

UNIVERSITY OF GHANA

COLLEGE OF EDUCATION

SCHOOL OF INFORMATION AND COMMUNICATION STUDIES

DEPARTMENT OF INFORMATION STUDIES

**THE USE OF ELECTRONIC RESOURCES BY POSTGRADUATE STUDENTS OF
THE UNIVERSITY OF CAPE COAST**

BY

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

JULY, 2016

DECLARATION

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

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DIANA ATUASE

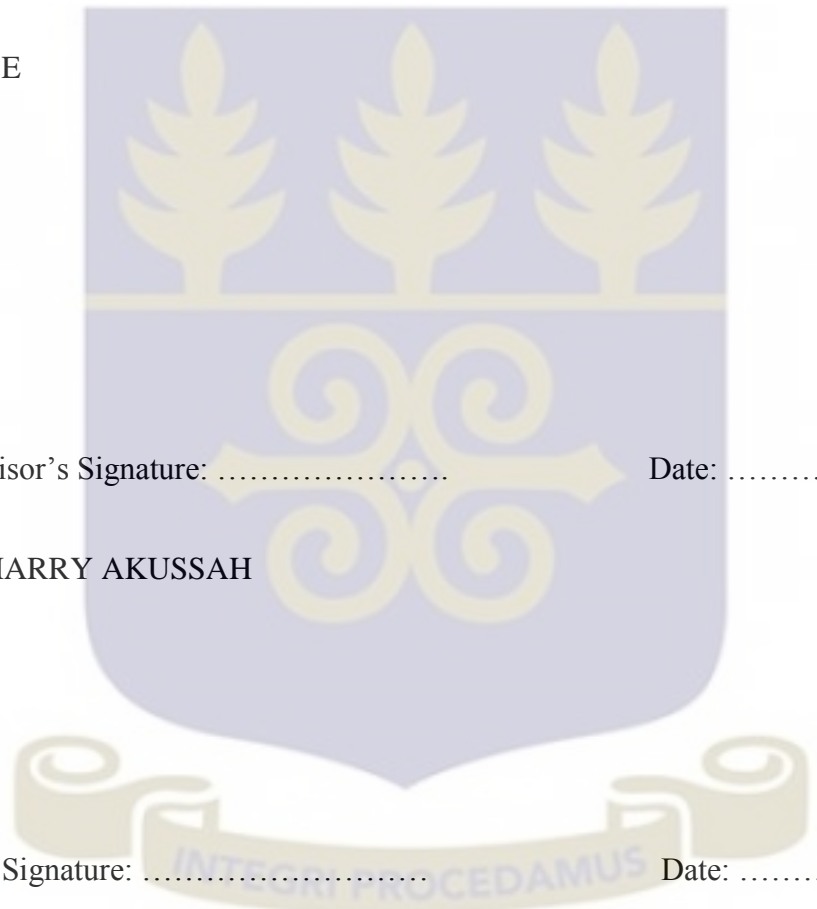
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DEDICATION

This thesis is dedicated to my lovely children, Ayiku and Maud.



ACKNOWLEDGEMENT

I owe a depth of gratitude to individuals who contributed in diverse ways to the success of this thesis. My acknowledgement goes to my impeccable Principal Supervisor Prof. Harry Akussah for his meticulous guidance, patience and constructive criticisms to enhance the quality of this work. My heartfelt thanks go to my Co-Supervisor Dr. Ebenezer Ankrah for his unrivalled scholarly expertise and useful contribution to this work.

I appreciate the support of ASP Edward Kartey Otumi, Ghana Police Service, Divisional Crime Officer, Sogakope Division. I am also grateful to Mr. Bohene, the head of the digital section, Sam Jonah Library for his invaluable advice and support. I am indebted to Mr. Hilary Dumba, lecturer at the Department of Arts and Social Sciences and Charles Koufie of Sam Jonah Library for their help in editing and directives. To Mr. S. N. B. Tackie, I say thank you for your encouragement.

Finally, my sincere thanks go to my parents, siblings and friends for their patience, encouragement and support.



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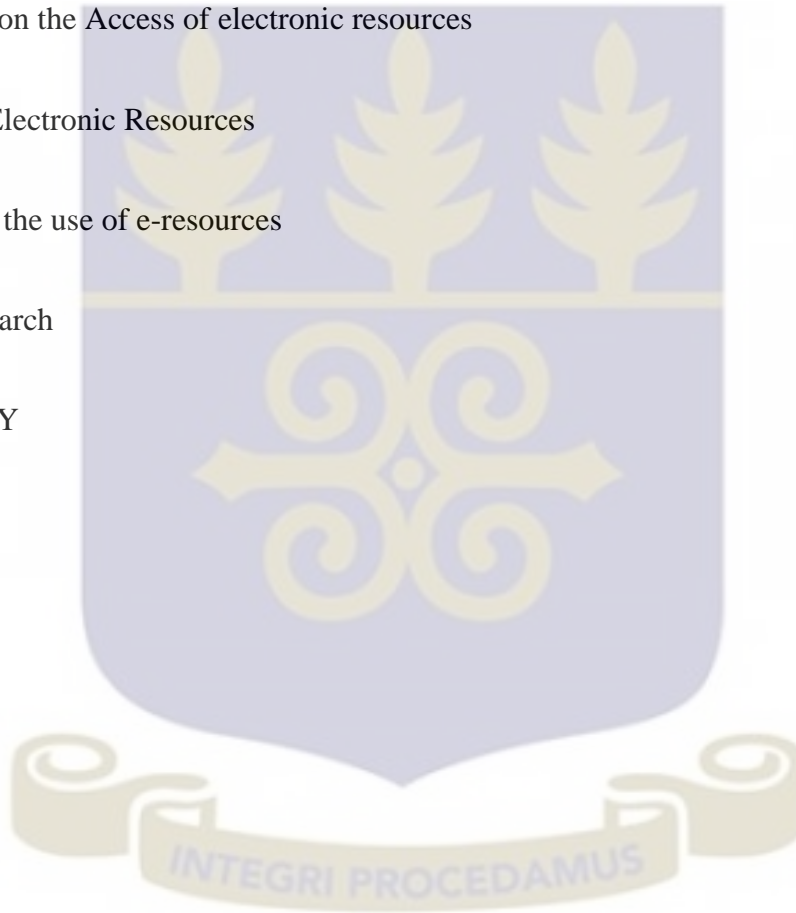
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LIST OF ACRONYMS AND ABBREVIATIONS



AACR2	Anglo American Catalogue Rule Two
AGORA	Access Global Online Research in Agriculture
ALA	American Library Association
CARLIGH	Consortium of Academic and Research Libraries in Ghana
CD-ROM	Compact Disc-Read Only Memory
CSIR	Council for Scientific and Industrial Research
DOI	Diffusion of Innovation
EIS	Electronic Information Services
HINARI	Health Internetwork Access to Research Initiative
ICT	Information and Communication Technology
IFLA	International Federation of Library Associations and Institutions
INASP	International Network for the Availability of Scientific Publications
ISSN	International Standard Serial Number
IT	Information Technology
OPAC	Online Public Access Catalogue
PERI	Programme for the Enhancement of Research Information

TEEAL The Essential Electronic Agriculture Library

OARE Online Access Research on Environment

UCC University of Cape Coast

WWW World Wide Web



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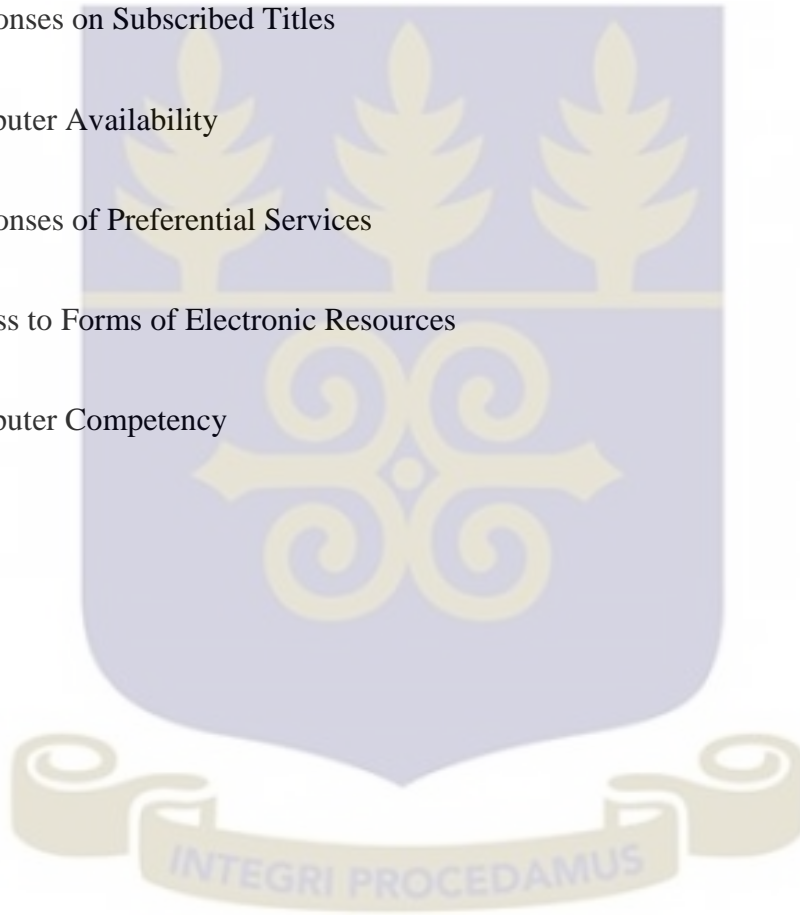
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Abstract

Academic libraries have become one stop information access points for members of the university and its community. In keeping pace with technological trends, academic libraries are focusing on the larger social and spatial context; through provision of electronic information resources for both local and remote users to enhance access to local and global information for the promotion of social, economic and political development in the society. The study sought to examine the use of electronic resources by postgraduate students of University of Cape Coast. The cross-sectional survey design was adopted for the study. Simple random sampling technique was adopted to select 275 respondents out of 915 postgraduate students from four colleges. The questionnaire was the sole instrument used for data collection and that gave rise to a response rate of 91.63%. The responses from the respondents were analyzed using Statistical Package for Social Sciences (SPSS) version 22. The findings of the study revealed that postgraduate students were aware of few individual e-resources in the library through orientation and seminar/workshop programmes. The study also showed that training on e-resources was inadequate, hence students had limited skills to access e-resources and relied on library staff for assistance. Major limitations were poor internet connection, inadequate computers, power outages and limited titles and power outage. Library management should promote e-resources extensively through social networking channels like Web 2.0 or Library 2.0 technologies; Training on e-resources should be organized at the beginning of each semester so that students do not rely solely on library staff for information; the university administration should increase bandwidth on campus so that students can readily access online e-resources.

