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**UNIVERSITY OF GHANA**

**COLLEGE OF EDUCATION**

**SCHOOL OF INFORMATION AND COMMUNICATION STUDIES**

**DEPARTMENT OF INFORMATION STUDIES**



**AVAILABILITY AND USE OF E-RESOURCES BY POSTGRADUATE STUDENTS  
OF THE UNIVERSITY FOR DEVELOPMENT STUDIES (UDS)**

**BY:**

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**(10700757)**

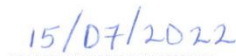
**THIS THESIS/DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF  
GHANA, LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR  
THE AWARD OF MPhil IN INFORMATION STUDIES DEGREE**

**DECEMBER, 2021**

**DECLARATION**

I, hereby declare that with exception of references to other works, which I have duly acknowledged, this work is the result of my own research and it has neither in part nor whole been submitted elsewhere for another degree.





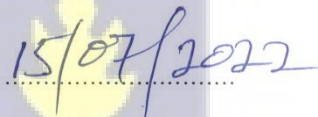
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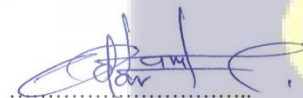


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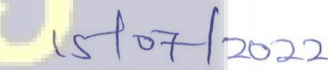


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### **DEDICATION**

This thesis is dedicated to my dear late sister, Mrs. Nelly Addah Abugah, we started this academic journey together from childhood with so much excitement, but never got to finish it together. I did it for us. Continue to rest in peace till we meet again, Amen.



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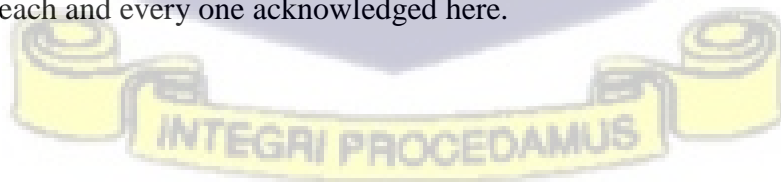
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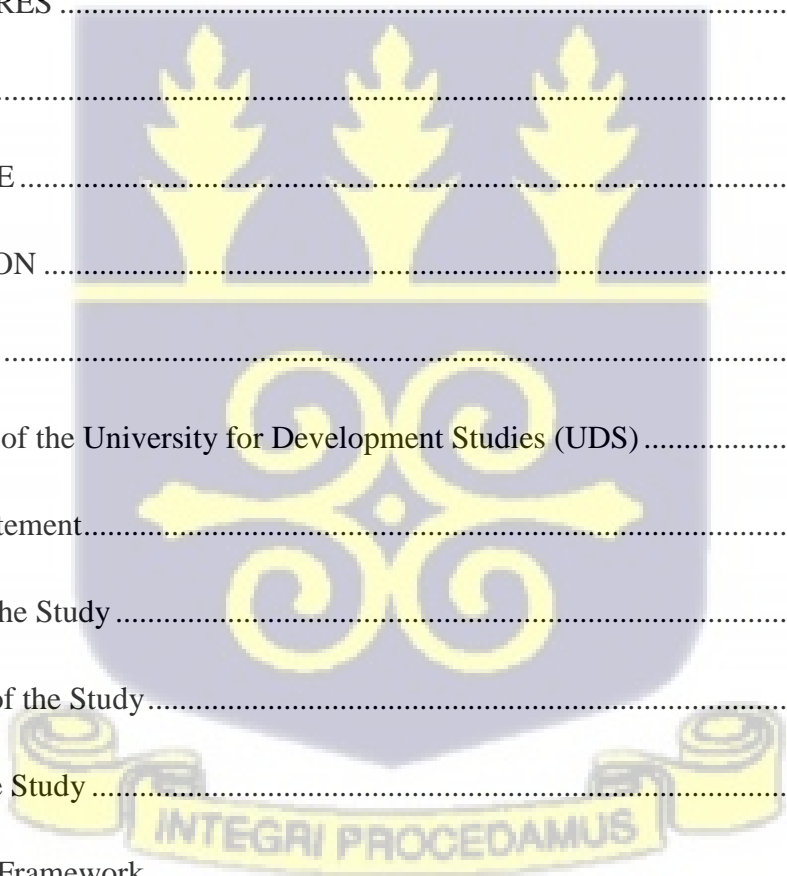
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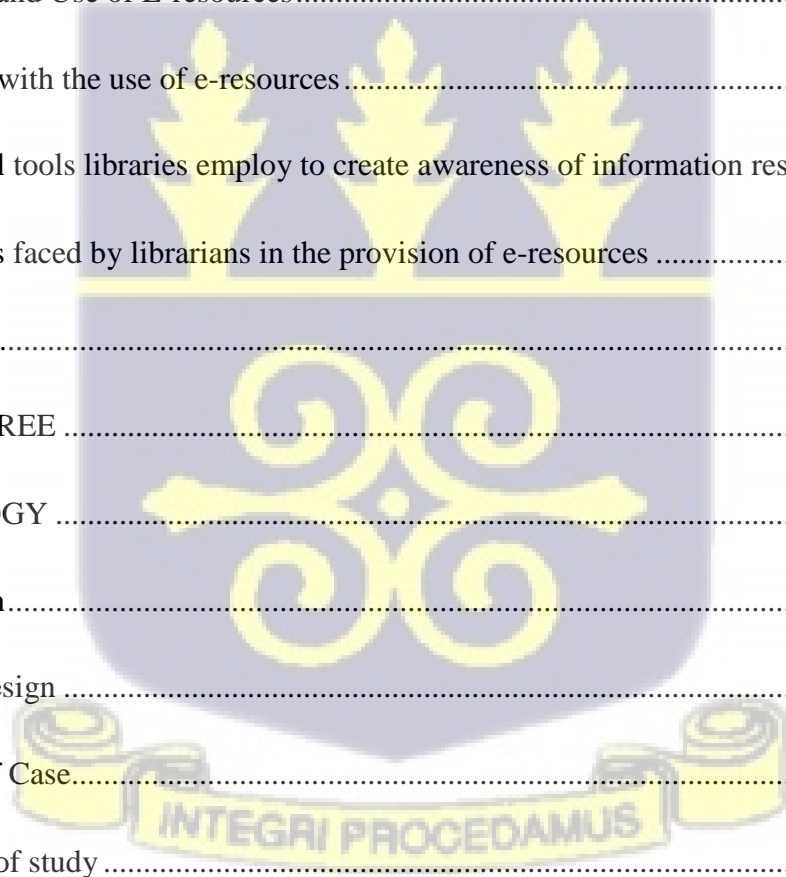
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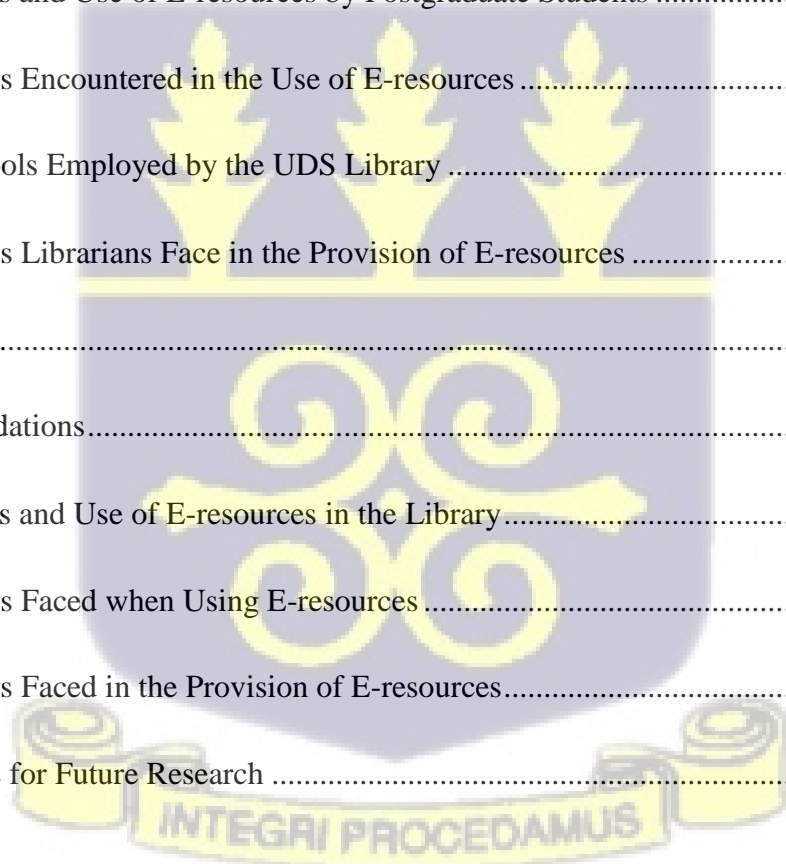


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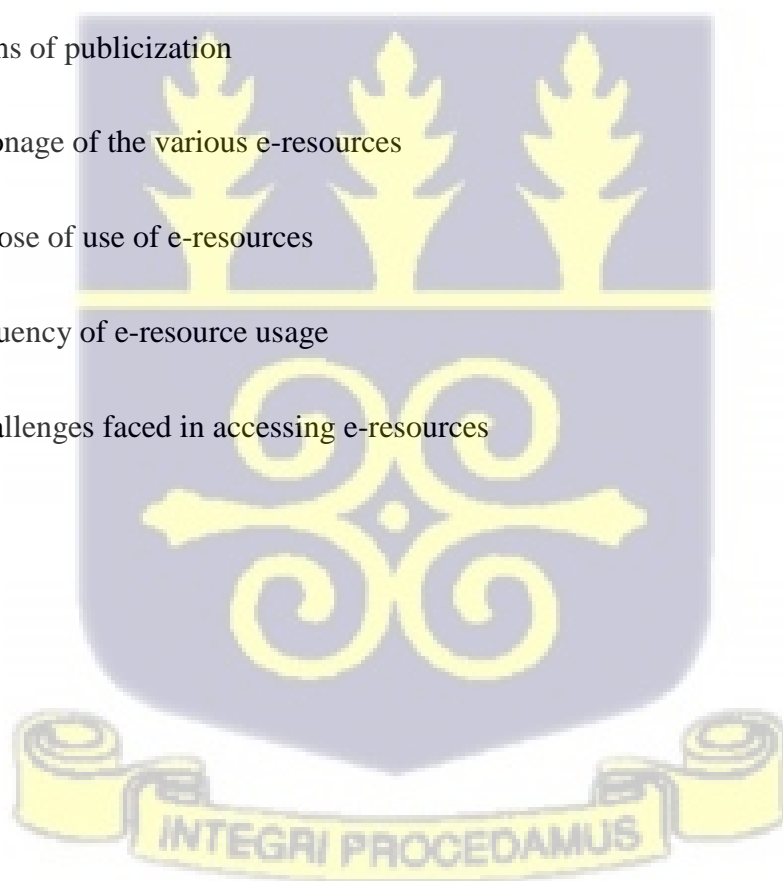


## LIST OF ACRONYMS AND ABBREVIATIONS

AACR2	Anglo American Catalogue Rule Two
AGORA	Access Global Online Research in Agriculture
ARDI	Access to Research for Development and Innovation
CARLIGH	Consortium of Academic and Research Libraries in Ghana
CD-ROM	Compact Disc-Read Only Memory
DoI	Diffusion of Innovation
EIFL	Electronic Information for Libraries
ETDs	Electronic Thesis and Dissertations
GOALI	Global Online Access to Legal Information
HINARI	Health Inter-network Access to Research Initiative
HTML	Hypertext Markup Language
IFLA	International Federation of Library Associations and Institutions
INASP	International Network for the Availability of Scientific Publications
IT	Information Technology
OARE	Online Access Research on Environment
OPAC	Open Public Access Catalogue
PDF	Portable Document Format
PERI	Programme for the Enhancement of Research Information
UDS	University for Development Studies

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## ABSTRACT

With the advent of technology, tremendous changes have occurred in the digital information environment that has brought about a diverse and sophisticated change in taste and preference of information needs of library patrons. This has necessitated a paradigm shift in library resource collection process, with e-resources now becoming core resources for information delivery in academic libraries. To keep pace with this technological trend and change in information preferences of users, academic libraries have focused on making available electronic information resources for both local and remote users. However, making available these electronic resources without full utilization by users leads to wastage of scarce financial resources used to subscribe to the resources.

The study sought to examine ways to promote greater effective use of electronic resources by postgraduate students in the University for Development Studies (UDS) library. The research design was a quantitative survey approach. Sample size was determined with the aid of the Krejcie and Morgan sample ratio table, while sampling technique was convenience sampling. Postgraduate student population was 750 with a sample size of 256. Four (4) librarians were engaged for the data collection as well. A well-structured questionnaire was administered through Google forms to respondents. Response rate was 85%. Responses were analysed with Google forms and transferred to Microsoft Excel version 16 for representation of results in Tables and Pie charts.

The findings of the study revealed that majority of postgraduate students were not aware of the e-resources available in the UDS library. It was revealed that there was low publicity of the resources resulting in the low awareness of their existence. The study also showed that training on e-resources for users was inadequate, hence rendering the e-resources not easily accessible and usable for the students.

Major challenges identified were limited internet bandwidth, intermittent power outages, and insufficient budgetary funds.

It was recommended that library management acquire adequate internet bandwidth to ensure faster internet connections for smooth use of e-resources and easy downloads, procure a standby power supply to keep the library running continuously even when there is power outage or a fluctuation, solicit for more funds from university management to enable the library to undertake activities like trainings and workshops, exhibitions, and other promotional activities on a regular base to create awareness of the library's resources and services. Management of UDS library should also advocate for the academic board to incorporate the teaching of information literacy as a compulsory course for postgraduate students.



## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background

With the advent of technology, the use of web-based information materials has become the order of the day. This is because it affords patrons with the convenience of being able to access information anytime and anywhere. Before computers and the internet were introduced, information was in print format only and was found mostly in libraries (Woodward & Rowland, 2011). This gave libraries the power of monopoly in information provision. It therefore, meant there was never really the need for libraries to make efforts in marketing themselves. In recent times however, tremendous changes have occurred in the digital information environment that has brought about a diverse and sophisticated change in tastes and preferences of patrons. This has necessitated a paradigm shift in library resource collection process, with e-resources becoming core materials for information delivery in academic libraries.

According to Dongardive (2013), the library represents the hub of information, and transforms the acquired information in organized manner with searchable options that connect past and future. It is the brain centre of any institute, as it gives glimpse and reflects new ideas and the activities carried out in any institute. In the information age, the role of libraries and librarians is changing dramatically. The concept of library without “walls” is catching up and becoming popular among patrons. In this information centric user community, libraries are expected to provide online access to information in 24/7 mode as they are used more in online environment (Tofi, Tondo, & Gbaaikye, 2018). This has necessitated the provision of e-resources in academic libraries to be able to meet the

continuous desire of patrons to have access to information in and out of the library hall, and at any time.

The Anglo-American Catalogue Rule Two (AACR2) as cited by Ankrah & Atuase (2018) defines electronic resources as materials consisting of data and/or computer programme(s) encoded for reading and manipulation by a computer by using a peripheral device directly or remotely connected to the computer or via a network such as the internet. Saye (2001), defines electronic resources as “the resources that are generated through some electronic medium and made available to a wide range of viewers both on-site and off-site via some electronic transferring machine or internet”. E-resources are basically digitized information resources that can be accessed via electronic transmission. In this technological era, academic libraries cannot operate effectively and efficiently without electronic resources in their collection.

E-resources come in various forms that suit the diverse preferences of users. (Kavithanjali, 2019) gave examples of electronic resources as follows:

- E-books: electronic version of a conventional print book that can be accessed in full text via computer, phone, and any other electronic gadget that can be used to read. Patrons can access full texts of electronic books in PDF or HTML formats online, using any e-reader application. E-books can be downloaded and saved for later use.
- E-journals: electronic journals are periodical publications in an electronic format usually on the internet. An e-journal is a journal online that contains research papers, review articles, scholarly communications. E-journals more or less give adequate access to information. They are easier to disseminate to users than the conventional print materials; with the tight funds in higher educational system, e-journals have become an economical means than the conventional print journals.



- E-thesis and dissertations (ETDs): electronic version of thesis and dissertations written by intellectuals that are archived and can be retrieved whenever they are needed via the internet. It is an advanced technological means for conveying ideas. It is cheaper, consumes little space, easy to access, and guarantees lifelong storage. Access to and storage of e-thesis is usually facilitated by open access repositories such as the UDSSpace (institutional repositories), and research archives.
- Online databases: these are organized collections of electronic information sources by publishers from various fields and disciplines. They include periodical articles, books, graphics and multimedia that can be searched and retrieved from the internet. Publishers/vendors like AGORA, provide free access to their database for academic libraries. Others like Emerald require subscription fee to access its database. Access to these databases provides information seekers with a pool of diverse scholarly articles in various fields to meet their desired information needs.
- E-zines: these are electronic magazines that are displayed on the internet. They are also called web-Zine.
- E-newspapers: electronic newspaper is a self-reliant, reusable, and refreshable edition of a conventional newspaper that is accessible online. Unlike the print newspaper where today's news will be captured in tomorrow's paper, the e-newspaper is refreshable, so every important news that occurs in the day is being uploaded in the e-paper by the editor, and the reader can read and download the news any time. It is very convenient as readers can access current news in any language at any time anywhere. Previous news can easily be retrieved by date. Examples include Daily Graphic, Pulse, Ghana Page, etc.

- E-Reference books: these are a collection of books and directories found online covering a whole range of topics like business, accounting, hospitality, information technology, etc. they include Atlas, Dictionary, Thesaurus, Encyclopedia, etc.

There has been an immense growth in African university libraries in terms of electronic information resources through some institutions' initiatives enhanced through programs such as Access Global Online Research (AGORA), Online Access to Research on Environment (OARE), HINARI Access to Research Initiatives, to mention but a few (Rosenberg, 2006). These institutions have tremendously contributed to provision and accessibility of e-resources in Africa universities. Aside from these, majority of African universities now make the journal articles of their faculty, annual reports, inaugural lectures, intellectual works such as post graduate students' thesis/dissertations, and past questions accessible from their websites. Due to the high demand for information in electronic format in recent times, most universities have made it mandatory for postgraduate students to present softcopies of their thesis to the university upon completion. Ghana is not left out.

There has been a significance improvement in making available and accessible information in electronic format in higher educational libraries and others research centres, by the kind intervention of information institutions like PERI and INASP. These institutions have been in charge of negotiating e-resource prices on behalf of academic libraries with international publishers since 1990s and 2000s (Kwadzo, 2015). Through the initiatives of these information institutions, majority of academic libraries in Ghana have been able to acquire electronic resources like e-databases and e-journals. This has made it easy for researchers and other information seekers in higher educational institutions to access various electronic information materials for academic work. Many academic libraries are able to subscribe to diverse electronic resources such as online journals and databases at a cheaper cost through

the initiative of the Consortium of Academic and Research Libraries of Ghana (CARLIGH), compared to subscribing as an individual library. This has made it possible for Ghanaian academic libraries to meet user information needs.

Electronic resources have become a key source information in academic libraries. Electronic format of information resources has become a necessity in academia and research in recent times because of the convenience with which they can be accessed (Ankrah & Atuase, 2018). E-resources have updated information that is very useful to information seekers. Information seekers such as students and researchers worldwide now have at their disposal a variety of access to e-resources due to their electronic formats. It is for this reason that ICT application in libraries today is crucial in delivery of timely information especially in academic institutions.

Akussah, Asante, & Adu-Sarkodee, (2015), in their article on impact of electronic resources and usage in academic libraries in Ghana, mentioned that e-resources serve as complementary research tools to print-based materials in conventional libraries. This makes them invaluable in today's academic libraries. They highlighted e-resources as being advantageous because they are up to date and users are able to access them remotely. The introduction of technology has therefore made it possible for the adoption of modern technology trends by academic libraries to organize library collections and enhance service delivery.

The nature of e-resources makes it vital for postgraduate students to have basic computing skills to be able to access the needed information for their academic work. Computer literacy includes being able to explore computer systems to get needed information (Frailon et al., 2010). Being able to navigate through a computer system builds personal confidence in users and serves as an encouragement for continuous access of the system. Due to this, it is

essential for users to have skills and knowledge in computing which is a crucial requirement for successful access to e-resources.

In this 21<sup>st</sup> century where information can easily be accessed online, academic libraries are compelled to compete with online e-book dealers, big publishing houses, and academic database vendors. Amidst a plethora of challenges such as library budget cuts, evolving information environment, diversity of user needs, new information technology applications, and the ever-growing information sources now available. It is easy for libraries and information centres that do not incorporate information technology appropriately in their service delivery to be defective or even collapse (Ankrah & Atuase, 2018).

In view of this, the UDS library is left with no choice than to adopt the idea of digitizing its information resources, creating information repositories, purchasing and subscribing to relevant e-resources with diverse information for academic purposes with the hope of staying relevant.

The UDS library in the past year has acquired electronic books to the tune of 1,746 mainly with the support of the African Textbook Partnership Project. These e-books are core text books which can be accessed on a software application called the Imano Portal Limited (South Africa). Patrons are aided to install a mobile version of the application on their phones which allows them to access these e-books in full text wherever they are, provided they are connected to an internet source. The UDS Library subscribes to and provide access to 32 e-journal databases from reputable publishers (Emerald, Taylor, Wiley Blackwell, Sage, and EbscoHost), with over 10,000 journals. Aside from the subscribed databases, the library also provides access to other excellent online databases (AGORA, HINARI, OARE, ARDI, and GOALI), through partnerships with Researchforlife and EIFL (Electronic Information for Libraries). UDSSpace is yet another resource pool where over 2,367 items and counting (published articles, academic papers, and graduate thesis) are archived for patron usage. The

Online Public Access Catalogues (OPAC) is another online resource that allows multiple users to browse the library's catalogue via the internet. This is to enable the UDS library keep up with the needs of patrons and competition as well.

In the view of the researcher, the UDS library users, postgraduate students for that matter, should be aware, accept, and should be able to access e-resources available in the library to satisfaction. But are all these being realised or achieved?

### **1.1.1 Overview of the University for Development Studies (UDS)**

The University for Development Studies (UDS) is Ghana's first public University in the northern part of Ghana. It was established in May, 1992 by the Government of Ghana (PNDC Law 279) to *"blend the academic world with that of the community in order to provide constructive interaction between the two for the total development of northern Ghana particularly, and the country as a whole"* (UDS, 2018).

The university runs a multi-campus system: Tamale Campus, Nyankpala Campus, City Campus, Tamale North Campus, and Eastern Campus in Yendi. It currently has six (6) Schools, six (6) Faculties, three (3) Institutes, and four (4) Centres (including two Centres of Excellence). The vision of UDS is to be a Home of World Class Pro-Poor Scholarship. This reflects in its motto: "Knowledge for service", and its method of teaching, research, and outreach programs. (UDS, 2018).

