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THE USE OF ELECTRONIC RESOURCES BY GRADUATE STUDENTS OF

UNIVERSITY OF GHANA

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**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON,
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DECLARATION

I, hereby, declare that except for references to other works which have been duly acknowledged, this dissertation is the result of my own original work under the supervision of Prof. Ellis Badu of the Department of Information Studies, University of Ghana, Legon, and that no part of it has been presented for another degree in this university or elsewhere. I accept responsibility for any shortcomings of this work.

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(Supervisor)

DEDICATION

This dissertation is dedicated to my father and mentor, Mr. Jonathan Nii Amoo Onukpa, my family, friends, well-wishers and to all lecturers at the Department of Information studies for their immense contribution towards the completion of this work.

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What shall I render to my God for all His mercy's store? I'll take the gifts He has bestowed, and humbly ask for more . Foremost, my sincere gratitude is to God Almighty for this rare opportunity and for how far He has brought me.

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LIST OF ACRONYMS AND ABBREVIATIONS

AACR	-	Anglo-American Cataloguing Rules
CARLIGH	-	Consortium of Academic and Research Libraries in Ghana
CD-ROM	-	Compact Disk- Read Only Memory
EIFL	-	Education Information for Libraries
EIR	-	Electronic Information Resources
GIMPA	-	Ghana Institute of Management and Public Administration
GTUC	-	Ghana Technology University College
HRM	-	Human Resource Management
HSM	-	Health Service Management
ICT	-	Information and Communication Technology
INASPI	-	International Network for the Availability of Scientific Publications
ITOCA	-	Information Training and Outreach Centre for Africa
KNUST	-	Kwame Nkrumah University of Science and Technology
MARC	-	Machine Readable Catalogue
MBA	-	Masters of Business Administration
MIS	-	Management Information System
OPAC	-	Online Public Access Catalogue

TAM	-	Technology Acceptance Model
UGBS	-	University of Ghana Business School
UPSA	-	University of Professional Studies, Accra

ABSTRACT

The study investigated the use of electronic resources by graduate students of the University of Ghana to find students awareness of electronic resources in the university library, frequency of use of these resources and challenges associated with the use of these resources.

A survey methodology was employed for the study with a population of 302 Regular MBA students from the University of Ghana Business School. A sample size of 100 was used and the Convenient Sampling Technique was used to generate the sample for the study. A questionnaire was used to solicit data and SPSS software was used to analyze collected data.

The findings indicated that although students are aware of electronic resources, they do not fully utilize them due to challenges such as slow access speed, lack of searching skills, limited subscribed titles and difficulty in finding relevant information. The findings also revealed that students find electronic resources to be very significant in their academics as it helps to expand their knowledge-base and helps them retrieve information with ease for research/project work and for answering assignment questions.

Indeed, electronic resources have boosted teaching, learning and research work and in order to ensure its maximum utilization, more efforts must be put in place by the School authorities to create awareness and to equip students with the needed skills to enhance the effective and efficient use of these resources.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Global trends in Information and Communication technology (ICT) in recent times have brought deep-seated alterations as to how information is gathered, stored, organized, retrieved and used. The introduction and utilization of technology in information processing is persistently shaping the growth of new ways of academic communication.

According to Hawthorne (2008), “electronic resources use in libraries arose with the development of the machine-readable catalogue (MARC) layout in the mid-1960s, 30 years before the debut of the Internet”. This has contributed immensely to electronic resources use in scholarly institutions worldwide. Graduate studies are mostly dependent on the use of this vital resources.

As recorded by AACR2, “electronic resources are materials consisting of data and/or computer program(s) encoded for reading and manipulation by a computer by the use of a peripheral device directly connected to the computer or remotely via a network such as the Internet” (cited by Reitz, 2005 , p. 244). The use of electronic resources for teaching, learning and the dissemination of information and knowledge in the Graduate School of the University of Ghana have become very effective. For instance, the University of Ghana institutional repository administered by the Balme Library has digitized Graduate research work for easy retrieval by student and staff to aid research.

Dadzie (2005) reported that, “information in electronic format provides the advantage of being available regardless of location or time and, possibly from the viewpoint of end users, cost,

especially if the resource is open access and the user is proxied into the library's site where the users may be provided extensive links to additional resources related to the topic in question".

Electronic resources are now widely used in academic libraries because they are particularly convenient for acquiring information not readily offered in books, or obtaining timely information on contemporary events or concerns. They also offer reliable, accurate, current and objective reference material not easily accessible over a search engine like Yahoo or Google. For example, Information Training and Outreach Centre for Africa (ITOCA) is a capacity development institute based in Africa steered towards strengthening information and communications technology proficiency for African libraries, information experts, scientists, scholars in Sub-Saharan Africa. ITOCA has trained librarians and graduate students on the use and assessing academic resources in libraries or a secure environment with good internet connectivity. The organization teaches the students and librarians how to search for journals and eBook through HINARI, AGORA, OARE and ARDI portals. This is done with the objective of equipping the users with the skills needed to become information literates and digitally fluent in research work. The University of Ghana is in partnership with ITOCA to train students and library staff every academic year.

In Ghana, electronic resources use seems to have captured the interest of students and lecturers alike due to the gradual movement from the traditional print media which is said to be labour intensive and time wasting to a more efficient and effective mode of retrieving information for scholarly work. University academics are a unique community and depend on the support of current and up-to-date information which is mostly provided for by electronic resources services in libraries and research centres. The electronic resources can be accessed on various devices like a tablet, computer, mobile phones and Personal Digital Assistance (PDA's). Students now prefer to use these devices which are handy and can store over two thousands of information

depending on the memory of the device, unlike the print media which is more laborious. “Electronic resources are now used more often than print resources” (Morse and Clintworth, 2000).

Electronic resource for research and academic pursuits has become requisite due to its overwhelming advantages such as content, flexibility, ease of accessibility, interactive, prompt delivery, and largely remote access. Academic work in Ghana is now largely influenced by the use of electronic resources in all the public and private institutions, and due to this, academic libraries in Ghana are updating their system to meet the increasing demand of electronic resources use by students. The “change in traditional document delivery services, from print to electronic, has come about very quickly and libraries and information centres have undergone a significant transformation in order to effectively deliver electronic resources to the academic community” (Appleton, 2006, p. 619)

The Consortium of Academic and Research Libraries in Ghana (CARLIGH), which was established in 2004, is an umbrella organisation of academic and research libraries whose major role is to meet important needs in libraries from capacity building to provision of online resources and other services that support knowledge exchange and development. Their services have made the exchange of electronic resources among academic libraries easier. It is of this notion Asamoah-Hassan (2008) indicated that “the Consortium of Academic and Research Libraries in Ghana (CARLIGH), subscribes to various electronic resources on behalf of member institutions be it public or private”.

There is an increasing demand for electronic resource use in university libraries due to its numerous benefits. This is why Andreaou (2001), opined that “no academic library is considered as modern if it is not automated and if it does not provide some basic electronic information

sources such as the electronic databases, e-journals, OPAC, CD-ROMs and Internet to its students”.

1.2 Statement of the Problem

Electronic resources are increasingly becoming essential in students learning and research activities primarily due to their availability and ease of access over the internet.

The development of the World Wide Web (WWW) by Tim Barnes Lee in 1990 has contributed immensely to the development of Electronic resources (Appleton, 2006). Digital technology has become a major resource used by librarians to enhance effective service delivery.

Globally, the use of electronic resource seems to be the easiest way of enabling graduate students meet their information needs in their academic pursuits. Hitler (2002) stated that, in the Western world, the contribution of e-resources as a primary source of information for research and learning in academia is overwhelming. Electronic resources has a significant number of advantages over the traditional library system which tends to satisfy the information needs of majority of users. It is therefore required by academic institutions to provide electronic resources in order to effectively fulfill their mission of equipping students with relevant and up-to-date knowledge and skills.

However, in most developing countries, students, lecturers and researchers find it difficult to access and use electronic resources even when these e-resources are at their disposal. A study by (Ramayah *et al.*, 2005) indicated that, notwithstanding the enormous feat in e-resources, the level of technology utilisation among students in institutions of higher learning especially in developing countries is still low.

In Africa, Bankole (2012), studied the use of electronic database by scientists at Olabisi Onabanjo University, Nigeria. The results showed that, most of the respondents do not use the library's free online databases such as AGORA and HINARI due to lack of awareness of these resources.

It is evident that the Balme Library, has put in much effort to install and continuously upgrade e-resource facilities to enhance effective teaching and learning amongst staff and students in all fields, nonetheless, electronic resources are underutilized. According to the librarian, students do not make maximum use of these resources.

From the students' perspective, they lack awareness of the various electronic resources and also, they are not given enough practical training on the use of these resources. To them, aside the initial orientation given on how to use electronic resources, there is no continuous training to keep them abreast and to give them the needed skill to manoeuvre their way around the rather complex system. They are also not aware of the enormous benefit of electronic resource in research and academic work.

In addition to the above, electronic resources require continuous evaluation especially when the University continues to admit new students yearly to study its various programmes.

Due to this, the researcher was motivated to investigate the usage of electronic resources amongst graduate students of the University of Ghana, so as to come out with findings that will inform e-resources service providers and the user community, effective ways of providing and use of e- resources .

1.3 The Purpose of the Study

The purpose of the study was to examine the use of electronic resources by Regular MBA graduate students of the University of Ghana Business School.

1.4 Specific Objectives of the Study

The specific objectives of the study are;

1. To identify the level of awareness of electronic resources by graduate students.
2. To assess the frequency of use of electronic resources by graduate students.
3. To find out the usefulness and ease of use of electronic resources to graduate students.
4. To find out the level of satisfaction with the current electronic resources.
5. To identify the challenges associated with the use of electronic resources.
6. To make recommendations for effective use of electronic resources by graduate students of the business school.

1.5 Theoretical Perspective/ Conceptual Framework

“A theory is defined as a set of interrelated constructs (variables), definitions and prepositions that present a systematic view of phenomena by specifying relations among variables with the purpose of explaining natural phenomena” (Kerlinger 1997). According to McDonald (2014), “right from the beginning of any research activity, every researcher must have relevant theories that will serve as the basis of his research work”. The study adopted the Technology Acceptance Model as a theoretical perspective because as

stated by Dillon and Morris (1996), other theories like the diffusion theory and connectivity theory offer little information on the factors that influence user acceptance.

1.5.1 Technology Acceptance Model by Davis (1989)

The Technology Acceptance Model (TAM) is an information systems theory, advanced by Davis (1989) to analyze computer usage behaviour. Davis' TAM seeks to explain how users accept and adopt new technology. The model proposes that when users are offered a new technology, there are some elements that influence their judgment as to how and when to use the technology. Such elements consist of Perceived Usefulness and Perceived ease-of-use.

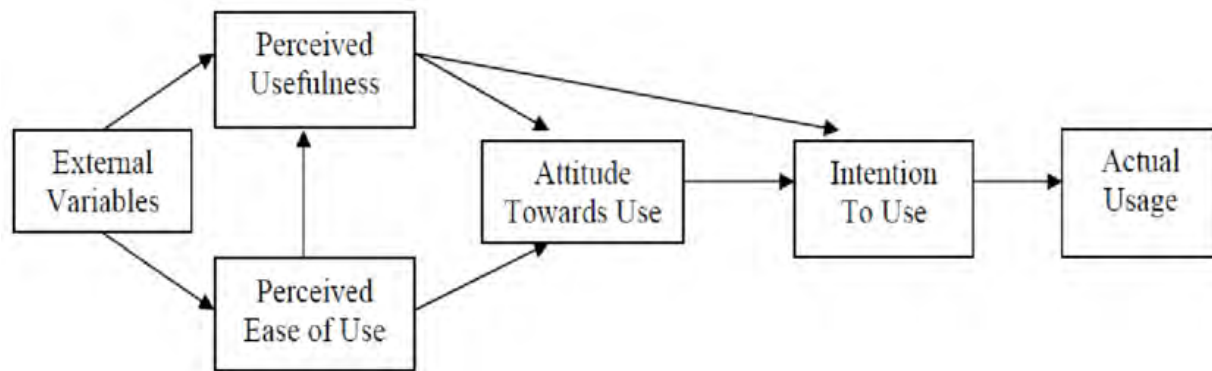
Perceived usefulness can be well explained as the potential user's personal expectation that the use of a particular system will improve his/her performance. "Perceived usefulness explains the expected overall effect of the use of information and communication technology on job performance or productivity" (Davis, 1993). Therefore, a system (ICT) that has a potential of being usefulness (productive) would be used by the possible user. This corroborates with Saade, Nebebe & Mak (2009), who stated that "perceived usefulness is well-defined as the degree to which a student believes that accessibility and utilisation of electronic information resources will enhance or increase his/her productivity".

"Perceived Ease of Use refers to the degree to which the potential user anticipates the target system to be effortless" (Davis, 1989). Therefore, Perceived Ease of Use in this study can be defined as the degree to which a student considers that accessibility and application of electronic resources will be uncomplicated.

According to Davis (1989), "the attitude of an individual is not the only factor that determines his use of a system, but is also built on the impact which it may have on his performance". As a result, the usage of an information system is high if the user believes it will help improve his performance. The two main elements, thus, Perceived usefulness and Perceived ease of use are

motivated by external variables. The external variables that are mainly manifested are cultural factors, social factors, and economic factors. Therefore, the core objective of TAM is to trace the influence of external variables on internal beliefs, attitudes, and intentions.

Figure 1.1 Theoretical Framework of the study



Source: Author's Conceptualization

TAM has demonstrated to be a useful theoretical model in aiding to comprehend and also to explain user behavior with regards to information system. In a study conducted by (Saade, Nebede & Tan, 2007) "TAM was found to be a concrete theoretical model that provides a better understanding of user behaviour on a system and a multimedia acceptance model". TAM has been used and tested in many empirical researches and it has yielded reliable results. The TAM theory is therefore appropriate for investigating the use of electronic resources for academic work by Graduate students of the University of Ghana.