CHAPTER ONE

1.1 Background to the Study

Developments in Information and Communication Technologies (ICT) have radically taken over every sphere of activity in university libraries. Academic libraries owe it a key duty to keep pace with technological advancement in order to cope with users' continual sophisticated information requirements. Academic libraries in the 21st century may not function properly without the existence of electronic resources. Tyckoson (2011) affirms that libraries and information centres which fail to adopt appropriate information technology in their services may cease to function and perhaps, close down. Essentially, ICTs are the standpoints through which electronic resources (e-resource) are accessible.

Modern teaching, learning and research purposes are promoted by academic libraries in universities through the use of ICT. Academic libraries are central in higher educational systems, assisting in the improvement of learning and dissemination of knowledge to meet the information requirements of the universities and their communities through the provision of timely information.

Information resources that can be accessed, retrieved, stored and used through electronic means can be seen as e-resources. Information in electronic format are accessible through the computer, network of computers (internet), as well as by storage devices such as CD-ROM databases, pen drives, and other peripheral devices through the use of computer systems. Electronic information resources are; information on CD-ROM databases, online databases, electronic journals (e-journals), electronic books, (e-books), internet resources, etc. According to

Haridasan and Khan (2009), e-resources are information stored and accessed through electronic systems.

The Anglo American Catalogue Rule Two (AACR2) defines e-resources as information resources which comprise of data or computer programme(s) accessible by computers, peripheral devices linked to computers systems or via the network of computers (Reitz, 2005). In addition, Deng (2010) listed examples of e-resources as; e-databases, e-thesis, electronic books (e-books), electronic journals (e-journals), electronic magazines (e-magazine), electronic newspapers and archives, the rest include e-theses, symposium papers, monographs and intellectual works in electronic form. E-resources can be used to balance printed information in academic libraries in order to give information seekers the choice to have access to more convenient and reliable information sources to meet their information requirements.

In Africa, there has been a considerable improvement of information in electronic format in university libraries since in the 1990s by the initiatives of information organisations such as the International Network for the Availability of Scientific Publications (INASP), they negotiate with international publishers on behalf of African countries for discount prices on e-resources for subscription by academic institutional libraries. These initiatives have been enhanced by programmes such as the Programme for the Enhancement of Research Information (PERI), and Online Access to Research on Environment (OARE) (Rosenberg, 2006). These organizations have contributed immensely to the availability of e-resources in African universities.

Besides, most academic libraries in Africa continue to populate their web sites/home pages with intellectual works such as postgraduate students' theses/dissertation, journal articles of faculties, inaugural lectures, annual reports, and past questions. These are to promote accessibility of intellectual knowledge in African universities to varied users. Therefore, most universities have made it obligatory that postgraduate students submit their academic work in both print and non-formats on CD-ROMs. Most university libraries have also taken advantage of the digitization processes to digitize hard copies of old theses and make other information resources more accessible to users.

In Ghana, there has been remarkable improvement in electronic information provision by academic and research libraries, through benevolent initiatives of information organisations such as INASP and PERI. These organisations play a major role to ensure price reduction on electronic information resources with international publishers on behalf of most academic libraries (Kwadzo, 2015). Most academic libraries in Ghana continue to subscribe to electronic information in full text journal articles, abstracts, online databases and bibliographic references through the initiatives of these information organisations. Now, scholars, researchers and other information seekers have access to wide range of e-resources from higher educational institutions for their academic work.

Information has become an important element for development in every facet of life, in social, political, scientific and economic cycles. The key responsibility of libraries are to meet the emerging information needs of the society through information provisions. In striving to achieve their core mandates with limited budgetary allocations, institutions of higher learning and

research libraries in Ghana have formed a consortium known as the Consortium of Academic and Research Libraries of Ghana (CARLIGH) where members can pull their resources together to acquire information resources for common benefits.

Most academic and research libraries continue to increase in capacity of various e-resources like online databases and journals at lower cost as compared to distinct library subscription. Libraries through these initiatives are able to provide global information access to their users. Recently, a workshop on e-books was organized by Baobab, a publishing company, on 8th November, 2015. CARLIGH has decided to expand its information provision to cover e-books. This would help create a platform for interested members (academic and research libraries) to access e-books at lower cost.

Since the production of paper, print resources have been the main available information resource for research, teaching and learning processes in Ghanaian universities. The development of ICT has compelled most academic libraries in Ghana to adopt the process of digitizing documents that can only be found in print or hard copies such as books, journals, abstracts, indexes, and theses/dissertations have duplicates in electronic form as well.

Most academic libraries are hybrid in form. But Sharma (2009) affirms that print-based information resources are progressively making way for information in electronic form. Also, Ani (2008) as cited in Tsakonas and Papatheodorou (2006) posits that apart from the growth of electronic information, the evolution from print to electronic medium has provided different tools and applications for users in information searching and usage. It can be said that e-

resources are important tools for research that alternate print-based resources in libraries. Dalgeish and Hall (2000) observe that electronic information is becoming the most preferred information resource by users than that of print-based resources. Printed materials in academic libraries have their own merits; they cannot be replaced completely by e-resources. Hence, in order to meet the varied needs of their users, it would be appropriate that academic library operates in hybrid.

E-resources are vital sources of information in academic libraries across the world. Electronic information have broadened the information base of academic libraries and providing access to readily availability of information to users. They are the main ingredients that have become a necessity for most academic library resources today. Shuling (2007) reveals that e-resources have become most commonly accessed information resource in most academic libraries. The development of e-resources has rapidly altered information access and information management procedures in the academic settings, particularly in academic libraries. Therefore, students, researchers and other information seekers are now exposed to various accesses to electronic information resources globally.

Moreover, in today's electronic environment, the role of library has evolved to meet the demands of technology evolution. According to Dadzie (2007), the benefits of e-resources are irreplaceable because they serve as research elements that supplement print information resources in traditional settings of libraries. She outlined the benefits of e-resources as, availability of information to remote users, access to up-to-date and cost effective information.

Therefore, advancement in technology makes it possible for libraries to adopt modern trends of technology to organize their collections and improve service delivery.

Certainly, current and up to date information can be found in e-resources which are beneficial to information seekers. Ani (2013) supports the fact that the application of ICT in today's libraries have contributed significantly in the delivery of timely information in higher learning institutions to promote academic work and increase research productivity.

In addition, academic libraries are storehouses of information or knowledge for both local and remote users. Ellis and Oldman (2005) opined that academic libraries play central role to influence knowledge building in universities. Most students depend on them to conduct research. E-resources are important tools for research work in higher education of learning (Bature, 2009). The major benefits of e-resources in the higher educational libraries are to provide global access to needed information, regardless of geographical location of users. E-resources therefore promote efficacy in information dissemination for research purposes in universities (Thanuskodi, 2012).

Notwithstanding the significance of e-resources to university education, their accessibility and usage in Africa universities are relegated to several challenges. Available reports have shown that most university libraries are faced with low finances, high cost of IT equipment, power outages, poor telecommunication infrastructures, inadequate skills and limited training on the effective use of e-resources (Fatoki, 2004; Adeoti- Adekeye, 1997).

Every academic library, irrespective of its purpose, is duty bound to integrate electronic resources into their system of information. Effective exploitation of electronic information resources go hand in hand with computer competency skills.

Moreover, basic computer skills are important assets to postgraduate students to exploit desired information in their learning and research processes. Computer literacy involves the ability to use and manipulate computer systems to acquire desired information. Otokunfor (2005) explained computer literacy is the degree at which users can manipulate computer systems to achieve the desired results for decision making and problem solving. For information users, the explanation of computer literacy has three components: acquiring basic computing principles, the ability to use computer operating system, the proficiency with particular application or computer software programmes. (Saadi, 2002).

User knowledge of the search system serves as motivation and boost of confidence in information searching. Also, the ability to find, evaluate and use information effectively can be transferable skill purposely for lifelong learning for human endeavours. It is therefore necessary for students to acquire computer skills which are aspect of information literacy skills to make effective use of electronic information from various sources for educational purposes. Moahi (2009) asserted that information are effectively managed and made accessible in universities through the use of ICT.

Therefore, the rates at which ICTs are utilized by African universities have positive revelation with the level of patronage to electronic materials by academics, students and researchers

(Moahi, 2009). It can therefore be said that e-resources contribute immensely to the realization of institutional goals through the provision of adequate and effective information to library users.



1.1.1 Brief background of University of Cape Coast

The University of Cape Coast (UCC) was established in 1962 formerly to produce graduate professional teachers for the second cycle schools and the Education ministry. Currently, UCC offers many academic programmes which are grouped under five (5) colleges headed by Provosts, namely: College of Agricultural and Natural Sciences, College of Education Studies, College of Health and Allied Sciences, College of Humanities and Legal Studies and College of Distance Education. The University of Cape Coast aimed at achieving its vision of becoming a Centre of Excellence in Africa and the world for human resource and entrepreneurship development in education and other related sectors. (UCC, 2015).