The University for Development Studies library was established in 1992 to support the university's goal of achieving academic excellence. It was first situated at the Nyankpala Campus (premier campus of the university), and currently has satellite libraries in all its campuses: The Central Library (Nyankpala Campus), the City Campus Library, Medical School Library, and the E-library situated at the Tamale Teaching Hospital. The library has a staff strength of sixty-three (63). It is the leading academic library in northern Ghana, and

provides access to a multitude of information sources to affiliated colleges of education and other institutions. The UDS Library is a well-fitted department with excellent facilities that aid effective academic work. The library provides information materials in both digitized and print form; online and offline. It has a total holding of 23,088 volumes and counting. Even though many print information materials are still available in the library, its current focus is more on the digitized format of information materials which tend to meet the evolving preference of patrons.

In a bid to increase services to users, and generate internal funds for the library as well, the technical service unit provides commercial printing, photocopying, binding, and embossment to users (UDS Library Report, 2020).

## **1.2 Problem Statement**

In this technological age, the provision of electronic resources by academic libraries worldwide has become very vital. This has resulted in many institutions investing in e-resources to improve information provision and maximize usage by patrons. Despite the crucial role e-resources play in the 21<sup>st</sup> century research and studies, and the many benefits derived from them by researchers, available literature on use of e-resources shows that they are underutilized. This is a peculiar problem faced in developing countries. The study by Bankole (2012) confirms that limited access by patrons to credible and relevant information for their academic work is as a result of low awareness of more qualitative e-resources available locally in their academic libraries.

It is one thing for an academic library to digitize their resources or make available information materials in electronic format. It is another for patrons to have knowledge of and have easy access to these electronic resources and utilize them efficiently. The UDS library is not left out when it comes to this problem. Massive funding goes into the subscription of

these electronic resources every year. However, statistics from the e-resource unit indicate that just a few of the resources (Emerald, AGORA, HINARI, EBSCOhost, SAGE) are constantly being used suggesting a low patronage, considering the shift in user preference of information material format from print to digitised and or online. Per the nature of postgraduate studies, it is expected that students would want to use more of the online information materials because of the fact that they do not need to come into the library hall to be able to access the materials (remote access). This low patronage factor has drawn the researcher's interest to look into postgraduate students use of e-resources in UDS library. The researcher believes that conducting this research would help understand the nature of e-resource use by postgraduate students and help give necessary recommendations based on the findings to boost usage of the library's e-resources.

### **1.3 Purpose of the Study**

The purpose of conducting this research is to discover ways of promoting effective use of e-resources among postgraduate students of the University for Development Studies.

### **1.4 Objectives of the Study**

The objectives of the study are as follows:

1. To identify the electronic resources being provided in the UDS library.
2. To find out postgraduate students' awareness and use of the e-resources in the library.
3. To identify the likely problems encountered by postgraduate students in the utilization of the e-resources.
4. To identify the promotional tools employed to create awareness of the e-resources.
5. To ascertain the challenges encountered by the UDS Library in providing e-resources.

6. To make recommendations for effective ways to create awareness and improve utilization of the e-resources available in the UDS library based on the findings of the study.

### **1.5 Scope of the Study**

The study was conducted in the University for Development Studies (UDS) in Tamale. The study focused on postgraduate students and some librarians (the University Librarian, Head of Department for Information Services, and the Head of the E-resource Unit). The study examined post graduate students' level of awareness and use of e-resources, and acceptance of technology by postgraduate students, the significance of e-resources, and the possible challenges the librarians face in their attempt to make available these resources.

### **1.6 Theoretical Framework**

Adom et al., (2018), mentioned that a theoretical framework is made up of interrelated theories that guide research. It is the frame used to support research by illustrating how a particular theory is pertinent to a specific research topic and explains why a particular problem exists.

For a researcher to understand and know the main purpose of a study, a theory has to be adopted to guide the study and reveal the related factors. In view of this, the study adopted the Diffusion of Innovation (DoI) theory.

#### **1.6.1 The Diffusion of Innovation (DoI) Theory**

The diffusion of innovation theory was developed by E. M. Rogers in 1962. It is a popular and one of the earliest frameworks in the social sciences. It demonstrates how people in a social system gain knowledge of a new technology and its benefits. It expounds how a new idea or product gains awareness with time, and spreads through a population or social system. It is expected in diffusion that people as part of a population or social system, will adopt a



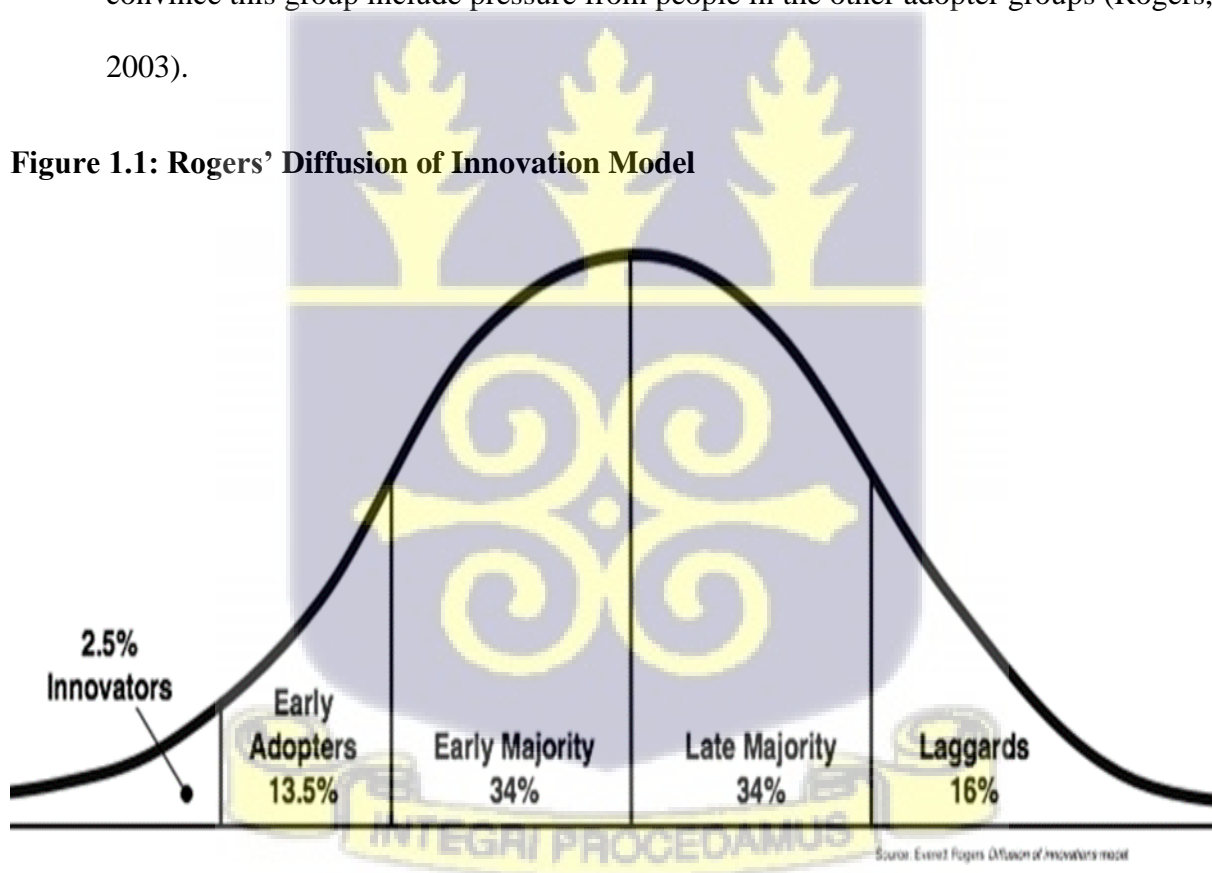
new idea, product, or behaviour. Adoption of a new idea or product (innovation) requires a systematic decision process, to accept and exploit a new product or idea that has been considered better than one already exists. Adoption basically demands a person to recognize an innovation as a new one (Rogers, 2003). Adopting a new innovation does not happen at the same time in the social system; rather, it is a process where some individuals in the social system are willing to adopt a new idea than others are. It has been revealed by researchers those early adopters of an innovation have different characteristics from those who adopt late. Therefore, it is necessary in the promotion of an innovation to be aware of the characteristics of the target social system. Knowledge of these characteristics will help determine adoption or rejection of the innovation.

Rogers (2003) established five categories of adopters, and different strategies are employed when promoting an innovation to these adopter categories. The categories include;

- Innovators: these are individuals who are willing to explore a new idea or product. They are often the first to try an innovation and are risk takers. Many times, very little or no influence is needed to appeal to this population.
- Early adopters: this group of people are already aware of the existence of an innovation and are interested in adopting it. They embrace change opportunities, and are comfortable adopting new ideas. They do not need information to be convinced to use a new idea or product.
- Early majority: they are people who would use an innovation before the average person. They assess thoroughly a new innovation and would consider testimonials that an innovation works before they accept to use it. Convincing this category requires the use of success stories.

- Late majority: this group is very doubtful, does not accept change easily, and would only adopt an innovation that has been proven effective by majority of the population. They are hard to convince, therefore enough information about an innovation is needed to help make decision of adoption or rejection. Strategies to convince this group include information on how many people tried the innovation and adopted it successfully.
- Laggards: this category entails people who are mostly last in considering the adoption of an innovation. They are bound by tradition, very conventional, and sceptical about change. This is the hardest category to convince to adopt an innovation. Strategies to convince this group include pressure from people in the other adopter groups (Rogers, 2003).

**Figure 1.1: Rogers' Diffusion of Innovation Model**



Source: <http://sphweb.bumc.bu.edu>.

Rogers (2003), stated that in order for an innovation to be adopted and diffusion accomplished, a person must go through these stages;

Knowledge stage: this is when a potential adopter has knowledge about an innovation and begins to seek for understanding on how it functions (Burges and Paguio, 2016).

Persuasion stage: this is where a person makes the decision to adopt or reject an innovation.

Decision stage: these are events leading to the decision of adopting or rejecting an innovation.

Implementation stage: an innovation is put to use at this stage.

Confirmation stage: assessment of the result of a previous decision of an innovation to determine continued use (Rogers, 2003).

He further explained that there are five main factors that influence adoption of an innovation, and each of these factors play roles to a different extent in each of the adopter categories.

These factors include;

- Relative advantage: the extent to which an innovation is seen as better than the idea, program, or product it substitutes.
- Compatibility: the extent to which an innovation is considered to be consistent with the existing values, proficiencies, and the needs of the potential adopters.
- Complexity: the degree to which an innovation is perceived difficult to understand and use.
- Trialability: the extent to which an innovation may be tried for confidence, assurance or experience.
- Observability: the extent to which the outcome of an innovation is visible to others.

The DoI theory has been successfully implemented in many fields including communication, agriculture, public health, marketing and it is considered appropriate in advanced learning environment to explore technology adoption (Wainwright & Waring, 2007). In this study, the postgraduate students of UDS constituted the social system and the e-resources as the innovation. It is assumed that postgraduate students can be categorized into the various adopter groups as far as e-resources are concerned. Electronic resources are part of technological innovation, therefore, the adoption of DoI theory in this study was appropriate. It will help investigate user awareness and utilization of e-resource by postgraduate students of UDS, source of awareness, frequency and purpose of use of e-resources, perception of e-resources, ICT and information searching skills of the postgraduate students, and the challenges they encounter in utilizing the e-resources.

### **1.7 Significance of the Study**

It is hoped that this study would bring to light an awareness of the e-resources, improve patronage, and identify and address the problems encountered by postgraduate students in their attempt to access electronic information resources in UDS library.

The outcome of this study would let the library staff know their deficiencies and work to improve the library and its services. It will also aid library management know which resources to continue subscription, and which ones to cancel.

It is also hoped that this study would add to the gap in literature on user awareness and adoption of information resources in electronic format provided in academic libraries and recommend means and ways by which academic libraries can provide more appropriate databases and promote the use of e-resources in an era where technology has taken over and learning via the internet has become the norm.

Last but not least, the study hopes to aid further research in this field. Findings would guide academic libraries in their provision of e-resources and other resources, and create the necessary awareness needed on the significance and utilization of e-resources.

### **1.8 Organisation of the Study**

The study is organised into six chapters. The first chapter entails background of the study, statement of problem, purpose of study, objectives of the study, the scope of the study, the theoretical framework, significance, and organization of the study.

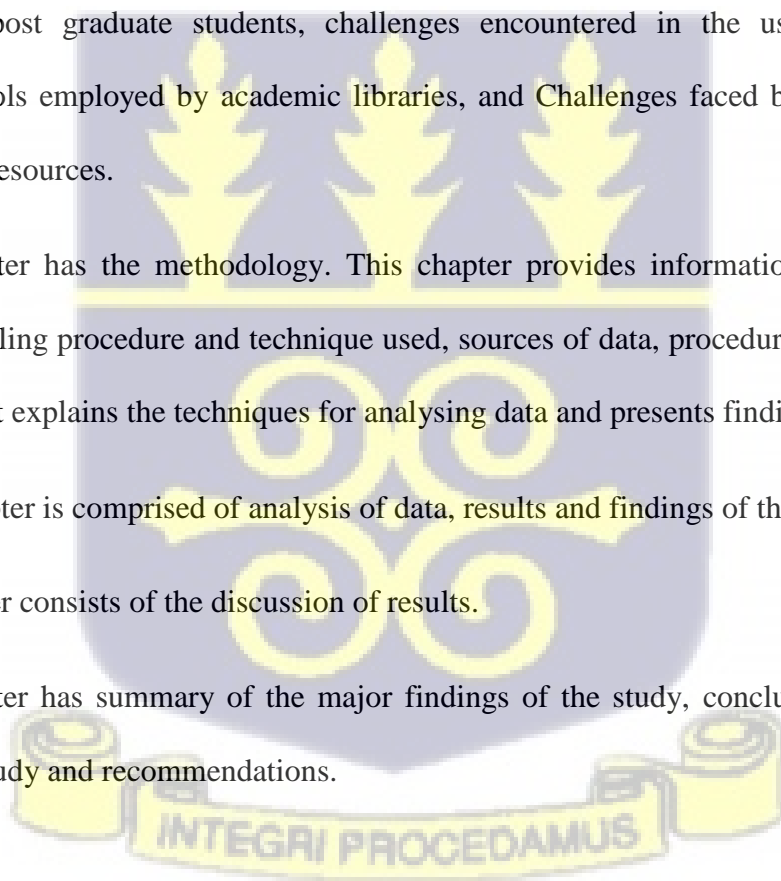
The second chapter entails review of literature. Discussion of literature was done in accordance with these themes; e-resources and their essence in academic libraries, awareness and use of e-resources by post graduate students, challenges encountered in the use of e-resources, promotional tools employed by academic libraries, and Challenges faced by librarians in the provision of e-resources.

The third chapter has the methodology. This chapter provides information on the research approach, sampling procedure and technique used, sources of data, procedures and instruments for collection. It explains the techniques for analysing data and presents findings of the study.

The fourth chapter is comprised of analysis of data, results and findings of the study.

The fifth chapter consists of the discussion of results.

The sixth chapter has summary of the major findings of the study, conclusion based on the results of the study and recommendations.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

A literature review is conducted to link the current study being undertaken to the larger area in relation to the topic (Creswell, 2014). It provides an outline of the information sources that would be explored while undertaking a particular study and to demonstrate to readers how the study fits into a larger field of study. Relevant books, scholarly articles and other credible information sources related to the study have been explored to provide a description, summary, and careful evaluation of these sources and their content. Review of literature is very significant to research because it puts the present study in focus and connects it to the wider area in relation to the topic (Creswell, 2014). Aside giving the researcher the chance to know the previous investigations done already, it aids in building a basic explanation for observed variations in behaviour or phenomenon. So, to research the topic under study, literature employed were examined from global view, to African view, down to Ghanaian view under these thematic areas:

1. E-resources and their significance.
2. Awareness and use of e-resources by postgraduate students.
3. Challenges encountered by postgraduate students in the use of e-resources.
4. Promotional tools libraries employ to create awareness of information resources.
5. Challenges faced by librarians in providing of electronic resources.

## 2.2 E-resources and their significance

The internet is a heterogeneous channel with extensive educational resources that are accessed by various researchers and information users to meet their needs when it comes to electronic format of information resources. The essence of e-resources cannot be overemphasized. In this digital age, e-resource has radically changed the activities of academic libraries and research activities across all universities and research institutes.

According to the Anglo-American Cataloguing Rules (AACR2), an electronic resource is any material (data and/or program) encoded for manipulation by computerized device or a computer network connection. The Library and Information Science Community defines e-resource as any information resource that needs an electronic device to access its content. E-resources could be complete contents in databases, electronic journals, image collections and other multimedia products that are numerical or graphical which may be delivered on CD ROM, on tape, or via internet. The International Federation of Library Association and Institutions (IFLA), also defines e-resources as “those materials that require computer access, whether through personal computer or, mainframe, or handheld mobile device. They may either be accessed remotely via the internet or locally”. (Sukula, 2010) in her book, “Electronic Resource Management: What, Why, and How, defined e-resource as “an electronic information resource accessed online, on or off campus, and user can get the information he/she wants whenever it is needed”.

E-resources have been defined by many authors but they all boil down to the same meaning; digitized information materials that can be retrieved via electronic transmission. These are web-based resources or electronic information materials provided by a libra through a computer network (Kenchakkanavar, 2016).

Globally, user preference of information format has moved drastically from print to electronic (Kumar, 2015). Electronic resources have therefore become a household name when it comes to research and other academic disciplines. This is because of the convenience they come with. They can be accessed from the comfort of your location; you do not have to go to a library before getting access to them. By using several search phrases, techniques, and terms, e-resources can be browsed and retrieved for research purposes, and they also interlink related publications and databases that can be browsed, downloaded and saved for immediate and or later use as well. The most convenient feature of e-resources is that they save the library a lot of space in terms of storage space. The library never runs out of space for the over thousand electronic resources acquired by the library (Kenchakkanavar, 2016).

An observation by Shukla and Mishra, (2011) showed that researchers prefer using e-resources to print materials because e-resources are convenient to access and are updated frequently, mostly on a daily or weekly bases. Online information resources are updatable on a daily base unlike the print materials, they can be accessed by multiple users concurrently, they support distance education, they have remote access, they are not time or space constraint, they are crucial research tools that supplement print materials in academic libraries (Jotwani, 2014). Researchers use internet resources, search engines, an email regularly in their field of work. With the advent of technology and the shift in user preference from print to electronic, academic libraries ought to conform with such shift and provide more electronic resources with less print.

With the sudden outbreak of COVID-19, academic institutions all over the world have switched overnight from the conventional face-to-face teaching and learning mode to a more advanced technological method of online teaching (Dhawan, 2020). Teaching and learning materials are now in digitized form and this has created the need for academic libraries to have more of their information materials in the digitized format on the library website for



easy access by patrons no matter their location. Libraries around the world are trying to minimize physical contact and in-library use by patrons during these difficult times of COVID-19, e-resources come in handy. Users go on academic library sites, and even social media handles where links to most of the information resources are displayed, and are able to access diverse information materials in electronic format, right at the comfort of their location (Connell et al., 2021). This has saved a lot of researchers the time and risk of exposure to the Corona virus, having to go to library halls to access the necessary information needed for their studies (Mandrekar and e Rodrigues, 2020).

The evolution of information format preference by users is no different in Africa. There has been a drastic change with the introduction of e-resources, in how information is collected, sorted, saved, retrieved and used in academic libraries across Africa. This has led to a switch to electronic resources from print materials in most academic libraries (Oyedapo and Ojo, 2013). E-resources have become a vital tool in accomplishing many endeavors in research and academic field. This has resulted in a total embrace of electronic resources by many researchers and information users to support their works and studies (Oyedapo and Ojo, 2013).

### **2.3 Awareness and Use of E-resources by Postgraduate Students**

Academic libraries may possess all the relevant and current information resources, but if patrons are not aware to access them, then these resources are worthless. Therefore, awareness is key when it comes to full utilization of electronic resources by postgraduate students. Users must first of be aware of the e-resources before any access can take place. There have been many studies worldwide on awareness of e-resources by university students with diverse findings.

Prangya and Rabindra (2013) stated that awareness is crucial to e-resource utilization. Where information materials have limited access, it becomes difficult to retrieve than when access is open, where it is easy for users to retrieve the needed information. Their study viewed the level of exposure of research scholars to e-resources, and the problems they encountered. It confirmed that though the researchers knew of the resources and the types, access was limited. They recommended an improvement in the access facilities and increase the web resources to support their research activities. From the study by Anaraki and Babalhavaeji (2013), it was revealed that students engaged general search engines like Google search and scholar to meet their information needs when they have no knowledge of the existence of e-resources in their libraries. Their results showed that only 16% of the medical students in Iran had knowledge of the electronic resources that their library portal provided them.

According to the study by Swain (2010), on keenness of students to use of e-resources in the Business School of Orissa, India, it was revealed that EBSCO and Emerald Management Xtra were the most known databases among students. Awareness of the other databases was on the low. It was discovered that print material use was slightly higher than e-resources, and OPAC use was also lower than expected. Wu and Chen (2012) in their study on how graduate students perceive, use, and manage electronic resources in National University of Taiwan, showed that e-resource use differed among students because of their different subject backgrounds. For example, students in the humanities regarded electronic resources as insignificant compared to those in the other disciplines. Sinh and Nhung (2012) claimed that the behaviour of a user would affect their choice of e-database and usage, and that the elements that influence the use of a database are the reason for accessing the database, the type of information desired, search techniques, expectations of accessing the database.

As much as African universities are trying to subscribe to expensive e-resources for their students and faculty, the patronage isn't as exciting as expected. Adequate awareness creation is therefore imperative to play a pivotal role in the level of usage of these e-resources.

A study that examined the problem of LIS postgraduate students in the Makerere University by Okello-obura (2010) revealed that students used some of the databases more than others. Ninety-two percent used Emerald followed by Blackwell synergy (76%). Other e-databases like AGORA, and Palgrave Macmillan Journals were rendered redundant. This was because students accessed the e-resources that they knew, hence, the reason behind high patronage. The study by Ndinoshiho (2010) on nursing students in the University of Namibia goes to confirm that students only use e-databases they are familiar with. In his findings, majority of the students did not access the library's e-databases because they did not know them. Medline database, though a distinguished medical database, was not used by the students because they did not know it. The findings from the study by Akinola et al. (2019) on awareness and use of databases by postgraduate students in the University of Ibadan showed that students knew of the databases in general. However, majority did not know the individual databases available in the university library. The findings of the study by Muhammad and Binta (2017) on awareness, access and use of academic databases by faculty members revealed that most faculty members knew of the e-databases available in the library. However, their level of awareness varied in respect to the databases available. Adam (2017) who also undertook a study on the awareness and use of online scholarly database by academics of Kaduna State University, Nigeria, came up with findings showing that 56 out of 130 respondents accessed e-databases on a daily. 28 used them weekly, while 15 used monthly. 25 used them occasionally and 6 did not respond. Kwadzo (2015) mentioned in his study that students place importance on ease of access to e-databases than any other reasons.