1.6 Scope of the Study

The study focused on graduate students of the University of Ghana. The study was then limited to Business School to find out how regular MBA graduate students use electronic resources which includes CD-ROM, OPAC, and academic databases.

1.7 Significance of the Study

The study is of significance to academic and research libraries in general, graduate students, as well as the entire research community. This study is very significant because it contributes to the already existing knowledge in the area of the study. The study also adds to knowledge and literature in the field. It is also aimed at creating awareness of the importance of the use of electronic resources.

The study also serves as a guide to policymakers and library management on the provision of electronic resources for academic and research libraries in Ghana.

Finally, the study serves as a base on which further studies could be conducted on the provision of electronic resources for all students" namely primary level, junior high, secondary and tertiary level. It is of great benefit to the library management as it points out the extent of the usage of electronic resources by students and academic researchers.

1.8 Setting/Research Environment

The premier University, University of Ghana was founded as the University College of the Gold Coast on the commendation of the Asquith Commission in 1948, on Higher Education in the then British colonies. It is situated about thirteen kilometres north-east of the capital city, Accra with a student population of about 35,683. The main purpose of its establishment was to offer and uphold University education, learning, and research. A recent study by Amoah (2016) posits that “University of Ghana is currently the 7th best University in Africa and the 1st in West Africa”. The first Principal of the University was the late Mr. David Mowbray Balme.

The University of Ghana Graduate School was originally known as the Graduate Studies Centre but was later changed to the School of Research and Graduate studies. It was established in 1962 and, is responsible for managing all graduate-level programmes in the University. The School of Research and Graduate Studies also serves as the repository for all records on graduate students and deals with all matters in relation to the admission of students, registration and records, examination of thesis and dissertation, official correspondence and wellbeing of graduate students.

The School is currently situated at Frederick Marfo Memorial Building. It was donated by Dr. Steven Kwadwo Amoah-Marfo, an alumnus of the University, in remembrance of his late father Mr. Frederick Kojo Fordjour Marfo. The School is directed by a Dean who is aided by a Vice-Dean and an Executive Administrator. The school has a current population of about 5026 graduate students from all four Colleges namely, College of Humanities, Basic and Applied Science, College of Health Science and College of Education. (SCHOOL OF RESEARCH AND GRADUATE STUDIES, 2018)

The University of Ghana Business School (UGBS) is one of the schools under the College of Humanities. It is a leading business school in the sub-region with its focus on developing world-class human resources and capabilities to meet national development needs and global challenges, through quality teaching, learning, research, and knowledge dissemination.

The School offers several undergraduate, masters and PhD programmes in its six academic departments – Department of Finance, Department of Accounting, Department of Marketing & Entrepreneurship, Department of Operations and Management Information Systems (OMIS), Department of Organisation and Human Resource Management (OHRM), and Department of Public Administration and Health Services Management (PAHSM). The Master's programmes offered by the school include EMBA, MBA, MSc Development Finance, MSc Information Systems, and MA Marketing Strategy. They are also run in an adjustable mode (evenings, weekends and sandwich) to permit students pursue graduate studies whiles working.

UGBS has qualified and proficient faculty who are dedicated to carrying out research, that is relevant for policy, covering a variety of areas including, finance, banking, insurance, accounting, marketing, entrepreneurship, information systems, operations management, human resource management, health services management, and public administration. (UGBS, 2018)

1.9 Description of Chapters

The study is organized into five chapters.

Chapter One serves as an introductory chapter which covers the introduction to the study, statement of the problem, the purpose of the study, specific objectives, theoretical perspective, scope of the study, significance, setting/research environment, ethical considerations and description of chapters.

Chapter two is a literature review on specific areas related to the topic under study. It discusses the topic from a global, African and Ghanaian perspective, and Literature on specific areas related to the topic.

Chapter Three talks about the methodology used to conduct the study and it is made up of the introduction, research design, selection of subjects, population, and selection of sample size, data collection instrument, and presentation of data analysis.

Chapter Four describes data analysis and discussion of findings.

Chapter Five provides a summary of the findings, conclusion, and recommendations based on the findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Literature review is said to be a vital constituent when carrying out a research as it aids researchers to appreciate and deduce from basic ideas relating to a phenomenon being studied. Neuman, (2003) describes literature review as “a carefully and crafted summary of the recent studies conducted on a topic that includes key findings and methods researchers used while making sure to document the sources”. “Literature reviews are conducted to provide a theoretical background for subsequent research, or answering practical questions by understanding what existing research has to say on the matter” (Okoli and Schabram, 2010). The key purpose of Literature reviews is to establish that the researcher has an in-depth knowledge of the field of study, and therefore is capable of doing an intelligent analysis of others work.

This chapter deals with the related literature in the area under study and it is reviewed under the following sub-headings:

1. Electronic Resources
2. Electronic Resources in Africa
3. Electronic Resources in Tertiary institutions in Ghana

4. Electronic Resources by Graduate students

5. Electronic resources by Graduate students in University of Ghana

2.2 Electronic Resources

“With the rapid growths of information and communication technologies, there has been a paradigm shift from print to electronic information resources, electronic resources are expanding tremendously, and their usage is gaining momentum day by day” (Siwach & Parmar, 2013). Siwach (2013), defined electronic resources as “those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device”. Sharma (2009) stated that “e-resources can be online journals, data archives, online manuscripts, online maps, electronic books, electronic magazines, online theses, electronic newspapers, electronic mail, online research reports and bibliographic databases, which can be accessed locally or remotely with the help of internet connectivity”.

Ahmed (2013) researched into “electronic resources in public universities in Bangladesh”. The purpose of the study was “to describe the pattern of electronic information resources use and satisfaction with university-paid resources by the faculty members in eight public universities in Bangladesh”. An online questionnaire was used and out of the 1894 (a response rate of 27.30 percent), a total of 517 faculty members from eight public universities responded to the online survey. The study revealed that the common reasons for e-resources use were for research, which was represented by 461 (94.47%) respondents, followed by teaching which was

represented by 413 (84.63%). Learning was another reason why faculty members use e-resources and was represented by 317 (64.96%) respondents, the remaining 284 (58.20%) indicated that they use e-resources to obtain current information. The results also showed that faculty members were generally not pleased with the e-resources subscribed by the University and this was attributed to the challenges faced when using the university subscribed e-resources. These challenges included difficulty in finding relevant information, limited number of title available, inability to access from home, inadequate computers and slow download speed. In line with the findings, the study recommended that the public universities in Bangladesh should subscribe to a variety of full-text and bibliographic databases with more rich content that will satisfy the needs of diverse users. Also, librarians should find creative ways of creating awareness of the resources and organizing training programmes. Finally, a consortium for university libraries should be created which will ensure an affordable access to a wide range of electronic resources in diverse disciplines.

Tlakula and Fombad (2017) wrote on the “use of electronic resources by undergraduate students at the University of Venda, South Africa”. The purpose of the study was to establish the level of awareness, use, and training in electronic resources at the University of Venda. The study adopted the qualitative research methodology and semi-structured interviews were organized with all participants to get wide-ranging information. The study reported that there is a low level of awareness of the existence of ERs in the library and further, other than SABINA and EBSCOhost participants are not familiar with any other e-resources that are present in the library since these are the only ones they were made aware of throughout the special training organized. It was revealed that students confused electronic resources to web-based resources.

The study also revealed that the students were not equipped with the required skills to use

electronic resources and expressed dissatisfaction with the level of training offered in searching electronic resources. The study disclosed that the barriers related to the use of electronic resources included a low level of awareness, lack of training, lack of searching skills, computer illiteracy and inappropriate publicity. The study recommended that there is the need to put more efforts in providing information literacy, adequate training in using e-resources, skills development marketing and awareness programs at the University of Venda.”

On the Ghanaian scene, Ankrah and Atuase (2018), researched on “the Use of Electronic Resources by Postgraduate students of the University of Cape Coast”. The main purpose of this study was “to examine the awareness and use of electronic resources by postgraduate students of the University of Cape Coast”. The cross-sectional survey design was employed as the methodology for this study. The study revealed that majority of the respondents 185(73.0 %) were aware of electronic resources while few of the respondents 67(27.0%) were not aware of the e-resources that exist in the University. It came to light that most of the respondents received training on online databases and e-journals as against the OPAC, CD-ROM and institutional repository. It was also revealed that most postgraduate students preferred to access information from web-based databases such as Google Scholar and others than the databases available in the library. It also came to light that e-resources were not fully utilized because of the challenges associated with it. 183(72.6%) respondents pointed that slow access speed was the major problem they encountered when accessing e-resources, 173(68.7%) established that frequent power cuts in the library was a drawback they faced in accessing electronic resources. In addition, 165(65.5%) claimed insufficient skills hindered their ability to access resources while 157(62.3%) respondents indicated that they could not access e-resources effectively due to limited subscribed titles. A total of 143(56.7%) respondents said they did not have effective

access to e-resources in the library because of inadequate computers. Similarly, 32(12.7%) of them perceived that the overload of e-resources was a challenge. Based on the findings, it was recommended that library management should put in place mechanisms such as awareness creation and training to ensure that e-resources are fully accessed and utilized by users.

2.3 Electronic Resources in Africa

In the developed world, institutions and libraries have developed enormous digital collections and aggregated electronic journal databases to meet the needs of diverse users. However, the story is different in the developing world as digital libraries are still in their seminal phases and great initiatives have been undertaken to offer libraries in developing countries with negotiated deals of donor-funded electronic journals and access schemes to some of the available and essential journal literature. Donor programmes introduced to subsidize access to commercial journals include the International Network for the Availability of Scientific Publications (INASP), the Research4Life initiative and negotiated access schemes by Education Information for Libraries (EIFL). “The result of these initiatives has increased access to electronic journal content for researchers in Sub-Saharan Africa” (Harle, 2010).

Few studies have been conducted on electronic resources in Africa which mostly relied on issues related to electronic journals appreciation and use.

A study by Okello-Obura and Magara (2008), sought to investigate “electronic information access and utilization at the East African School of Library and Information Science, Makerere

University, Uganda”. A survey research technique was employed and out of the 250 targeted students, 190 responded, giving a response rate of 76%. The result of the study showed that students’ attitude towards e-resources was encouraging and that majority representing 72% of the respondents strongly believed that the standards of their academics would suffer a great deal without e-resources. The study discovered that users benefited a lot from electronic resources which included gaining access to a wider range of information and improved academic performance as a result of access to quality and timely information. The study further revealed that the main challenges faced by students in accessing e-resources are inadequate networked computers, slow internet connectivity, inability to use advanced search options of the databases, difficulty in formulating search strategies and lack of printers in the library at low cost. It was also revealed that 44 percent of respondents do not know about open access journals and 48 percent do not know the difference between refereed and non-refereed journals. In accordance with the findings, the study recommended that the speed of the Internet connectivity should be improved by acquiring more bandwidth and also lecturers should enforce the use of e-resources among students. It was also recommended that the University library should provide more computers and also update faculties on new and available electronic resources. Academic staff should sensitize students on the usefulness of electronic resources to research and academic work.

In the Nigerian context, Baro (2011), investigated to find out if students of the College of Health Sciences in Delta State University are aware and fully utilize the medical databases and other online information resources within and outside the medical library. The study was a descriptive study and a sample size of 350 was generated being 30 percent of the total 1050 population. The result of the study on the awareness of several online information resources

showed that majority of the undergraduate students in the College of Health Sciences in Delta State University are not aware of the existence of the following online information resources: HINARI, Medline, CINAHL databases, NUC virtual library as sources of information to retrieve materials related to medical literature and therefore are not utilizing them. The findings of the study also revealed that factors such as lack of skills needed to use online resources, ineffective user education programs, slow internet speed, lack of time, and frequent power cuts are some factors mentioned that militate against their effective use. This finding agrees with Somi and De Jager (2005) who noted that undergraduate students needed the necessary skills to fully utilize online resources. The study recommended that librarians should collaborate with faculty to teach information literacy skills in the College of Health Sciences curriculum. Also, the librarians and faculty must put in efforts to create awareness of scholarly online resources such as Medline and HINARI and teach the students the requisite skills needed to use them effectively.

Ojo and Akande (2005) examined “students’ access, usage, and awareness of electronic information resources at the University College Hospital (UCH), Ibadan” in a survey of 350 respondents. Their findings revealed that the level of usage of the electronic information resources is very low and a major problem identified is lack of information retrieval skills to manoeuvre their way around electronic resources, thus making the level of usage of resources by medical students very low. To buttress this, a later study conducted by Kinengyere (2007), on the use of electronic resources by four academic and research institutions in Uganda disclosed that available resources were not utilized because users were not aware of the resources, do not know how to access them, or they do not know what the resources offer. The study then concluded on the note that the availability of electronic resources does not necessarily mean

usage. It was recommended that institutions should step up promotion to improve usage of e-resources.

In Ethiopia, Natarajan (2017), investigated the use and impact of electronic resources by information science students at Jimma University. The purpose of the study was to describe the use of electronic resources and services provided at the social science library of Jimma University. The survey methodology was adopted as it is the most appropriate design tool to obtain a large sample. A total of 182 questionnaires were distributed among students of information science, and 148 dully filled questionnaires were received, thus resulting in a response rate of 81.32%. The study revealed that students were aware of electronic resources with a response rate of 128 (86.5%) for e-thesis, 126 (85.1%) for INASP DBs, e-books and e-journals received a response rate of 115 (77.7%) and 110 (74.3%) respectively, whereas digital library had 97 (65.5%) and institutional repository resources had 90 (60.8%) response rate. The study also disclosed that majority of the students, 148 representing 100 percent of the students use e-resources for (preparation for) presenting a paper, followed by 140 representing 94.6 percent for research and 90 representing 60.8 percent indicated that they use e-resources to keep up to date in their subject area. The study further disclosed that the major challenge with e-resources is information overload which renders it difficult to find relevant information, and this is represented by 110 (74.3%) of the respondents. The second challenge was a lack of familiarity with search techniques which was represented by 92 (62.2%) of the students. Other challenges included no assistance from library professionals 75 (50.7 %), frequent power cuts 45 (30.4 %) and system unavailability 39 (26.3%). Due to the above challenges, the study recommended that library professionals should be proactive in working with the academic community to develop training programs aimed at enhancing the effective and efficient use of e-resources.