1.1.2. Electronic Resource Services of Sam Jonah Library

The Sam Jonah library has adapted to technological enhancements to assist in the teaching, learning and research in the university. The library provides electronic resources that offer diverse and innovative information and services to cater for user needs. The library also subscribes to e- resources such as online databases and academic journals of full text and abstract text through the Consortium of Academic and Research Libraries of Ghana (CARLIGH). Besides, the library has access to open access e-journals with full text and abstracts content for users. In addition, the library acquires e-resources through the initiative of INASP. University of Cape Coast library invest much in the subscription of online databases and e-journals annually (Kwafoa, Osman and Afful-Arthur, 2014). On the average, the University of Cape Coast has a bandwidth of about 304 MBPs. This provides internet access within the university for students and researchers.

Moreover, Sam Jonah library has among other facilities, Electronic Support Unit for students to conduct research, research centre for faculty members these are equipped with computer networks access for faculty members to search for information for various purposes. The Unit, besides the normal orientation programmes it offers for fresh students, also organizes a yearly training programme on e-resources to first year postgraduate students. This three weeks seminar is basically to equip postgraduate students with skills to effortlessly access and use e-journals, online databases and other e-resources. The electronic resources of the library can also be accessed by remote means; once students register, they gain access to the institutional repository by using their user names and passwords. The library has an Online Public Access Catalogue (OPAC) that contains bibliographic records of the library holdings. Similarly, on the library's website, contains institutional repository which uses the D-Space software and provides access to the repository in the form of intellectual writings such as conference papers and proceedings, published journal articles, reports, theses, data sets, past questions and other scholarly works by the University of Cape Coast faculty and postgraduate students among others. (UCC Library Guide, 2012).

Another service associated with the Electronic unit is interlibrary lending and document delivery (ILL/DD). The purpose of this service is to make, upon request of the library user, e-resources that are not available in the library. The Unit acts as an intermediary to request the material from an associate library, the material is made available through electronic means to the Unit for the user to have access. Currently, the Electronic Unit provides services on ILL/DD of electronic information resources only. For example, Sam Jonah Library collaborates with Aarhus Library in Denmark for ILL/DD services.

1.2 Problem Statement

In recent times, much premium has been placed on the provision of e-resources by academic libraries the world over. This has compelled academic institutions to invest in these information resources to enhance accessibility and to achieve optimum usage by users. In spite of the value of e-resources in the provision of effective and efficient information for learning and research purposes, available literature shows that usage of e-resources is not up to the level expected. This problem is more peculiar to developing countries. Studies by Bankole (2012) and Fiankor & Akussah (2012) revealed low awareness of e-resources by library users; this has contributed to limited access to important and credible information by users for their academic work.

Similarly, Dadzie (2005), Badu & Markwei (2005) observed low patronage of academic databases by students, this was attributed to insufficient publicity about the library's e-resources and the absence of skills needed to make effective use of e-resources.

An interaction with some postgraduate students of University of Cape Coast revealed that they had inadequate training on e-resources. Some students also complained about the inadequate user education on the use of the library and its resources. Also, postgraduate students who did not have their first degree in UCC also mentioned similar challenges and the lack of knowledge of e-resources of the library. Further investigations also brought to light that some postgraduate students were not computer literate; hence, their inability to use the internet resources. Postgraduate studies is such that students mostly rely on information both print and non-print sources for their academic work. Even though some scholars have conducted research on the similar topic in other vicinities of study, no empirical study has been conducted in UCC. This has

necessitated a research to dissect into the usage of e-resources among postgraduate students of UCC and give necessary recommendations.

1.3 Purpose of the Study

The purpose of this study was to examine the use of electronic resources by postgraduate students of the University of Cape Coast, and with a view of giving recommendations based on findings.

1.4 Objectives of the Study

The major objectives of the study were to:

1. To determine postgraduate students' awareness of electronic resources in the library.
2. To find out the frequency of usage of e-resources by students.
3. To seek users' perception and use of electronic resources in the library.
4. To determine the purpose of accessing and using e-resources among postgraduate students.
5. To determine the computer literacy level of postgraduate students.
6. To identify the likely problems in the utilization of electronic resources by postgraduate students.
7. To proffer useful suggestions and recommendations where applicable to enhance and improve on the use of electronic resources in the library.

1.5 Research Questions

The research sought to find answers to these questions:

1. Are postgraduate students aware of electronic resources in the library?

2. How frequently do postgraduate students use e- resources?
3. What are users' perception and usage of electronic resources in the Library?
4. What are the purposes of accessing and using e-resources by postgraduate students?
5. What are computer literacy levels of postgraduate students?
6. What challenges do postgraduate students encounter when accessing and using e-resources in the library?

1.6 Scope and Limitation of the Study

University of Cape Coast offers academic programmes in 5 colleges, namely; College of Agricultural and Natural Sciences, College of Education Studies, College of Health and Allied Sciences and College of Humanities and Legal Studies and College of Distance Education.

Under normal circumstance, the study should have covered the entire 5 colleges. However, the study was narrowed to only 4 colleges with the exclusion of College of Distance Education. This was due to the fact that, most distance education students do not study within the boundaries of the university, so it would have been quite extensive to cover all the ten regional centres in Ghana given the time frame of the study. Postgraduate students on sandwich programme were also exempted from the study since the research would have been almost through before they reported for their academic programme.

1.7 Theoretical Framework

The use of e-resources is a necessity to academic libraries. Notwithstanding the necessity of new and refined technology, prospective users of that technology may be proactive or passive to such

tools (Gibson, Harris & Colaric, 2008). The study adopted the diffusion of innovation theory (DOI).

The diffusion of innovations theory is a popular framework since its inception about half a century ago to explain how people gain knowledge about the existence of new technology and its benefits in a social system (Rogers, 2003). DOI theory tries to expound how with time, an innovation, product, idea or object become popular and is accepted by specific population. Adoption of an innovation involves a process that requires decision making and action to be taken, to use an innovation which is considered to be better than an existing one. The basis of adoption requires the individual to identify the innovative as new (Rogers, 2003).

Adoption of an innovation does not take place concurrently in a social system, relatively it is a gradual development in which some individuals are more likely to take advantage of the innovation than others. Researchers have confirmed that early adopters of an innovation seem to exhibit different traits than people who adopt later. In marketing an innovation to a target group of people, the unique features of the target population need to be examined critically since this could aid or hinder the adoption process.

Rogers (2003) identified five recognized adopter categories in an innovation. Different strategies are used to influence the adopter categories to promote an innovation. The adopter categories are:

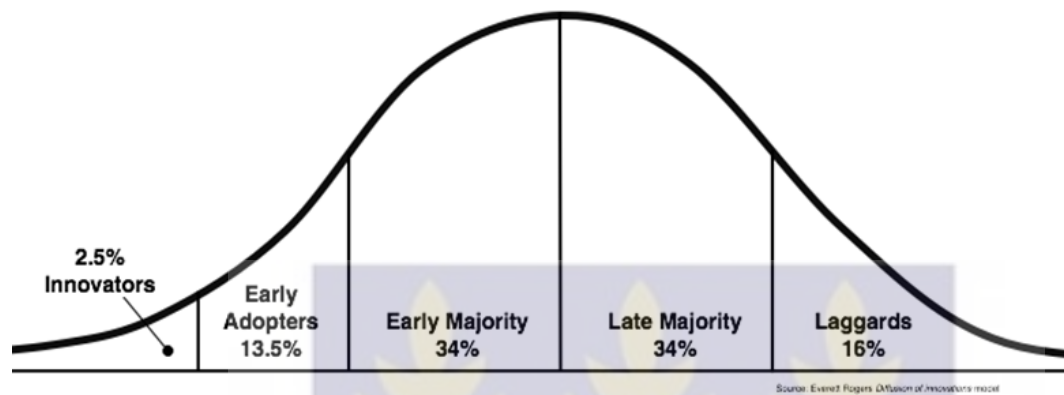
Innovators are groups of people who are always curious to know more about an innovation. They are brave and engrossed with new ideas or products. They are risk takers, and are often the first to use an innovation. They are people who have the drive to adopt an innovation, once they perceive an idea or product to be useful.

Early adopters are groups of people who have knowledge about the existence of an innovation and are enthusiastic to adopt it. Therefore, do not need any information to be convinced or decide. Hence, they have higher adoption rate of an innovation in the social system.

Early majority are made of people who adopt to new ideas or innovation before the average person. These people evaluate innovation thoroughly through investigation about the innovation before decisions of adoption or rejection are made.

Late majority are people who have uncertain behavior about change, they need evidence or proof of success of an innovation, after it has been tried by many people. These people need enough information to be convinced before the decision of adoption could be made.

Laggards are mostly the last group to consider the adoption process of an innovation. They are embedded by traditions, very conservative and uncertain of change and are the stiffest group to be convinced in the adoption process (Rogers, 2003).

FIGURE 1.1: ROGER'S DIFFUSION OF INNOVATION MODEL

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

According to Rogers (2003), adoption of an innovation comprises of five stages these are; awareness of innovation, choice to adopt or cull the innovation, trial, and continued use of the innovation.

The adoption of an innovation is influenced by five main factors which are to some point link with the adopter categories in the social system (Rogers, 2003). These include; relative advantage is the rate at which an innovation is seemed to be more valuable than the idea, program, or product it replaces. Compatibility measures the consistency of an innovation in terms of its values, proficiencies, and its ability to meet the needs of the prospective adopters. Complexity is the challenges adopters experience in order to understand or use an innovation. Triability is the process by which an innovation is tried or experimented for confidence or experience. Observability is the degree at which an innovation produces desired results to the end user. (Rogers, 2003).

Furthermore, the model has undergone critique, empirically tested, and used for programme planning since in the 1950s (Yates, 2001). More importantly, the frameworks has been significant to extension professionals, scholars, and students and the like, and continue to be useful in numerous fields of information technology, medicine, telecommunications, and business (Rogers, 2003). Moreover, many researchers have adopted this theory to explain information use (Less,' 2003 and Zakaria, 2001).

Several researchers have used the Diffusion of Innovation Theory as a framework for different studies (Zakaria, 2001; Isleem, 2003; Less; 2003). Parisot (1997) and Medlin (2001) considered Rogers' diffusion of innovations theory as most suitable for exploring the adoption of technology in advanced learning environment.