#### **2.4 Challenges Faced by Postgraduate Students when Accessing E-resources**

Cothran (2011) discovered in his study that Google Scholar was used more than any other information sources by graduate students. This was because they found its interface to be user-friendly (easy navigation and usage), than any other databases. Prangya and Rabindra (2013) came to a conclusion that the low utilization of electronic resources by graduate students in their study was as a result of inadequate e-resource access training, high cost of some e-resources and poor infrastructure. In the findings of Ahmed (2013) on students faculty use of e-resource in universities in Bangladesh revealed that restricted access to subscribed resources; inadequate IT facilities, information retrieval difficulties, slow download speed, limited remote access, impeded user satisfaction.

#### **2.5 Promotional tools Employed by Academic Libraries to Create Awareness**

Promotion, in a library setting, may be considered as the means used to provide information to users about the library's services and resources, guaranteeing users awareness of the services and resources available (Patil and Pradhan, 2014). These methods include digital/online media adverts (library website, mailing lists, podcasts, blogs, Facebook, Instagram, YouTube), print advertising (brochures, bookmarks, flyers), and also library souvenirs and giveaways (pens, mugs, books, wristbands, flash drives) with inscriptions that will serve as reminders to users the products and services of the library (Hinchliffe & Leon, 2011). Word of mouth is another effective way of advertising where library staff through interactions with users, tell users about the library resources and services. User-to-user interactions could also promote the products and services among users.

It is an undeniable fact that social media has a huge influence on today's generation. Information put on a social media site will gain more attention than one placed on a noticed board. Social media platforms are suitable for promoting library services because they are reliable for disseminating information, they have a prompt feedback mechanism, and they

promote a very positive image of the library. In recent times, the commonly used tools for promotion by most libraries in African universities are websites, social media, brochures, library publications, and posters (Edewor et al., 2016) Bakare, Yacob, and Umar (2018), outlined the various social media platforms that libraries can employ to showcase their resources and services effectively. These include;

**Blog:** also known as weblog is an informational website or a kind of journal online that displays continuing information but with latest posts or subject appearing first or topmost. Blogs can be used to promote library resources and services because it allows information dissemination, library outreach, library image building, showcasing already existing materials, and announcing addition of new materials to library collection.

**Facebook:** social networking site that make social interaction between individuals and groups easy. It gives users the opportunity to create profiles and pages with unique identity where individuals or group members get to interact and share messages, videos, and images. Libraries can use Facebook exhibit or showcase their resources and services like hosting library homepage where educational videos can be uploaded, advertise opening and closing hours, location, website information, newly acquired materials and discussions on special subjects.

**WhatsApp:** a social networking application that has instant free messaging and voice over telephoning services. Instant messages can be sent by librarians to users and vice versa. Urgent information that requires library users' attention could be conveyed to users, even documents and materials can be sent to users during or even after working hours.

**Twitter:** an online real time news and social media networking platform where users post and interact with messages. The ease of posting, interacting and sharing of information on this platform has made it very vital platform for librarians to reach and interact with library

users. Information on the go with users' responses can be retweeted at everybody's convenience.

A good library website for example is a unique collection of the library's resources and services. It is the link between the library and its target users, and the services it seeks to promote (Yi, 2016). It also makes communication easy and effective via the e-mailing lists of clients (e.g., Faculty members). Conventional promotional tools like posters, flyers, and brochures can be used to promote events and programs of the library. While new developments in the library can be introduced in Newsletters where current services can be highlighted. Raul et al (2016) equally noted that employing e-marketing sets as a platform for librarians to assist their patrons to access information through electronic media, using a variety of methods such as e-mail, websites, Facebook and similar applications, blogs, chats, etc. this helps improve clients' satisfaction and also ensures consistency of information.

Considering how expensive it is to purchase and subscribe to these e-resources by academic libraries, there is a crucial need for them to be utilized as expected (Ankrah and Atuase, 2018). This can only be realized if the libraries create awareness of these resources available, how to identify and access them by users, their essence and benefits. Running promotional activities usually aid to spread awareness more effectively. Numerous researches have been done to prove that promotion is relevant in academic libraries. According to Kaur and Rani (2007), academic libraries put in a lot of financial effort in processing, storing, and building their information collection. They added that these resources often remain unutilized because after all this is done, the library fails to create awareness of those resources to users, letting them know what is available. This goes to prove that the absence of promotional activities in a library to create awareness of its resources and services, can lead to underutilization, while the presence of it increases utilization (Mohammed and Ibrahim, 2021). Ugwoke (2017), also mentioned in his work that abundance of information does not automatically guarantee its

accessibility, likewise its awareness and usage. Therefore, promotional activities such as library orientations and seminars for students especially freshmen, should be a regular activity carried out by the library. Patil and Pradhan (2013) go on to say that even though preservation of information materials is key to libraries, there is equally a need for them to create awareness of these materials such as creating websites which would market and promote all the materials in the library's holding and can be found and accessed by users at all times.

Findings from the study by Dhanavandan et al. (2012), on electronic resource usage at the library of Krishnasamy College of Engineering and Technology, showed that majority of the library's patrons were aware of the electronic resources and they actually used them. Efforts of the library to promote and train patrons on e-resources led to this level of awareness. It also revealed that only a few (5.5%) of respondents did not know about the available e-resources in the library and this was because these patrons had no use for e-resources. Another study by Haque and Kazi (2018), on student perception of electronic resources in a Bangladeshi university revealed that acceptability of the e-resources by students was high. 90% of respondents admitted that e-resources were relevant to them. They encouraged the university authorities (library for that matter) to continue to promote the use of e-resources by the students, and invest more in building e-resource collection in the library. This shows that sensitization among students by library management has been effective and this led to the high awareness level. In a study by Natarajan (2017), inadequacy of undergraduate students at the Jimma University in Ethiopia to find vital information was a common problem faced in using e-resources. There was lack of searching skills and adequate knowledge of how to access the resources. This meant a lack of awareness and the need for sensitization of the students.

On the contrary, a study by Dadzie and Van Der Walt (2015), on access and use of digital resources in Ghanaian universities, showed that less than half of faculty members were aware of and used digital resources such as the online databases, institutional repository, library website, and the online public access catalogue. This was as a result of lack of awareness on the part of faculty and lack of promotion of the resources on the part of the library.

When a research was conducted on the use of e-journals at the Kwame Nkrumah University of Science and Technology by Borteye et al. (2010), it was proven that there was an underutilization of the e-journals that the library subscribes to. This was as a result of patrons not being aware of the e-journals and even the few who were aware, had no idea how to access them, so they found it a waste of time going to look for them. It was then recommended that the library does more of promotion and marketing to help sensitize students and faculty on what is in stock in the library. Friday and Ngozi (2020), stated that libraries that engage social media in their provision of services to patrons, have seen an increase and improvement in the awareness and usage of their e-resources especially. Users get to know of the e-resources and how to access them, and they have realised the convenience that comes with using e-resources, leading to a high rate in usage. A research conducted by Ndakalu (2014), on access and utilization of digital information services in academic library at the Nairobi university, revealed that users face major challenges when accessing and utilizing digital information due to lack of adequate information search skills, lack of awareness and training, and poor information structure.

In this technological age where information needs of users are getting more and more sophisticated, libraries need to employ more of promotional and marketing activities in their operations to stay relevant in information provision. In a study by Kumarjit and Mohan, (2014), they stated that academic libraries need to be actively involved in promoting and marketing their resources as there are numerous alternatives that users can acquire



information from aside the library. Employing some promotional tools such as creating library website, creating social media pages, off campus system, and organizing seminars and talks to sensitize users. This in effect will help reach their target users, create awareness and increase usage of the library and its resources. The study on marketing library and information resources and services in the Covid-19 era by Mandrekar and e Rodrigues (2020) revealed that many librarians have adopted social networking tools like websites, YouTube, Facebook, and WhatsApp, as platforms that enhances effective promotion and marketing of library information resources and services to users in this Covid era. Opoyemi et al. (2014), in their work on marketing strategy for library and information services, it was stated that marketing in academic libraries has become a necessity. It is a way of identifying the variety of library patrons' demands and expectations and leveraging to serve the increasing potential clientele. and so, librarians must endeavour to adopt marketing strategies such as the use of mailing lists to send alerts of library activities and services to users, 'Library 2.0' (a trend away from the traditional repository approach to a more distributed range of digital services for staff and students, with particular emphasis on Web 2.0 social media, which is a more familiar tool to them). Osinulu et al. (2018) in their work, mentioned social media tools as a means of creating awareness and encouraged libraries embrace the use of social media networking sites to build community-based input, interaction, content sharing, discussion and collaboration. They further stated that users of academic libraries (mostly faculty and students) are more familiar with social media, so the library using it as a means to create awareness of the information resources available at their disposal will be more effective and yield a high utilization. Special events on campus, posters, websites, emails, word of mouth, social media, have also been mentioned as promotional tools that helped academic libraries in this technological era to reach their users, create awareness and achieve satisfaction of user needs (Yi, 2016).

To reduce expenses involved in library promotion and marketing, Kumar (2017) listed a number of cost effective promotional activities that require minimal expenditure on the resources yet the targeted users are reached;

**Digital media:** these include library portals, social media sites such as Facebook and YouTube, library websites, blogs, OPAC, online advertising, Wikis.

**Print media:** these include annual calendar, newsletters, booklets, bookmarks, flyers, feedback form, library publications, posters.

**Activities and Events:** seminars, user orientation, training sessions, exhibitions, library tours, word of mouth.

According to the Ranganathan's 5<sup>th</sup> law, "Library is a growing organism". This goes to confirm the information explosion globally where more and more information keeps coming up every second of the day. Especially in this 21<sup>st</sup> century where today's information becomes old already by tomorrow due to how fast updates come up, libraries need to adopt marketing strategies which will help convey what is unique about them (products and services) to their users (Etukudo and Aliu, 2019). Also, libraries need to adopt these strategies to compete favourably in today's information world where other information providers spring up every day.

Ahmad and Panda (2013) stated in their work that even though a large number of faculty members know and use e-resources, some used only specific resources in the library like e-thesis and CD-ROM databases due to limited knowledge. Opoyemi et al. (2014) mentioned in their work on the need for marketing as a tool for service delivery in academic libraries in Southwest Nigeria, it was revealed that even though these libraries implored the use of promotional tools, the traditional ones such as notice board and face-to-face approaches were top of the list of promotional tools. Most of the technology-based strategies are not so

accepted in the delivery of service. In the advent of technology, this is very bad for academic libraries who have so much competition going on with regards to information provision. Most users of late would read anything online on the go rather than stand at a notice board or go all the way to the library hall to make enquiries. It was therefore recommended that academic libraries embrace technological means such as library website, social media sites, e-mailing list, and the likes to reach their users since technological means is more likely to draw the interest of users than the traditional means. Okello-Obura (2010) deduced that information resource patronage in the library improves after being advertised to potential users.

According to Osinulu et al. (2018), libraries need to market themselves, not to increase profits, but rather to create awareness of their products and services and increase user satisfaction as well. When libraries engage in marketing and promotional activities, it gives users the opportunity to know what is available, what is of essence to them and at the long run, satisfy their needs. Saravanan (2010), backs this by stating that librarians and information professionals have the responsibility to improve access to their resources and services. Anafo & Filson, (2014), remarked that if the value information resources is defined by user needs, then the success of that resource is determined by user preference and perception. Libraries need to build marketing plan that would help discover user preferences to aid marketing their products and services. Librarians and information professionals need to create avenues that will inform users of their products and services because lack of awareness among users posed as a challenge to their ability to access the information resources available. When users do not know of the resources in the library, it becomes difficult for them to see the significance of these resources in their academic and research work (Katabalwa, 2016).

In a study in Tanzania by Samzugi (2019) on user perception on use of print and electronic resources in selected universities, it was revealed that majority of library users still prefer

print materials to the electronic ones. In this technological era where most libraries are digitizing their resources, it is discouraging to have users still demanding print materials. This is as a result of lack of user sensitization on the essence of e-resources, and the lack of awareness creation on the part of library staff. Promotion comes in handy in situations like this, to create awareness of the significance and use of e-resources. Academic libraries fulfil the teaching and research needs of their parent institutions, it is therefore the library's responsibility to make sure that its information sources, resources, and services are fully utilized to users' benefit; hence, the need for marketing these available resources (Dantus and Park, 2018). They stated that social media, bookmarks, e-mails, posters, brochures, flyers can serve as tools to extend outreach efforts. With the advent of technology, there has been an increase in electronic resources with libraries digitizing almost all its information materials. Faculty members, students, and other patrons may be uncertain about e-resources and their relevance, resulting in underutilization. (Bhukuvhani et al., 2012). He then stated that this is an important reason why libraries should promote their resources and services. Since every library's mission is to meet and sufficiently satisfy user information needs at all times, it is important for libraries to engage in marketing activities that will effectively showcase their services and resources to users. Kutu and Olabode (2018), stated that the survival of a library in this current climate depends on many things including its image. Quality and effectiveness of the resources and services, the ability to anticipate the desires and requirement of actual and potential user and their fulfilment are attributes that make up the image of a library. Adopting marketing strategies helps librarians to create and maintain this image for their libraries.

Maximum utilization of library resources and services means success to every library. This success can be realized if the library creates awareness of its resources to users, enlightening them on the essence and benefits of using the resources available in the library. Librarians

therefore need to adopt numerous marketing strategies to be able to achieve this aim of creating awareness (Igwela and Owate, 2016). Marketing strategies are just techniques employed by libraries to promote the resources and services available. Adegoke (2015) pointed out some techniques for promotion as exhibition and display of library resources and services, bulletin boards, generating links on the library portal for information dissemination. These strategies if implemented by libraries, will help achieve its ultimate mission of satisfying user information needs.

## **2.6 Challenges Faced by Librarians in the Provision of E-resources**

Mulla (2010) identified limited subscriptions to pertinent fields of study, and lack of orientation/training for users as a hinderance to e-journals access. This means that some library patrons may lack vital information needed for their studies and research works. Bhatt and Rana (2011) listed slow internet connection, low level of e-resources awareness, insufficient e-resources, technical challenges, high cost of subscriptions and purchases, lack of legal provision, as the major challenges associated with electronic resources.

In a study by Olorunfemi and Ipadeola (2018) on marketing information resources, other problems that challenge the creation of awareness of information resources were equally mentioned as follows:

1. Library's failure to conduct needs assessment but rather focused on developing their collection without considering which particular information resources and services are essential to patrons.
2. Inadequate human resources to work in IT environment precisely. With the advent of ICT in libraries, there has been a need for library staff to acquire the essential skills needed to survive in a computer world. Unfortunately, that is not the case in most of

the academic libraries in the developing countries as most of the libraries lack staff with IT skills.

3. Good customer relation is an essential skill needed by library staff in their daily operations. The library as a product and service provider needs staff who have good customer relation, to be able to interact with users to achieve the satisfaction of the need for which they came to the library. A lack of this skill by staff may lead to poor response to users, cause misunderstandings between staff and users and dissatisfaction, and subsequently lead to a low patronage.
4. Due to budgetary cuts, essential journals and books may be compromised by library management which may cause a poor delivery of service and may result in poor satisfaction of users' needs.

Findings from a study conducted by Isibika and Kavishe (2018) showed that awareness of the library's subscribed e-resources was average, and the barriers that caused underutilization were unstable network connectivity and lack of searching skills.

Infrastructure in the library is a major need in order for a successful and smooth provision of e-resources to users. As far as technology is concerned, the internet connection needs to be super good, as the e-resources require easy accessing. That is, the digital bandwidth, satellite connection, wireless connection, must all be very good and available at all times (Erich, 2013). These can only be achieved through investment in the infrastructure and technology. Often times, because of the very limited budget funds allocated to library, getting a good investment in the internet can be a huge challenge and this easily interferes with the provision of e-resources.

The study by Erich (2013), revealed that inadequate hardware equipment (computers, printers, scanners, etc.) is a great impediment on the library's ability to provide e-resources.

The persons responsible for the provision of these equipment must be informed the need for an investment in them, and also an update with time. Maintenance expenses; repairs, supplies, replacements, updates (subscriptions), trainings for personnel (computer literacy, information literacy, library literacy), all these amount to a huge budget but due to the limited funds, infrastructure has become a challenge in most academic libraries because the library budget funds are usually very limited.

Okon and Umoh (2014), in their study identified insufficient funds, lack of marketing skills and knowledge by library staff, lack of value for information disseminated by library on the part of users, are all factors that impede the need to create awareness of the various resources available in Nigerian university libraries. Insufficient funds have become a major challenge in academic libraries and research centres in recent times. In view of this, Shija (2009) stressed that sufficient funds are a very vital component of successful trainings to enhance user ICT skills and ability to access the e-journals. Again, effective operation and functionality of technological gadgets, internet bandwidth, database subscriptions, need sufficient funds to successfully facilitate easy access to e-materials in a library (Katabalwa, 2016).

Chegwe and Anaehobi (2015), identified a number of problems such as the indifferent nature of some library staff in giving out information, lack of marketing in library operational plan, limited knowledge of staff on marketing concepts, poor attitude of library management towards library carrying out promotional activities, as the perceived factors that hinder library's ability to provide and promote the resources available.

A study by Antwi et al. (2020) on e-resources sharing in academic libraries in Ghana, findings revealed that majority of participants indicated inadequate budgetary allocation,

inadequate ICT facilities, subscription and maintenance cost, and staff training, as the hinderances faced by academic libraries in Ghana.

An investigation done by Buruga and Osamai (2019), on operational challenges with the provision of library services in Uganda, the findings revealed that both library staff and users were faced with a number of challenges such as poor internet connectivity, lack of access to essential text books and journals, inability of staff to assist users due to lack of skills in technology. Interlibrary sharing was therefore recommended to the library management to help meet user needs.

Jelagat (2016) in her study on challenges faced by university librarians in creating awareness of library services, revealed that indiscipline among library users, low number of library staff, lack of cooperation among the students and staff, lack of adequate information resources, poor finances for the running of the library, inadequate skills by staff to assist users in information retrieval, were major challenges faced by staff in the Moi University Library. It was then recommended that the number of staff be increased to help in efficient delivery of user needs, information literacy should also be introduced to library staff to enhance their skills in aiding users, and also introduce library rules and regulation which will help keep users disciplined in the library hall at all times. A similar study conducted by Amaechi et al. (2019), disclosed limited funds, indifferent attitudes of library staff, absence of well-defined library policies and disregard to the demand for ICT, as the challenges that were faced in the transformation of libraries and information centres. Nigerian libraries were challenged with the aforementioned problems in their efforts to improve library resources to meet user needs.

Fagbola et al. (2011), argue that all though there has been immense growth since the introduction of ICT, certain challenges continue to interfere in library's attempts to make knowledge accessible in Nigeria and other developing countries. these challenges include;



poor funding, erratic power outages, scarce adequate operational human resource, lack of maintenance, and poor funding. Opoyemi et al. (2014) in their research findings revealed that the skills necessary for library and information professionals to deliver services in the library was of concern and needed enhancement. It was therefore recommended that library and information professionals obtain the necessary skills required in running the library especially with regards to ICT in this technological era.

Technology requires continuous uninterrupted power supply. Agber and Agwu (2013) reported that continuous power outages in Nigeria break down gadgets such as computers and this affects adequate function. The study by Katabalwa (2016), on use of e-journals by postgraduate students discovered that majority of the respondents mentioned frequent power cuts as a major hinderance to accessing e-journals. The results from the study by Akinola et al. (2018) goes to confirm this claim by stating that erratic power cut is a common problem at the Ibadan University.

## **2.7 Awareness and Use of E-resources in Ghanaian Academic Libraries**

Ghana has seen a tremendous growth in the provision of access to electronic information materials by academic libraries and other research institutions. A number of studies conducted showed that these e-resources are not just being provided, but also there is fair knowledge of their availability in the various universities.

A study by Ankrah and Atuasa (2016) revealed that postgraduate students of the University of Cape Coast were aware of the e-resources available in the library. Another study by Kwadzo (2015) on the awareness level of geography graduate students and usage of electronic resources in the university of Ghana found out that the students were very much aware (96.9%) of the resources available to them, as well as use them (93.8%). It was also found that majority of students accessed e-resources from the central library and they got to

know about them through their lecturers. Subject librarians especially were urged to improve cognizance of e-resources among students and faculty to enhance familiarity and effective usage.

Acheampong et al. (2020) revealed further in their study that scientists in Ghana were aware of e-resources and were using them for their research, with databases being the most used e-resource. The use of e-resources has improved research activities of research scientists. Kwafoa, et al. (2014), in their study at the University of Cape Coast stated that there was a high percentage level (92) of awareness among faculty members about academic databases in general, but they did not know that the university library subscribed to such databases. It was further revealed that despite 83 out of 217 respondents being aware of the databases, they did not access them. Okyere, (2020) who conducted a study on undergraduate student awareness and use of e-databases at the University of Ghana stated in his findings that there was wide knowledge and contentment of e-databases among students, however, they hardly accessed, and even when they did, it was mostly to help in their academics. Ameyaw et al. (2016) said users of the Valley View University library knew of the electronic resources and actually accessed them for research, teaching and learning purposes.

Students are aware of e-resources, and perceive them important for their studies because they help in improving their understanding and ability to find desired information for their academic work easily (Amoo, 2018).

## **2.8 Challenges with the use of e-resources**

Okyere (2020) stated in his study that when current information is mixed up in the databases, retrieving related content becomes difficult. This discourages users to access the resources. Konlan (2019) stated in his findings that in spite of how available and beneficial e-resources are to higher learning, usage among students and faculty is low due to some impediments like

lack of awareness, inadequate information retrieval skills, and inadequate ICT skills in general by users and library staff as well. To add to this, Amoo (2018) revealed from her study that students had knowledge of e-resources but did not use them fully because of problems like weak internet access, limited subscribed titles, inadequate skills in information retrieval, and information overload causing difficulty in retrieving desired information. Poor internet connection was identified as the most faced challenge by respondents in accessing online resources in a study conducted by (Ankrah & Atuase, 2018) at the university of Cape Coast on postgraduate students' use of e-resources. Kwafoa et al. (2019) identified poor level of information literacy skills as one of the challenges faced by postgraduate students of the Cape Coast University in their attempt to use online resources at the University library. This has resulted in underutilization of the resources. Special time allocation for training of graduate students on electronic resources was therefore recommended. Kwafoa et al. (2014) stated that though research and teaching depended largely on e-resources, faculty members did not patronise much the online databases in the library. Reason being that faculty was either unaware of the availability of the databases or they were unaware of the library's subscription to these databases. Awareness creation was nil so this became a challenge to faculty members. Boakye (2015) found out from his work on awareness and use of scholarly electronic journals by staff of Christian Service University and Garden City University in Kumasi that knowledge and use of scholarly electronic journals in both universities was low, hence a challenge that leads to underutilization. He then recommended awareness creation, training, and other relevant activities to guarantee full access and use of the e-journals.