A recent study by Isibika and Kavishe (2018), sought to investigate the utilization of subscribed electronic resources at Mzumbe University main library. The mixed method approach was used to collect data from 60 respondents. The findings of the study revealed that 20 respondents representing 33.3% were moderately aware of the library's subscribed e-resources, 11 (18.3%) were slightly aware; and 14 (23.3%) were extremely aware of library-subscribed e-resources. This suggests that majority of respondents were aware of the Mzumbe University Library-subscribed e-resources and that only a few were not aware. The study also revealed that the main challenge associated with the use of e-resources was unstable network connectivity, represented by 43 (71.7%), followed by 34 (56.7%) for difficulty in using the library's e-resources. Lack of computer facilities and lack of computer skills followed closely with 24 respondents (40.0%) and 22 respondents (36.7%) respectively. Based on the findings, the study recommended that Library users should be made aware of subscribed library e-resources databases to influence the utilisation of these resources by using various ways such as brochures, notices, training, and flyers. Librarians should also provide users with motivations such as stable network connectivity, which has been observed as most important in accessing and utilising e-resources and also training on how to search library e-resources.

2.4 Electronic Resources in Tertiary institutions in Ghana

With the increasing demand and emphasis on electronic resources, the introduction of e-resources in Universities is paramount. The workflow of electronic resources over the print materials is tremendous. As a result of the digital revolution in higher institutions, researchers have expressed varying degrees of interest to investigate the state of electronic resources in universities around the world and Ghana is not an exception. "In Ghana presently, most

academic and research institutions have access to a number of Electronic Resources through the coordinating efforts of the Consortium of Academic and Research Libraries in Ghana (GARLIGH). Member institutions can have more than 90,000 journals in various fields of study” (Asamoah-Hassan, 2008).

The introduction, access, and use of electronic resources in the Ghanaian tertiary institutions have been acknowledged by several researchers including Dadzie (2005), Bentil (2011), Amankwah (2014), Budu (2015) and Acheampong (2016).

A study by Alemna and Adanu (2005) stated that the introduction of Electronic resources in Ghana as compared to the developed world has not been too long ago. They further stated that the fullest utilization of e-resources to a large extent is yet to be realized in Ghanaian tertiary institutions. For instance, University of Ghana, which is the nation’s Premier University acquired in its main library, its first microcomputer in 1988 as a gift from the Ministry of Education under a World Bank project (Badu, 1993).

Dadzie (2005) wrote on the use of electronic resources by students and faculty of Ashesi University, Ghana. The purpose of this study was “to determine the level of use, the type of information accessed and the effectiveness of the library’s communication tools for information research and problems faced in using electronic resources”. The questionnaire-based survey was employed as a methodology for the study. It was revealed that almost 85 percent of respondents used the Internet to access information as against the 10 percent who were not frequent users. This means that majority of students were aware of electronic resources. It was also revealed in the study that 51 percent of respondents indicated they used search engines to search for information, while 14 percent indicated that they just browsed, 13 percent of respondents used

Metasearch engines and 7 percent indicated that they used the scholarly databases that the library subscribed to. The study also showed that there was quite a balance in the response for the type of information users sought from the internet: 27% of respondents specified that the information was for educational purposes, closely followed by 26% for news; 18% for entertainment and 11% for sports. The study also revealed that the main problems users had with accessing electronic resources included; lack of information about how to use electronic resources, inadequate computers and lack of time to acquire skills needed to use e-resources. The study recommended that the university should acquire laptops for students and make a flexible payment plan for them. Also, efforts should be made in creating awareness for the existence of search tools and library resources to enable students to be conversant with a diversity of computer and web-searching skills and experience.

Korsah (2014) researched on the Use of Online databases by Postgraduate students of Methodist University College, Ghana. The purpose of the study was to find out students' perception and awareness of online databases, the use of online databases and the challenges of using online databases. The survey methodology was adopted as the methodology for this study. The result of his findings showed that 55 constituting 53.9% of respondents offered Business Administration, 31 representing 30.4% offered Social Studies and 16 demonstrating 15.7% offered General Arts. The study revealed that 100 representing 98.1% were aware of online databases while 2 representing 1.0% responded that they had no knowledge of the online databases. The study also revealed that 7 representing 6.9 indicated that the training provided by the library on the use of e-resources was adequate, 63 constituting 61.8% indicated that the training was somehow adequate, while 32 representing 31.3% indicated that the training was inadequate. In relation to Adams & Bonk (1995), training is very essential in the use of online databases. The study

further revealed that 50% of respondents perceived e-resources as useful to use and actually use them, 42 respondents constituting 41.2% indicated e-resources to be “quite useful”, 3 respondents representing 2.9% indicated that e-resources are “not too useful”, 6 respondents representing 5.9 indicated “not at all useful” against perceived usefulness and use of online databases. The study also showed that there were various challenges encountered by respondents when using online databases. 89 respondents representing 92.7% indicated slow network to be the major challenge, followed closely by 88 respondents constituting 91.7% for unstable network as the second major challenge. 72 respondents representing 75% indicated power outage and 3 respondents constituting 3.1% indicated non-availability of required information. In conformity with the findings, it was recommended that MUCL should intensify their awareness campaigns concerning the availability of electronic resources. Since the study revealed that slow network was a major problem in MUCL, it was recommended that IT experts should be employed to upgrade and solve network problems to enhance access to available resources. It was then suggested that more training programs should be organized by the library for postgraduate students.

Amankwah (2014) wrote on “use of electronic resources by undergraduate students of the Ghana Institute of Management and Public Administration (GIMPA)”. The purpose of the study was to find out the awareness, use and knowledge and problems associated with the use of electronic resources among students at GIMPA. The methodology adopted for the study was the survey method and a sample size of 80 participants were selected which represented 10 percent of the total 802 population. The result of the study indicated that majority of students were aware of electronic resources with a response rate of 67 or 84.8% for CD-ROM, 24 or 30.4% for OPAC, 73 or 94.4% for Academic Database and further 64 or 87.3% were aware of Dspace (Institutional Repository). It was also revealed that 50 constituting (66%) of the respondents

admitted that electronic resources are very important and 48 constituting (54%) stated that electronic resources are more useful compared with print resources. The results further showed that majority of respondents do searches to complete assignment, write projects, and update lesson notes. However, few of the respondents use electronic resources for research and update on new information. The results specified that 86.0% of the respondents are certain that poor internet connectivity is a major setback related to the use of electronic resources. 82.2% of respondents also specified power outages as another major drawback. 73.4% of the respondents indicated that inadequate access location hindered the efficient use of e-resources. 72.1% of respondents also specified that inadequate computers in the library was a major challenge. Lack of information on how to use electronic resources was also indicated by 46.8% of respondents as another drawback. 58.2% of respondents stated that insufficient skills also bring about problems in accessing electronic resources. However, a few of the respondents, 5 signifying 6.3% stated limited titles as a problem for using the electronic resource. Based on the results, the study recommended that electronic resource training should be added to the student's curriculum and if possible credited to their academic performance. Accessibility of electronic resources should be improved by providing more computer workstations and data accessibility points through campus wireless network. Also, all databases subscribed must be appropriate and related to faculty and students' fields of study. It was also suggested that internet connectivity and power generation should be improved for better services.

Ankrah and Acheampong (2017), researched into students' use of electronic resources in University of Professional Studies. The purpose of the study was to investigate students' awareness and extent of use of the available electronic resources. The social survey research methodology was adopted for this study. The findings showed that 494 (91.0%) of the

respondents were aware of the electronic resources, while only 46 (9.0%) were not. This shows clearly that majority of respondents were aware of electronic resources. The findings similarly showed that more than 75% of the respondents have been using the electronic resources of UPSA Library for at least about a year. The study then revealed that users faced some challenges when using e-resources. Majority of the respondents (40.2%) indicated that internet access speed was slow, whereas a small proportions of them (about 10% or less) mentioned privacy problems, challenge in finding relevant information, overload of information on the internet, network failures sometimes, lack of skills, poor user interface design of some e-resources, overcrowding of the library's e-resources section by students due to the limited number of available computers and the heat generated in the library as some of the challenges they faced. However, almost a quarter (23.8%) of the respondents did not indicate any challenges in their usage of e-resources. The study concluded that E-resources are very essential and add great value to library collections and satisfy the unique needs of students, faculty and research scholars with less risk and time and therefore recommended that users of electronic resources should be trained and taught advanced search strategies and the use of controlled vocabulary languages to make electronic search process much easier and faster. Also, non-users should be identified and appropriate steps should be taken to train and transform them into actual users of e-resources. Additionally, the library's webpage must be designed in a way that will provide guides online and various search options to electronic resources. These, when initiated will help maximize the usage of e-resources.

In a comparative study by Bentil (2011), she wrote on "the use of electronic resources in Ghanaian universities". The purpose of the study was "to investigate the level of awareness and use of electronic resources by postgraduate students of Central University College and the

University of Cape Coast”. The study revealed some level of unawareness by postgraduate students and faculty members at Central University College (CUC) and University of Cape Coast (UCC). The findings showed that out of 103 and 47 postgraduate students sampled from UCC and CUC respectively, 2 (1.9%) from CUC were not aware of Electronic Information Resources (EIR). However, results from CUC is in sharp contrast with the result from UCC indicating a very low awareness rate (42.6%) given that 57.4% of postgraduate students from CUC were not aware of EIR. In a similar comparative study by Budu (2015) at Akrofi Christaller Institute (ACI) and Ghana Technology University College (GTUC), the purpose of the study was to find out the level of use of electronic information resources by students for research and learning at the Akrofi - Christaller Institute of Theology, Missions and Culture (ACI) and the Ghana Technology University College (GTUC). The survey research methodology was adopted for the study. It was revealed that ACI recorded (100%) awareness level of all 17 respondents. However, at GTUC 16 respondents out of 103 representing 15.5% were unaware of the availability of EIR (e-journals) in the University with poor publicity as a major cause. The combined findings from ACI and GTUC revealed that majority of students, 106 (88.3%) out of 120 respondents used EIR for effective studies. This was followed closely by 103(85.9%) of respondents indicating assignment undertaken as their main purpose for using EIR. 97 representing 81% indicated that they use electronic resources to improve academic performance and 95 constituting 79.1% indicated that they use electronic resources to prepare adequately for examinations. The study also established that the main problem associated with the use of EIR is slow internet speed. The issue of recurrent power outages also came up strongly with 21(17.6%) and 27(22.3%) of respondents from ACI and GTUC respectively indicating so. Other challenges included high internet cost, inadequate searching skills and limited access to computers. In conclusion, it was recommended that University management at ACI and GTUC should increase

funds in ICT infrastructural facilities such as computers, the Internet, e-journal subscription charges, virtual/digital libraries to conform to new development of Universities around the world. Also, there should be a conscious effort by university management to ensure reliable and continues supply of electricity at all time.

2.5 The use of electronic resources by Graduate students

“Studies have shown that graduate students prefer using electronic resources as compared to print materials” (George et al., 2006). Electronic resources are portable, easy to search, convenient to access and easily downloadable as compared to the traditional print materials. Electronic resources are advantageous and graduate students are frequent users of e-resources. The advent of electronic resources in schools has transformed information access, use, and management by students. Some of the reasons attributed to the high usage were the freely available access, its currency and ease of use.

Several studies have been carried out on electronic resources use by students and it has shown that graduate students use electronic resources for various purposes.

Ming-der and Shih-Chuan (2012), researched into “how graduate students perceive, use and manage electronic resources”. The purpose of the study was “to investigate how graduate students of the National Taiwan University perceived electronic resources, their search behaviour, and usage patterns”. The interview approach was used to place participants in a more realistic setting where they were able to access library electronic resources. The study found out that graduate students frequently use the library’s electronic resources, and they perceive that e-resources are extremely important to their studies. The study revealed that the library website

was the primary source for graduate students searching for documents because it contained relevant documents. Other students also reported that they mostly start with Google Scholar because it is convenient for retrieving large volumes of document. It was also revealed that the satisfaction levels varied from 70 to 95 percent in general. Science and technology students recorded a higher percentage rating than students in other disciplines since most documents they require are journal articles, which are provided in digital format by the library. Most students reported ease of use of electronic resources. However, students indicated that they faced some difficulties when using e-resources. Their major problem per the finding was difficulty in retrieving relevant materials, especially when searching by keyword. Other challenges included problems in setting up internet connections to access library electronic resources, slow internet connections and difficulties in finding complete text articles. Based on the results, it was recommended that university libraries build collection development policies to reflect the various usage patterns of students from different disciplines. It was also suggested that libraries should evaluate how they organize electronic resources to provide a more welcoming metasearch tool which will help Students find electronic resources more effectively.

Ozoemelem (2009), wrote on “the use of electronic resources by postgraduate students of the Department of Library and Information Science of Delta State University, Abraka, Nigeria”. The purpose of the study was “to explore the use of e-resources by postgraduate students of the department of library and information science in Delta State University”. The descriptive survey methodology was adopted for this study with a population of 78 respondents. The result of the research revealed that student’s usage of electronic resources was quite high. However, despite the high usage, the study revealed that there was low level of skilfulness in the use of e-resources among respondents. From the findings, it was observed that there was a common endorsement by respondents that issues like download delay, problem with credibility of information, difficulty

to find relevant information, lack of search skills, information overload, and high cost of access are some of the basic problems encountered while using electronic resources. This study corroborates with Ali (2005) that the most encountered issues in the usage of electronic resources by postgraduate students were lack of understanding, improper terminals, lack of qualified personnel, technical problems, slow downloading, information overload, difficult interface design and lack of search skills. Based on the findings of the study, it was recommended that the government should equip schools with the enabling infrastructure such as computers, effective internet connectivity and adequate power supply that will motivate students to use ICTs. It was also recommended that Universities should establish ICT centres with well-trained personnel where students can have limitless access to computers, the web, and other electronic sources.