Electronic resources have been fundamentally promoted by many universities around the world. This has helped broaden the information base of students, serving as major complement to print information sources. With copious advantages of e-resources, more usage of e-resources by postgraduates should be encouraged.

In the context of this study, the DOI theory was adopted; postgraduate students of UCC constituted the social system which was represented by various categories of adopters and an innovation as access to e-resources. It was safe to assume that postgraduates belong to different adopter categories so long as the use of e-resources is concern. Basically, e-resources can be seen as part of technological innovation within the social context. Therefore, the DOI theory was adopted to examine the awareness of electronic resources by postgraduate students of UCC,

frequency of access, purpose of accessing and using e-resources among postgraduate students, also to find out user perceptions on the use of e-resources, as well as computer literacy skills of postgraduates and challenges encountered in the utilization of e-resources by postgraduates.

1.8 Significance of the Study

The study examined the use of e-resources by postgraduate students; the results could serve as a reference point in addressing the issue of e-resources usage by students. Especially, the findings of the study would help university libraries to identify challenges encountered by users of e-resources. Thus, the library management would be in the position to acquire more relevant materials in their digital collections and improve on the existing e-resources and services and as well strategize for future electronic resource services to meet the emerging information requirements of its multi-dimensional users.

The results of this study would provide policy makers and decision markers with a considerable knowledge on current issues of using e-resources so that appropriate measures and decisions can be taken to ensure maximum and efficient use.

Lastly, the study would contribute to existing body of knowledge in the area of the use of e-resources by postgraduates. The study would provide new directions for research on electronic information sources in Ghanaian universities.

1.9 Organisation of the Study

The study is made up of six main chapters.

Chapter one covered the introduction of the study which consisted of the background to the study, study settings, statement of the problem, purpose of the study, objectives of the study, research questions, scope and limitations of the study, and the significance of the study.

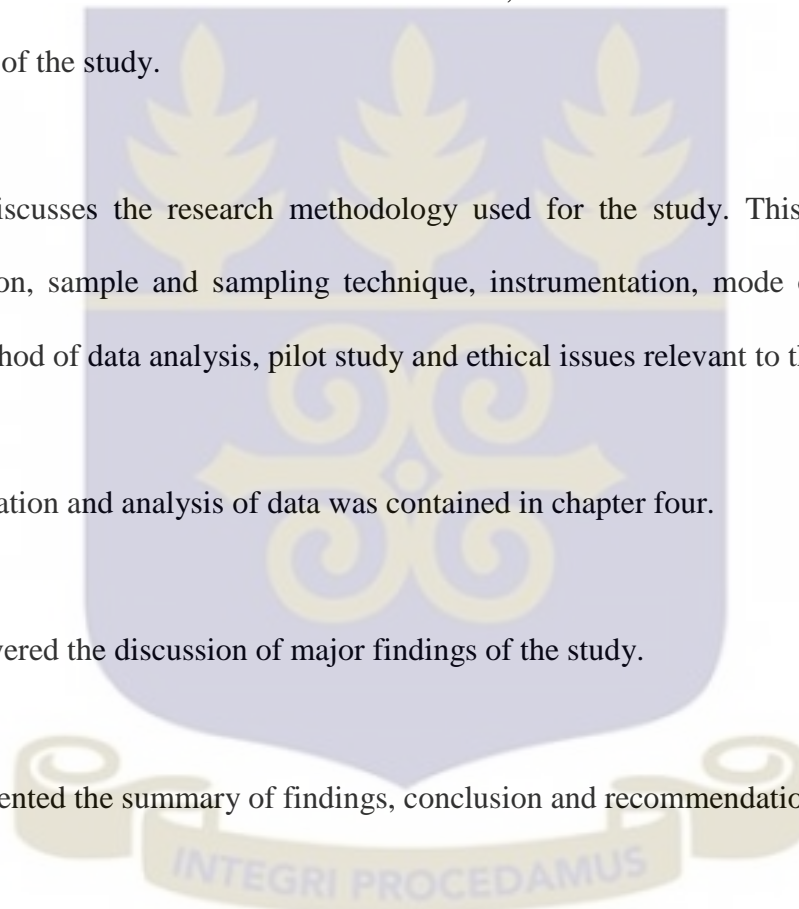
Chapter two comprised of review of related literature on conceptual and empirical issues on electronic information resources. This covers the World, African and Ghanaian views in relation to the objectives of the study.

Chapter three discusses the research methodology used for the study. This covers; research design, population, sample and sampling technique, instrumentation, mode of data collection instruments, method of data analysis, pilot study and ethical issues relevant to the study.

The data presentation and analysis of data was contained in chapter four.

Chapter Five covered the discussion of major findings of the study.

Chapter Six presented the summary of findings, conclusion and recommendations of the study.



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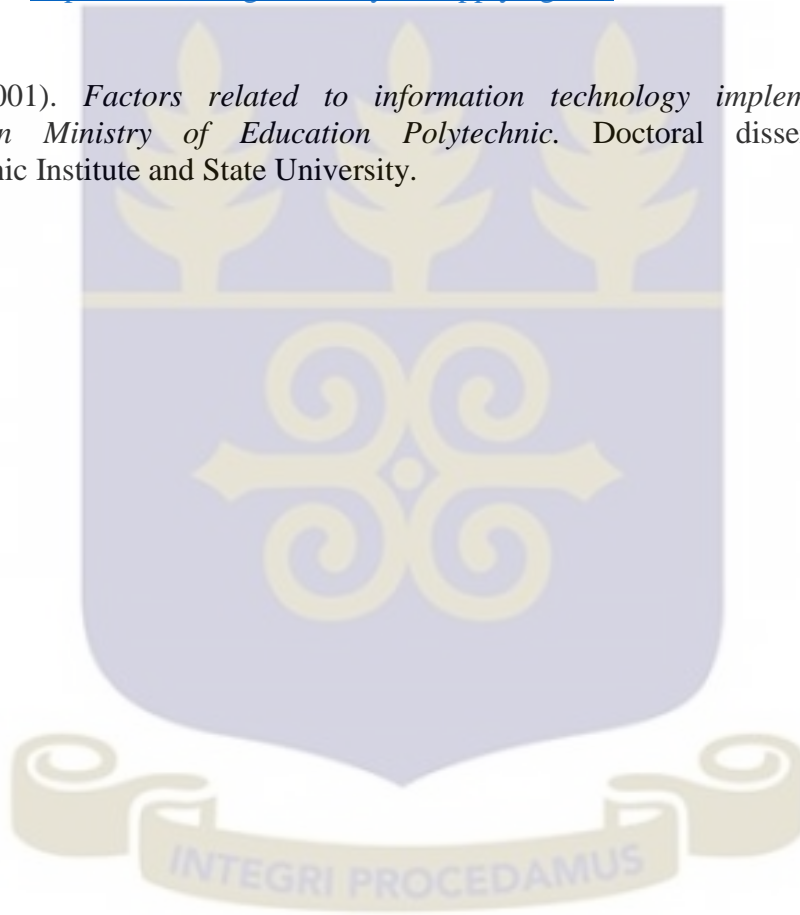
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CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

Literature review is the key in every research since it provides a comprehensive view of the terrain in which a particular research covers. In examining the use of electronic resources by postgraduate students of University of Cape Coast, it is imperative to delve into existing body of knowledge on the subject matter on global perspectives, African views as well as Ghanaian viewpoints.

The overview of this chapter concerns itself with the following areas:

- Concept of e-resources
- Types of e-resources in academic libraries
- User knowledge of electronic resources in academic libraries
- Perception and attitude towards the use of electronic resources
- Access to electronic resources
- Purpose of accessing electronic resources
- Training in the use of e-resources
- Challenges towards access and use of e-resources

2.2. Concept of Electronic Resources

The roles of academic libraries continue to evolve through the adaption of new technologies in information management and service delivery, to make information readily available and accessible to users. The historical trail of e-resources began in the mid-1960s, with the

introduction of machine readable catalogue which served as a directive tool to information resources, this followed the use of OPAC and bibliographic databases, these were later improved to the use of information on CD ROM databases in 1980s (Hawthorne, 2008). The recent electronic information innovations are the online databases, and web-based databases, these information resources provide a broader and more information with limitless access in this 21st century. Electronic serials and e-books were also introduced during the same period. Similarly, more information in electronic format such as e-journals, and e-books were introduced in the 1990s (Nisonger, 2003). Nisonger added that electronic information allow users with internet access to search and use information from any geographical location. Electronic information resources are powerful tools invented in human history. Users are now exposed to quantities of e-resources which are more cost effective and provide effective access to information which was unknown and difficult to reach.

Today, libraries provide electronic access to a wide variety of information resources to users. IFLA (2012) outlines e-resources as materials that encompasses computer access via the internet or intranet. Common types of e-resources are online databases, e-journals, e-books, indexing and abstracting, reference databases such as dictionaries, directories, biographies and encyclopaedia. These information sources are part of contemporary information technology. E-resources have unique characteristics such as; multiple accesses, universal access, reuse, promptness, suitability, richer in content, and up-to-date information among others. Therefore, e-information sources have become the main information ingredient for the academic environment globally (Kumar and Kumar, 2008).

Conversely, despite the enormous advantages of the internet as an instrument for possible use of online e-resources in African universities, available report revealed that Africa countries are not at same level with the rest of the world in terms of internet provisions. For instance, in 2012, it was reported that the percentage of internet usage in Africa was less than 10% of the world total access (Internet World Stats, 2012). Generally, with the current dispensation of technological advancement, information has become a key factor for development to every country in the world. Therefore, improvement of internet usage in every sector of the economy especially in sectors like business and commerce, manufacture, health and education is very necessary. Missen et al., (2005) have indicated that the internet allows African universities to compete favourably with other universities in the more advanced world in terms of information provisions. Internet availability should be a priority to African universities since it is an important means to global information access.

It is imperative that African universities advance on internet connections and provisions in order to keep pace with the contemporary academic world. The availability of internet is essential in university education, for it enhances effective teaching, learning and research processes. Most academic libraries use the internet to carry out their activities such as acquisition of information resources, processing of information resources, display and dissemination of information as well as to render service to clients, the internet serves as the most effective way of information delivery (Al Fadhli and Johnson, 2006).