## **2.9 Promotional tools libraries employ to create awareness of information resources**

In Lamptey (2016), study on marketing library services, she stated that libraries' use of social media platforms to make known their products and services available has become a common yet vital tool for marketing and promotion, and this has helped improve significantly the

utilization level of these resources. Social media in today's world is essential and has become a part of our daily routine. It is therefore an easier platform to reach users as everyone visits social media at least once a day. Mohammed & Ibrahim (2021) mentioned in their work social media sites like Twitter, Blogs, YouTube, Facebook, were appropriate tools for effective promotion of resources and services by academic libraries. They also mentioned library website as a tool that showcases the library's services and products. In the years gone by, academic libraries used marketing and outreach strategies such as brochures, fliers, word of mouth, seminars, to mention but a few to create awareness of their existence and the various products and services available to patrons (Kumah et al., 2018).

### **2.10 Challenges faced by librarians in the provision of e-resources**

Most academic libraries in developing countries like Ghana, face a lot of obstacles in their attempt to keep up to date with the technological evolution and staying relevant (Lynch et al., 2020). The most common of these challenges include inadequate funds to support library budgets, erratic power outages, weak internet connection, inadequate skills in ICT and infrastructure, to mention but a few. Several studies have been done in the Ghanaian academic community whose findings go to confirm these claims. Acheampong et al. (2020) identified poor ICT infrastructure and inadequate skills in ICT as some of the impediments to accessing e-resources in their investigation on awareness and use of e-resources among research scientists in Ghana. Kwafoa et al. (2014) added that because the subscription fees to these e-resources keep increasing, it becomes a challenge when the library is unable to continue subscription, therefore access to these resources gets denied. Lamptey (2016) again, stated in her findings that several academic libraries in Ghana, especially the private universities, face challenges like insufficient funds, absence of marketing policies, limited staff with requisite skills, insufficient computers and other ICT equipment, etc. these and others impede academic libraries in their efforts to make available the required information

resources for effective teaching and learning in the universities. Similarly, Mohammed (2019) mentioned inadequate facilities and lack of fundings as a major challenge facing the libraries of some selected technical universities in Ghana. Aside these challenges mentioned, Kumah et al. (2018) stated lack of a policy to help in the operation of the Institutional Repository of the Sam Jonah library of the Cape Coast University. They equally mentioned insufficient funds, limited skilled staff, indifferent attitude from staff, lack of training and insufficient knowledge of appropriate tools and lack of training on appropriate practices required for a successful library operation.

Most libraries are unable to create awareness of their resources to users because of librarians inability to embrace promotional measures, and this can be linked to challenges like training and knowledge deficiency in marketing, apathy in adopting marketing concept, insufficient funds, and even the idea that marketing is for profit making institutions, and therefore, not necessary in the library (Mohammed & Ibrahim, 2021). Mohammed (2019), equally stated in his findings that the library staff of the selected technical universities selected for his study lack knowledge in marketing and marketing policies. Thus, library staff could not properly market the services and resources available in their libraries. Marketing skills development training for library staff and funding for marketing were recommended.

## **2.11 Summary**

This chapter aimed to find works similar to this study and review them from global view point, to African, and narrow down to Ghanaian view according to the objectives of this study. Awareness of online information resources is relatively high but usage level does not correlate. Thus, the population knows about the e-resources available but there is a low record of usage. From the literature reviewed, it was discovered that online resources patrons mostly accessed them for researches, academic work, and updating their knowledge of happenings. Essence for promotion and marketing of library resources as well as appropriate

tools were equally reviewed and from the works sited above, it was deduced that libraries need to implore promotion and marketing strategies in their service delivery. Libraries that adopted these strategies were able to create awareness of their resources and services to users and this brought about resource utilization. Those libraries which had relevant resources yet were underutilized was as a result of lack of awareness.

However, the main challenges with regards to the usage of e-resources had to do with poor promotion and creation of awareness of available e-resources in the library, inadequate searching skills by users, inadequate IT infrastructure, poor internet access, erratic power cuts, lack of insight of the essence of e-resources (sensitization), low budget funds to support promotional activities, lack of training and adequate skills by library staff.



## CHAPTER THREE

### METHODOLOGY

#### 3.1 Introduction

A methodology is a structured procedure of solving a problem under investigation. It can also be described as a series of steps taken to gather and analyse data (Kothari and Garg, 2014). This section of the study will present a comprehensive approach showing the research design, the target population, sample size and sampling technique, data sources, instrumentation or mode of data collection, data handling processes, data analysis and presentation.

#### 3.2 Research design

The research design refers to the overall strategy that a researcher uses to connect the different sections of research in a reasonable way, that assures the researcher an effective address of the research problem. It comprises of the blueprint for the collection, measurement, and analysis of data. A research design is the coordination of conditions for collecting and analysing data in a systematic order that brings importance to the reason for the study in an economic way (Kothari and Garg, 2014). The research design adopted was survey under the quantitative approach. Check and Schutt (2017), define survey research as “the collection of information from a sample of individuals through their responses to questions”. Survey design is a procedure in quantitative research in which the researcher administers a survey questionnaire to a sample or an entire population of people to describe the attitudes, opinions, behaviours, and or characteristics of the population. Survey is the most fundamental tool for quantitative research that allows the researcher to collect data using questionnaires be it online, face to face administration, interviews, online polls. Multiple survey questions on the research topic are administered to a pool of respondents to collect data which will be analysed to produce numerical results.

### 3.3 Selection of Case

The University for Development Studies (UDS) was purposefully selected for the study because it has an academic library that purchases and subscribes to various e-resources for its patrons and other institutions. It has full accreditation as an academic library from the National Accreditation Board. It is a public institution that has been around for over 20 years, hence has proven to be of standard in academic work. It is also an institution that run postgraduate courses which makes it an appropriate place to find the respondents (postgraduate students) for this study. The researcher has been familiar with the UDS library for several years. A preliminary interaction by the researcher with some patrons and a few library staff with regards to e-resources, influenced the decision to select UDS as the case for the study. However, the results of this research would be of worth to other academic libraries in Ghana.

### 3.4 Population of study

The concept of population is fundamental to every survey study. It could be collection of variables with the same or at least one characteristic in common. It is the collection of specified groups of human beings or of non-human entities such as objects, institutions, or salaries drawn by individuals (Wani, 2017).

Population in a study could also mean all members of a target group as spelled out by the objectives of the research. It refers to the set or group of all the units on which the findings of the study are to be applied (Shukla, 2020). The target population comprised of postgraduate students and librarians. In all, 759 were considered for the study. This includes 750 postgraduate students and 9 librarians.



**Table 3.1: Population of the Postgraduate students**

<b>Program</b>	<b>Student Population</b>
PhD	70
MPhil	531
MA/MSc	149
Total	750

*Source: Graduate School Report, 2020*

**Table 3.2: Population of University Librarian and Heads of Library Departments**

<b>Designation</b>	<b>Number of librarians</b>
University Librarian	1
Head of Information Services	1
Head of Institutional Repository	1
Head of Electronic Resources	1
Head of Technical Services	1
Head of Serials	1
Head of Acquisitions	1
Head of Cataloguing	1
Head of Reader Service	1
Total	9

*Source: Library Report, 2021*

### 3.5 Sample Size

A sample is a group of people, objects or items selected from the parent population through a certain procedure. The sample size is the members of the population selected to take part in the study (Everitt, 2006). The sample size for the study was obtained according to the sampling ratio proposed by Krejcie and Morgan (1970). To obtain a sample size using the sampling ratio table, one only needs to look at the given population size and refer to its corresponding sample size in the table. Given the simple application of this table, the sample size for 750 postgraduate students is 256. The librarians for the study on the other hand, were selected by the use of purposive sampling technique due to their direct involvement with e-resources in the library. The librarians selected for this study were four (4); the University Librarian, the Head of Department for Information Services, the E-resource Librarian, and the Institutional Repository Librarian. Therefore, the total sample size for this study was 260.

### 3.6 Sampling Technique

Sampling is the process used in selecting a sample or miniature of the population (Tagoe, 2009). Convenience sampling technique was employed as the technique for selecting the sample size of postgraduate students in this study. According to Sedgwick (2016), convenience sampling is a sampling technique used to collect samples that are conveniently located around a location or internet service. In obtaining the sample size for this study, the researcher visited the graduate school, obtained the email addresses or phone numbers of postgraduate students who were around and willing to participate in the study. The questionnaire was then sent to them to be completed. This was done till the sample size was acquired, though not all of them responded as expected. The librarians were purposefully selected because they are the ones mainly involved in decisions and operation of electronic information resources and services in the UDS library.

### **3.7 Mode of data collection**

Two separate well-structured questionnaires were employed for the collection of data. One for the librarians of the UDS library and another for the postgraduate students on the research topic, were completed for primary data. The questionnaire was then administered to respondents through their email addresses or WhatsApp to be completed.

### **3.8 Data Collection Instrument**

These are the instruments used in gathering data for the study. Examples of commonly used data instruments include questionnaire, interviews, and observation. It is essential to employ a justifiable and dependable instrument for a study because its validity or reliability lies on the suitability of the instrument used (Bastos et al., 2014). The researcher therefore employed questionnaire as the instrument for the study. A questionnaire is a document containing questions to solicit information appropriate for analysis (Avedian, 2014). Usually, they are designed with the aim of extracting information which will help have a clearer understanding of the problem being studied.

Two sets of well-structured questionnaires were administered to respondents through the use of google forms. Google forms is Google's browser-based word processor which allows you to create surveys, and quizzes with the aid of a google account, which can be sent to respondents to be filled out on computer, tablet, or mobile device with an internet connection. Both questionnaires contained questions on demographics, and questions on the thematic areas of the study. Due to COVID-19 protocols, librarians opted to respond through a questionnaire with more open-ended questions which allowed them elaborate their responses. Another questionnaire with close-ended questions was administered to the postgraduate students. An online questionnaire was chosen for the study because it is time and cost saving, and also, in this era of COVID-19, person-to-person contact or face-to-face interaction should be limited as much as possible. Administering the questionnaire through google forms was

therefore the appropriate means for this study. Questions were grouped into four (4) sections according to the thematic areas of the study, with each section containing at least five (5) clear and straight forward questions. Permission, purpose of the questionnaire, confidentiality of the respondents' answers, and anonymity of respondents were spelled out clearly.

### **3.9 Pre-testing**

The librarians' questionnaire was pre-tested at the Tamale Technical University library, while the postgraduate questionnaire was tested at the UDS Medical School. The pre-testing helped ensure clarity, uniformity, credibility and dependability of the questionnaire used for the data collection. Questions that were identified to be a bit confusing in the pilot study were noted and revised appropriately.

### **3.10 Data Analysis**

Answered questionnaires received were crosschecked to ensure they were usable. Because Google forms was employed for the data collection, responses were automatically sorted according to. The output of the responses was transferred on to Microsoft Excel 2016 version to be presented in descriptive charts and frequency tables for clearer explanations.

The results from the data gathered were presented according to the following themes; knowledge and use of electronic resources, significance of electronic resources, ease of use of electronic resources, challenges faced when using e-resources, promotional tools employed by library, challenges faced by librarians in the provision of e-resources, and recommendations.

### **3.12 Ethical consideration**

The study adhered to the ethical principles regarding academic research work of the University of Ghana. A letter of introduction was obtained from the Department of Information Studies and submitted to the UDS library management seeking permission to

undertake the study. The letter introduced the researcher to the respondents and informing them about the purpose of the study and obtaining their permission. The questionnaire was then distributed to respondents with their consent. Personal details like name and date of birth were not included to maintain anonymity. Assurance of confidentiality of responses was given to respondents as well and they were encouraged to answer questions as they pleased. The researcher acknowledged all works cited in the study by providing precise references of such works.



## CHAPTER FOUR

### DATA ANALYSIS AND PRESENTATION OF FINDINGS

#### 4.1 Introduction

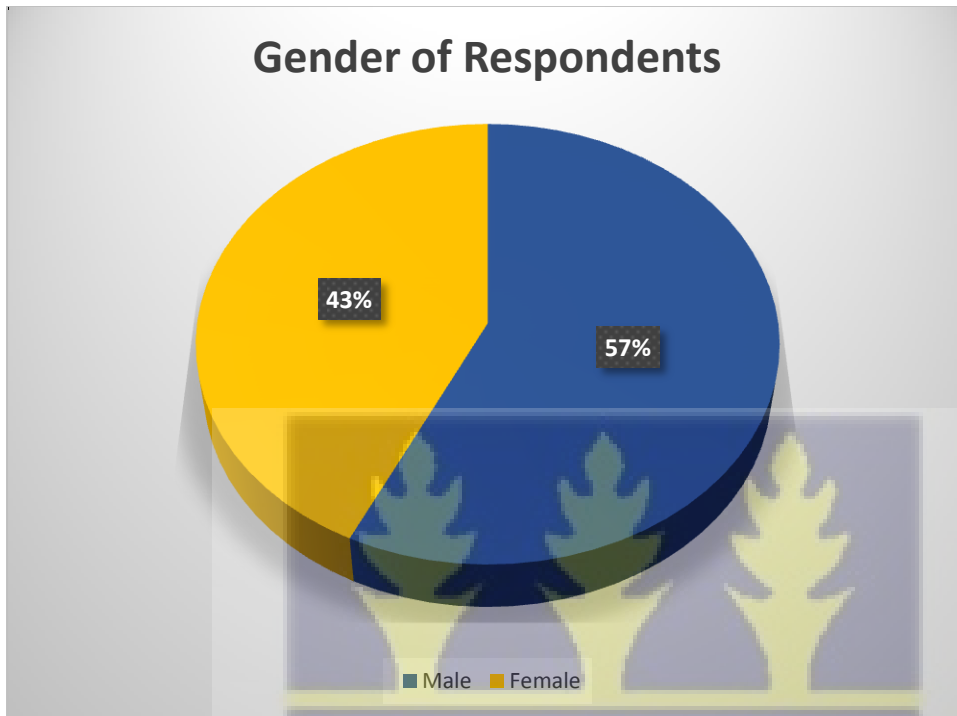
This chapter presents the analysis of the data obtained through the use of a questionnaire on promoting effective use of e-resources among postgraduate students of the University for Development Studies. Data was obtained from postgraduate students and some librarians of the UDS library through the use of separate questionnaires designed specifically for each group of respondents. The data obtained was analysed by Google forms and findings were presented in pie charts and tables using of Microsoft Excel software (version 16), to aid in the interpretation of the data. The findings were presented in accordance with these themes; Awareness of the e-resources available in the UDS library and their significance, challenges facing postgraduate students while using electronic resources, promotional tools for creating the awareness of e-resources, and recommendations made by postgraduate students for enhancing information provision. In all, 256 questionnaire was sent out to postgraduate students and 217 answered/usable questionnaires were retrieved from respondents. 4 questionnaires were administered to the librarians and all were retrieved. Analysis of postgraduate students is as follows:

#### 4.2 Biographic Data of Respondents

Respondents' biographic data is important in research because it helps give a clear idea of the calibre of people who were involved in the research. Necessary information like the age, gender, and program of respondents were ascertained.

#### 4.2.1 Gender of Respondents

Gender of respondents in research helps the researcher know the number of females as well as males who participated in the study. It equally gives a clear depiction of each gender's views.



**Figure 4.1: Gender of Respondents**

*Source: Field Data, 2021*

Figure 4.1 shows that 124 (57%) of the respondents were males, while 93 (43%) were females. It clearly shows that males made up the majority of the respondents, and this could be interpreted as the UDS postgraduate student population to be male dominated.

#### 4.2.2 Ages of Respondents

The age information helps the researcher to know the average age being worked with to determine the majority of respondents used in the study. The ages of respondents were

ascertained through the use of age range. Table 4.1 shows the age distribution of the respondents.

**Table 4.1: Age Distribution of Respondents**

Age Range	Frequency	Percent %
Below 30 years	54	25
31-35 years	87	40
36-40 years	62	29
40 years and above	14	6
<b>Total</b>	217	100

*Source: Field Data, 2021*

As displayed in Table 4.1, it can be seen that 87 (40%) of the respondents fall within the 31 to 35 years range constituting the majority. The respondents who made up the least percentage were those who fell within the 40 years and above range. They were 14 respondents representing 6%. 62 respondents were in the 36-40years representing 29%, while the remaining 54 were in the Below 30years range representing 25%.

#### **4.2.3 Academic Levels of Respondents**

The researcher tried to elicit this information to determine the response rate from each of the academic levels in the postgraduate program involved in the study. Table 4.2 shows the results.





**Table 4.2: Academic Levels of Respondents**

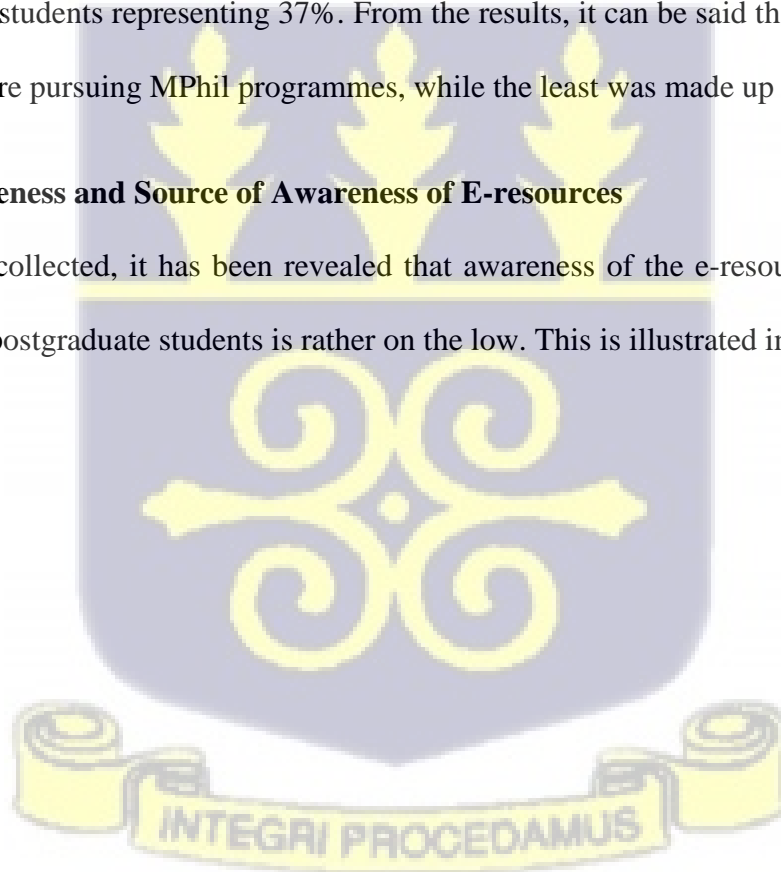
Academic Level	Frequency	Percent (%)
PhD	18	8
MPhil	119	55
MA/MSc	80	37
<b>Total</b>	217	100

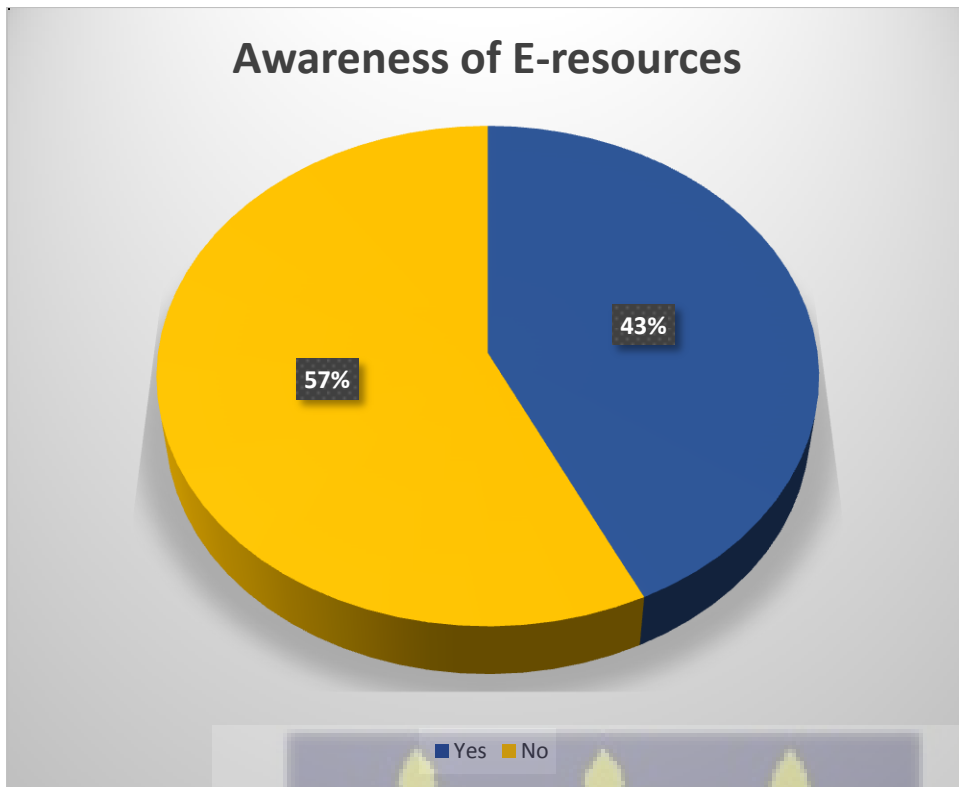
*Source: Field Data, 2021*

Table 4.2 shows that out of 217 respondents, 119 of them were pursuing MPhil programmes representing 55%. 18 respondents were PhD students representing 8% and 80 respondents were MA/MSc students representing 37%. From the results, it can be said that majority of the respondents were pursuing MPhil programmes, while the least was made up of PhD students.

#### **4.3 User Awareness and Source of Awareness of E-resources**

From the data collected, it has been revealed that awareness of the e-resources in the UDS library among postgraduate students is rather on the low. This is illustrated in Figure 4.2.





**Figure 4.2: Awareness of E-resources**

*Source: Field Data, 2021*

As seen from Figure 4.2, 124 (57%) respondents stated that they did not know about the existing e-resources of the UDS library, while 93 (43%) respondents stated otherwise. From the numbers above, one can therefore say that awareness of e-resources among postgraduate students in UDS is low. The researcher probed further to determine how students of UDS got to know of the library's e-resources. Table 4.3 displays the various sources through which postgraduate students got to know of the library's resources.

**Table 4.3: Source of Awareness of E-resources with Multiple Responses**

Source	Frequency	Percent (%)
Colleague/friend	69	74
Library website	34	37
Library staff	69	74
Student Orientation	4	4
Lecturer	7	8
Social media	0	0
Other source	5	5

*Source: Field Data, 2021*

As displayed in Table 4.3, a number of possible awareness sources were stated by the researcher and respondents were asked to pick as many sources as possible, hence, the reason for these figures. From Table 4.3, 69 (74%) of the respondents got to know about the e-resources through a colleague/friend, and through a library staff. 34 (37%) got to know through the library website. Student orientation was nil. It is clear from the table above that most of the respondents who are aware of the e-resources got to know through a library staff and a colleague/friend.