Katabalwa (2016) researched on “the use of electronic journal resources by postgraduate student at the University of Dar es Salaam”. The study was conducted to assess the extent to which postgraduate students use electronic journal resources and the challenges encountered. The study employed self-administered questionnaires with close and open-ended questions which were distributed to postgraduate students and semi-structured interview for reference librarians. From the findings, a total number of 91.8% of postgraduate students reported using electronic journal resources. The study revealed that a greater percentage of users representing 69.2% stated that the main purpose for using electronic journal resources was to answer assignment questions, followed by 59.3% respondents who reported that working on dissertation/thesis was another popular reason for using electronic journal resources. The study is in line with Manda (2005), who also reported that electronic journal resources have been very significant to students when working on the dissertation and thesis. Additionally, 38.5% of respondents stated that they used electronic journal resources for literature purposes; 35.2% for proposal writing, 31.9%

for literature review writing and report review writing and 6.6% for leisure. Furthermore, majority of respondent reported power outage as the main challenge of using e-resources as indicated by 64 (67.4 percent) respondents. Additionally, 51 (53.7 percent) respondents voted the problem of limited bandwidth. Also, 48 (50.5 percent) respondents reported the challenge of slow download speed as the main problem associated with e-resources. Limited bandwidth often leads to unavailability of internet connectivity and slow download speed as well. This is in accordance with Madhusudhan (2010) whose study revealed that low access speed of the internet was a common problem students encountered when accessing e-resources. As per the results of the study, it was recommended that Information literacy training should be incorporated into the programme of universities and should be made a required course for all students and in all departments. This step will provide students with needed skills to use electronic resources. Governments should put in more effort to solve the problem of power outage. Additionally, the University should seek more funds to acquire, improve and develop ICT infrastructure for both the university libraries and computer labs to enable the students to freely access and use electronic resources.

Ahenkorah-Marfo (2006) wrote on “the recent trends in information delivery at the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi”. The purpose of the study was to analyze the trends of information delivery at KNUST library. The researcher observed the Electronic information Department for six months to gather relevant data and information. It was observed that there is a universal acceptance among members of the academic community and that electronic information delivery services had had a significant impact on their work. He indicated that after the CD-ROM technology was introduced to the KNUST community through the University Library in 1993, patronage of the facility progressively increased through widespread promotion. He further stated that the main beneficiaries of this technology are

faculty members and graduate students, in that, it enabled them to search from available CD-ROM databases for required information and materials for teaching and research purposes. Based on the observation, the study recommended that an awareness of the available facilities should be created and this can be done by promoting user-education and distributing informative leaflets. Also, the library should work in partnership with academic staff to encourage students to patronize electronic resources. It was also recommended that more terminals for CD-ROM searches be situated in the Reference Department, near the reference desk to attract more people. This will enable the librarian to see problems occurring, avoid mishaps and approach users who may need help.

2.6 Use of Electronic resources by Graduate students of University of Ghana

Electronic resources are also used by graduate and undergraduate students for several purposes. According to Manda (2005), “graduates and undergraduate students tend to use electronic resources to get information for working on their assignments and research”. The study by Ahmed (2013) indicates that “students use electronic resources for the purpose of learning, obtaining current information and research”.

Few studies have been carried out on the use of e-resources by graduate students of the University of Ghana.

Badu and Markwei (2005) researched into “internet awareness and use in the University of Ghana”. The purpose of the study was “to find out if students and staff are aware of the internet and its resources, frequency of use of the resources, its usefulness and reasons for use and non-use of the resources”. The survey methodology was used and a random sample of 216 postgraduate students and 175 faculty members from the faculties of Arts, Science and Social

Science participated in the study. The study found out that both postgraduate students and faculty members are aware of e-resources but do not frequently use them. The study revealed that 55.4 percent and 69.9 percent of students and staff respectively indicated that they use the internet and its resources while 39.7 percent of students and 26.0 percent of staff indicated that they do not use the internet and its resources. It was also revealed that frequencies of use of all kinds of Internet resources by both staff and student respondents were quite low. They discovered that the main reason for non-use of the internet and its resources was lack of training in its use whilst other trivial reasons for non-use were time, computer illiteracy and obtaining information elsewhere. The study then recommended that both staff and students need to be educated and trained to acquire the needed skill to effectively use the internet and its resources.

Similarly, Kwadzo (2015), wrote on “Awareness and Usage of Electronic Databases by Geography and Resource Development Information Studies Graduate Students in the University of Ghana”. The purpose of the study was “to examine the awareness level and usage of electronic databases by graduate students in the University of Ghana”. The study adopted the survey methodology and used questionnaire to collect data. The study showed that most of these students have not been exposed to the vast array of their subject databases and are thus limited to only a few. With regards to satisfaction with current databases, 87.5 % were recorded satisfied, 3.1% were indifferent and 9.3% recorded not satisfied. The study revealed that majority of respondents (71.9%), found electronic databases valuable because they could simultaneously search all databases. This was closely followed by 65.6% who found it useful because the databases are available all the time (24/7). It was also revealed that students encountered challenges when accessing the databases; 75.0% stated online access problems, 56.3% indicated the slow downloading process, 53.1% lamented about the cost of printing and

40.6% mentioned the difficulty in searching. It was recommended that, there should be a collaborative effort between faculty and librarians in promoting the databases to students and that this can be done by listing them in reading lists.

Bayugo and Agbeko (2007) reported on “convenient access to, and use of, electronic databases with full-text journals and their effect on information seeking behaviour of health sciences faculty at the College of Health Sciences, University of Ghana”. The cross-sectional survey was employed as the methodology for the study and the study was obtained from 60 faculty and it focused on their use of the internet generally, use of the internet facilities of the college library, convenience of access to internet facilities and reasons for non-use of these facilities. From the result, majority of respondents (95 percent) indicated that they frequent the Internet, while the remaining 5 percent indicated they did not use it at all. Nonetheless, most of the internet users (58 percent) did not use the internet facilities of the College library. The reasons attributed to non-use of the internet facilities of the College library included service unreliability 61%, other close access 39%, problem of proximity 21%, lack of time 27% and lack of computer skills 6%. From the findings, it was observed that faculty prefer the use of electronic databases and full-text journals to the traditional print publications. Therefore, it is prudent for the library to adapt strategies to promote awareness of the variety of electronic databases and full-text journals at the library. They also recommended the need to have an increased access to computers to promote faculty information access.

Agyeman-Sereboo (2010), researched on “the use of electronic resources by graduate students of Valco hall, University of Ghana”. The purpose of the study was to find out the level of awareness and frequency of use of e-resources by first-year graduate students in Valco hall. The

survey design was employed as a methodology for the study. The study revealed that 133 (93.7%) of respondents indicated that they were aware of electronic resources available in the University, whereas 9 (6.3%) indicated that they had no knowledge about it. A greater number of the respondents indicated that they used the internet more than any other electronic resource. In a breakdown, 47 (33.1%) used the internet, 36 (25.4%) used e-journals, 7 (4.9%) used E-books, 1 (0.7%) uses E-thesis, 17 (12.0%) used the OPAC while 5 (3.5%) used all the electronic resources available in the library. 13 (9.2%) indicated that they do not visit the Balme library. The study also showed that most of the graduate students find the internet (91.5%) easier to use than other electronic resources. From the findings, it also showed that majority of the respondents constituting (58.5%) were satisfied with the available electronic resources. Furthermore, it was brought to bear that students encountered some problems when using e-resources. Most of the respondents, representing 38.7% specified that the response time was slow, 16.2% stated they were not able to find relevant information, 19.7% complained that they were unable to access some of the websites, 14.1% also stated that they did not have the needed search skill to access electronic resources. According to 9.9% respondents, they faced the problem of power outage when using the resources and only one person representing (0.7%) of the total population stated that he or she faced all the challenges that were listed. In conclusion, it was recommended that students should be given adequate education on the use and benefits of electronic resources during orientation. They should also be made aware of the difference between the internet and other electronic resources. Furthermore, the University should be equipped with enabling infrastructures such as adequate power supply and consistent internet connectivity that will greatly improve the response time of electronic resources.

2.7 Summary

The purpose of the literature review in this chapter was to identify related works that are relevant to the present study. The chapter reviewed literature taking into account the Worldview, African view and the Ghanaian view on Electronic Resources. With the rapid advancement of information and communication technologies (ICT), electronic resources are progressively becoming readily available and easy to use.

The literature review has revealed that electronic resources growth exists in both developed and developing countries. However, the findings indicated a stronger access and use for developed countries due to their advancement in ICT.

Electronic resources are increasingly becoming a part of academic institutions owing to its numerous benefits to research and academic work. Even with academic libraries shrinking budgets, efforts are being made by academic institutions to provide electronic resources to enhance effective teaching, learning and research work. In Ghana, electronic resources are being provided to academic institutions through the efforts of the Consortium of Academic and Research Libraries in Ghana (CARLIGH) which was established to provide access to online resources and training for member institutions.

The main challenges associated with electronic resources identified in the literature include poor internet connectivity, inadequate computers, power cuts, lack of awareness of e-resources, insufficient skills in retrieving information from e-resources, limited subscribed titles and slow downloading process.

This study seeks to contribute to the existing literature and to throw more light on the present state of access and usage of electronic resources by students.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

A methodology defines the procedures that are used for data collection in a research study. “Methodology is also referred to as a coherent set of rules and procedures which can be used to investigate a phenomenon or situation” (Kitchin and Tate 2000). This particular chapter discusses the methodology used for the study of graduate students’ use of electronic resources at the University of Ghana. For this study, methodology was discussed under the following sub-themes; research design, selection of subject (that is population, sample size, and sampling technique), data collection instrumentation and presentation of data analysis.

3.2 Research Design

According to Welman, Kruger and Mitchell (2005), “a research design is a blueprint that helps the researcher to obtain research participants (subjects) and collect information from them, with the aim of reaching a conclusion about the research problem”. A number of research strategies can be adopted when undertaking a research work, but for the purpose of this study, the quantitative approach was used. The survey methodology was adopted for this study to gather data and form conclusive opinion across groups of people. “The survey methodology provides a numeric depiction of trends, attitudes or opinions of a population by studying a sample of that population” (Creswell, 2014). A study by Kumar (2011) posits that “the use of survey allows for the collection of large amounts of data from a sizeable population in a highly economical way”. The reason for this choice of methodology and not the others is that survey methodology allows data to be collected on a large population

within a rather short period of time . Some strengths of the survey methodology include the following:

1. Surveys are more reliable and objective
2. Surveys are relatively inexpensive
3. They can be administered from remote locations using mail, e-mail or telephone.
4. Identifies relationships between variables establishes cause and effect in highly controlled circumstances.
5. Can use statistics to generalise a finding. (Sapsford, 2007).

Some flaws of this method include:

1. The researcher must make sure that a great number of the chosen sample will reply.
2. It is sometimes problematic for participants to recall information or to be truthful about a dubious question. (Sapsford, 2007).

3.2.1 Selection of Cases

The University of Ghana, Legon was considered as the study setting for this study. This is because it is one of the first Universities in the country that adopted the use of electronic resources for learning and research purposes. It is located in the Greater Accra and is one of the highest ranked universities in Ghana. The 2016/2017 and 2017/2018 MBA graduate students of the University of Ghana Business School was chosen as the case for this study. The justification for selecting the University of Ghana Business School is that it has the largest number of graduate students and also one of the schools that have a better spread in

terms of discipline which includes Accounting, Finance, Marketing, Human Resource Management, Health Service Management amongst others. This, therefore, gives the researcher varying views on how students conceive electronic resources.

3.3 Selection of Subjects

The people selected for a particular study are the subjects of the study. In this section, the population, sample size, and sampling technique are discussed.

3.3.1 Population

According to Bailey (1994), “a research population is a set of persons or objects that possess at least one common characteristic”. Population in a social research may also be defined as “the total number of people or elements that fit the specific set specifications of the study” (Polit and Beck 2006). According to Alreck and Settle (cited in Ankrah, 2014, p. 117), “respondents in a population must possess the information required for the study”.

The target population for this study was the 2016/2017 and 2017/2018 regular MBA students of the University of Ghana Business School of the School of Research and Graduate Studies. Only the regular students were selected for this because it would be a herculean task to study the entire population of students (regular, sandwich and weekend) and also because the regular students have consistent access to e-resources. The total number of regular MBA students from the University of Ghana Business School is 302.

The table below shows the total number of 302 MBA graduate students per their discipline in the University of Ghana Business School in the 2016/2017 and 2017/2018 academic year.

Table 3. 1: Discipline and number of students.

DISCIPLINE	POPULATION
ACCOUNTING	7
FINANCE	97
MARKETING AND ENTREPRENEURSHIP	54
ORGA NISATION & HRM	44
OPERATIONS & MIS	21
PUBLIC ADMIN & HSM	79
TOTAL	302

Source: University of Ghana Business School 2018

3.3.2 Selection of Sample Size

According to Bailey (1994), “a sample is a subset of some pre-determined size from a population of interest”. A sample is normally taken from a larger population for results to be fairly generalized to the population from which they were chosen. According to Neuman (2009), sample sizes should be chosen with the population under study in mind. In order words, in choosing a sample size for a population in a study the researcher has to take into consideration the size of the population. Ideally, a proportionate sampling would have been best to select the sample size for the various disciplines, however, the disparity between the figures is quite huge. Therefore, the sample size was selected with reference to Frankel and Wallen (2000, p. 90). They suggested that “a sample size should be as large as the researcher can obtain with a reasonable expenditure of time and energy”. The researcher in reference to the above therefore selected a sample size of 100 which is a reasonable number of the 302 MBA graduate students of the University of Ghana Business School (UGBS) for the 2016/2017 and 2017/2018 academic year.