In Ghana, libraries in higher institutions of learning ensure balance of usage of information resources to their heterogeneous users. Most academic libraries, such public, private and research

libraries have formed inter-institutional cooperation which is the Consortium for Academic and Research Libraries of Ghana (Lamprey, 2014). It focuses on members pulling their resources together in order to subscribe to e-resources for the advantage of users. This provides opportunity for smaller libraries that might not have enough resources to also benefit by getting e-resources to their users.

CARLIGH has the vision of becoming the centre of excellence in the provision of intellectual works specifically in electronic formats, for academic progression in Ghanaian universities and research centres in Ghana. This has enhanced the provision of distance access to electronic databases and services which were formerly expensive, and even uncommon in some cases. For example, CARLIGH, as part of its core mandate, has negotiated licensing contracts to more comprehensive databases and e-journals for interested academic and research libraries (Lamprey, 2014).

Notwithstanding the contributions of CARLIGH to enhancement of electronic information provisions, the dwindling budgetary allocations to libraries by their parent institutions is a major challenge, hence making them ineffective to contribute in the provisions of e-resources.

In addition, the initiatives of benevolent organisations such as INASP and PERI have also contributed to the provision of wide range of e-resources among academic libraries in Ghana (Kwadzo, 2015). These information organisations mediate between academic libraries and international publishers through price negotiations on electronic databases on behalf of

academic libraries. However, libraries that are financially constraint could be disadvantaged of benefiting from these initiatives to provide comprehensive e-resources to their users.

2.2.1 Types of Electronic Resources in Academic Libraries

Even though the emergence of technological advancement has made users to be more sophisticated in information seeking, academic libraries are challenged to meet these needs by providing appropriate electronic information resources. Types of e-resources that are commonly used in academic libraries include; e-journals, e-books, e-indexing and e-abstracting, reference electronic sources like biographies, dictionaries, directories, and encyclopedias (IFLA, 2012). Others include CD-ROM databases, electronic conference proceedings and reports, electronic theses/dissertations and online databases.

Electronic journals can be referred to as global information highways, which have emerged as essential components of electronic resources of academic libraries and are vital in the dissemination of information to users. E-journals are typically periodicals or series that contain a collection of articles in electronic form by different authors, often in specific subject areas. They are often published by professional associations, societies, foundations, commercial publishers or institutes. Most e-journals of university libraries are refereed journals or peer reviewed ones. E-journals can be accessed based on subscription or free access. Open Access journals are accessible to users with less restriction of access. Academic libraries are striving to make e-journals accessible to their clients to keep them in touch with technological advancement in their area of study.

Online databases are essential in contemporary research processes in higher academic institutions. Online databases contain collection of e-journals and e-books, they are cost effective and convenient to access. Contents of online databases differ in disciplines or subject areas. Examples of online databases are Emerald, Medline, Science Direct, AGORA, HINARI, Lexis-Nexis, and EBSCHO host.

The Online Public Access Catalogue (OPAC) has virtually replaced the manual card catalogue in most academic libraries. An OPAC can be described as an online database of information resources that are held by a library to provide platforms for users to search and to locate books and other information resources physically in the library (Ansari, 2008). It has made searching and retrieval of bibliographic records of materials in libraries easier and faster, since both local and remote users have opportunities of knowing the current information resources of libraries to make reservations. OPAC has multiple access points where users can use to have bibliographic records. For example, searches can be done by using author name, title, key words and call marks.

Indexing is the systematic or alphabetical process of arranging of records designed to assist information users to locate items in print and electronic format. Indexing involves a carefully selection of subject terms, headings and descriptions that describe the intellectual content of documents or cover core themes in information materials (Rowley, 1988). An index involves series of entries appearing in alphabetical order to assist users find information from document with references to indicate where each item is located in information resources. It is important

that information resources in print and non-print form in academic libraries be indexed for easy access.

Abstracting is the process of providing a brief, gist or summary and objective statement of contents of print and electronic documents such as books, articles, speeches, reports, dissertation or other intellectual works to enable users to quickly decide whether to consult the whole document or not (Cleveland & Cleveland, 2001). Abstracts contain condensed form of information materials that cover the salient points in them. It briefly describes the content and scope of writings and reviews of the documents' content in summarized form. Also, CD-ROM/DVD databases are e-resources available in magnetic media. These electronic information resources can be accessed by separate means or network-based computer systems.

2.3. User Knowledge of Electronic Resources in Academic Libraries

Access to knowledge is an important asset for development to every human being. Awareness of e-resources is when users have full knowledge about the various electronic information resources in the library. High awareness of a library's resources are achieved through the library's initiatives. For it could be observed that when users are exposed to information resources in a particular library, they stand a chance of accessing them and are also encouraged to utilize them judiciously to their advantage.

Awareness of information resources in libraries by users is an issue of much concern, though availability may not be a guarantee to complete usage. Therefore, optimum utilization of information resources by users depends on the awareness of the resources. A research conducted by Chirra and Madhusudhan (2009) showed that 100% of doctoral research scholars had

knowledge of e-journals of the Consortium and made use of them. Awareness is the requisite for efficient and effective use of e-resources.

Rehman and Ramzy (2004) observed that although libraries have provided the state of the arts technologies and infrastructure, they may not be fully accessed if users lack awareness of the e-resources. On the contrary, Renwick (2005) argued that most students in various faculties are aware of the available e-resources but had low usage of specific resources. Ahmad and Panda (2013) also added that not every user had enough knowledge about electronic resources in the library. Therefore, provision of information resources in libraries by information professionals are not enough until these resources are well marketed and promoted to achieve full utilization by end-users.

In catching up with technological trends, the most focused are the academic libraries, with relentless efforts; they provide electronic information to meet the emerging information demands of the university community and beyond. Therefore, libraries are no more seen as custodians of knowledge but service institutions with the aim of assisting users to make the most effective use of resources and services of the library.

However, there are various means by which user attention can be drawn to the use of information resources of libraries. A study by Soyizwapi (2005) revealed that postgraduate students became aware of e-databases from various sources such as colleagues, library orientation programmes and lecturers. Other means of awareness creation are through posters, flyers, brochure, library guide, library website, exhibitions, radio programmes and through word of mouth by lectures or teachers to direct students to information sites. Notwithstanding the growth of technology,

libraries need to re-strategize their promotional activities by adopting to technological trends to promote their services to cover both local and remote users.

At one time, libraries tended to be passive where they were custodian of information and only waited to answer user queries. In this information era, libraries are more proactive with the aim to provide users with effective and efficient resources and services. Therefore, libraries that do not adopt to appropriate mechanisms to get their resources and services to prospective users are likely to deprive them of benefiting from electronic information resources. (Okello-Obura, 2010; Ercegovac, 2009; Manda, 2005; and Dadzie, 2005). It can be observed that the patronage of a library's information resources improves after they have been well show cased to potential users. Unfortunately, academic libraries may partly achieve this mandate due to budgetary constraints, inflation and the high cost of electronic information resources.

Similarly, Egberongbe (2011) affirmed that e-resources such as reference database have low patronage. Undoubtedly, lack of awareness of information resource, prevents users from realizing it potentials of meeting their information needs. More steps need to be taken by information professionals or librarians to ensure maximum use of e-resources by library users. Besides the traditional means of awareness creation, libraries need to adopt to more technological interactive means like web 2.0 or library 2.0 technologies to promote their services. For example, the use of facebook, twitter, whazups and blogs to interact with users about the library's resources and to answer user queries provides the library with the opportunity to extend their services to cover wider users and also places the library in the world's spectrum.

There are several literature on user awareness of electronic information materials in Ghana. Badu and Markwei (2005) found that in Ghana, both the academic staff and postgraduate students had fair knowledge of e-resources and their services but academic staff took advantage of the resources than postgraduate students. This implies that adoption to electronic resources do not happen simultaneously in the social system. Some users may adopt or use the innovation (e-resources) before others. Also, the Diffusion of Innovations Theory indicates that early adopters are very crucial in the success of any new innovation (Rogers, 2003).

Dadzie (2005) also adds that high usage in computer and information access, depends on modern infrastructure, and high internet resources in institutions. She goes on to say that the students had low patronage of databases. In most cases, when users don't have adequate knowledge about the existence of information resources in libraries, they are disadvantaged to their importance. Libraries after acquiring information resources need to do more to get information to users. Similarly, the value of academic library largely rely on the rate of patronage of its information resources and services.

Kwafoa et al., (2014) discussed that faculty and administrators did not effectively access e-resources in the library. In the light of this, relentless promotional and marketing efforts are critical by libraries to ensure maximum and efficient use of information resources. The expectations of libraries are achieved when information resources are fully utilized by users.

From the literature, inadequate education on e-resources to users could be a contributory factor to low patronage of these information resources. Also, most academic libraries in developing

countries are faced with budgetary constraints hence their inability to put necessary measures in place to ensure full utilization of these resources. In the light of these challenges, a relentless promotion and marketing aspect are crucial.

2.3.1 Marketing and Promotion of E-Resources by Academic Libraries

Marketing is an integrative process through which companies or individuals promote the value of their products and service to attract consumers. Marketing deals with planning and effecting the conception, pricing, promotion and distribution of ideas, goods and services to generate exchanges to meet individual or organizational goals (American Marketing Association, 2006). Marketing is the means of stimulating the patronage of products and services.

In this context, university libraries are non-profitable entities that ensure social benefits of information resources through various services they provide to fulfill users' information expectations. Marketing libraries resources is crucial, especially with the emergence of technological advancement; user information needs have increased and making them to become more sophisticated. For these reasons, there is the need for academic libraries to develop appropriate marketing techniques to meet the growing demand in information of users. No matter how comprehensive the resources and services of a library are, it is very important that these services and resources are publicized widely so that users could seek information from them (Aina, 2004). The major purpose of marketing is for the library to know and understand users' information need so as to satisfy these needs in an effective way (Nicholas, 1998). Libraries also market their services to ensure their competitive advantage. For it can be observed that

information resources patronage improves after effective promotion activities are carried out by libraries.