#### **4.4 User Awareness of Types and Essence of E-resources available**

To successfully meet the diverse user information needs of the UDS library patrons, numerous e-resources have been made available in the library in an attempt to satisfy the diverse needs of users taking into cognizance the different levels of academic programmes offered by the institution. However, people may tend to know things passively, probably just by the name and not necessarily the details (types, what it entails and its essence) of it. Therefore, the researcher deemed it necessary to further inquire about how well the

respondents knew these e-resources. A list of the e-resources available was presented in the questionnaire for respondents to pick the ones they know. Table 4.4 is a representation of the responses.

**Table 4.4: Types of E-resources**

Type of e-resource	Frequency	Percent (%)
E-databases	83	89
E-Thesis and Dissertations	86	92
E-books	39	42
E-journals	46	49

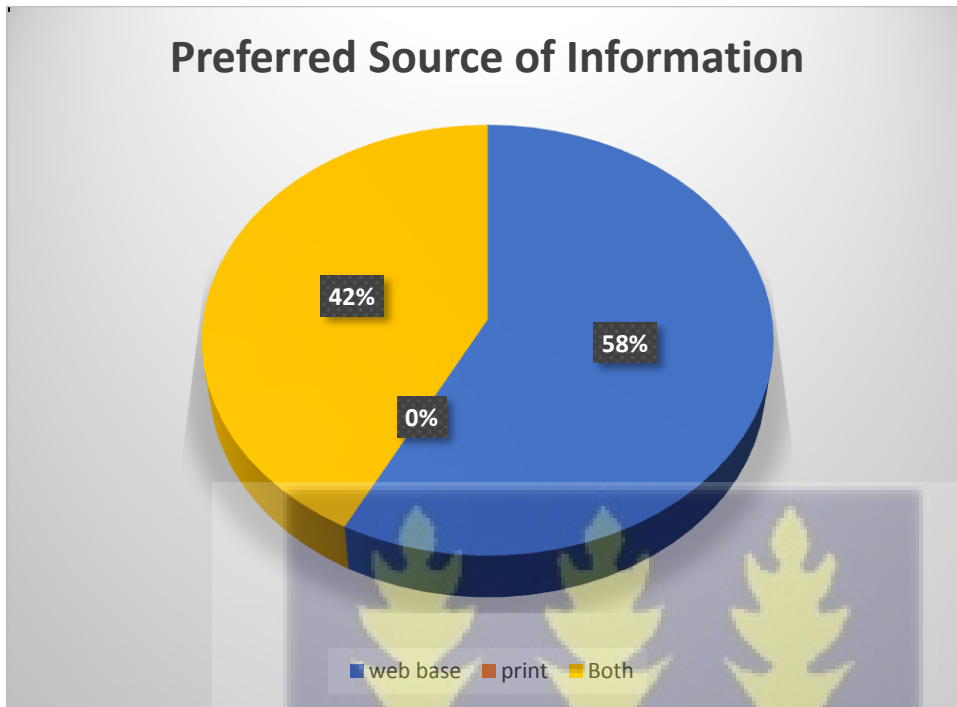
*Source: Field Data, 2021*

Table 4.4 above shows the types of e-resources available in the UDS library and the number of respondents aware of each of them. These responses were given by postgraduate students who stated that they are aware of the e-resources. 83 (89%) respondents indicated that they knew about the e-database available. 86 (92%) respondents stated they were aware of the E-Thesis and Dissertations (ETDs). 39 (42%) knew of the E-books, and 46 (49%) knew of the electronic journals in the library. The results displayed in Table 4.4, clearly shows that the respondents who claim to know of the online resources available do have a fair knowledge of the various types in the library, with E-thesis and dissertations being the most known e-resource.

#### **4.4.1 Preferred Source of Information**

Postgraduate students were required to state their preferred source of retrieving information with regards to web base sources and print materials. 125(58%) said they preferred web base because it was possible to access information on the go, and do not need to go to the library

hall. 92(42%) respondents said they prefer both print and web base. Reason being that, sometimes the internet may be off and they would have to rely on the print materials. The responses are displayed in Figure 4.3



**Figure 4.3: Preferred Source of Information**

*Source: Field Data, 2021*

It is clear from Figure 4.3 that majority of postgraduate students of UDS preferred web base information materials because they can easily access any information on the go without the need to visit the library or carry books around.

#### **4.4.2 Source of Web base Information**

In this technological era, so many information seekers rely on the internet to retrieve needed information for their various needs. The researcher therefore inquired from respondents their sources of web base information. Table 4.4 shows the results of respondents.

**Table 4.5: Source of Web base Information**

Source	Frequency	Percent
Google search	82	38
Google scholar	132	60
Yahoo	13	6
Bing	0	0

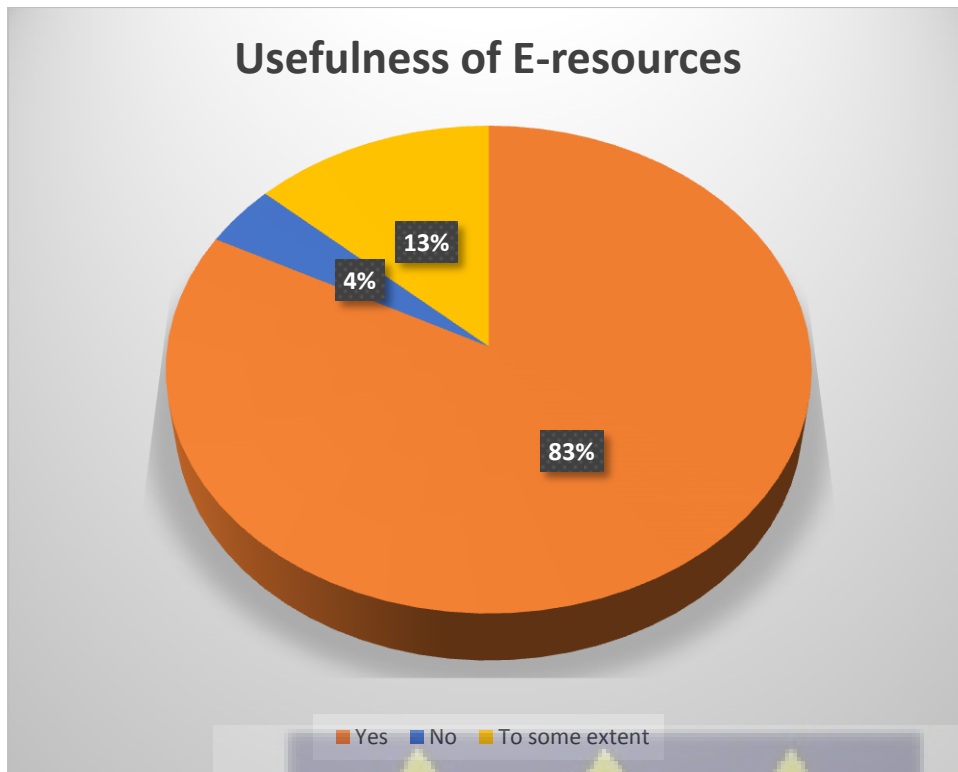
*Source: Field Data, 2021*

From Table 4.5, 82(38%) of respondents stated that they use Google search engine to retrieve web base information. 132 (60%) of them indicated that they use Google scholar to retrieve web base information. While 13(6%) mentioned Yahoo search engine as a retrieval source of web base information. It can be interpreted from the responses in Table 4.5 that postgraduate students use other sources to retrieve web base information aside the e-resources in the library, with Google scholar being the most used.

#### **4.4.3 Usefulness of E-resources**

When respondents were asked if e-resources were useful to them, majority replied in the affirmative. This goes to prove that respondents do not only know of the e-resources but their essence as well. Figure 4.3 below shows the response rate for essence of e-resources.





**Figure 4.4 Usefulness of E-resources**

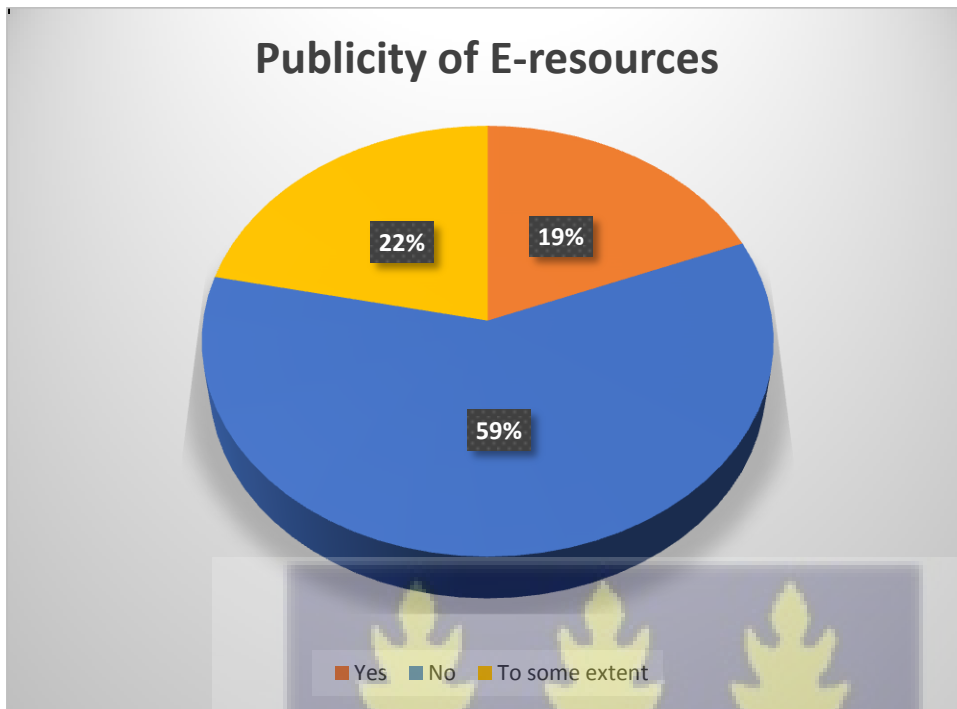
*Source: Field Data, 2021*

From Figure 4.4, 81 (83%) respondents said yes when asked if electronic resources were of use to them. 4 (4%) respondents on the other hand said no, while 13 (13%) said the e-resources were useful to some extent. In all, a majority of the respondents think that e-resources are useful to their studies.

#### **4.5 Publicity of E-resources**

Information resource publicization has become a crucial activity in several university libraries. It aids in showcasing what is available in the library through diverse means, mediums and platforms to their numerous users. Employing appropriate promotional activities serve as a driving force in enhancing awareness and utilization of the products and services of the library. When respondents were asked if the UDS library has publicized its

resources enough to students, majority of the responses indicated the contrary. Figure 4.5 displays the various responses.



**Figure 4.5: Publicity of E-resources**

*Source: Field Data, 2021*

In Figure 4.5, respondents acknowledged that the library did not publicize the e-resources enough to students. 129 (59%) respondents indicated 'No' when asked if the library sufficiently publicized its e-resources to students. 47 (22%) respondents indicated 'To some extent', and 41 (19%) respondents indicated 'Yes'. With the results Figure 4.4, it may be seen clearly that the library did not publicize the e-resources enough.

In view of this, a number of ways to publicize the e-resources were provided. Respondents were given multiple choice answers to pick all they deemed appropriate and effective in reaching postgraduate students in terms of creating awareness. The results are presented in Table 4.6.



**Table 4.6: Means of Publicization**

Means	Frequency	Percent (%)
Orientation/Seminars	84	86.6
Library website	44	45.4
Social media	47	48.5
Posters/flyers	87	89.7
Mailing lists	46	47.4

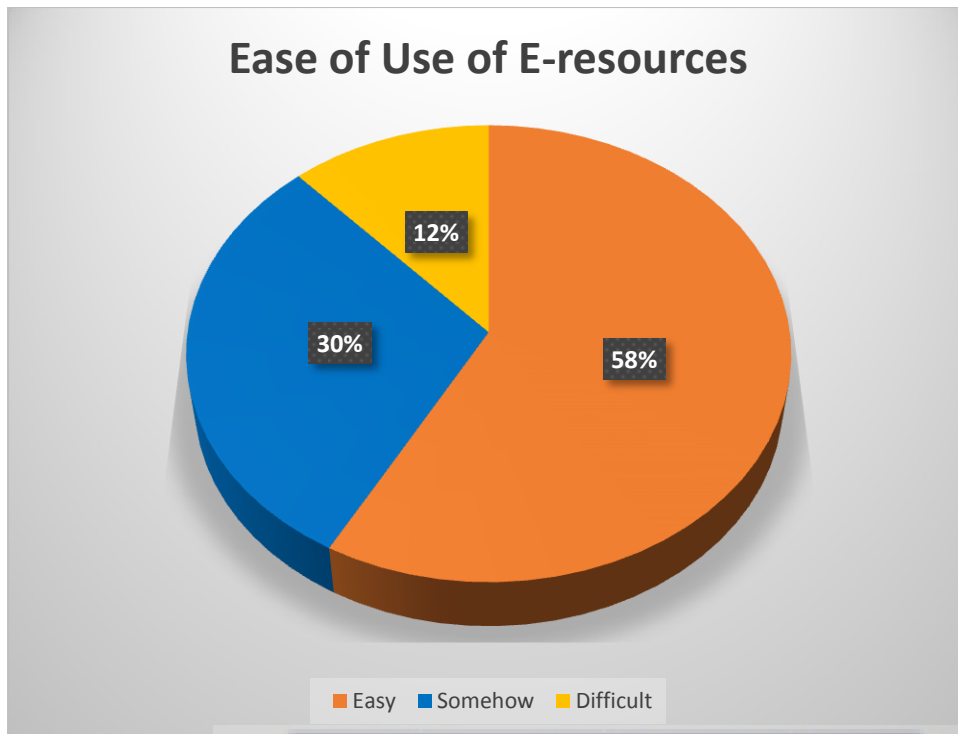
*Source: Field Data, 2021*

From Table 4.6, it may be observed that 87 (89.7%) respondents stated posters/flyers as an effective means to create awareness among postgraduate students. Student orientation/seminars had 84 (86.6%) responses. Social media had 47 (48.5%) responses, mailing lists had 46 (47.4%) responses, and library websites got 44 (45.4%) responses. It can be said that postgraduates deem posters/flyers, and student orientation/seminars most effective means of creating awareness among them.

#### **4.6 Ease of Use of E-resources**

The level of usage of a resource is influenced by its usefulness and ease of use. For usage level to be ascertained, the researcher asked respondents to state whether the process of accessing the e-resources was an easy or difficult one. Figure 4.6 displays the various responses.





**Figure 4.6: Ease of Use of E-resources**

*Source: Field Data 2021*

It may be observed from Figure 4.6 that 68 (63%) respondents said access to the e-resources was easy for them. 15 (25%) respondents also said it was somehow easy for them, while 10 (12%) said it was difficult to access the e-resources. It is visible from the results that majority of postgraduate students found access to electronic resources easy.

#### **4.7 Patronage of the Various E-resources**

For the researcher to determine the level of patronage the various e-resources, the various e-resources in the UDS library were listed for respondents to indicate the ones they patronized.

**Table 4.7: Patronage of the Various E-resources (Multiple responses)**

Types of E-resource	Frequency	Percent (%)
E-databases	68	73
E-Thesis and Dissertations	73	78
E-books	9	10
E-journals	27	29

*Source: Field Data, 2021*

In Table 4.7, respondents stated all the e-resources they used in the UDS library. 73(78%) respondents use the e-thesis and dissertations most. 68(73%) respondents indicated that they accessed e-databases. 9(10%) respondents indicated E-books, while 27(29%) respondents indicated that they accessed the e-journals.

**Table 4.8: Purpose of Use of E-resources (Multiple responses)**

Purpose	Frequency	Percent (%)
Research/Thesis	87	93
Assignments	15	16
To add to knowledge	12	13
Other	13	14
Total	127	136

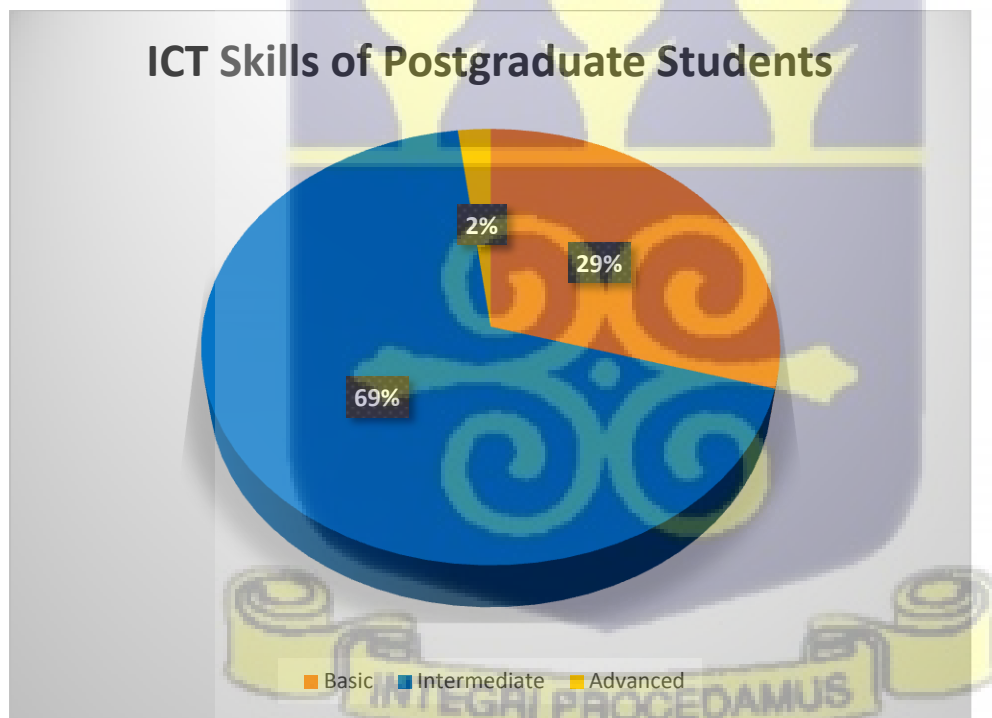
*Source: Field Data, 2021*

The researcher needed to determine the purpose for which respondents used the electronic resources. The researcher then provided multiple choice answers, which afforded respondents the opportunity to select as many as applicable responses. 87(93%) respondents said they use the e-resources for research/thesis. 15(16%) respondents said they used e-resources for assignments, and 12(13%) said they used them to add to knowledge. 13(14%) respondents

also stated that though they knew of the e-resources, they did not access them. It is clear from the responses in Table 4.6, that majority of the respondents used the e-resources for research/thesis.

#### 4.7 Skills to Use E-resources

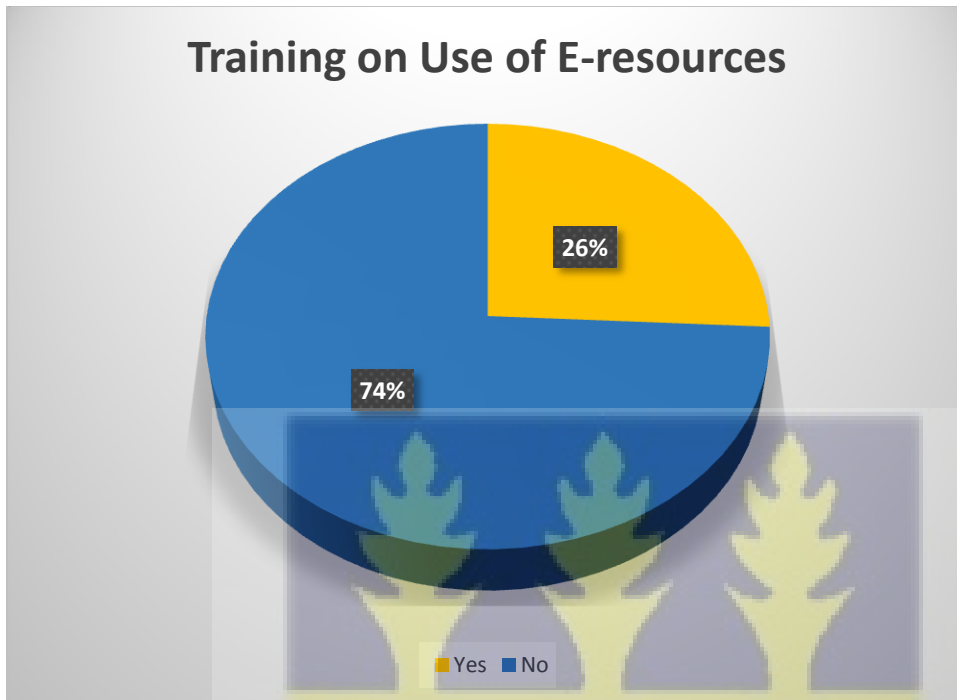
Making available the needed e-resources in an academic library does not guarantee automatic use. Users need to be trained on the process to enable successful utilization. How adequate users' computer skills are, is very necessary since e-resources are accessed through electronic means. The level of utilization, therefore, depends largely on users' computer literacy skills. Therefore, the researcher did not only inquire about training on accessing e-resources, but also how competent respondents are when it comes to ICT. Figure 4.6 represents the responses on computer competencies of respondents.



**Figure 4.7: ICT Skills**

*Source: Field Data, 2021*

In Figure 4.7, it can be seen that 59 (29%) respondents indicated they had basic skills in computer. 137 (69%) indicated they had intermediate skills in computer usage, while 4 (2%) respondents said they had advanced skills in computer use. In all, it can be said that all respondents said they had advanced skills in computer use. In all, it can be said that all respondents had fair knowledge or skills in ICT.



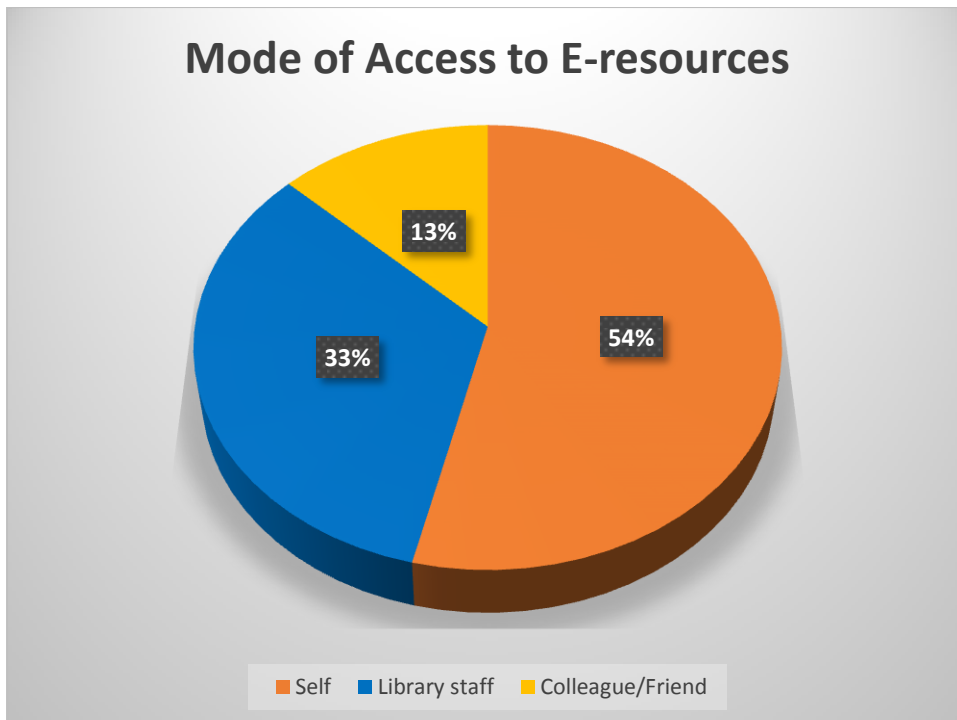
**Figure 4.8: Training on Use of E-resources**

*Source: Field Data, 2021*

When it came to training received with regards to accessing e-resource, Figure 4.8 shows that 161 (74%) respondents said they had received no training in access and use of e-resources, while 56 (26%) respondents said they had received some kind of training.