The table below gives information on the population and proportionate sample size of this study.

Table 3. 2: Population and Sample Size for each Discipline

DISCIPLINE	POPULATION	SAMPLE SIZE
ACCOUNTING	<i>7</i>	<i>7</i>
FINANCE	<i>97</i>	<i>25</i>
MARKETING & ENTREPRENEUSHIP	<i>54</i>	<i>20</i>
ORGANISATION & HRM	<i>44</i>	<i>16</i>
OPERATIONS & MIS	<i>21</i>	<i>10</i>
PUBLIC ADMINISTRATION &HSM	<i>79</i>	<i>22</i>
TOTAL	<i>302</i>	<i>100</i>

3.3.3 Sampling Technique

Mugo (2002) defines sampling as “the process of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population”. According to Kothari (2004), “the entire process of selecting a sample is called a sampling technique”. “There are a number of sampling techniques that could be adopted when undertaking a research study, and these are broadly classified into probability sampling and non-probability sampling” (Babbie *et al.*, 2001; Welman, Kruger, & Mitchell, 2005). In non-probability sampling, the probability for the selection of any member of the population for possible inclusion in the sample cannot be predicted or determined (Welman, Kruger, & Mitchell, 2005). Non-probability sampling techniques include convenience sampling, purposive sampling and quota sampling. The Convenient sampling technique was used to generate the sample for this study. Although Simple Random Sampling is more desirable in a quantitative research than non-probability or convenient sampling, it could not be adopted because Simple random sampling makes use of a sample frame which will then require the names of each student and this was an arduous task since the University authorities do not willingly give out details of students to researchers. According to Sekaran (2003), convenience sampling involves the gathering of data from members of a population who are readily available to participate and to give information. Aina (2004) also stated that “convenient sampling is the least expensive way of selecting a sample since it does not require the use of a sample frame”. At the various disciplines, the researcher therefore administered the questionnaires to students who were willing to participate.

3.4 Instrumentation

According to Sullivan (2001), “data collection constitutes the basic observation from which analysis and conclusions are drawn”. The main data collection instrument adopted for this study was the questionnaire.

3.4.1 Questionnaire

Questionnaire can be described as a written list of questions for which reactions from respondents are documented (Kumar, 2005). For this reason, he further states that questionnaire should be clear and easy for it to be understood by respondents. According to Walonick (1993), “almost everyone and especially graduate students have had some experience in completing questionnaires, and they generally do not make people apprehensive”. Besides, questionnaires are without doubt more objective than interviews, brief and easy to complete. Structured questionnaire design was used for this study. The structured questionnaires are closed-ended by providing possible answers where respondents select an option by ticking. According to Miller (2010), advantages of questionnaire includes the fact that it permits respondents time to consider their responses carefully without interference, questionnaires permit anonymity that usually increases the rate of response thereby ensuring that responses reflect genuinely held opinions, also a large amount of information can be collected from a large number of people in a short period of time at a cheaper cost.

The questionnaire for this study was divided into six sections. Section A primarily covers the demographic data of respondents and section B to F was based on the objectives of the study. Section B investigated the subject of Awareness of Electronic Resources, Section C was on Frequency of use of electronic resources. Section D on Usefulness and Ease of Use of Electronic resources, Section E on Level of Satisfaction with Current Electronic Resources and Section F

on Challenges Associated with the Use of Electronic Resources. There were instructions on each section to enable respondents answer questions with ease.

3.5 Mode of Data Collection

The questionnaire was self-administered by the researcher. Prior to the administration, the researcher sent an official letter from the Department of Information Studies, University of Ghana, introducing the researcher as an MA student at the department. The researcher sought permission from the respective lecturers prior to the class to enable him collect data from the students. In the class, the researcher enlightened them about the purpose of the study and students were given assurance of confidentiality of their response. The questionnaire was given out within the first two (2) weeks of June, 2018 and was distributed to students who were willing to participate.

3.6 Presentation of Data and Analysis.

The purpose of data analysis for this study was to obtain meaning from data collected. Burns and Grove (2010) describe data analysis as “the process of extracting from a given data, relevant information from which a summarized and comprehensible numerical description can be formulated”. For the purpose of this study, the researcher analyzed collected data using the Statistical Package for Social Sciences (SPSS) version 20. The SPSS is a software frequently used in the social sciences for analyzing data statistically. SPSS is very advantageous in the sense that it examines relationships between variables, it compares data using descriptive statistics and also compares groups to determine if there are significant

differences between them. Also, the collected data was presented in the form of pie chart, bar chart and frequency distribution tables in order to provide a graphic representation of the data.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1 INTRODUCTION

Chapter four focuses on data analysis, interpretation, and discussion of findings. The chapter is arranged under each of the major issues in the research objectives. Out of 100 copies of the questionnaire that were administered, all 100 were successfully retrieved, giving a response rate of 100%.

4.2 Demographics

The major issues considered in the study were: demographic data of respondents, awareness of electronic resources, frequency of use of electronic resources, usefulness and ease of use of electronic resources, level of satisfaction with current electronic resources and challenges associated with the use of electronic resources.

4.2 DEMOGRAPHIC DATA OF RESPONDENTS

Demographics are the characteristics and statistical data of a population under study especially in relation to their gender and age. This section considers data on gender, age and disciplines starting with Gender.

4.2.1 Gender

In order to find out the gender of respondents, they were asked to indicate if they were males or females. Table 4.1 indicates the responses.

Table 4.1: Gender of Respondents

Gender	Frequency	Percent
Male	59	59.0
Female	41	41.0
Total	100	100.0

Source: Field data, 2018

The findings shows that there were 59 (59.0%) males and 41 (41.0%) females. This indicates that most of the respondents were males.

4.2.2 Age Distribution

The ages of respondents are necessary in every study. Kumar and Grover (2007) for example indicated that “the age of respondents influences the use of electronic resources”. Therefore, respondents were asked to specify their age . The age distribution started from a minimum of 17 years to as old as can be imagined. Table 4.2 indicates the responses.

Table 4.2: Age Distribution of Respondents

Age intervals	Frequency	Percentage
17-25	15	15.0
26-35	74	74.0
36-45	11	11.0
46-55	-	-
56 and above	-	-
Total.	100	100

Source : Field data, 2018

The study revealed that 15.0% of the respondents were between the ages of 17-25 years, 74.0% were between the ages of 26-35 years and 11.0% were between the ages of 36-45 years. This shows that most of the students selected for the study were in the age brackets of 26-35 years.

4.2.3 Discipline

Again, in order to find out the various disciplines of Respondents, they were asked to specify their discipline of study. Table 4.3 below indicates the responses.

Table 4.3: Discipline of Respondents

Discipline	Frequency	Percentage
Accounting	7	7.0
Finance	25	25.0
Marketing	21	21.0
Organisation and HRM	15	15.0
Operations and MIS	10	10.0
Public administration and HSM	22	22.0
Total	100	100

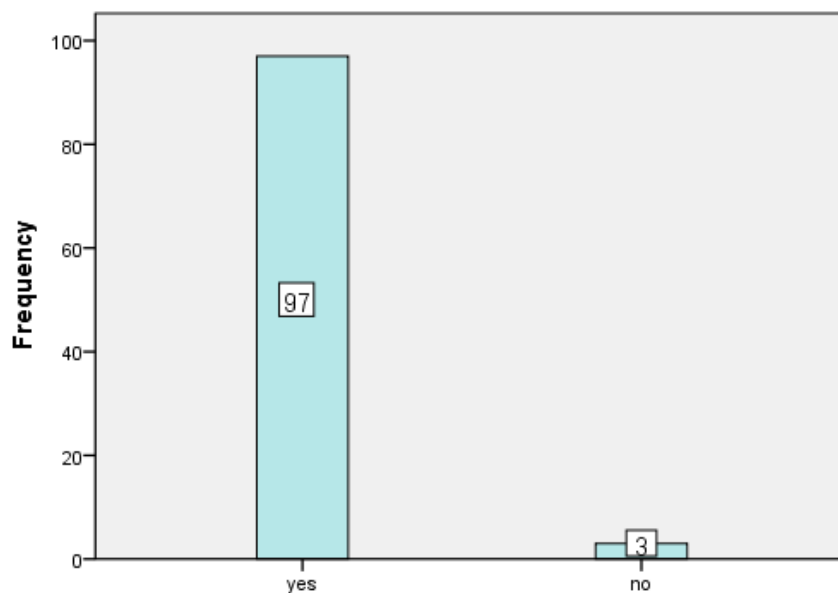
Source: Field data, 2018

The study found out that 7.0% of the respondents were from the Accounting discipline, 25.0% of them were from the Finance discipline, 21.0% were from the Marketing discipline, 15.0% were from the Organisation and HRM discipline, 10.0% were from the Operations and MIS discipline and 22.0% were from the Public Administration and HSM discipline.

4.3 Awareness of Electronic Resources

In order to find out whether respondents were aware of electronic resources in the University Library, they were requested to answer in a simple yes and no whether they were aware of e-resources at the University library. Fig. 4.1 shows the responses.

Figure 4.1: Awareness of Electronic Resources



Source: Field data, 2018

Figure 4.1 revealed that 97.0% of the respondents answered yes and only 3.0% of them answered no. The large number of respondents (97.0%) who answered yes shows that most of the respondents of the study are fully aware of the existence of electronic resources in the University Library.

4.3.1 Awareness of the various Electronic Resources

The respondents were subsequently asked to indicate their awareness of the specific electronic resources. As a means to find out the various electronic resources respondents were aware of, they were given options to choose from and also to choose as many as applicable. Table 4.4 below shows the responses.

Table 4.4: Awareness of the various Electronic Resources

Option	Frequency	Percentage
Online Databases	91	91.0
OPAC (Online Public Access Catalogue)	52	52.0
E-Journals	74	74.0
E-books	65	65.0
CD-ROM	7	7.0
No Response	3	3.0

Source: Field data, 2018

From the table above, it can be seen that 91.0% of the respondents are aware of Online Databases, 52.0% are aware of OPAC, 74.0% are aware of E-journals. Also 65.0% are aware of E-books, 7.0% are aware of CD-ROM and 3.0% gave no response because of their earlier indication that they lacked awareness. This indicates that the most widely electronic resources that they are aware of are Online Databases and CD-ROM being the least.

4.3.2 Respondents awareness of Electronic Resources

It was also necessary to find out how the respondents became aware of electronic resources.

Respondents were therefore given options to choose from. Table 4.5 indicates the responses.

Table 4. 5: Source of Awareness of Electronic Resources

Option	Frequency	Percentage
Colleagues	27	27.0
Library Website	9	9.0
Orientation	48	48.0
Notices	3	3.0
Others	10	10.0
No response	3	3.0
Total	100	100

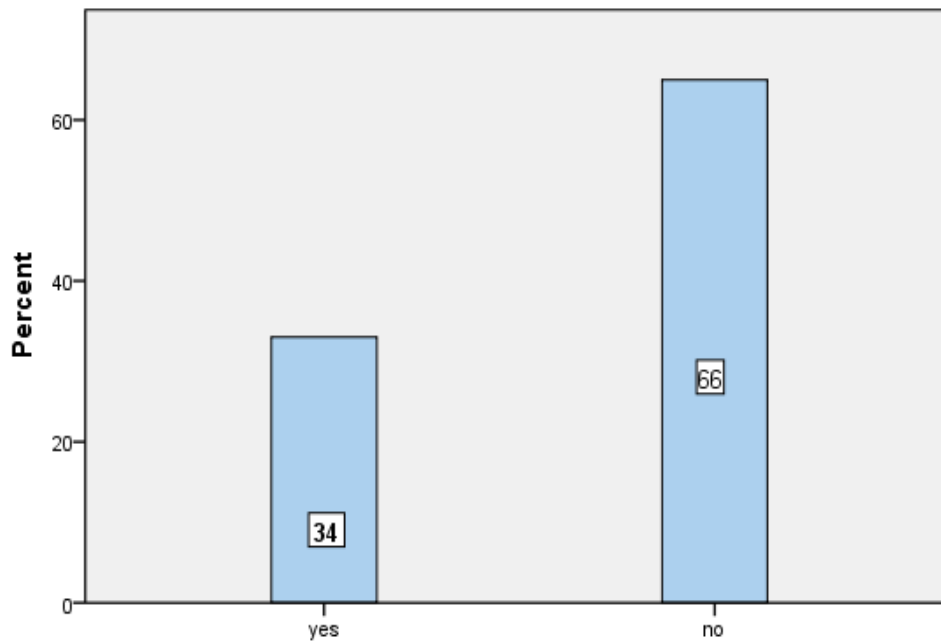
Source: Field data, 2018

The findings of the study revealed that 27.0% of the respondents became aware of electronic resources from their colleagues, 9.0% became aware of the resources from the Library Website. 48.0% became aware from orientation and 5.0% became aware of e-resources from Notices. 10.0% of the respondents indicated that they became aware through other means, most especially from their lecturers whilst the remaining 3.0% gave no response because of their earlier response that they were not aware of e-resources.

4.3.3 Responses on the Publicity of E-Resources

Publicity means gaining public visibility or awareness for a product or service. With a simple Yes or No answer, respondents were then asked if electronic resources have been well publicized to students in the University. Fig. 4.2 indicates the responses.