Academic libraries in Ghana need to place much importance in promoting library information resources to meet information expectancy of users. Entsua-Mensah (2010) identified marketing as non-profitable making in academic libraries, and encouraged information workers to adopt to different marketing strategies as means of getting information to their users. Also, there is the need for libraries to adopt to marketing principles to safeguard their sustainability and survival (Alemna, 1998). The issue of funding promotional electronic resources and skills in marketing is a challenge to information professionals.

2.3.2. Promotional Techniques of Electronic Resources in Academic Libraries

Marketing strategies of libraries include library orientation programmes, library guide, notices, posters, banners and radio announcements, annual reports, brochures, newsletters, User education/training, etc. It is an undeniable fact that integration of marketing concepts and strategies can facilitate academic library's achievement goals.

In creating awareness of library resources to potential users, many promotional strategies are adopted by libraries. For example, Rowley (1998) identified channels such as electronic mailing lists and bulletin boards as means to promote databases. Also, Leong (2009) identified three basic strategies that libraries use to promote their services:

1. Using the contact opportunities afforded by prospective content generators.
2. Using users queries, displaying outreach information on the web site and
3. Practical delivering of information directly to the end-users.

However, in the developed countries, most academic libraries have adopted social networking channels like Web 0.2 or Library 0.2 technologies as interactive means in sharing and dissemination of information. Academic libraries are using these media to interact with users. Common Web 2.0 application include; RSS feeds, blogs, wikis, electronic mail, facebook, twitter, You tube and MySpace. Meanwhile, most of these interactive means are yet to be adopted fully by most academic libraries in Ghana as forms of ensuring effective promotion of usage of e-resources. Therefore, insufficient funding for library promotional activities and inadequate marketing skills are major setbacks of ensuring maximum accessibility and usage of e-resources.

2.4 Perception and attitude towards the use of Electronic Resources

Perception is crucial in the adoption process of an innovation, as individual or group of people would only adopt innovation if they perceive it to be better than the existing one. The user expectations and perceptions are indicators in the determination of service quality in most service organizations, since these would help them to abreast themselves intensely for the competitive information environment (Metha, Lalwani & Soon, 2000). The expectations and perceptions of library users should be paramount to information providers since they are bases for improvement in service delivery to meet user information needs. It can be observed that users turn to utilize more of information services that meet their expectations.

According to Jayasundara (2008), information service providers need to have adequate knowledge about user information expectations and perceptions to prevent the 'misfit' between the users' needs and service delivery. Under-utilization of particular e-resources occurs when

users are dissatisfied with the information service provisions by libraries. However, a comprehensive review of literature revealed deficiencies involving the identification of user perception on e-resources.

The premium users place on information resources in order to meet their emerging demands clearly defines the rate of patronage or use of those resources at a particular point in time. The growth in ICT is changing people attitude towards the adoption of more current information resources to meet their information need.

University libraries need to have stronger collection development of information resources in hybrid form to meet information requirements of both local and remote users of libraries (Olofinsawe and Oyeniya, 2010). This suggests that since university library is aim at helping its parent university achieve its objectives; its collection development policies should be geared towards the enhancement of educational productivity in universities. The academic library therefore has a duty to ensure that adequate information resources are provided to help postgraduate students to conduct and facilitate their research work. Therefore, this would also encourage users to have positive approach towards the use of libraries resources.

Shukla and Mishra (2011) observed that research scholar's preferred to access e-resources to print resources and that e-resource are used frequently on daily or weekly basis. This finding is affirmed by Okiki and Asiru (2011) who observed that postgraduate students used e-resources 'monthly' and 'occasionally.' Therefore; the adoption rate of e-resources is seemingly improving

due to the level of awareness by users. Libraries need to provide more promotional activities to increase the patronage of their resources.

Students make informed choice of information resources that meet their information need at one point in time. Tenopir (2003) reported that postgraduate students accessed e-journals regularly when writing theses and dissertations. A related study by Gerke and Maness (2010) revealed that postgraduate students are main users of e-resources because their courses are mostly research oriented. This means strong focus is needed on the acquisition of relevant e-resources to meet user information desires.

The information era has given users the chance to choose information from many sources to satisfy their information needs. The research findings of Majid and Tan (2002) reported that students considered print resources in the library to be more beneficial for their academic needs than electronic resources. This contradicts a research study by Kumbar, Mallinath and Lohar (2005) who revealed that majority of students used digital resources frequently. It could be deduced that when users have the ability and enough knowledge on particular information resource, their access to such information resource increases. Therefore, the libraries need to promote more awareness and provide training of its resources to improve on their access. However, the above studies did not clearly provide concrete reasons for the imbalance patronage of e-resources by users, this would have served as basis for improvement in general information provisions by libraries.

The issue of information proliferations is generating difficulties for students, researchers and information users since they need to sift through quantities of information to determine quality information from the World Wide Web. Information seekers from higher educational institutions need to have information from credible, reliable and peer reviewed sources to help them to conduct quality research and improve academic standards. For these reasons, academic libraries subscribe to electronic databases and journals to offer users with authenticated and current access to unlimited archival information (Spalding & Wang, 2006).

2.5 Access to Electronic Resources

Academic libraries are the hearts of the university system and serve as the information bank to the university community. Andaleeb and Simmonds (2001) consider the university library as the “heart” of the university community, assisting in the improvement of learning and dissemination of knowledge to the members of the university and the community as a whole. The core duty of academic library is to facilitate academic activities in the university through the provision of efficient and maximum information for students, faculties, researchers and other information seekers. The migration of information management from mainly print materials to hybrid or digital form have challenged university libraries to adopt to technology to complement print resources and offer more convenient information to meet user needs. The quality of all knowledge creation and more precisely, the quality of research output irrespective of the discipline is reliant on access to information (Milne, 1999).

Several authors have researched into the access of e-resources in higher educational institutions. There are distinct information users, who have different information needs and behaviour

patterns which must be taken into consideration by information specialists. Xia (2003) stated that the development of ICT in every facet of life has compelled academic libraries to present changes in their information provisions to enhance usage. Also, the technological advancement have changed users' information preferences making them more sophisticated. Identification of information needs of postgraduate students is essential help in planning for effective information service delivery by academic libraries, and to improve on existing information services in libraries to meet the information requirements of users.

Availability of e-resources to users in academic institutions is a central factor of the information setting. The inability to meet information needs of users by libraries means that access to more current and up-to-date information will be a mirage. A research study by Adeloye (2000) affirmed that access to current information are needed "to make decisions and to solve problems" in the research process. In another study in Australia, Deng (2010) reported that access of e-resources is now common in academic environment of higher learning settings. It is therefore not surprising that e-resources have become major electronic information resources to most people. However, electronic resources need to be populated rapidly in academic libraries for possible adoption by information users.

It is believed that postgraduate students are major users of e-resources in academic libraries. Thanuskodi (2012) confirmed that postgraduate students are major users of information resources in academic libraries. Since research is regarded as the major element of postgraduate education (Ismail, Abiddin and Hassan, 2011). Postgraduate students need to function in an information intensive environment where information is key in every facet of their studies. They

need to conduct independent research activities on social issues pertaining to their environment and the world at large through assignments, seminar papers, thesis and dissertations. It is perceived that students rely on e-resources for research purposes. Soyizwapi (2005) also adds that postgraduate students patronize online databases but few of them are consulted. This indicates that postgraduate students need adequate training and awareness to enable them make maximum use of e-resources.

The use of electronic information may vary among students from different study areas depending on their preferences and the kind of task to be performed. A study conducted by the Research Information Network (2009) revealed that users had different characteristics in seeking information from various subject disciplines. Academic discipline areas can create characteristic differences in thought processes of students' choice in information resources.

However, a research study by Kumar and Reddy (2014) found out that research scholars get assistance from the library staff in accessing e-journals in the library. It could be proper if the library provides continuous training programmes on all other e-resources in the library for postgraduate students, to enable them conduct independent research work. This would also relieve library staff off some workload, to render other services to other students as well.

Availability and access to electronic information resources in higher institutions of learning is an essential element of the academic environment. Electronic information resources by their nature have no limitations of accessibility and usage. Regardless of their geographical locations, users can have access to electronic resources once they have access to the internet. Therefore, inability

to meet these requirements by academic libraries means that access to valuable information by students, researchers and information seekers could be delusion.

Besides, the provision of e-resources by academic libraries, the internet also provides a wide range of e-resources mostly on free access. Therefore, there has been tremendous improvement in the growth of electronic information environment in every facet of human endeavor. Information seekers now have a wide range of e-resource to access. However, information overload tends to be a major challenge in this era.

User background knowledge in information resources may either hinder or promote the use of e-resources. A study by Nlyidizi (2005) confirmed that users who come from an environment with inadequate electronic information facilities may have difficulties in accessing electronic information resources from the library for learning process. These may undermine the maximum access to electronic information by these students. However, Tella et al., (2007) argued that users' capacity to locate and access information is a "transferable skill" for live long learning. Information resources should to be chosen based on familiarity and potential usefulness.

Rehman and Ramzy (2004) observed that most students use for their research Medline databases. They also added that they perceive e-resources as quite expensive, and slightly used specialized databases provided by the library. According to them, some students argued that print resources were better source to meet their information needs than the electronic source. Information resources are less patronized when users face a lot of frustrations in accessing them, they tend to

use others resources which they perceive to be easily accessible. Libraries need to identify information needs of users, and try to meet them accordingly.

Also, Mawindo and Hoskins (2008) observed that very few e-resources are accessed by some students. It is found that they preferred websites than the subscribed e-resources. Despite the steady growth in e-resources, the issue of equipping users with the necessary capabilities to effectively maximize e-resources is paramount. These enable users to have the right information from right sources in terms of their credibility and authenticity.