#### **4.7.2 Mode of Access to E-resources**

After inquiring about training on accessing e-resources, the researcher needed to know how respondents accessed the e-resources, and so the study inquired from respondents about how they access the e-resources. Figure 4.8 displays the results.



**Figure 4.9: Mode of Access to E-resources**

*Source: Field Data, 2021*

Figure 4.9 shows that 50 (54%) respondents indicated that they accessed the e-resources by themselves. 31 (33%) stated that they accessed e-resources by the help of a library staff, while 12(13%) respondents said they got assistance from a colleague/friend. The results suggest that majority accessed the e-resources by themselves.

#### **4.7.3 Frequency of Use of E-resources**

How often e-resources are being accessed or used in a library is basically influenced by how users perceive these resources. Perception leads to attitude which helps determine the level of patronage by users. Patrons access the e-resources at different rates depending on the purpose for which they access them and also the convenience at which they can access them. In light of this, it was required of the respondents to state how frequent they accessed these electronic resources in UDS library. Displayed in Table 4.9 is the frequency at which the e-resources are being accessed.

**Table 4.9: Frequency of E-resources Usage**

Rate	Frequency	Percent (%)
Daily	11	12
Weekly	8	9
Monthly	0	0
As and when needed	74	79
Total	93	100

*Source: Field Data, 2021*

As presented in Table 4.9, 74 (79%) respondents said they accessed the e-resources as and when they needed them. 8 (9%) respondents said they accessed the e-resources weekly. 11(12%) said daily, while there was no response for monthly. The results of the findings shows that most postgraduate students accessed electronic resources as and when they needed them.

#### **4.8 Challenges Faced in Accessing Electronic Resources**

The researcher considered finding out the possible challenges hindering access to e-resources by postgraduate students in the UDS library. Respondents were given the opportunity pick many responses as possible. Table 4.9 presents the results.



**Table 4.10: Challenges Faced in Accessing E-resources**

Challenge	Frequency	Percent (%)
Slow internet connection	83	89
Power surges	65	70
Difficulty in retrieving specific information	37	40
Limited help from library staff	7	8
Faulty computers	0	0
None	8	9

*Source: Field Data, 2021*

Table 4.10 clearly shows that the most frequent problem encountered by postgraduate students during e-resource utilization are poor internet connection and power surges. While there were no computer challenges, 8 respondents stated that they never had any challenges when accessing the e-resources.

### **Analysis of Librarians' Data**

#### **4.9 Biographical Data of Librarians**

##### **4.9.1 Gender**

From the results, 1 (25%) librarian was a male, while the remaining 3 (75%) were female librarians.

##### **4.9.2 Level of Education**

All 4 (100%) participating librarians are MPhil certificate holders and have all worked over 5 years as librarians.



#### **4.10 Need for E-resources and Types available in the UDS Library**

Since the study is on promoting effective use of e-resources in the UDS library, the researcher deemed it necessary to find out from the librarians if there is the need for providing these e-resources in the first place, and also to know the types that are available in the library. When librarians were asked if there is the need for providing electronic resources in academic libraries, all 4 responded in affirmative.

The librarians were required to state the e-resources available in the UDS library and these were mentioned; e-databases, e-books, e-thesis and dissertations, e-journals, e-reference books, CD-ROMs, and online public access catalogue (OPAC). From the responses of the librarians, it may be said that the stated e-resources are available in the UDS library.

#### **4.11 Training on E-resource**

The librarians were asked if any trainings are done for students and library staff on accessing e-resources and their delivery, all 4 answered in the affirmative. There was a follow-up question if answer was Yes. The question was how regular these trainings are being done for users, all four librarians said training for users was often done at the beginning of an academic year. Library staff trainings were done when new resources were added to the library's collection, to keep staff abreast with their work.

#### **4.12 User Awareness of the E-resources**

Librarians were asked if users were aware of the e-resources, all 4 said yes (100%). They were then asked to state the means through which users are being informed. Librarians stated university/library websites, student orientation, organized seminars, social media, posters and flyers, mailing list, and social media handles, as the means of informing users about the e-resources.

#### 4.13 Usability of E-resources

In this study, the librarians were asked if users are being trained in any way to access these e-resources and all 4 (100%) librarians stated that users are being trained to access the e-resources. The researcher further asked how often these trainings are done and again, all 4 responding librarians stated that trainings are done mostly at the beginning of an academic year when fresh students come in. The librarians were then asked how often users access the e-resources to which they all said *'at least on a daily basis'*.

#### 4.14 E-resource Promotion, Benefits and Promotional Tools Employed

In this technological era where there are so many avenues for seeking information materials, the researcher desired to find out if there was any essence for libraries to promote their resources to users in any way. It was agreed by all 4 responding librarians that promotion was a necessity in academic libraries. They were further asked the significance of promotion if it is necessary and these responses were obtained.

*...promotion helps create awareness among patrons and the whole university the resources and services of the library.*

*...promotion helps increase usage as it brings to the notice of users what is available.*

*...promotion enlightens users about the types of e-resources and their importance to academic and research work.*

*...promotion exposes users to a variety of e-resources which are linked to specific disciplines, which makes searches easier for them.*

*...promotion helps the library get into the lime light to compete with the numerous private information providers.*

*...promotion helps users get interactive with library staff and get clarification on issues they did not understand about the e-resources and other information resources, as well as meeting user needs leading to satisfaction.*

From the above responses, it can be said that the respondents see a significant need for promotion in academic libraries.

#### **4.14.1 Benefits of Promotion**

After the librarians stating the significance of promotion, the researcher further inquired about the benefits derived from engaging in promotion. The participating librarians again stated a number but similar benefits that have been enjoyed by the UDS library because of the promotional activities being done from time to time. Here are some of the responses below.

*...there is an increased patronage especially after every showcase the library does. Users get to know what is in the library and how that can improve their academic work.*

*...it helps us know our users' needs and expectations as we get to interact with them through some of the activities. It helps us to meet those needs and this keeps them coming back.*

*...promotion helps us enlighten the university community the relevance of an academic library and librarians as well. Most of the people here think that the library is just a building filled with books and a reading space.*

*...during these promotional activities, we get good recommendations from people we interact with and this helps us boost our collection.*

*...university management gets to see and know the relevance of the library and its collection, and this gives us a better chance at getting better budget allocations and fundings for the library.*

#### 4.14.2 Promotional Tools Employed in the Library

The librarians were asked to state the promotional tools that were being employed at the UDS library to create awareness and maximize utilization. The responses were similar across all 4 librarians; Social media handles (Facebook, YouTube, Twitter), library website, brochures, flyers and posters, mailing list, seminars and short talks, and library tours, were the tools being employed in the UDS library.

#### 4.14.3 Frequency of Promotion

After inquiring about promotion, significance and benefits, the researcher then asked the librarians how often this promotion is done. These are the responses for the various tools;

*...our social media pages are active on a daily basis and content is being updated to showcase what is in the library and how to access the resources. For example, our YouTube channel has videos of various resources and how to access them. the 'ask a librarian' feature on our Facebook page helps us get interactive with remote users who ask for clarifications.*

*...the library website, mailing lists, and posters/flyers are usually updated whenever new information materials are added to the library's collection and then sent out. So basically, these are employed as and when there is an addition to the collection.*

*...library tours and orientation programmes are done mostly at the beginning of an academic year, when new students are being admitted to the institution.*

*...seminars and talks are held as and when there is an opportunity. Mostly during university programmes such as SRC week celebrations and freshmen orientation week, we get the opportunity to hold such talks.*

#### **4.15 Challenges Encountered by Librarians in the Provision of E-resources**

The researcher asked the participating librarians to state the challenges they face while making available the e-resources. Three distinctive responses were stated across all 4 respondents.

*...limited budget fund allocation to library, extra charges for late subscription renewals, getting cut off on subscribed pages due to late subscriptions. Other challenges included lack of a standby power supply in all the libraries, weak internet bandwidth, frequent damage of gadgets due to power surges, inability to undertake training workshops regularly due to low funds.*



## CHAPTER FIVE

### DISCUSSION OF FINDINGS

#### 5.1 Introduction

This chapter presents discussions on the findings of the study presented in the previous chapter. It gives understanding to the collected data and spells out the similarities, trends, and variation between the literature that already exists and the findings of the current study. The discussion was done in accordance with the objectives and framework.

The chapter discusses findings under the following subheadings:

- Availability of e-resources in the UDS Library
- Postgraduate students' awareness and use of e-resource
- Challenges encountered by postgraduate students when using e-resources
- Promotional tools employed by the UDS Library
- Challenges encountered by librarians in the provision of e-resources

#### 5.2 Availability of E-resources

In this technological era, academic libraries ought to be abreast with the changing needs of users, and satisfying them the best way possible. Due to the convenient nature of e-resources, users get to access them at the comfort of their homes, offices, and any time without having to walk to a library hall to get the needed information. The UDS Library just like any other academic library across the globe has therefore made available a variety of e-resources that meet the heterogenous users who come in to the library.

The data obtained from librarians in this study revealed that the UDS library has these electronic resources available; e-books, online Databases, e-thesis and dissertations, e-journals, e-reference books, and CD ROMs. Similarly, literature that already exist in this

study area revealed that academic libraries in recent times have made available these e-resources for users to aid teaching, learning, and research. According to Atuase, (2016), online databases, e-journals, e-books, and CD ROMs as e-resources available in the UCC library. To add to this finding, Prangya and Rabindra (2013) also indicated that OPAC, e-databases, e-journals, CD ROMs, e-books as the e-resources being provided in the Berhampur University. OPAC, e-databases, CD-ROMs, were some of the e-resources mentioned by Oyedapo and Ojo (2013) in their survey of e-resource use.

### **5.3 Postgraduate Students' Awareness and Use of E-resources**

E-resource knowledge by postgraduate students is when they have an idea, information or understanding of the e-resources available in the library. Access and use of e-resources is more common among knowledgeable users. In this digital age, libraries are being proactive by providing e-resources in their bid to bring information to users at their comfort zones, thus providing remote access.

An intention of this study was to discover postgraduate students' awareness of the existing electronic resources in the UDS library. Findings revealed that more than half (57%) of postgraduate students were not aware of the e-resources in the library. Their reason that there was poor publicity on the part of the library. This finding is in line with the findings of Agyei & Fiankor (2016) which revealed that awareness and use of the library's e-resources were low. They further indicated that HINARI and MEDLINE were the few dominating online resources were being patronised by the respondents. Similarly, Konlan (2019), in his study found that even though e-resources were being provided at the library, patronage was low due to lack of awareness. Another findings to buttress these results is that of Boakye (2015), who also found out that knowledge and access were on the low resulting in underutilization of the scholarly e-journals. These findings indicate that the library ought to ensure relentless promotion and marketing of the resources to users to achieve maximum and efficient use,

while satisfying user needs. A discovery made from the responses was that postgraduate students used other sources to retrieve web base information for their academic work rendering the e-resources worthless to them. When asked to list them, Google scholar, Google search and Yahoo search engines were mentioned with Google scholar being the most used. This is similar to the study by Cothran (2011) who said that patrons used Google scholar mostly because they perceived it easy to navigate and retrieve information more than the e-resources in the library.

Similar studies on e-resources have contradicting findings that assert that most library users knew of the e-resources in their respective academic libraries and this awareness was due to student orientations, seminars, workshops, and other awareness programs organized by the libraries for users (Kwafoa et al., 2014; Ameyaw et al., 2016; Okyere, 2020; Acheampong et al., 2020).

Nonetheless, the postgraduate students (42%) who were aware of the e-resources became aware of them through sources such as colleagues, library staff, library website, and lecturers. It was realised that the most commonly known e-resources among the postgraduate students were online databases and e-thesis and dissertations (ETDs), as the two were the most selected e-resources as known by the respondents. This result is similar to that of Agyei and Fiankor (2016) findings, where respondents patronised HINARI, PubMed and MEDLINE among the variety of e-resources. They perceived e-resources to be beneficial to their studies and used them for research/thesis, and assignments. This affirms the findings of Khan, Khan and Bhatti (2011) which revealed that access to e-resources by postgraduate students was for the purpose of academic work. Ansari and Zuberi (2010) equally attested that e-resource were access by many postgraduate students for research purposes.



From the findings, majority of postgraduate students used online resources as and when they needed them. This is contradictory to Ahmed (2013a) whose findings revealed that majority of users accessed the e-resources on a daily basis. In contrast, Okyere (2020) in his study discovered that majority of respondents rarely accessed e-resources. The findings also revealed that majority of respondents did not have any kind of training on accessing e-resources, but claimed access was easy and they could do it by themselves. On the contrary, Atuase (2016) stated that respondents got training on e-resource access. Respondents claiming to access the e-resources by themselves may be as a result of their fair knowledge of ICT.

The low awareness reflects the publicity level of the e-resources in the UDS library. It was revealed from the data gathered from postgraduate respondents that the library did not regularly publicize its e-resources. However, the responses of the librarians say otherwise. Librarians indicated that social media was used to market their e-resources, since other means such as seminars were poorly patronized by postgraduate students when organized by the library. Suggestions like; organizing seminars and workshops, undertaking promotional activities, and sharing flyers and posters with necessary information on the e-resources available in the library, were made by respondents to help create awareness.

#### **5.4 Challenges Encountered by Postgraduate Students when Accessing E-resources**

In an attempt by postgraduate students to access and use online resources to aid their academic work, they encounter some challenges in the process. In this study, one of the objectives is to discover the possible factors that hinder postgraduate students' access to resources online. From the results of the data collected, respondents stated slow internet connection, power surges, difficulty in finding specific information, limited help from library staff, as the challenges faced while accessing e-resources. Weak internet connection was stated as the most pressing challenge because, e-resources can be accessed mainly through

the use of the internet, yet in the case of the UDS library, internet connectivity was poor. The findings from the study by Ahmed (2013b) go to confirm this because it was revealed that slow internet connection/download speed, were major constraints identified by respondents in his study. These challenges were attributed mainly inadequate IT infrastructure. Amusa (2013) stated in his study similar constraints; Network failure, obsolete equipment, and inadequate power supply, were some of the challenges identified in his study. Slow connectivity/download is a major reason for users to stay off trying to access the e-resources.

Power surges was one of the major challenges mentioned by respondents in this study. This had a huge effect on access to online information resources, limiting easy access. This finding agrees with Alhassan (2015) findings, which reported similar challenges with power failure as a major problem hindering successful utilization of the e-resources by undergraduate students in his study. Budu (2015) also discovered recurrent power outages as one of the challenges users faced in his study. These findings confirm that frequent power outage is a common challenge to users in most academic libraries.

A few respondents stated difficulty in finding specific information as a challenge they face while accessing e-resources. This can be attributed to the fact that there is lack of training on e-resources access on the part of respondents or information overload on the internet. Lack of training resulted in inadequate searching skills making it difficult for postgraduate students to search and find the needed information. Amoo (2018) had results that support this finding that lack of searching skills and limited subscribed titles were challenges identified in her study. Lack of e-resources access training rendered users inadequate in skills resulting in difficulty in finding specific information straight forward (Olajide and Adedokun, 2018; Ndakalu, 2014). The findings of Sharma (2010) elaborates that some users have difficulty retrieving contents. Poorly designed websites and lack of searching skills were attributed to this challenge.

A few other respondents mentioned limited help from library staff as another challenge they face. With the lack of training on e-resource access, it is common to find some users in need of assistance from library staff in order to use the e-resources. Unfortunately, some users are challenged with the limited support they get from staff in their attempt to access the e-resources. This challenge is not limited to UDS alone as Dhanavandan et al. (2012) and Buruga and Osamai (2019) said limited staff assistance was a challenge faced by some users, stating that staff were either not adequately equipped with knowledge or skills in what the users needed assistance with or there were more than one user in need of attention at same time making it impossible for users to get full attention. In the case of Amaechi et al. (2019), library staff had indifferent attitudes which made it difficult for users to gain any assistance from them. Contrary to these findings, Ugwoke (2017) found that users readily got assistance from library staff when they needed it.

### **5.5 Promotional Tools Employed by the library**

The main objective of promotion/marketing by libraries is to create awareness of information resources and their access (Okike and Oyeniya, 2019). With the numerous information providers springing up every day, it is necessary for academic libraries to not only make available information resources, but also to market them to users to create awareness (Chegwe and Anaehobi, 2015). The library becomes more successful in gaining visibility and support when it adopts marketing activities in its operation. In recent times, library and information service providers have embraced marketing to help promote their services and products to ensure awareness, usage, and continuous existence. To support this, Adegoke (2015) said that libraries and information centres now publicize the existence of their products and services to their target users through activities that market them. Dauda and Daksiri (2020) equally stated that marketing is essential in helping to put their resources out there to achieve the objective of identifying user needs and satisfying them. They further said

that the most effective means that academic libraries can achieve utilization of their resources by users is via the development of marketing strategies and techniques that will showcase the library for users to access. In view of this, the UDS library has employed several promotional tools to help reach users, maximize utilization and user satisfaction. In the data collected, Library website, social media (YouTube, Facebook, Twitter), Brochures/flyers, Seminars/short talks, mailing list, Library tours, were the tools responding librarians mentioned as being employed to create awareness of the e-resources in the UDS library. Lamptey (2016) stated that social media has become an essential part of our daily routine making it a much easier platform to reach users. Friday and Ngozi (2020) support the fact that the adoption of social media networking sites by libraries to market and promote their resources and services has increased awareness and utilization significantly for them. The use of posters/flyers, outreach programs, and training sessions, were equally found to be effective ways to promote the library's resources in the findings of Pessa (2019). The finding of this study further aligns with that of Kumah et al. (2018) who identified orientations and seminars among others as promotional tools that were employed to create awareness of IR in the library. This gained a positive result as awareness increased with these activities. Yi (2016) identified e-mailing lists and library websites as common but effective tools in library promotion. This supports the findings of this study which identified library website and mailing list as some of the tools employed in library promotion.

### **5.6 Challenges Faced by Librarians in E-resource Provision**

It was brought to light by the findings of the study that the UDS library in its attempt to make available e-resources to meet users' needs, face certain challenges. Similar to the literature reviewed in this study, it is no news that there are challenges as it was stated in the various findings. Limited budgetary funds for the operation of the library was a major challenge mentioned by librarians in this study. Erratic power outages, delay in subscription payments,

extra charges for late subscription renewals, disruptive internet connectivity, damaged gadgets due to power surges, were other challenges stated by the librarians in this study.

The lack of funds has impeded the regular implementation of promotional activities in the library such as organizing workshops, exhibitions, regular trainings for both staff and users, printing more brochures and souvenirs, and even subscribing to more titles and purchasing more updated resources. This is similar to Okon and Umoh (2014) findings, which revealed that government budgetary allocation to universities has been so poor and minimal. This poor funding has resulted in most university libraries having difficulty in maintaining regular subscriptions to the various databases. E-resources are expensive in terms of subscription and maintenance, the financial constraints make it very difficult for academic libraries to acquire enough e-resources to meet user needs. They further mentioned lack of regular power supply to power the electronic system in the library. Inadequate staff with the requisite skills and training, inadequate ICT equipment and infrastructure, weak internet connection, were just another list of challenges identified by Lefuma (2017) that confirms that the challenges do exist in other academic libraries, preventing them from achieving their primary objectives.

Unstable or weak internet connectivity has dwindled the interest in users to access the e-resources. Downloads are super slow and sometimes, there is no connection at all. It discourages users from trying to access any resources online. This seemed like a common problem in most academic libraries in the developing countries. Isibika & Kavishe (2018) said unstable network connectivity was a major challenge faced by users in accessing the electronic resources in the Mzumbe University library. This diminished the level of utilization as users got frustrated each time they tried to access the e-resources.

### **5.7 Relating the Findings of the Study to the Theoretical Framework**

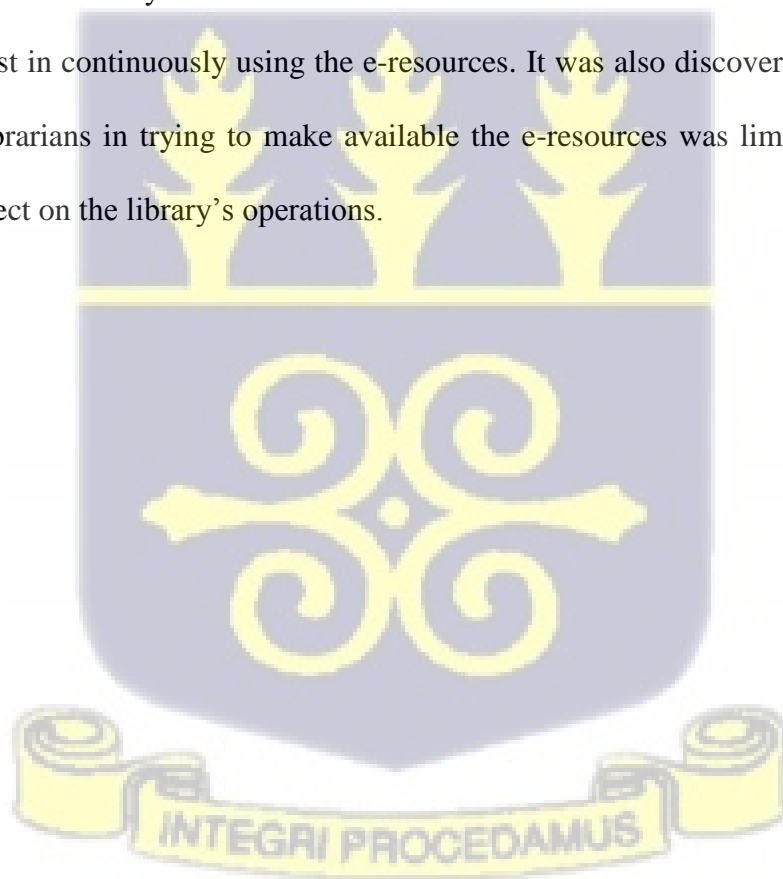
The introduction of an innovation (a new idea, object or product) to individuals of a population or social system is controlled by certain factors of adoption. These include compatibility, relative advantage, trialability, complexity, and observability. Each of these factors is connected to the five adoption categories in the social system (Rogers, 2003). In linking the findings to the theory, e-resources are the innovation and the postgraduate students are the social system. Postgraduate students of UDS adopt e-resources through these factors; creation of awareness (bringing to the attention of a social system an innovation), relative advantage (the level of help the new technology gives over the already existing one), compatibility (must fit), complexity (ease of learning and use), trialability (ability to be tested), and observability (the level of success the new innovation gives).