Figure 4.2: Responses on the Publicity of Electronic resources



Source: Field data, 2018

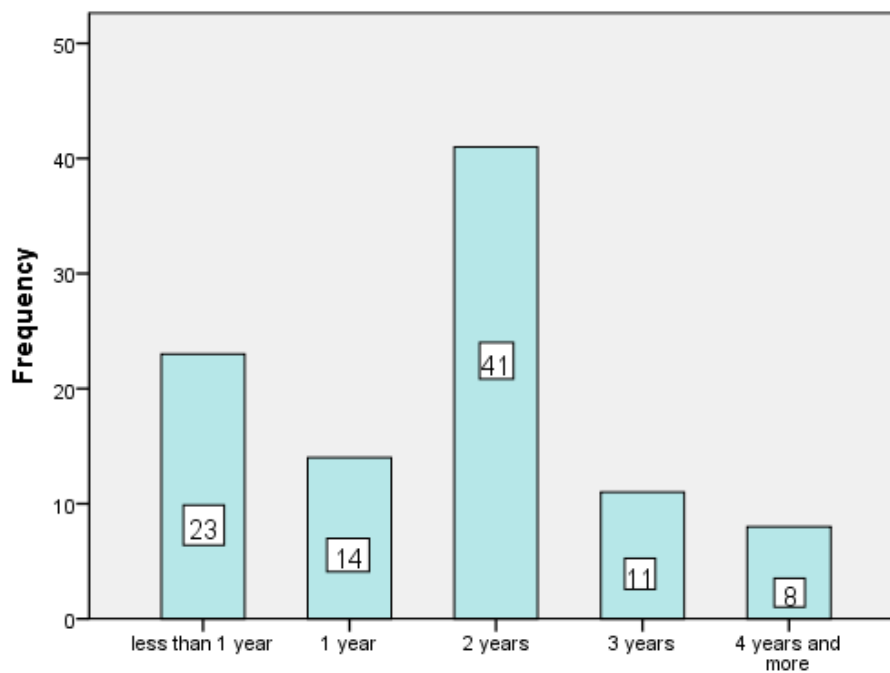
It is revealed that 34.0% of the respondents answered Yes, signifying that electronic resources have been well publicized to the students of the university whilst 66.0% of the respondents answered No, meaning electronic resources has not been well publicized to students of the university. The large number of respondents (66.0%) who answered no means that there has not

been much publicity and sensitization as far as electronic resources in the university are concerned.

4.4 FREQUENCY OF USE OF ELECTRONIC RESOURCES

As part of the objectives, it was important to determine how frequent they use the electronic resources. Therefore, respondents were requested to state their duration of use of electronic resources. Fig. 4.3 displays the responses.

Figure 4.3: Duration of usage of Electronic Resources.



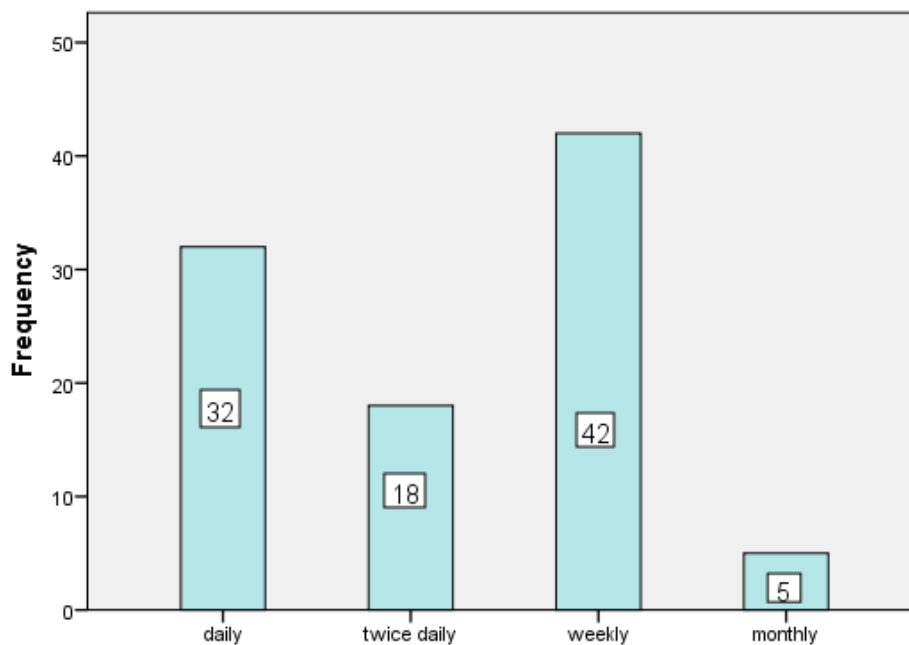
Source: Field data, 2018

The findings revealed that 23.0% of the respondents have been using electronic resources less than a year, 14.0% have been using it for 1 year, 41.0% have been using it for 2 years, 11.0% said they have been using it for 3 years and 8.0% have been using it for over 4 years and more. However, 3.0% gave no response. This shows that majority of the respondents have used electronic resources for more than a year.

4.4.1 Frequent use of E-Resources

The best way to assess the usefulness of electronic resources is to find out how often students use electronic resources in their course of academic activities. Based on this, respondents were asked to indicate how often they use electronic resources. Fig. 4.4 shows the responses.

Figure 4.4: Frequency of use of Electronic Resources



Source: Field data, 2018

The findings of the study revealed that 32.0% of the respondents indicated daily usage, 18.0% of them stated twice daily usage, 42.0% indicated weekly usage whilst 5.0% also indicated monthly usage. This shows that majority of the respondents use electronic resources available at the University library weekly.

4.4.2 Reasons for the usage of E-Resources.

As stated by Madhusudhan, (2010), “the purposes for using electronic resources differs from one user to the other”. As a result, respondent were given options and requested to indicate their reasons for using electronic resources. Table 4.6 shows their responses.

Table 4.6: Reasons for the Usage of Electronic Resources

Option	Frequency	Percentage
For research/project work	44	44.0
For answering assignment questions	20	20.0
For entertainment	4	4.0
To add to my stock of knowledge	29	29.0
No response	3	3.0
Total	100	100

Source : Field data, 2018

The table 4.6 above reveals that 44.0% of the respondents used electronic for the research/project work, 20.0% used them for answering assignment questions, 4.0% used them for entertainment whilst 29.0% used them to add to their stock of knowledge. The remaining 3.0% gave no

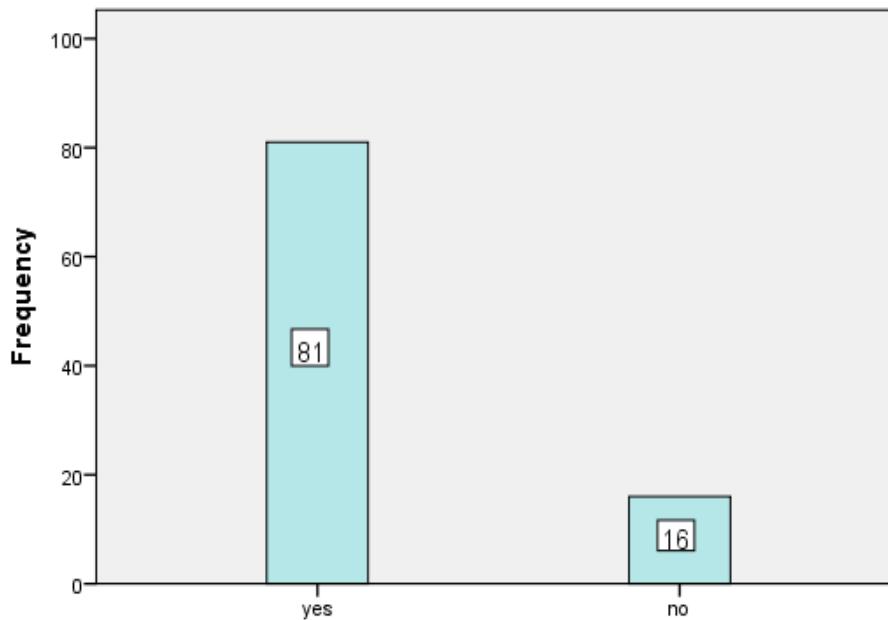
response. From the responses, it can be observed that all the respondents use e-resources for various reasons with research/project work being the main reason why students use e-resources.

4.5 USEFULNESS AND EASE OF USE OF ELECTRONIC RESOURCES

Usefulness and ease of use of electronic resources is the third objective of the study and seeks to find out if students perceive electronic resources as valuable to their academics and also if they are free from effort. In view of that, specific questions were asked in relation to usefulness and ease of use.

4.5.1 Impact of the use of E-Resources on Academics

Respondents were asked to give a yes or no response to whether electronic resources has any significance/impact on their academics. Fig. 4.5 depicts the responses.

Figure 4 .5: Impact of the use of Electronic Resources

Source: Field data, 2018

81.0% of the respondents answered yes whilst 16.0% of them answered no. However, 3.0% gave no response. The large number of respondents (81.0%) who answered yes means that the e-resources have a lot of impact on the respondents' academics.

4.5.2 Impact of Electronic Resources on Academics

There was a follow-up question for those who answered in the affirmative to the previous question, to find out what impact electronic resources have on their academics. Table 4.7 shows the responses.

Table 4.7: Impact of Electronic Resources on Academics

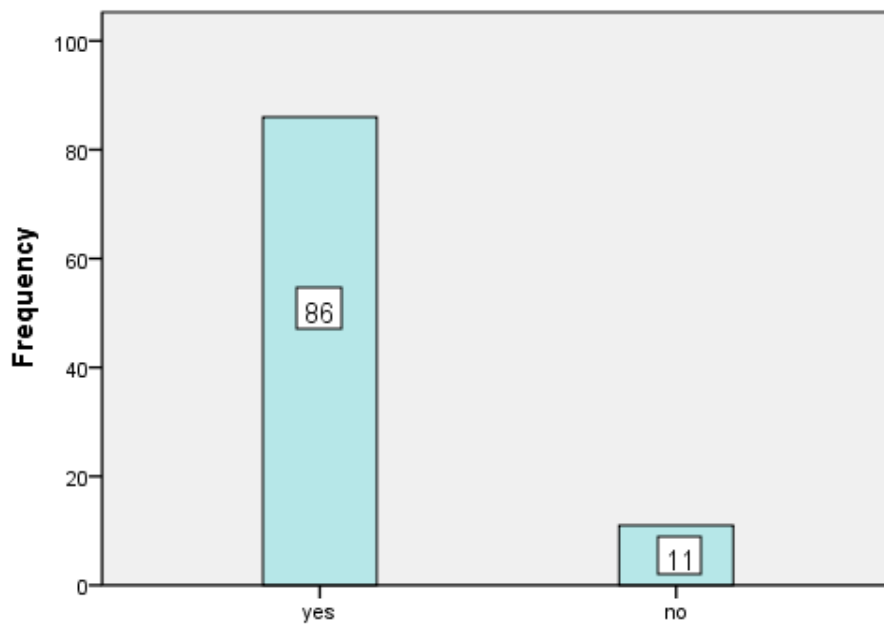
Option	Frequency	Percentage
It makes me retrieve information with ease	41	50.6
It helps me to expand my knowledge-base	30	37.1
It makes me excel in my academics since studying on a computer makes me sit long	6	7.4
It enhances my ability to recall what I have learnt easily since I can easily visualize computer-based information	4	4.9
Total	81	100.0

Source: Field data, 2018

Only 81 responded to this question because of their affirmation to the previous question. 41 (50.6%) indicated that it makes them retrieve information with ease, 30 (37.1%) indicated that it helps them to expand their knowledge-base, 6 (7.4%) said it makes them excel in their academics, since studying on a computer makes them sit long whilst 4 (4.9%) said it enhances their ability to recall what they have learnt easily, since they can easily visualize computer-based information. This shows that all the respondents have different experiences on the impact e-resources have on their academics.

4.5.3 Comfortable using Electronic Resources

Successively, respondents were asked if they are comfortable using electronic resources. They were asked to give a simple yes or no answer. Fig. 4.6 shows the responses.

Figure 4.6: Comfortable Using Electronic Resources

Source: Field data, 2018

Figure 4.6 shows that 86.0% of them answered yes whilst 11.0% of them answered no. The large number of respondents (86.0%) who answered yes shows that most of the respondents are comfortable using the electronic resources available in the library.

4.5.4 Electronic Resources Respondents find Easy to Use

When a system is easy to use, it encourages users to continue to use it. Respondents were therefore asked to indicate the electronic resources that they find easy to use. Table 4.8 depicts the responses.

Table 4.8: Electronic Resources Respondents find Easy to Use

Electronic Resources	Frequency	Percentage
Online Databases	81	81.0
O P A C (Online Public Access Catalogue)	43	43.0
E-Journals	41	41.0
E-books	24	24.0
CD-ROM	2	2.0
Other	-	-
No response	3	3.0

Source: Field data, 2018

Note: Respondents were allowed multiple answers

It is revealed that majority of the respondents 81.0% find Online Databases easy to use, followed by 43.0% who find OPAC easy to use. 41.0% find E-journals easy to use, 24.0% said they find it easy to use E-books and 2% said they find it easy to use CD-ROM. This suggests that majority of the respondents do not find CD-ROM easy to use and therefore training must be organised to teach students on how to use CD-ROM.

4.5.5 Skilfulness in using Electronic Resources

According to Bentil (2011), “to utilize the growing range of electronic resources, one needs to acquire and practice the skills necessary to exploit them”. Therefore, respondents were asked how skilful they are in using electronic resources by giving a yes or no response. Table 4.9 shows the responses.

Table 4.9: Skilled in using Electronic Resources

Option	Frequency	Percentage
Yes	55	55.0
No	42	42.0
No Response	3	3.0
Total	100	100

Source: Field data, 2018

From the findings, it is revealed that 55.0% of the respondents are skilful in using electronic resources, 42.0% are not skilful in using electronic resources while 3.0% gave no response.

4.5.6 Skill in formulating search queries

Respondents were subsequently asked to indicate if they are skilled in formulating search queries. Table 4.10 shows results.

Table 4.10: Search Queries Skill

Option	Frequency	Percentage
Yes	29	29.0
No	47	47.0
Don't Know	21	21.0
No Response	3	3.0
Total	100	100

Source: Field data, 2018

The results show that 29.0% of the respondents specified that they are skilled in formulating search queries, 47.0% stated that they are not skilled in formulating search queries, 21.0% indicated that they do not know whether they are skilled or not while 3.0% gave no response.