Electronic information resources with limited restrictions potentially would have wider accessibility and usage. Therefore, completely free access to online databases would have wider usage and acknowledgment, and then the impact and number of citations (Lawrence, 2001). The ability to efficiently and effectively access information with ease enhances the usage of that information resource. Libraries need to encourage full patronage of e-resources by placing fewer restrictions on them. Aina (2011) confirms that accessibility defines the rate by which information resources in any form are acquired. Also, promotional activities of information resources by libraries are very essential for effective access.

Similarly, Dadzie (2005) observed that vast majority of students preferred to search from web based search engines like Google and Yahoo whereas very few of the students accessed the OPAC and academic databases subscribed by the library. This means that students have inadequate competencies in use of the OPAC and other e-resources but are comfortable in using web search engines because of restrictions of access. The fact is that students have the tendency

to access web-based information uncritically, but failing to consider the currency, authority, authenticity and quality content of these information resources. However, much needs to be done by academic libraries to aggressively promote and train users on the use of e-resources to enhance usage.

Bayugo and Agbeko (2007) argued that students do not have homogeneous information seeking habits, and have preferences on information resources. Therefore, academic libraries should serve as information banks performing the functions of acquiring, processing, managing, displaying and disseminating all forms of information resources necessary to meet information requirements of users regardless of their location.

However, information professionals need to be more proactive to offer continuous training to information users, since their information needs would constantly increase owing to the proliferation of electronic information.

2.5.1. Facilities needed to access Electronic Resources in Academic Libraries

The processes of gaining access to electronic information are not in vacuum but are accessed through facilities such as technical infrastructure such as: up-to-date networks, internets and intranets, and computer networks. It is paramount for academic libraries to have quality infrastructure in place, to avoid the challenges of not providing quality electronic resource services to users.

Computer systems have become important facilities of gaining access to e-resources in academic libraries. Computers are essential tools for accessing a wide range on electronic publication

(Barker, 1994). With improvement in technology, information users or students now access e-resources from other computer devices such as mobile phones, laptops, palm tops, and through the internet. Besides, e-resources can be saved on storage devices such as CD-ROMs, pen drives and other storage devices for later use. Nevertheless, the issue is no more less information but inadequate information resources in libraries to support information use as well as insufficient skills for efficient and maximum use by users.

2.6. Purpose of accessing Electronic Resources

Technological revolution has brought a vibrant transformation to information storage, access, retrieval and management processes. Electronic resources have made essential impact to promote knowledge building in higher educational institutions. Currently, the information environments in academic libraries are hybrid. This has driven the aspirations of students, faculties, researchers and other information users to have access to unprecedented quantities of information in different format. Information has become essential factor in this 21st century.

Many instrumental reasons may influence the drive of e-resource usage; access to information at all times and anywhere, access to diversity of information resources as well as access to current information. A study by Conyers (2006) revealed that e-resources provide easy access to information in academic libraries, it also meet the emerging demands of users. Time factor seems to be a major component for the use of e-resources by postgraduate students. Furthermore, Brown, Found and McConnell (2007) agreed that time management of using e-resources have positive impact on postgraduate students' creative skills. Pandurangaswamy and Kishore (2013) averred that the nature of university education is very intensive hence, users have less time to scan through several pages of printed resources, therefore, e-resources encourages users for

example postgraduate students with adequate information for their research purposes, academic work and learning purposes. This aids them to maximize their time.

Another purpose of accessing electronic information by postgraduate students as recognized by Singha and Sinha (2011) in their study includes easy accessibility, accuracy and in-depth information. Also, Khan, Khan and Bhatti (2011) affirmed that postgraduate students used e-resources for academic purposes. Ani and Ahiauzu (2008) as cited in Tsakonas and Papatheodorou (2006) stated that the gradual change from print to electronic form has resulted in the growth in electronic information, it has provided the platform for information users to have full information from wider sources for decision making and problem solving. In this era of information, most students, researchers and information seekers rely more on e-resources to meet their academic goals.

Today, researchers, students and other information seekers need not spend much time in scanning through print sources to look for information when information can be acquired instantly without physical visit to the information source. Time conservation or management is key factor in the learning process of students. Students are able to save more time when they access e-resources. However, to ensure maximum use of e-resources to save time, academic libraries need to put in place effective mechanisms to provide smooth access of e-resources.

Electronic resources are also convenient to access as users can have access to information resources from many sources such as libraries, internet cafés, offices and private residence at any

point in time (Dadzie, 2005). This means access to e-resources is boundless, information can be access at anywhere ones there is internet accessibility.

Electronic resources have become more user friendly over print information sources. They are faster to access than print sources, particularly when doing retrospective searching, they offer precise information and also allow multiple use of keywords in searching processes (Aina, 2014). Similarly, e-resources have the ability to open up multiple files at a time when searching. Electronic information can be printed out, searches can be saved either temporal or permanent for future references. Electronic information resources can be updated more often than printed resources.

2.6.1. Use of Electronic Resources for Research

Information is an indispensable resource for research and development. Access to electronic information resources is vital in research processes in universities. Academic libraries are focused on the provision of efficient and effective information to support universities to achieve their goals of knowledge generation through research process to enhance the well-being of people, societal development and the nation at large.

Different reasons are assigned to the use of e-resources by users across the world. Access to e-resources depends mostly on the kind of task that needs to be performed. This makes users to have preference of one e-resource over the other. Tenopir and King (2007) revealed that the primary purpose of using e-resources among 7 United States and Australian universities indicate that more than 50% of the students access e-resources for research.

Also, Kumar and Kumar (2008) in their research revealed purpose of accessing electronic information resources are; to support learning processes, and also to write project work. Ansari and Zuberi (2010) added that many students use e-resources for research. Others also use them to perform assignments, prepare for examinations and to gain subject knowledge. Likewise, Cothran (2011) also asserted that graduate students use Google Scholar more since they find it easy to learn, easy to learn, and easy to navigate. Also, the design and interface of search engines are user-friendly and it is a useful resource for their research. He et al., (2012) postulate that students see scholarly search engines such as Google and CiteSeers to be more important resources than the university subscribed databases such as EBSCO, and Emerald Nisha and Ali (2013) found that users of the library use the e-databases due to currency of e-journal articles and rich in content.

Notwithstanding, the invaluable importance of e-resources to users, academic libraries need to make meaningful investments to ensure optimum utilization of e-resources. In spite of the perceived advantages of information in electronic form and its services, academic libraries in developing countries are faced with budgetary constraints of providing adequate e-resources to meet user information needs.

2.7 Training in the use of Electronic Resources

Training involves the process of imparting and empowering people with requisite skills and knowledge to perform tasks. In the context of libraries, users need required skills to exploit e-resources effectively. Therefore, adequate skills in the use of computers are very necessary since computers are major means by which electronic resources can be accessed. The rate at which e-

resources are accessed and utilized by postgraduate students could mainly depend on some factors relating to users, particularly computer literacy skills.

According to American Library Association (ALA, 2000), information literacy is defined as “a set of abilities requiring individuals to recognize when information is needed and the ability to locate, evaluate, and use efficiently the needed information.” Computer skills could be the main tool for effective use of electronic information. Observations are that effective access of e-resources most often goes hand-in-hand with strong information literacy skills. Users of e-resources are required to gain requisite skills on the computer in order to make maximum use of electronic systems and information resources.

It is crucial for researchers and students to have competencies in computer skills in order to effectively access information from different sources such as World Wide Web, online databases, e-journals and CD-ROMs to successfully locate, access, manage, evaluate, and use information in their academic work. With proliferation of databases, the problem is no longer insufficient or limited information; but the contrary the avalanche of information which appears in various formats and of which not all can be trust worthy. Therefore, computer literacy can be seen as the alternative means by which users can proficiently and meritoriously locate, access, manage and use electronic information to achieve desired purposes.

Training boosts searching skills of users, increase their confidence and morale to make them have efficient and effective access of library’s electronic resources. Computer literacy is a

feature of information literacy. And so, the ability of postgraduate students to have expertise in computer facilities to search, retrieve and use e-resources would enhance learning and research processes.

Training is a fundamental element for helping information users to gain desirable skills, and to appreciate technology as an agent of modification rather than destruction. Tella and Mutula (2008) affirmed from a research that users who develop computer literacy are motivated to derive maximum benefits from e-resources with ease. Therefore, inadequate training in computer literacy skills is a limitation which affects the maximum utilization of e-resources. In another research finding, Bowden (1994) stressed that users who are proficient in information search are more likely to access e-resource services.

However, not much assistance is provided to train postgraduate students to acquire computer literacy skills as required by academic libraries.

Training forms part of the learning process, it empowers information users to have control of conducting independent research for needed information in accessing e-resources. Information literacy promotes lifelong learning among users. This view was supported by Chu and Law (2005) as they observed that knowledge, search expertise and usage of databases grow as the students' progress in their studies. This is because experiences are gained through familiarity and practice. Therefore, users' adoptions to varieties of databases develop as they progress in their education since familiarities are gained through instruction and promotion of databases. Harun (2006) shared the view that OPAC was the most preferred information resource in the IIUM library. This shows that the promotional aspects of library e-resources need much to be desired.

Achonna (2008) observed low usage of e-journals and users mentioned inadequate skills and limited access to computers as the major hindrance of e-resources in the library. Meanwhile, a study by Gakibayo et al., (2013) revealed that users limitations of accessing e-resources include; lack of information literacy skills, inadequate access to computers as well as poor internet connectivity. However, to alleviate these impediments, academic libraries need to put in place mechanisms to enhance access of e-resources.

Postgraduate students may encounter difficulties in accessing e-resources if they lack the requisite skills in using the computer. Dange (2010) argued that although students have limited knowledge about the computer at the high school level, more needs to be learnt in the process of accessing, retrieving, storing and using information for research purposes. He further opined that higher learning institutions require offering introductory computing literacy programmes to assist postgraduate students to access e-resources to increase research process. Also, Eves and Dalzeil (2007) postulate that computer proficiencies are beneficial for maximum use of e-resources in academic libraries among users. Thus, inability to use electronic resources may result in performance shortfalls in research output and productivity. Moreover, users with limited competencies in the computer could encounter difficulties to use e-resources (Okello-Obura and Magara, 2008). Therefore, adequate skills in the use of computers are very necessary since computers are major means by which electronic resources can be accessed.

