12 |
| | | | |
| Allied Health Sciences | Departments | | |
| | | Medical Lab Sciences | 13 |
| | | Nursing Science | 9 |
| | | Optmetry | 1 |
| | | Physiotherapy | 18 |
| | | Radiography | 7 |
| | | | |
| Art & Islamic Studies | Departments | Arabic | 34 |
| | | English & Literary Studies | 25 |
| | | Foreing Language | 6 |
| | | History | 24 |
| | | Islamic Studies & Shari'a | 35 |
| | | Linguistics | 10 |
| | | Nigerian Languages | 22 |
| | | Theartre Film Studies | 4 |
| | | | |
| Bio-Medical Sciences | Departments | Anatomy | 16 |
| | | Biochemistry | 31 |
| | | Physiology | 24 |
| | | | |
| Clinical Sciences | Departments | Anaesthesiology | 3 |
| | | Chemical Pathology | 6 |
| | | Community Medicine | 12 |
| | | Haematology | 6 |
| | | Histopathology | 5 |

| | | | |
|---|---|---|---|
| | | Medical Microbiology & Parasitology | 19 |
| | | Medicine | 22 |
| | | Obstetrics & Gynaecology | 19 |
| | | Opthalmology | 7 |
| | | Otorhinolaryngology (ENT) | 7 |
| | | Paediatrics | 17 |
| | | Pathology | 2 |
| | | Pharmaceutical Science | 13 |
| | | Pharmacology | 13 |
| | | Psychiatry | 9 |
| | | Radiology | 9 |
| | | Surgery | 17 |
| | | | |
| Computer Science & Information Technology | Departments | Computer Science | 21 |
| | | Information Technology | 1 |
| | | Software Engineering | 4 |
| | | | |
| Dentistry | Departments | Child Dental Health | 1 |
| | | Craniofacial Orthodontics | 1 |
| | | Dentistry | 2 |
| | | Oral & Maxillofacial | 2 |
| | | Oral Diagnostic Surgery | 1 |
| | | Preventive Dentistry | 3 |
| | | | |
| Earth and Environmental | Departments | Architecture | 1 |
| | | Architecture | 4 |

| | | | |
|---|---|---|---|
| Sciences | | Environmental Management | 5 |
| | | Geology | 1 |
| | | Quantity Survey | 8 |
| | | Urban and Regional Planning | 1 |
| | | | |
| Education | Departments | Adult Education | 20 |
| | | Education | 30 |
| | | Library & Information Science | 22 |
| | | Physical Health Education | 18 |
| | | Science & Technical Education | 19 |
| | | Special Education | 17 |
| | | | |
| Engineering | Departments | Agricultural Engineering | 17 |
| | | Chemical & Petrol Engineering | 7 |
| | | Civil Engineering | 36 |
| | | Electrical Engineering | 42 |
| | | Mechanical Engineering | 24 |
| | | Mechatronics | 13 |
| | | | |
| Law | Departments | Islamic Law | 11 |
| | | Private & Commercial Law | 14 |
| | | Public Law | 13 |
| | | | |

| | | | |
|---|---|---|---|
| Science | Departments | Biological Sciences | 24 |
| | | Chemistry | 49 |
| | | Mathematical Science | 32 |
| | | Microbiology | 19 |
| | | Physics | 39 |
| | | Plant Biology | 17 |
| | | | |
| Social & Management Science | Departments | Accounting | 26 |
| | | Business Administration | 26 |
| | | Economics | 31 |
| | | Geography | 36 |
| | | Mass Communication | 33 |
| | | Political Science | 32 |
| | | Sociology | 31 |
| | | | |
| | | Source : Establishment Unit B.U.K 23 /1/2015 | |
| Total | Departments | A. K. C. D. R & T | 4 |
| | | Accounting | 26 |
| | | Architecture | 1 |
| | | Adult Education | 20 |
| | | Agric Economic & Extension | 17 |
| | | Agricultural Engineering | 17 |
| | | Agronomy | 20 |
| | | Anaesthesiology | 3 |
| | | Anatomy | 16 |
| | | Animal Science | 15 |
| | | Arabic | 34 |
| | | Architecture | 4 |

| | | | |
|---|---|---|---|
| | | Biochemistry | 31 |
| | | Biological Sciences | 24 |
| | | Business Administration | 26 |
| | | C.R.N.L.F | 11 |
| | | CAER&T | 4 |
| | | Centre for Bio-Technology Research | 2 |
| | | Centre for Dryland Agric | 5 |
| | | Centre for InformationTechnology | 2 |
| | | Centre for Qur'anic Studies | 9 |
| | | Chemical & Petrol Engineering | 7 |
| | | Chemical Pathology | 6 |
| | | Chemistry | 49 |
| | | Child Dental Health | 1 |
| | | Civil Engineering | 36 |
| | | Community Medicine | 12 |
| | | Computer Science | 21 |
| | | Craniofacial Orthodontics | 1 |
| | | Crop Protection | 13 |
| | | Dentistry | 2 |
| | | Economics | 31 |
| | | Education | 30 |
| | | Electrical Engineering | 42 |
| | | English & Literary Studies | 25 |

| | | | |
|---|---|---|---|
| | | Environmental Management | 5 |
| | | Fisheries | 2 |
| | | Food Science Technology | 3 |
| | | Foreign Language | 6 |
| | | Forestry | 1 |
| | | Geography | 36 |
| | | Geology | 1 |
| | | Haematology | 6 |
| | | Histopathology | 5 |
| | | History | 24 |
| | | IIIB&F | 9 |
| | | Information Technology | 1 |
| | | Institute of Continue Education | 29 |
| | | Islamic Law | 11 |
| | | Islamic Studies & Shari'a | 35 |
| | | Library & Information Science | 22 |
| | | Linguistics | 10 |
| | | Mass Communication | 33 |
| | | Mathematical Science | 32 |
| | | Mechanical Engineering | 34 |
| | | Mechatronics | 13 |
| | | Medical Lab Sciences | 13 |
| | | Medical Microbiology & Parasitology | 19 |
| | | Medicine | 22 |

| | | | |
|---|---|---|---|
| | | Microbiology | 19 |
| | | Nigerian Languages | 22 |
| | | Nursing Science | 9 |
| | | Obstetrics & Gynaecology | 19 |
| | | Opthalmology | 7 |
| | | Optmetry | 1 |
| | | Oral & Maxillofacial | 2 |
| | | Oral Diagnostic Surgery | 1 |
| | | Otorhinolaryngology (ENT) | 7 |
| | | Paediatrics | 17 |
| | | Pathology | 2 |
| | | Pharmaceutical Science | 13 |
| | | Pharmacology | 13 |
| | | Physical Health Education | 18 |
| | | Physics | 39 |
| | | Physiology | 24 |
| | | Physiotherapy | 18 |
| | | Plant Biology | 17 |
| | | Political Science | 32 |
| | | Preventive Dentistry | 3 |
| | | Private & Commercial Law | 14 |
| | | Psychiatry | 9 |
| | | Public Law | 13 |
| | | Quantity Survey | 8 |
| | | Radiography | 7 |
| | | Radiology | 9 |

| | | | |
|---|---|---|---|
| | | Science & Technical Education | 19 |
| | | Sociology | 31 |
| | | Software Engineering | 4 |
| | | Soil Science | 12 |
| | | Special Education | 17 |
| | | Surgery | 17 |
| | | Theater Film Studies | 4 |
| | | University Library | 32 |
| | | Urban and Regional Planning | 1 |
| | Total | 94 | 1420 |