4.5.7 Ease in getting the required Information

According to Gross and Latham (2009), “computer literacy skill is a key factor to an effective and efficient use of e-resources”. In order to find out whether it is easy to get the required information when using electronic resources, respondents were asked to give a yes or no response. Table 4.11 indicates the responses.

Table 4.11: Ease in Getting Required Information

Option	Frequency	Percentage
Yes	55	55.0
No	42	42.0
No Response	3	3.0
Total	100	100

Source: Field data, 2018

It is revealed that 55.0% of the respondents find it is easy to get the required information, 42.0% do not find it easy to get the required information and 3.0% gave no response.

4.6 THE LEVEL OF SATISFACTION WITH CURRENT ELECTRONIC RESOURCES

It is imperative to know the level of satisfaction with the current electronic resources to establish if the investments of the library in providing e-resources are worthwhile. This section sought to find out from the respondents their level of satisfaction with the use of e-resources.

4.6.1 Which Electronic Resource Satisfies Information Need?

Respondents were asked to indicate the various electronic resources that satisfy their information needs. Table 4.12 shows the responses.

Table 4.12: Electronic Resources that Satisfy Information Needs

Electronic Resource	Frequency	Percentage
Online Databases	83	83.0
OPAC (Online Public Access Catalogue)	40	40.0
E-Journals	43	43.0
E-books	24	24.0
CD-ROM	2	2.0
Other	-	-
No response	3	3.0

Source: Field data, 2018

Table 4.12 indicates that majority 83.0% of them said Online Databases satisfy their information needs, followed by 40.0% who indicated that OPAC (Online Public Access Catalogue) satisfies their information need. 43.0% went in for E-journals, 2.0% chose CD-ROM as the e-resource that satisfies their information need. 3.0% gave no response because of their lack of awareness.

In this instance, it can be seen that Online Databases are the ones which satisfy the information needs of majority of the respondents followed by E-Journals and that CD-ROM is the one that least satisfies the information needs of the respondents.

4.6.2 Level of satisfaction in using E-Resources

To further access the satisfaction level of these electronic resources by students, they were asked to indicate how satisfied they were with the electronic resources. Table 4.13 displays the responses.

Table 4 .13: Satisfaction Level of Electronic Resources

Option	Frequency	Percentage
Completely Satisfied	6	6.0
Mostly Satisfied	29	29.0
Somewhat Satisfied	19	19.0
Neither Satisfied/ Dissatisfied	11	11.0
Somewhat Dissatisfied	11	11.0
Mostly Satisfied	21	21.0
No Response	3	3.0
Total	100	100

Source: Field data, 2018

Out of the total number (100) of respondents, 6.0% of the respondents specified that they are completely satisfied with their usage of e-resources, 29.0% of them indicated that they are Mostly Satisfied with their usage of e-resources. 19.0% are Somewhat Satisfied, 11.0% of them are Neither Satisfied/Dissatisfied, 11.0% of them indicated that they are Somewhat Dissatisfied,

and 21.0% are Mostly Dissatisfied whilst 3.0% gave no response. This means that some of the respondents are satisfied with available electronic resources whilst others are not satisfied.

4.6.3 Reliability of Electronic Resource information

Also, to find out the reliability of electronic resources, respondents were asked to indicate how reliable electronic resources are. Table 4.14 shows the responses.

Table 4 .14: Reliability of Electronic Resource Information

Option	Frequency	Percentage
Reliable	27	27.0
Very Reliable	24	24.0
Slightly Reliable	33	33.0
Not Reliable	13	13.0
No Response	3	3.0
Total	100	100

Source: Field data, 2018

From Table 4.14 above, 27.0% of the respondents said e-resource information are Reliable, 24.0% said they are Very Reliable, 33.0% said they are Slightly Reliable, 13.0% said they are Not Reliable and 3.0% gave no response. The large number of respondents (33.0%) who said e-resource information are Slightly Reliable shows that most of the respondents do not totally trust electronic resource information.

4.7 CHALLENGES ASSOCIATED WITH THE USE OF ELECTRONIC

The fifth objective of the study is to find out the challenges that the respondents encounter with their usage of electronic resources.

4.7.1 Access to Electronic Resources

Respondents were then asked if they have access to electronic resources whenever they want. They were asked to give a simple yes or no response. Table 4.15 displays the result.

Table 4.15: Access to Electronic Resources

Option	Frequency	Percentage
Yes	37	37.0
No	60	60.0
No Response	3	3.0
Total	100	100

Source: Field data, 2018

37.0% of the respondents answered yes whilst 60.0% of them answered no. The large number of respondents (60.0%) who answered no means that most of the respondents do not have access to e-resources whenever they need it. Where the response was not favourable on the access of electronic resources, some concerns were raised. Majority stated that they do not have access to electronic resources whenever they want because of unstable network connection. Others also stated that computers in the library are inadequate while few people stated power cuts as a reason for not having access to electronic resources whenever they wanted.

4.7.2 Challenges faced in using Electronic Resources

According to Madhusudhan (2010) “there are many obstacles to the use of electronic resources for research work”. For this reason, respondents were asked to indicate the challenges associated with the use of electronic resources. Table 4.16 displays the result.

Table 4.16: Challenges Associated with the Use of Electronic Resources

Challenges	Frequency	Percentage
Slow access speed	74	74.0
Lack of searching skills	40	40.0
Overload of information on the internet	32	32.0
It takes too long to view downloaded pages	25	25.0
Limited subscribed titles	52	52.0
Not easy to use	32	32.0
Difficulty in finding relevant information	34	34.0
Power Cuts	14	14.0
Other	5	5.0
No response	3	3.0

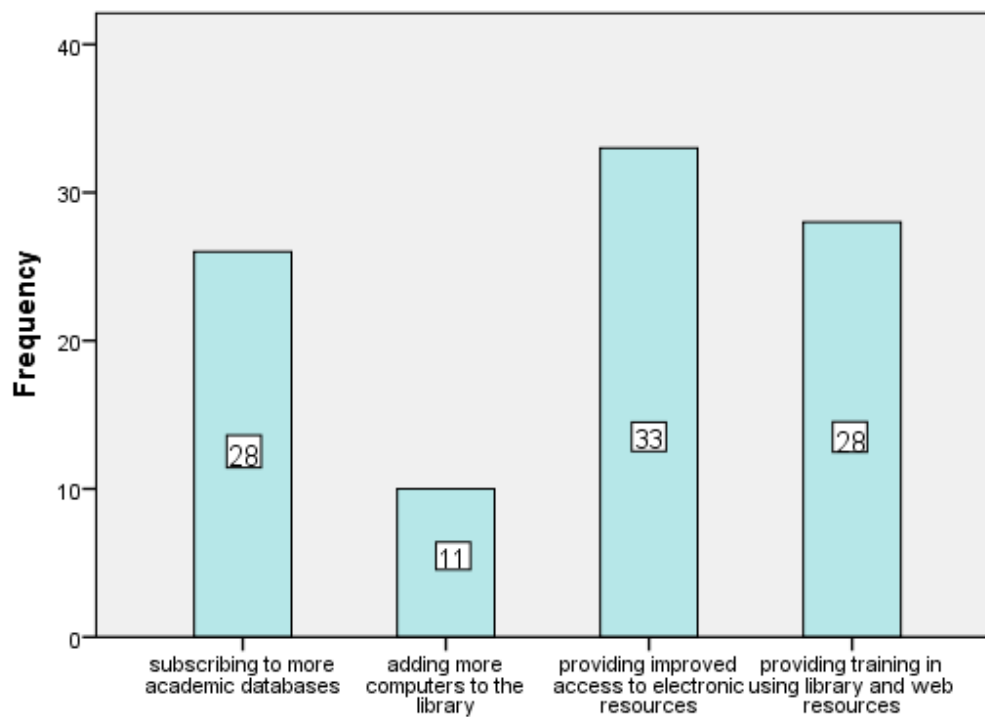
Source: Field data, 2018

Note: Respondents were asked to choose as many as applicable.

It is revealed that majority 74.0% of the respondents said slow access speed is a challenge to them when using e-resources, 40.0% indicated lack of searching skills as a challenge to them, 32.0% said the overload of information on the internet is a challenge to them. 25.0% stated that the time it takes to view and download pages is a challenge to them. 52.0% indicated limited subscribed titles, 32.0% indicated that ease of use is a challenge to them. 34.0% said difficulty in finding relevant information is a challenge to them, 14.0% said power cuts is a challenge to them whilst 5.0% indicated other reasons which included inadequate computers in the library and privacy problems. Nevertheless, 3.0% gave no response.

4.7.3 Library's priority in terms of information provision

Respondents were consequently requested to indicate what they think the library's priority should be in terms of information provision. Fig. 4.7 displays the responses.

Figure 4.7: Library's priority in terms of Information Provision

Source: *Field data, 2018*

From the chart, it is revealed that 28.0% of the respondents said the Library needs to subscribe to more academic databases. 11.0% of them also said the Library should add more computers to the Library. 33.0% said the Library must provide improved access to electronic resources (online databases, e-books, etc.) whilst 28.0% said the Library needs to provide training in using the library and web resources.

4.7.4 How E-Resources use can be effectively ensured

To find effective ways of ensuring the effective use of electronic resources, respondents were asked to give their suggestions on how effective use of electronic resources can be ensured.

Table 4.17 shows the responses.

Table 4.17: How Electronic Resource Use can be Effectively Ensured

Option	Frequency	Percentage
Orientation should be intensified	22	22.0
There should be more awareness programmes	26	26.0
There Should be enough networked computers	10	10.0
Network should be solved	38	38.0
Others	4	4.0
Total	100	100

From the table, 22.0% said orientation should be intensified, 26.0% indicate that there should be more awareness programmes, 10.0 said there should be enough networked computers and 38.0% indicated that network problem should be solved. However, 4.0% gave other reasons which included that training programs should be organised for all disciplines. This shows that each of the respondents has a different view on what should be done to manage the challenges bedevilling e-resources.

4.8 DISCUSSION OF FINDINGS

The primary purpose of this study has been to examine the use of electronic resources by graduate students of the University of Ghana Business School. In order to achieve the main purpose of this study, the survey research methodology was employed and out of the 302 population, a sample size of 100 was selected with reference to Frankel and Wallen (2000, p. 90).

A number of findings regarding the use of electronic resources by students have been found. The discussion of the findings are based on issues raised in the objectives.

4.8.1 AWARENESS OF ELECTRONIC RESOURCES

According to Ali (2005), awareness and use of EIS is the degree of user knowledge of the availability of the service and the extent use of them.

The findings of this study revealed a favourable percentage on awareness of electronic resources as 97.0% were aware of electronic resources and only 3.0% were not aware. It was also revealed that 91.0% of respondents were aware of Online databases, 52.0% were aware of OPAC, 74.0% were aware of E-journals, 65.0% were aware of e-books whilst few, representing 7.0% were aware of CD-ROM. This shows that majority of the respondents are aware of online databases with CD-ROM being the least. It came to light that some of the means through which respondents became aware of electronic resources were through orientation, colleagues, library website, notices as well as through lecturers. From the responses, students believe that electronic resources have not been well publicized to students of this university.

A research conducted by Kwadzo (2015) on awareness and usage of electronic databases by Geography and resources development information studies Graduate students in the University of Ghana revealed that out of the 32 responses that were given, majority 31 representing (96.9%) of the respondents were aware of electronic resources and only 1 was not aware. This is similar to Acheampong (2016), whose study revealed that out of 540 respondents 494 constituting (91.0%) were aware of electronic resources whilst 46 (9.0%) were not aware.

The findings of this study is in a sharp contrast with Bayugo and Agbeko (2007) who in their study of information seeking behaviour of health science faculty at the college of health sciences, University of Ghana, stated that “academics were unaware of the two full-text journal databases (HINARI and PERI) retrieved from the library”. On sources of awareness, the research findings of this study is not in agreement with Mawuenyegah-Fiati (2010) who reported that majority of respondents 42 (43.3%) got to know of electronic resources in their course work, 25 (25.8%) got to know from their lecturers while the orientation by the Balme library received the lowest percentage with 11(11.3%).

4.8.2 FREQUENCY OF USE OF ELECTRONIC RESOURCES

The second objective of the study was to assess the frequency of use of electronic resources by graduate students. On the use of electronic resources, the findings revealed that 32.0% indicated daily usage, 18.0% indicated twice daily usage, 42.0% indicated weekly usage and 5.0% indicated monthly usage. This is supported by a recent study by Ankrah and Atuase (2018). Their results showed that 147(57.9%) of respondents indicated that they use e-resources more than once a week, 72(28.6%) respondents accessed them on daily basis, 45(17.9%) of them accessed them more than once in a month while 36(14.3%) respondents rarely accessed them.

The study revealed that a remarkably large number of respondents (44.0%) indicated that the reason for use of electronic resources was for research/project work. Followed by 29.0% to add to their stock of knowledge, 20.0% of the respondents indicated they use electronic resources to answer assignment questions while 4.0% responded that the reason for use was for entertainment. The findings are consistent with Ali and Nisha (2011) on E-journals awareness and use among research scholars of the Central Science Library, University of Delhi. The findings of the study revealed that more than 60 percent of users in the Central Science Library are using e-journals for the purpose of research. These findings are slightly different from Natarajan (2016) who found out that the majority 148 (100%) of students use e-resources for (preparation for) presenting a paper. The findings of this study are also quite different from the findings of Dhanarandan (2012), whose study revealed that 131 (87.33%) use electronic resources for research study, 92 (61.33%) use it for communication purpose, 82 (54.66%) for finding relevant information, 52 (34.66%) for career development and 31 (20.66%) use e-resources for other activities.

4.8.3 USEFULNESS AND EASE OF USE OF ELECTRONIC RESOURCES

The Technology Acceptance Model indicated that the usefulness of a technology is based on the fact that it will enrich the performance of the user. Daramola (2016) affirms this when he that, electronic resources in academic libraries broaden the range of available information within the library and add value to the content by making them accessible through digital means.