Since members of a social system exhibit different qualities in the adoption of an innovation, same can be said about how postgraduate students of UDS adopt to e-resources in this study. Some adopted the e-resources, some did not due to inadequate skills to access them, others did not know about them at all. To resolve this, the required skills and knowledge must be instilled in users to ensure full adoption of the e-resources.

The adopted theory (DoI) for this study, states that members of a social system would adopt an innovation if there is an influence proving better benefits of the innovation over what already exists (Rogers, 2003). Postgraduate students of UDS perceived online resources in general to have relative advantage over print resources. They stated that it was easier and convenient to access information online any time anywhere. From the findings, it may be said that the postgraduate students of UDS belong to the Early Adopters category. This category would adopt to an innovation by the use of an appealing influence. The postgraduate students

would access e-resources if a little influence like orientations, user trainings and other promotional activities are done by the library to create awareness which would lead to access of the resources.

From the findings of this study, it can be said that most postgraduate students did not know of the existence and benefits of the e-resources in the UDS library. It was revealed that there was not enough publicity that would inform students about the essence and benefits of e-resources to their studies, which would have influenced their attitude and decision to use the library's e-resources. This resulted in low utilization. Major challenges encountered by postgraduate students when using e-resources were frequent power outages, weak internet connectivity, and inability to retrieve desired information. This reduced postgraduate students' interest in continuously using the e-resources. It was also discovered that the major challenge of librarians in trying to make available the e-resources was limited funds which had a ripple effect on the library's operations.



## CHAPTER SIX

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

#### 6.1 Introduction

This is the last chapter of the study and it entails a summary of the major findings of the study in accordance with the objectives. It also presents the conclusion and appropriate recommendation based on the outcomes of the study to suggest the most efficient ways to promote effective use of e-resources, and make suggestions for further research.

#### 6.2 Summary of Findings

The study paid attention to promoting effective use of electronic resources by postgraduate students of UDS. The research was centered on the e-resources available in UDS library, awareness and use of the e-resources by postgraduate students, problems encountered when accessing e-resources by postgraduate students, problems encountered by librarians in making available e-resources.

##### 6.2.1 Availability of E-resources

- a) It was established that the UDS library had numerous e-resources available for use by patrons.
- b) The e-resources identified to be available in the UDS library include; e-thesis and dissertations, e-books, e-databases, e-reference books, OPAC, and CD-ROMs.

##### 6.2.2 Awareness and Use of E-resources by Postgraduate Students

- a) The findings showed that minority (43%) of postgraduate students had knowledge of the existence of the e-resources.
- b) It was disclosed that publicity of e-resources was low among postgraduate students and this affected patronage.



- c) It was discovered that postgraduate students used other sources such as Google scholar, Google search and Yahoo to retrieve web base information materials.
- d) The findings equally revealed that postgraduate students preferred web base information materials for their information needs because of easy and quick access.
- e) Postgraduate students who were aware of the e-resources stated that e-resources were useful to their studies because they got credible information from e-resources, and it improved the quality of their work.
- f) Source of awareness of the e-resources by postgraduate students was through library staff, and colleagues/friends.
- g) The findings showed that most postgraduate students did not get any training on how to access e-resources.
- h) The study also revealed that postgraduate students' reason for using e-resources was for thesis/research, and assignments.
- i) The majority of postgraduate students accessed the e-resources as and when they needed them. However, from the perspective of the librarians, the e-resources were accessed daily.
- j) The outcome of the study revealed that the UDS postgraduate students have fair knowledge and skills in ICT. This goes to explain why postgraduate students stated that accessing e-resources was easy for many of them even though they were not trained.

### 6.2.3 Challenges Encountered in the Use of E-resources

- a) From the study's findings, slow internet connectivity was the biggest challenge for postgraduate students in accessing e-resources.
- b) Power surges interrupted the process of accessing e-resources.

- c) Some postgraduate students had little help from library staff in trying to access the e-resources.
- d) Postgraduate students did not receive any training accessing e-resources, resulting in inadequate skills, and also little interest in accessing the e-resources.

### **Promotional Tools Employed by the UDS Library**

- a) The results of the study showed that the UDS library engaged in promotional activities as and when there was an opportunity.
- b) Even though promotion was not done regularly, the UDS librarians deemed promotion/marketing to be significant in the operation of the library. Librarians believe that engaging in regular promotional activities would create high awareness of their resources and draw users to access them, which would increase patronage.
- c) The UDS library employed the following promotional tools to aid awareness creation; library website, social media (YouTube, Facebook, Twitter), brochures/flyers, mailing list, seminars/short talks, and library tours (virtual/physical).
- d) The findings revealed that marketing was done on their social media handles while in-depth or interactive promotional activities were done whenever there was an opportunity to do so. This was largely due to limited funds and time allocation in the academic calendar.

### **6.2.5 Challenges Librarians Face in the Provision of E-resources**

The major problems realized from the study in the provision of e-resources include insufficient funds for library operations, extra charges for late subscription renewal, lack of a more robust internet bandwidth, lack of a standby generator set, getting cut off due to delay in subscription payments, and damaged gadgets due to power surges.

### **6.3 Conclusion**

Electronic information resources in academic libraries have undoubtedly given immense support to modern research and teaching and learning in universities. E-resources have become fundamental in academic endeavours in recent times due to the technological advancements and changing needs of users. For this reason, academic libraries are encouraged to prioritize the provision of e-resources as the main source of information resources and ensure maximum utilization. This need has led to the acquisition of e-resources by the UDS library with the hopes of meeting user academic needs while staying relevant. Unfortunately, the e-resources were underutilized by postgraduate students because of poor publicity, poor internet connection, power surges, lack of searching skills, making it difficult to retrieve specific information successfully. These challenges have negatively influenced awareness creation, access and use of the e-resources in the library. To mitigate these challenges in order to increase awareness, access, and maximize utilization, library management should install measures that will create awareness and ensure easy access to the e-resources to realize full utilization by users.

### **6.4 Recommendations**

To create awareness and maximize usage of the e-resources in the UDS library, the following recommendations need to be considered based on the findings of the study. These recommendations are made while taking into consideration the critical areas that have been discussed in this study.

#### **6.4.1 Awareness and Use of E-resources in the library**

The study findings disclosed that low publicity resulted in the low level of awareness of the e-resources. To make known the existence of the electronic resources, it has been suggested to library management to prioritize marketing/promotion of the e-resources to users within

and beyond the university community. Aside from the usual promotional tools for creating awareness of library resources like library website, orientations, and seminars, library management ought to focus on the Library 2.0 or Web 2.0 technologies that already exist in the library to be able to promote the e-resources extensively. These allow easy sharing and dissemination of information, and users who might not be physically present in orientation or seminar can fully participate and interact. Faculty members equally play a valid role in creating awareness by referencing the library's e-resources especially when interacting with postgraduate students. Also, management of UDS library should advocate for the academic board to incorporate the teaching of library literacy as a compulsory course for postgraduate students. This would go a long way to sensitize students on everything they need to know about the library and its resources. It would also improve awareness, and possibly increase usage. Also, the allocation of subject librarians to the various faculties for face-to-face interactions could help identify the library's user challenges, needs, and expectations. This will help management to achieve their prime goal of meeting and satisfying user information needs while realizing full utilization of its resources.

#### **6.4.2 Challenges Faced when Using E-resources**

The study findings have brought to light that postgraduate students encounter some challenges when using the e-resources. Therefore, it is recommended that library management should get a more robust internet bandwidth to ensure faster and constant connectivity when accessing the e-resources. A standby power generator set is also recommended for library management to acquire to curb the intermittent power interruptions in the library. Regular training sessions should be organized for users to furnish them with the requisite skills needed to utilize the e-resources successfully with ease. Well-equipped library staff should constantly be available on the website (e.g. Ask a librarian), who will have answers readily available for users who seek help on accessing any of the library's resources,

or need clarification. This will make the connection between users and the library stronger and create awareness. It is recommended that library staff get the necessary training needed to aid users in the library.

#### **6.4.3 Challenges Faced in the Provision of E-resources**

After data gathered was analyzed, it was discovered that the UDS library faced several problems in its efforts to make available electronic for users. For these challenges to be curbed, some recommendations were made.

Insufficient funds allocated to the library have been a major challenge that hinder its successful operation. It was recommended that management of the UDS library engages the management of UDS with a proposal that will sensitize them on the need for more funding for the library. Adequate funds would enable the library engage in more promotional activities, hold more trainings and workshops for both staff and users, purchase more resources and equipment to enhance the library.

It was recommended that library management acquire a more robust internet bandwidth to ensure faster and smooth use of e-resources and easy downloads. This will keep students interested in coming to the library at any time.

Due to the erratic power outages/fluctuations, it is recommended that library management procure a standby power supply to keep the library running continuously even when there is power outage or a fluctuation. If there is constant power at the library, more users would always prefer to come in to the library, and as they come in, library staff can interact with them and create some awareness about all the resources at their disposal. It would also curb the damages caused to gadgets due to power fluctuations.

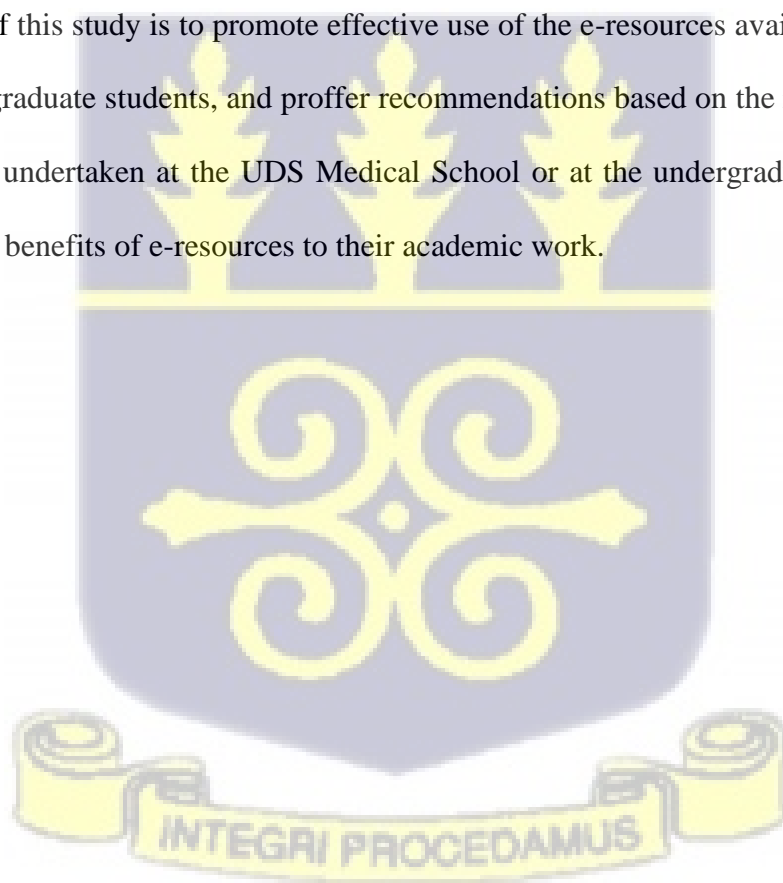
It was revealed in the study (overview of the library) that the library engages in income generating services such as photocopying, printing, and binding. It was therefore

recommended that library management advertises these services through local radio stations, sharing flyers and posters, by word of mouth, and on the library's social media handles to create a larger market for them. With formal record keeping in place, these internally generated funds could help the library undertake some of the promotional activities and trainings.

Library management should make their requests for monies from university management way ahead of time to help avoid delay in subscription payments and getting denied access because of that. It would also prevent getting charged late subscription renewal which is extra money.

### **6.5 Suggestions for Future Research**

The objective of this study is to promote effective use of the e-resources available in the UDS library by postgraduate students, and proffer recommendations based on the results. A further study could be undertaken at the UDS Medical School or at the undergraduate level on the importance and benefits of e-resources to their academic work.



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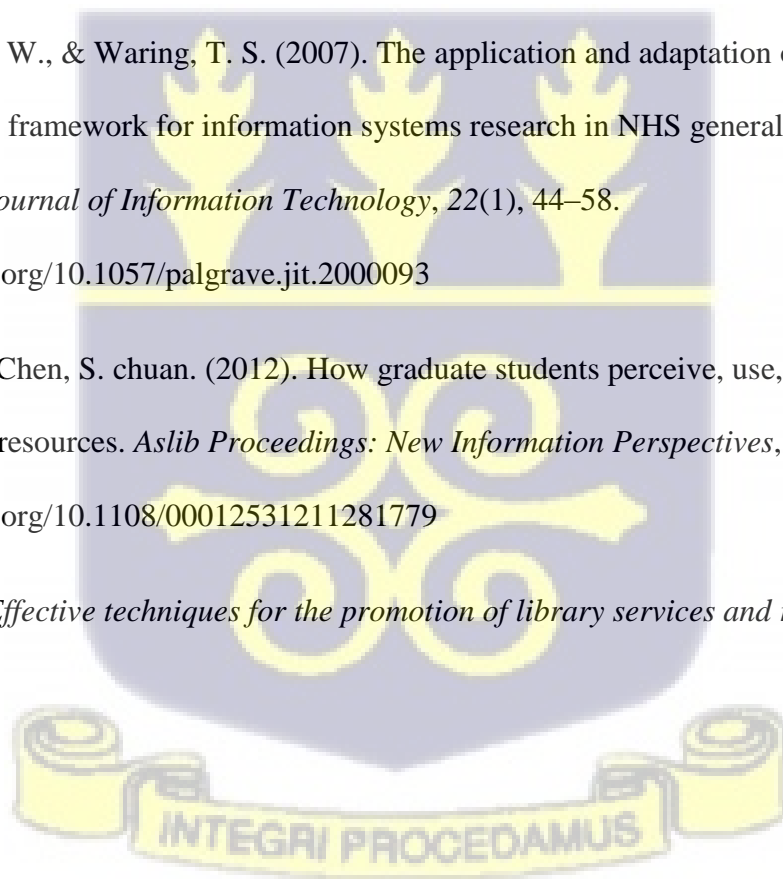
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## APENDIX A

### QUESTIONNAIRE FOR POSTGRADUATE STUDENTS

#### UNIVERSITY OF GHANA

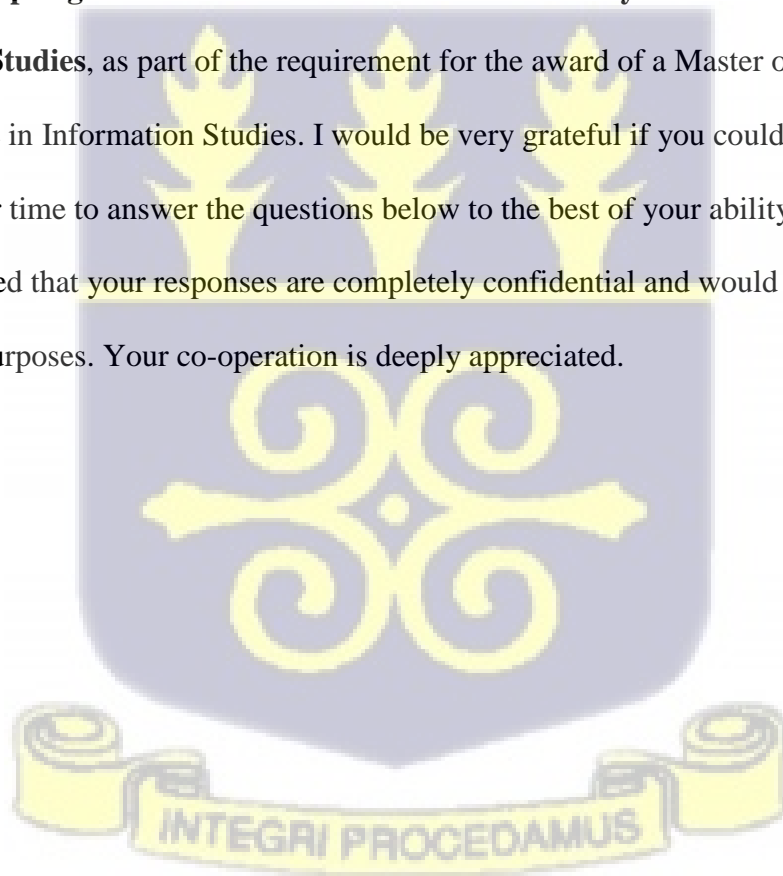
#### SCHOOL OF COMMUNICATION AND INFORMATION STUDIES

Dear Sir/Madam,

I am Georgina Akeriwe Aloribasua, a student at the Information Studies Department of the University of Ghana, Legon. I am conducting a study entitled: **Promoting Effective Use of E-resources by postgraduate students in the academic library of the University for Development Studies**, as part of the requirement for the award of a Master of Philosophy (MPhil) Degree in Information Studies. I would be very grateful if you could spare some few minutes of your time to answer the questions below to the best of your ability.

Please be assured that your responses are completely confidential and would be used solely for academic purposes. Your co-operation is deeply appreciated.

Thank you.



(Please tick [] the appropriate response)

**SECTION A: Background Information of Respondent**

1. Gender

1. Female

2. Male

2. Age

1. Below 30 years

2. 31- 35 years

3. 36- 40 years

4. 41 and above

3. What are you studying for?

1. MA/MSc

2. MPhil

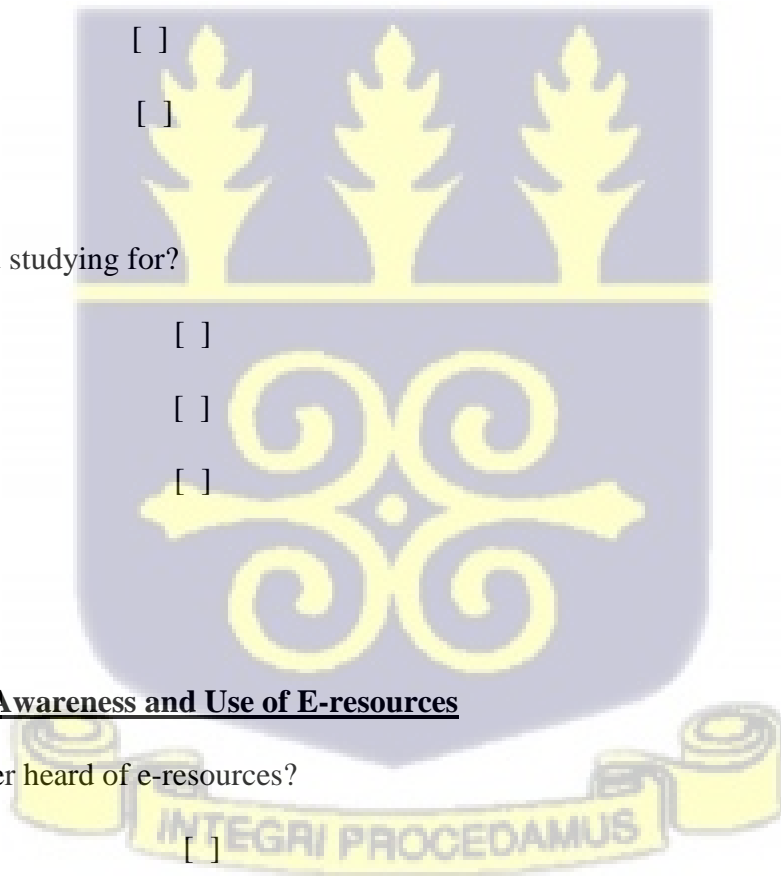
3. PhD

**SECTION B: Awareness and Use of E-resources**

4. Have you ever heard of e-resources?

1. Yes

2. No



5. If yes, what is your understanding of e-resources?

.....  
.....

6. How did you hear about these e-resources? Tick all applicable.

- 1. Through colleagues
- 2. Library website
- 3. During student orientation
- 4. Library staff
- 5. Social media

Other:.....

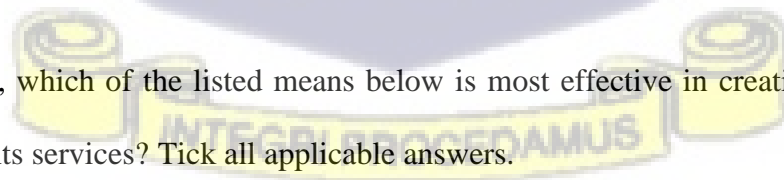
7. From where do you acquire Web base information for your academic work?

- 1. Google Search
- 2. Google Scholar
- 3. Yahoo
- 4. Bing

Other:.....

8. As a student, which of the listed means below is most effective in creating awareness of the library and its services? Tick all applicable answers.

- 1. Student orientation
- 2. library website
- 3. social media



4. Posters and flyers

5. Mailing lists

Other:.....

9. Do you think the library has publicized these e-resources enough to students?

1. Yes

2. No

3. To some extent

10. If answer to question 9 is no, kindly state what you think should be done.

.....  
.....

11. Which of these e-resources in your library are you aware of? Tick all applicable.

1. Databases

2. E-thesis and Dissertations

3. E-books

4. E-journals

12. Which of these e-resources do you use? Tick all applicable.

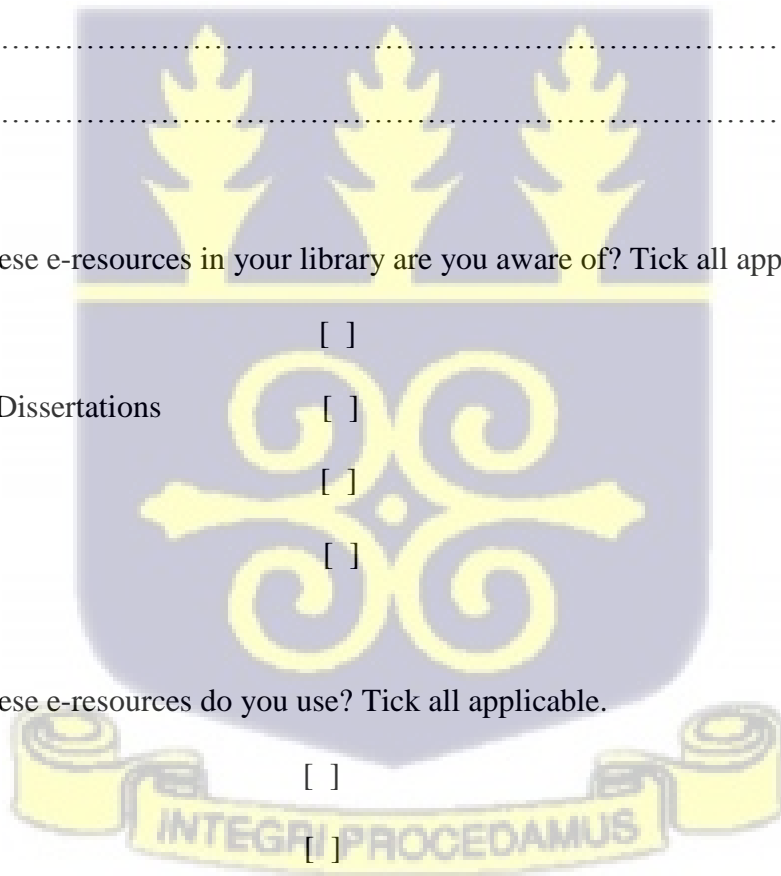
1. Databases

2. E-books

3. E-thesis and dissertations

4. E-journals

5. None



Other: .....

13. How long have you been using these e-resources?

1. Less than a year [ ]

2. 1-3 years [ ]

3. more than 3 years [ ]

4. Never [ ]

14. How often do you use these e-resources?

1. Daily [ ]

2. Weekly [ ]

3. Monthly [ ]

4. As and when needed [ ]

Other: .....

15. What do you use the e-resources for?

1. Research/ thesis [ ]

2. Assignments [ ]

3. To add to knowledge [ ]

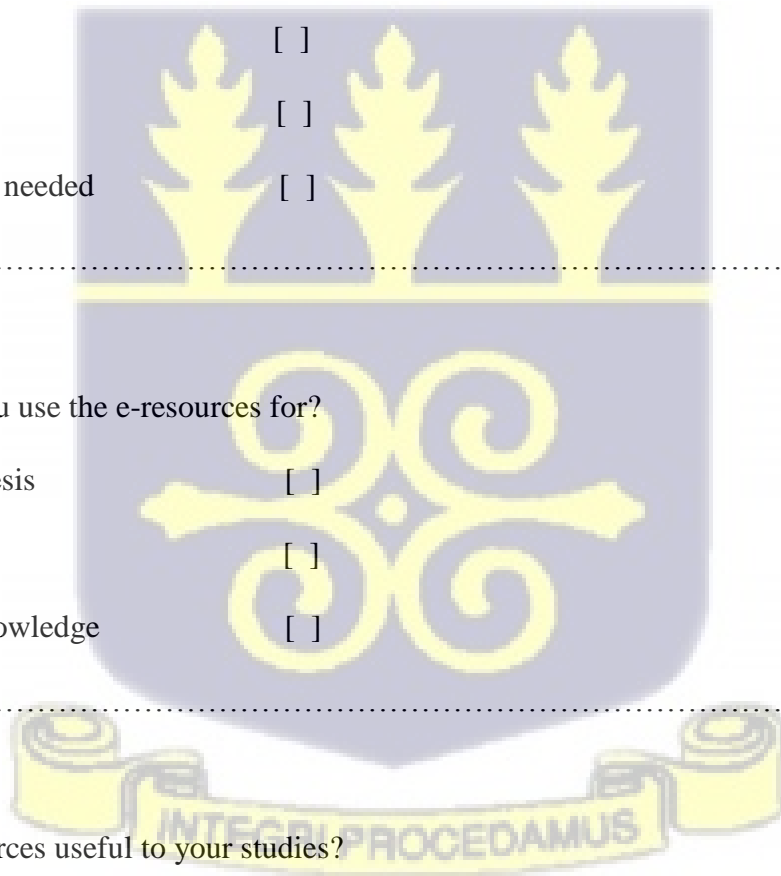
Other: .....

16. Are e-resources useful to your studies?

1. Yes [ ]

2. No [ ]

3. To some extent [ ]



17. If answer to question 16 is yes, which of these apply to you? Tick all applicable.

- 1. E-resources give me credible information
- 2. E-resources improve the quality of my work
- 3. E-resources give me insight on particular topics I need
- 4. E-resources save time in gathering information

Other: .....

**SECTION C: Ease of Use and Challenges faced while Using**

18. Are you familiar with ICT?

- 1. Yes
- 2. No

19. How would you rate you ICT skills?

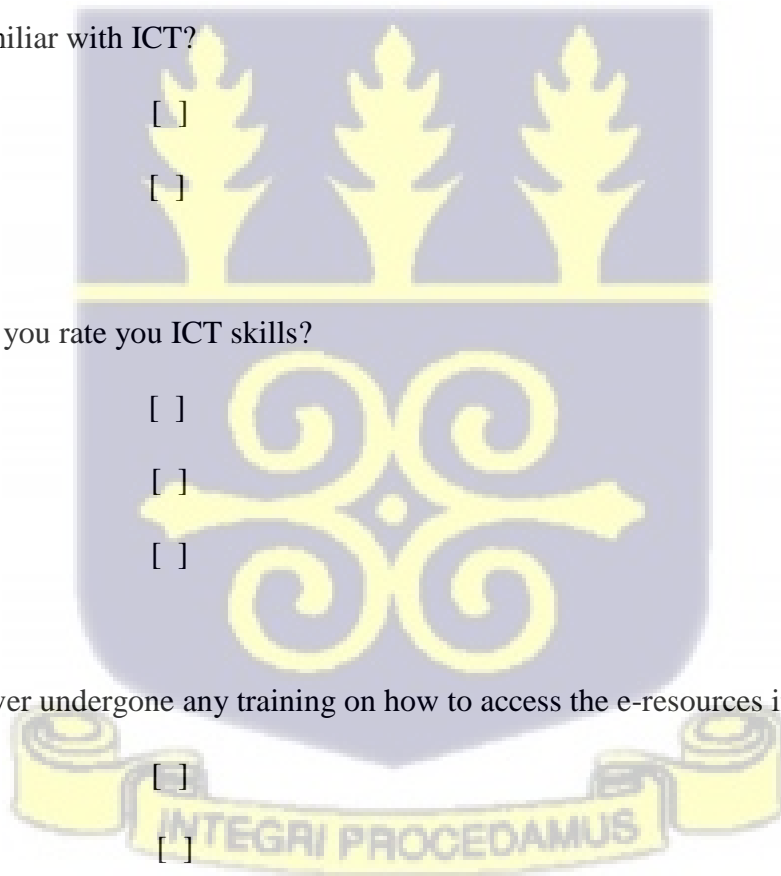
- 1. Basic
- 2. Intermediate
- 3. Advance

20. Have you ever undergone any training on how to access the e-resources in the library?

- 1. Yes
- 2. No

21. If your answer to question 20 is yes, how many times?

- 1. Once



2. Twice

3. Regularly

Other: .....

22. Is the process of accessing e-resources cumbersome?

1. Yes

2. No

3. Somehow

23. Are you able to access the e-resources by yourself?

1. Yes

2. No

3. To some extent

24. If your answer to question 23 is no, how do you access them?

1. Aid from library staff

2. Aid from a colleague

3. Aid from a lecturer

Other: .....

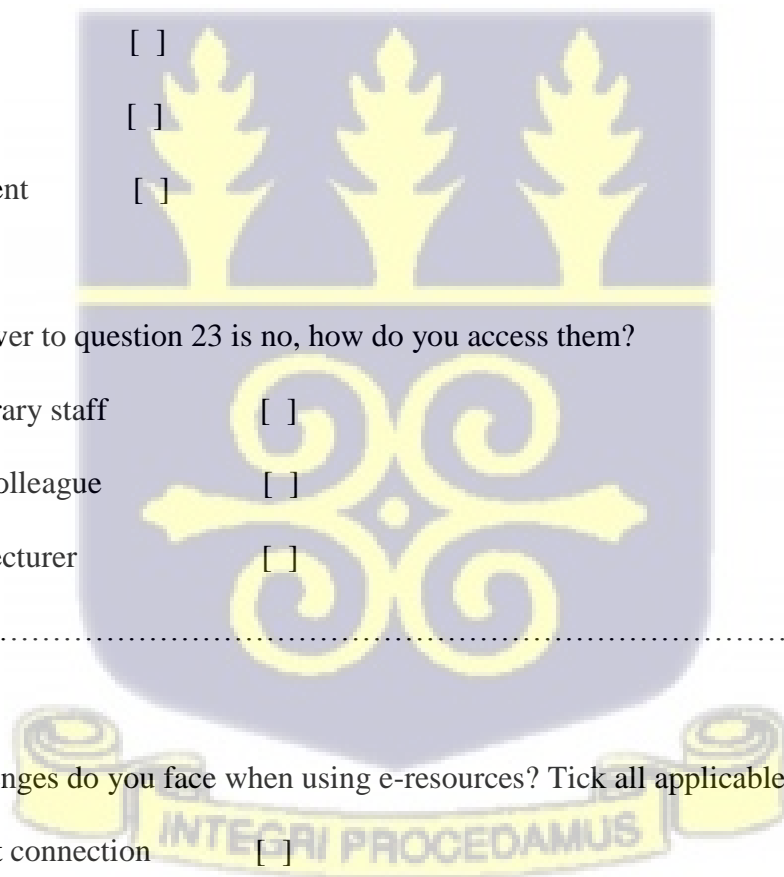
25. What challenges do you face when using e-resources? Tick all applicable.

1. Slow internet connection

2. Power fluctuations

3. Difficulty in finding specific information due to information overload

4. Limited help from library staff





5. Slow download speed

6. None

Other: .....

**SECTION D: Recommendations**

26. What should the library's priority be in terms of information provision? Tick all applicable answers.

1. Intensify student publicity

2. Improve internet strength

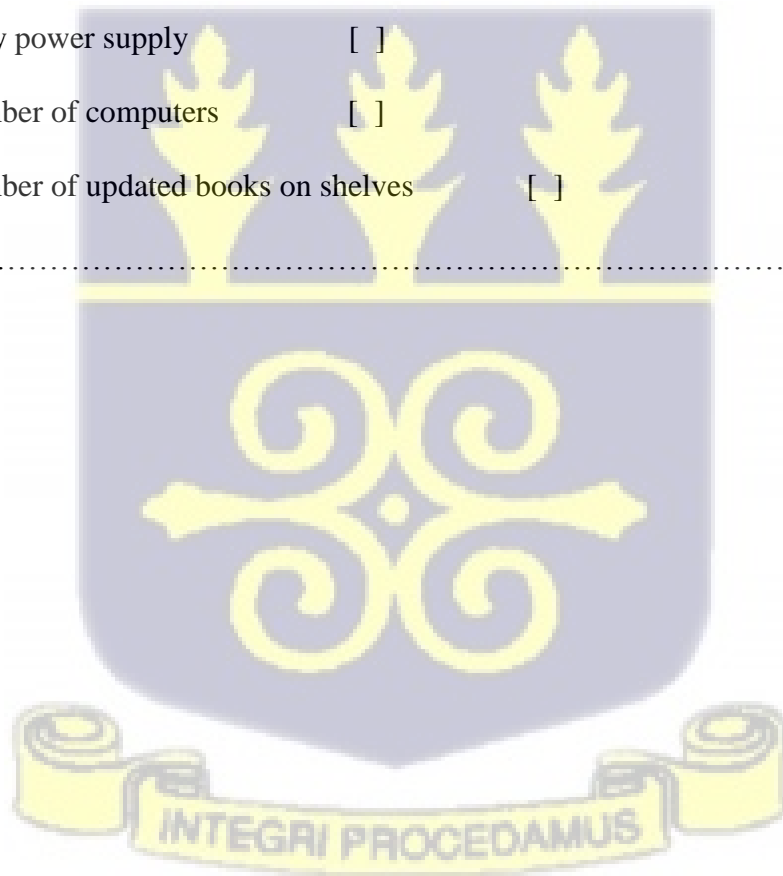
3. Get a standby power supply

4. Increase number of computers

5. Increase number of updated books on shelves

Other: .....

Thank you.



## APENDIX B

### QUESTIONNAIRE FOR LIBRARIANS

#### UNIVERSITY OF GHANA

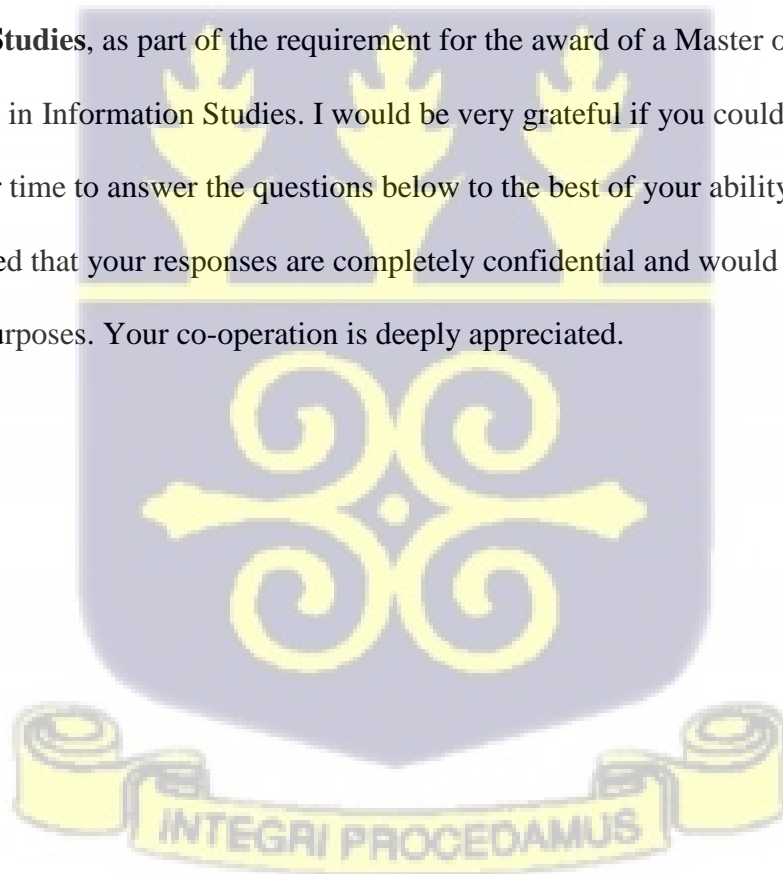
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Please be assured that your responses are completely confidential and would be used solely for academic purposes. Your co-operation is deeply appreciated.

Thank you.



(Please circle the appropriate response)

**SECTION A: Biographical Information of Respondents**

1. Gender?

- 1) Male                      2) Female

2. What is your level of education?

- 1) MA/MSc                      3) PhD  
2) MPhil                      Other: .....

3. How long have you worked in the library?

- 1) 1-5 years                      3) 11-15 years  
2) 6-10 years                      4) 16 years and above

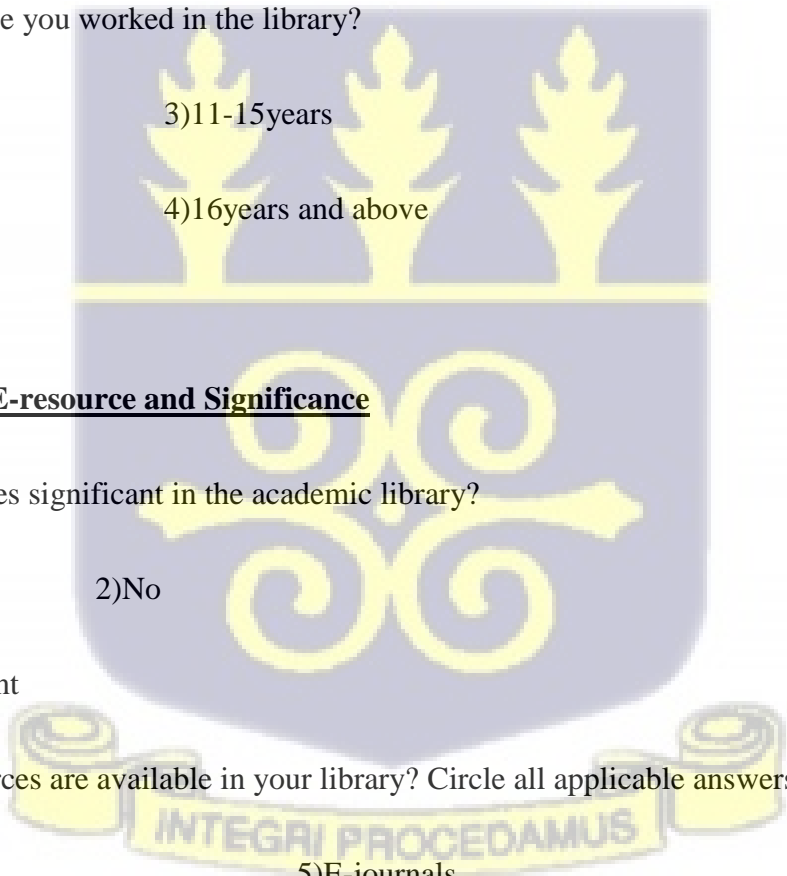
**SECTION B: E-resource and Significance**

4. Are e-resources significant in the academic library?

- 1) Yes                      2) No  
3) To some extent

5. What e-resources are available in your library? Circle all applicable answers.

- 1) E-books                      5) E-journals  
2) E-databases                      6) E-newspapers  
3) E-thesis and Dissertations                      7) OPAC



4)E-reference books

8)CD-ROMs

**SECTION C: Awareness and Use of E-resources**

6.Are your users informed about the e-resources in the library?

1)Yes

2)No

7.Through which of the following means do you inform users? Circle all applicable answers.

1)Student orientation

4)Mailing lists

2)Organized seminars/workshops

5)University/Library website

3)Brochures

Other: .....

8.Do you conduct trainings for users on how to access e-resources?

1)Yes

2)No

9.If answer to question 8 is yes, how often do these trainings take place?

1)Once an academic year

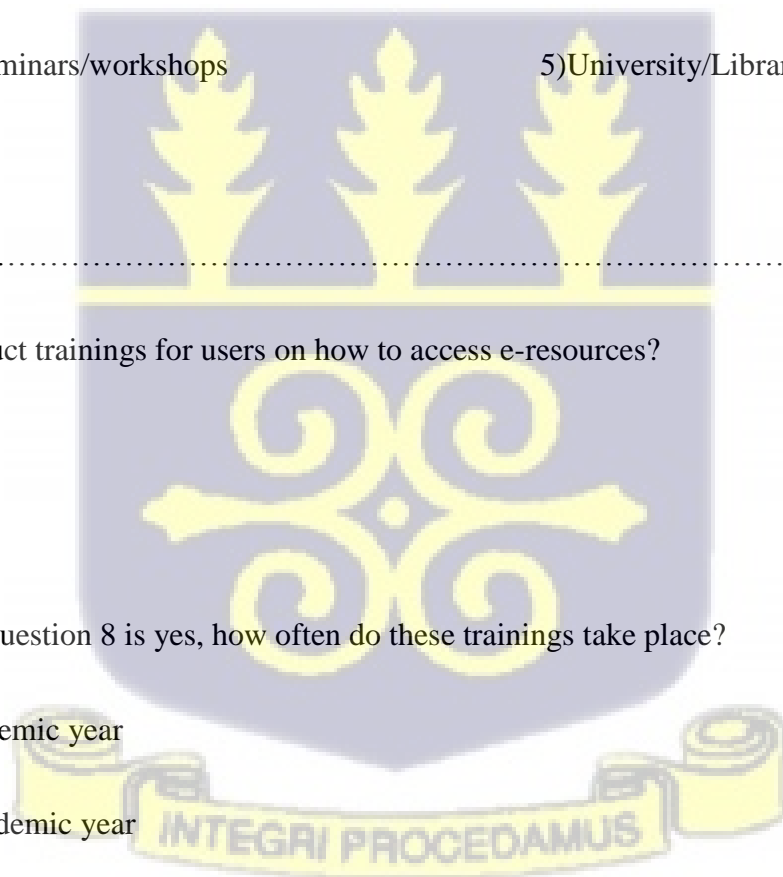
2)Twice an academic year

3)As and when there is an opportunity

10.Are the e-resources being patronized by users?

1)Yes

2)No



11. How often do users access these e-resources?

1) Daily

2) Weekly

3) Monthly

Other: .....

**SECTION D: Promotion**

12. Is promotion relevant in academic libraries?

1) Yes

2) No

13. Do you do any form of promotion of the e-resources in your library?

1) Yes

2) No

14. What specific promotional tools do you employ?

.....  
.....

15. How often is this promotion done?

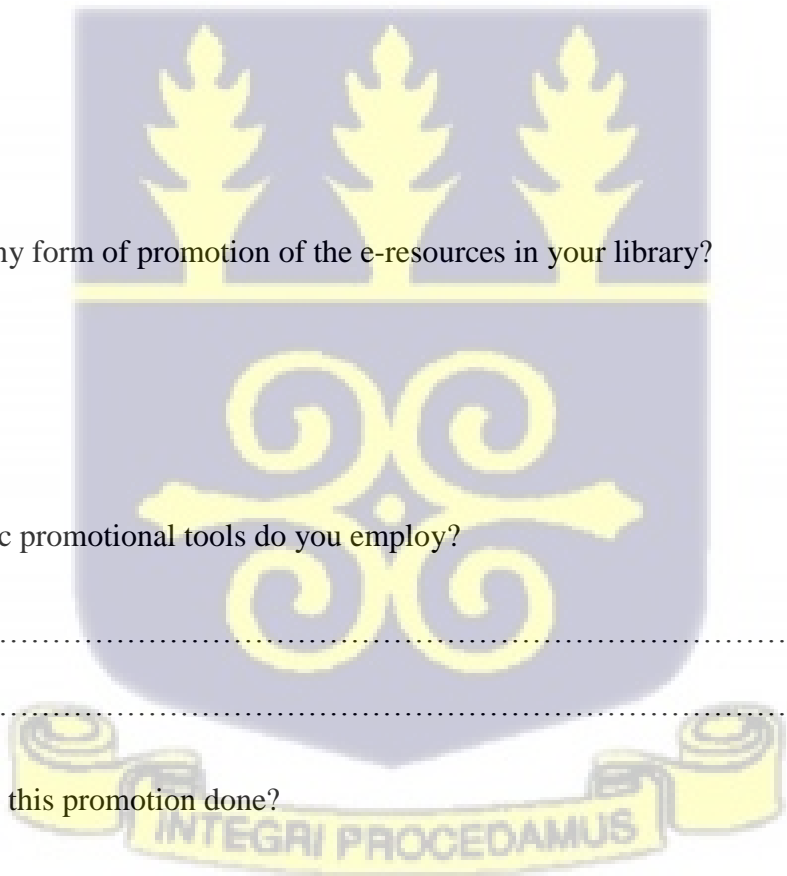
1) Once a trimester

3) Once an academic year

2) Twice a trimester

4) Twice an academic year

Other: .....



16. Do you think promotion increases awareness and utilization of the e-resources?

1) Yes

2) No

17. What other promotional tools/approaches would you recommend for your library's e-resources?

.....  
.....

**SECTION E: Challenges in the Provision of E-resources**

18. What challenges do you face in your bid to make available (purchase/subscription) these e-resources in your library?

.....  
.....

19. Do library staff get the required training needed to work?

1) Yes

2) No

20. How often is this training done?

.....

21. What challenges do library staff often report to management with regards to rendering e-resources?

.....  
.....

22. Do you have any remedies put in place to curb the current challenges?

1)Yes

2)No

23. Please state the remedies, if any.

.....  
.....

24. What suggestions would you make to library management to improve the provision of library resources and services in general?

.....  
.....

Thank you.