This study supports TAM as 81.0% of the respondents indicated that e-resources have an impact on knowledge acquisition. This is supported by the study conducted by Kwadzo (2016) on awareness and usage of electronic databases in University of Ghana, whose study revealed that 53.1% indicated that electronic resources had a great impact on academics, while 18.8% indicated little impact. Omorekejimi *et al.* (2015) also revealed that the use of ERs has had a tremendous impact on the academic performance of undergraduate students.

Majority of the respondents 41 (50.0%) indicated that e-resources have an impact on their academics as it makes them retrieve information with ease. This was followed by 30 (36.6) who indicated that it helps to expand their knowledge-base, 7 (8.5%) believed that it makes them excel in their academics, since studying on a computer makes them sit long and 4 (4.9%) indicated that it enhances their ability to recall what they have learnt easily since it is easy to visualize computer-based information. This corroborates with the findings of Acheampong (2016) who revealed that majority 215 (39.8%) of the respondents indicated that e-resources make them retrieve information with ease and 150 (27.8%) indicated that it helps them to expand their knowledge-base.

In addition, most of the respondents are comfortable using electronic resources as 86.0% indicated yes and only 14.0% indicated no. With regards to skilfulness in using electronic resources, 55.0% indicated yes and 42.0% indicated no. however only 29.0% indicated that they are skilled in formulating search queries, 47.0% indicated no and 21.0% stated that they do not know. This shows a low level of skilfulness and that training programs must be organized to provide students with the needed skill to use electronic resources effectively. A similar study by Ozoemelem (2009) revealed that 32 (41.03%) of the respondents are skilled in formulating search queries and 46 (58.97%) are not. A study by Bashorun *et al.* (2011) at the University of

Ilorin found that respondents had no ICT skills to use electronic resources and this affected the effective use of electronic resources.

4.8.4 LEVEL OF SATISFACTION WITH CURRENT ELECTRONIC RESOURCES

“Satisfaction is the state that results after a user has favourably or positively experienced a service or a product” (Cooper and Dempsey 1998).

The findings revealed that 6.0% of the respondents indicated they are completely satisfied with their usage of e-resources, 29.0% of them are Mostly Satisfied. 19.0% of them also stated that they are Somewhat Satisfied, 11.0% of them are Neither Satisfied/Dissatisfied, 11.0% of them indicated that they are Somewhat Dissatisfied, and 21.0% said they are Mostly Dissatisfied. This shows that there is a split in the satisfaction level of electronic resources.

The findings in this study are similar to Akyeampong (2013), who revealed that (46%) of the respondents were either highly satisfied or satisfied with electronic resources, (41%) said that they were satisfactory. A study Ali (2005) also revealed that 170 out of 300 (57 percent) users are satisfied with the available electronic service, while 100 (33 percent) are not satisfied with the service. However, a study by Apenteng-Obese (2012) refuted this findings in a study on electronic resources use in University of Ghana Dental School. It was revealed that students are dissatisfied with the electronic resources available in the UGDS library due to challenges such as limited working hours, inadequate computers and frequent power failure.

It was also revealed that 27.0% of the respondents find e-resource information Reliable, 24.0% said they are Very Reliable, 33.0% said they are Slightly Reliable, and 13.0% said they are Not Reliable. The findings show that most of the respondents do not fully trust electronic information

resources. This was refuted by Agyemang-Sereboo (2010), whose study on use of electronic resources by Graduate students of Valco hall revealed that majority 75(52.8%) of the respondents find electronic resources information very Reliable. 41 (28.0%) indicated Slightly Reliable, 21 (14.8) indicated Reliable and 5 (3.5) indicated Not Reliable.

4.8.5 CHALLENGES ASSOCIATED WITH ELECTRONIC RESOURCES

It is important to identify the challenges faced by students' access and usage of electronic resources in order to provide a better and more effective service. A number of challenges in the use of electronic resources were revealed in this study. This included slow access speed, lack of searching skills, overload of information on the internet, delay in viewing/downloading pages, limited subscribed databases, not easy to use, difficulty in finding relevant information and power cuts. In addition, few respondents stated inadequate computers and privacy problems as some of the problems faced.

This is supported by studies conducted by Okoye and Ejikeme (2011), Ogbomo and Ivwighrehweta (2011), Ali (2005), Emorjoho, Ivwighrehweta and Onoriode (2012) which reported lack of skills, power cuts, limited subscribed titles and unavailability of internet facilities as some of the drawbacks students faced in electronic resources usage.

Similarly, a study by Acheampong (2016) on use of electronic resources in University of Professional studies revealed that the challenges faced by students included slow access speed, privacy problems, overload of information on the internet, challenge in finding relevant information, delay in viewing downloaded pages and other challenges which included limited number of computers available in the library. This confirms a study by Dadzie (2005) who

revealed in a study at Ashesi University that access to e-resources is challenged by inadequate computers on campus.

Kwafoa, Imoro and Afful-Arthur (2014) at the University of Cape Coast recognized that high internet charges, poor searching technique, slow nature of internet and lack of proper guidance hinder the use of EIR.

Also, A study conducted by Ozoemelem (2009) on “Use of Electronic Resources by Postgraduate Students of the Department of Library and Information Science of Delta State University, Abraka, Nigeria” also established that difficulty in navigation of some websites, inaccessibility of some websites, high-cost access, problem of credibility of information and the need to filter the results from the search were some of the challenges encountered in electronic resources usage.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 INTRODUCTION

Chapter five centres on summary of the findings, conclusion and makes recommendation based on the findings of the study.

5.2 Summary of Findings

The following is the summary of the findings.

1. Majority of respondents are aware of electronic resources particularly for online databases, E-journals and E-books but the knowledge of all the electronic resources was by no means universal. CD-ROM recorded the least percentage suggesting that most of the students are not aware of the availability of CD-ROM in the University library.
2. Most respondents became aware of electronic resources during orientations, through colleagues, Lecturers and on the library website.
3. Most of the respondents have used electronic resources for more than 2 years and some resources such as Online Databases and E-Journals are used more frequently than others.
4. Most of the respondents rated e-resources as useful and has an impact on their academics. However, the respondents have different experiences on the impact of e-resources on their academics.
5. Respondents exhibited a low level of search query formulation.
6. Respondents are mostly satisfied with Online Databases followed by E-Journals and then OPAC. The least satisfying e-resources are E-books and CD-ROM.

7. The major challenges faced by students in the usage of electronic resources were found to be slow internet connection, lack of searching skills, difficulty in finding relevant information, limited subscribed titles, delay in viewing downloaded pages, difficulty in using electronic resources and inadequate computers.

5.3 Conclusion

Electronic resources are invaluable to library's collection today as they meet the needs of diverse users. Institutions of higher learning continue to invest funds to expand their electronic collection to satisfy the needs of its target population. However, electronic resources are underutilized even with these huge investments.

The study revealed that several electronic resources such as OPAC, E-books, E-journals, electronic databases and others are available in the University to be used by students to enhance their academic performance. It was also revealed that electronic resources are essential to graduate students of the University of Ghana Business School as it helps to retrieve information with ease, expand their knowledge base, helps in research/project work, amongst others.

It was realized that students face some challenges when accessing electronic resources and these challenges include slow access speed, lack of searching skills, difficulty in finding relevant information, limited subscribed databases and overload of information on the internet.

5.4 Recommendations

Based on the findings of the study, the following recommendations are made:

1. It was revealed in the study that despite majority of the students are aware of electronic resources, there are still a handful of students who are not aware of these resources. Therefore, orientation should be made intensive to ensure maximum use of the library electronic resources.
2. Since CD-ROM is the least preferred electronic resource, library management can organise awareness program and training on the use of CD-ROM and its usefulness to academic work.
3. Electronic resources available in the library should be well publicized to inform students about them. This can be in the form of distribution of fliers and brochures on e-resources, sending text messages to students on e-resources, organising forums and having an electronic resource-week every semester to attract students to the library and make them aware of the available e-resources.
4. It is revealed in the study that quite a number of respondents are not skilled in using electronic resources as well as formulating search queries. Due to this, the Library management should provide students with intensive user-training and instructional programs on how to use the library electronic resources. The training programs should be structured and organized regularly to ensure that more students partake in it. It should also involve training on how to formulate search strategies as it makes the use of e-resources easier.
5. Students" complained about the limited subscribed databases. Therefore, the library management must ensure that they subscribe to more and appropriate databases that will cover all discipline to ensure that their investments are worthwhile.

6. The study revealed that majority of the respondents specified slow access speed as the main challenge they face in electronic resource usage. As a result, the University administration should provide efficient and effective Internet connections that can be accessed anywhere on campus as this will encourage the use of electronic resources by graduate students.

7. The study found out that there were not enough computers in the library, therefore, the University should support the library by providing more computers in the library for patron use. This will enable patrons without laptops to have access to electronic resources at all times without limitations .

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APPENDIX A
QUESTIONNAIRE
DEPARTMENT OF INFORMATION STUDIES
UNIVERSITY OF GHANA, LEGON

Dear Colleagues,

I am investigating the topic “**The Use of Electronic Resources by Graduate students of University of Ghana**” as part of the requirement for Master of Arts in Information studies. I will be grateful if you could spare some time to respond to the following questions on the topic. All information provided will be treated with utmost confidentiality and used for academic purposes only.

Thanks for your co-operation.

Please tick in the boxes provided below, the right answers to the questions and comment where necessary.

SECTION A

BIOGRAPHIC DATA

1. Gender: Male [☐] Female [☐]

2. Age Group: (a) 17-25 [☐] (b) 26-35 [☐] (c) 36-45 [☐] (d) 46-55 [☐] (e) 56 and above [☐]

3. Department:

a. Accounting [☐] b. Finance [☐] c. Marketing [☐] d. Organisation & HRM [☐]

e. Operations & MIS [] f. Public Admin & HSM [] g. Other (Specify).....

SECTION B

AWARENESS OF ELECTRONIC RESOURCES

4. Are you aware of the electronic resources in the University Library?

a. Yes [] b. No []

5. If yes, which of the following electronic resources are you aware of? (Tick as many as are applicable).

a. Online Databases [] b. OPAC (Online Public Access Catalogue) [] c. E-Journals []

d. E-books [] e. CD-ROM [] f. Other (Specify)

6. How did you get to know of the electronic resources?

a. Colleagues [] c. Orientation []

b. Library website [] d. Notices [] e. Other

7. Has the electronic resources been well publicized to students of this university?

a. Yes [] b. No []

8. If No, what should be done?

.....
.....

SECTION C

FREQUENCY OF USE OF ELECTRONIC RESOURCES

9. How long have you been using the e-resources of the University Library?

a. Less than 1 year [] c. 2 years [] e. 4 years and more []

b. 1 year [] d. 3 years []

10. How regularly do you use the e-resources?

a. Daily [] c. Weekly [] e. Other

b. Twice daily [] d. Monthly []

11. For what reasons do you use the electronic resources?

a. For research/project work [] c. For answering assignment questions []

b. For entertainment [] d. To add to my stock of knowledge []

e. Others (specify)

SECTION D

USEFULNESS AND EASE OF USE OF ELECTRONIC RESOURCES

12. Does the use of these e-resources have any significance/impact on your academics?

a. Yes [] b. No []

13. If yes, what significance/impact does it have on your academics? Choose as many as applicable.

- a. It makes me retrieve information with ease [☐]
- b. It helps me to expand my knowledge-base [☐]
- c. It makes me excel in my academics, since studying on a computer makes me sit long [☐]
- d. It enhances my ability to recall what I have learnt easily, since I can easily visualize computer-based information [☐]
- e. Other

14. Are you comfortable with using electronic resources?

- a. Yes [☐] b. No [☐]

15. Which of the following electronic resources do you find easy to use? (You may tick as many as applicable)

- a. Online Databases [☐] b. OPAC (Online Public Access Catalogue) [☐] c. E-Journals [☐]
- d. E-books [☐] e. CD-ROM [☐] f. Other (Specify)

16. Are you skillful in using electronic resources?

- a. Yes [☐] b. No [☐]

17. Are you skilled in formulating search queries?

- a. Yes [☐] b. No [☐] c. don't know [☐]

18. Is it easy to get required information?

a. Yes [] b. No []

SECTION E

LEVEL OF SATISFACTION WITH CURRENT ELETRONIC RESOURCES

19. Which of the following satisfy your information needs? (Tick as many as applicable)

a. Online Databases [] b. OPAC (Online Public Access Catalogue) [] C. E-Journals
[]

d. E-books [] e. CD-ROM [] f. Other (Specify).....

20. Please indicate your level of satisfaction in using e-resources by ticking (√).

Completely Satisfied	Mostly Satisfied	Somewhat Satisfied	Neither Satisfied/Dissatisfied	Somewhat Dissatisfied	Mostly Dissatisfied	Completely Dissatisfied

21. How reliable are electronic resources information?

a. Reliable [] d. Not reliable []
b. Very reliable [] e. Other (please specify)
c. Slightly reliable []

SECTION F

CHALLENGES ASSOCIATED WITH THE USE OF ELECTRONIC RESOURCES

22. Do you have access to electronic resources whenever you want?

- a. Yes [] b. No []

23. If No, why (please state).....

24. What are some of the challenges you face in using the e-resources?

- a. Slow access speed [] e. Limited subscribed titles []
- b. Lack of searching skills [] f. Not easy to use []
- c. Overload of information on the Internet [] g. Difficulty in finding relevant information []
- d. It takes too long to view/download pages [] h. Power cuts []
- i. Other (Specify).....

25. What should the library's priority be in terms of information provision?

- a. Subscribing to more academic databases []
- b. Adding more computers to the library []
- c. Providing improved access to electronic resources (online databases, e-books, etc.) []
- d. Providing training in using library and web resources []
- e. Other

26. How can effective use of these e-resources be ensured?

- a. Orientation should be intensified []
- b. There should be more awareness programmes []
- c. There should be enough networked computers []
- d. Network problems should be solved []
- e. Other

27. Comments

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