Postgraduate students need to have the capacity to conduct independent research with fewer difficulties. However, the responsibility of ensuring continuous training rests not only on

academic libraries, but also with the parent institutions. Hence, sufficient funds should be made available for libraries to achieve their purpose.

Observations are that most African university libraries prefer to introduce information literacy skills to undergraduates than to postgraduate students. This is because they perceive that postgraduate students have had such skills during their first degree programmes. But most of these institutions fail to note the fact that not all postgraduate students had their first degree in such universities that offer information literacy programme and therefore such postgraduate students could be disadvantaged. A research conducted by Rosenberg (2006) observed that most university libraries in Africa run computer literacy programmes at the undergraduate level. In her final report to the INASP, Rosenberg (2006) admitted that providing training for postgraduate students and academics are more of a problem. The standard, she added “is for libraries to offer one-off workshops in computer skills related subjects”. She further revealed that there was low patronage; and consequently, limited computer literacy skills. Notwithstanding, university libraries should make effort to provide periodic intensive computer literacy training for postgraduate students to equip them with necessary skills to access e-resources.

Although, training tends to increase the workload of information professionals, they must be at the forefront to impart skills to users through hands-on training using available technology in order to enhance access of e-resources.

2.8. Challenges in the use of Electronic Resources

The value of e-resources in university libraries and safeguarding its usage seems not encouraging. Postgraduate students' quest to access electronic resources for their academic work encounters some difficulties in terms of access and usage. Therefore, in order for academic libraries and information centres to improve on e-resource services, it is imperative to better understand the impediments users encounter in accessing these resources.

Madhusudhan (2008) and Mulla & Chandrashekhara (2006) indicated that the main barriers to the use of e-resources are limited subscribed titles on relevant fields of study and inadequate orientation or training programmes. This means some users are likely to be deprived of the required information for their academic work. Academic libraries need to invest more in the training and provision of more e-resources to meet the information of all users.

Bhatt and Rana (2011) identified major challenges of e-resources are poor internet connectivity, technical problems, insufficient subscribed titles of e-resources, high cost IT equipment and lack of legal provision or copy right issues. A similar study by Shukla and Mishra (2011) revealed that most users faced the problem of low internet connectivity in accessing e-resources.

Madhusudhan (2010) averred slow access speed of the internet as the most common challenge. He also added that it is slow to download and difficult to sometimes access relevant information. He further indicated that too much information may be accessed but students with inadequate IT skills may encounter challenges in using it to meet their information need. Mulla (2011) indicated that the most researchers faced similar challenges of inadequate training in relation to

the access of e-resources. Undoubtedly, electronic information materials in libraries are unique, thus their use may be affected by either the user, institution or information centred factor.

Similar problems seem to exist among users of e-resources in general but the magnitude of these challenges varies significantly between developed countries and developing countries. A study conducted by Bashorun, Tunji and Adisa (2011) also reported low access to e-journals, e-books and bibliographic databases. This may be due to limited knowledge about the existence of e-resources in the library.

Oduwole and Akpati (2003) also identified lack of ICT tools and power outages as limitations of accessing e-resources. Similarly, Watts and Ibegbulam (2006) discovered the inadequate ICT infrastructure as well as deficiency of in-depth ICT skills as key challenges. In addition, lack of information searching skills, and high cost of using the cybercafé are identified as barriers to the use of e-resources.

Also, studies have revealed that developing countries are not at par with the developed countries in terms of research productivity. This is due to the fact that much is not invested in the provision of e-resources which are pivots in research processes. A research finding by Foster et al., (2008) revealed that inadequate access to electronic information resources by academic staff may result to low publication output by African universities. A similar study by Frankor and Akussah (2012) confirmed that academics in African universities “had little access to relevant and reliable information when making decisions” on research activities.

The question still stands whether the provision of more opportunities of access and use of e-resources can lead to relative increase in research productivity in African universities or the world over.

On the Ghanaian scene, accessibility to e-resources by users have not been without some challenges. A study conducted Markwei (2001) identified low data transmission and information overload as the main limitations users encountered in accessing the internet. Eventually, these challenges may frustrate users and limit them to the needed information.

Martey (2004) discovered that from 1996-2004, libraries adoption to ICT was slow. The results of the study attributed slow pace in the adoption of ICT to high cost of ICT infrastructure and lack of technical expertise. This confirms research survey by Adika (2003) that, internet use in Ghana is still below average among university faculties. Most academic libraries in developing countries are battling with challenges to improve on internet access.

The inability of academic libraries to provide timely information to enhance access and use of e-resources are due to inadequate provision of modern ICT infrastructure. Dadzie (2005) also revealed that access to e-resources is challenged by inadequate computers on campus. In support of this view, libraries are therefore charged to put in place adequate mechanisms to enable effective and efficient access and use of e-resources.

However, the possibility to enhance accessibility of e-resources would not be done in isolation without assessment on the ways to improve on the above challenges in the African environment.

2.9 Summary

Development in electronic information resources has influenced the way users access and use information, hence, compelling academic libraries to place much premium on e-resources to achieve efficient service provision.

Promoting library e-resources helps to create awareness to users, and also, provide adequate training to users on the use of e-resources. Other equally important ways of making electronic information resources accessible to users, include, the provision of constant internet facilities, computer infrastructure, adequate e-resources, and constant electricity supply as well as creating enabling environment for users. It can be observed that when users fully utilize electronic information resources that the library's purpose would be achieved.

The literature reveals that even though users were aware of e-resources to some extent, they did not make maximum use of them. Also, from the literature there are correlation between computer literacy and use of e-resources. Where users have inadequate computer literacy skills, there is low patronage of e-resources. However, the studies reveal that academics, students and researchers are computer literate to some extent, and then need to be equipped with the requisite skills in order to enable them search information from the various electronic resources for their information needs.

Similar problems seem to have been encountered by users of e-resources, especially among African universities. Some of the challenges identified are: poor internet connectivity,

insufficient computers, lack of awareness of e-resources, limited skills to obtain information from e-resources and inadequate provision of e-resources in the various course areas of study.



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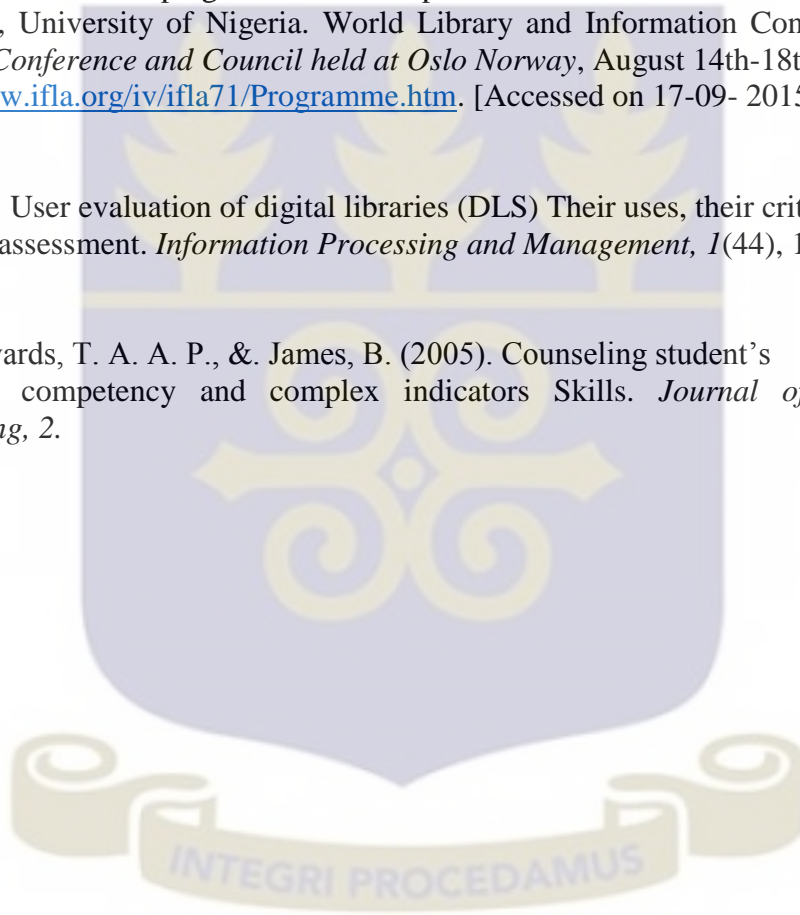
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CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter seeks to describe the various methods and procedures employed in the study. This comprises the research design, population, sample size and sampling technique. It further discusses the instrumentation, pre-testing, data collection procedure, as well as data analysis.

3.2 Research Design

Research design is a systematic plan or blueprint adopted to answer research questions validly, objectively, accurately and economically. The cross-sectional survey design was used for the current study. This design is used to collect empirical data in research mostly through questionnaire. Data in this design are collected from the research participants at a defined point in time or fairly short time period. According to Mann (2003), cross-sectional design helps to enrich a study because it helps to study a large number of people within a short period and determine the causes and prevalence of a phenomenon or current situation. Therefore, inferences could be made about some characteristics, attitudes or behaviour of the population.

3.3. Population

A population in a research refers to the larger group of people with common observable features to which one hopes to apply the research result (Fraenkel and Wallen, 2003). According to Neuman (2006), population is the element being selected to include the geographical location, and the temporary boundaries. It can consist of a person, organization, or a social action. Also,

Kwabia (2006) posits that social research is an investigation into the actions of people in society. To Kwabia, these social actors constitute what we call population. Population is the whole group that the research focuses on. For the purpose of the study, postgraduate students from 4 colleges of UCC constituted the target population for the study. This study excluded the College of Distance Education and postgraduate students on sandwich programme. Therefore, total population of postgraduate students of UCC was 915 from 4 colleges, namely; College of Humanities and Legal Studies, College of Health and Allied Sciences, College of Agriculture and Natural Sciences, and College of Education Studies. The breakdown of the population of postgraduates in each college is shown in Table 3.1.

Table 3.1 Population of Postgraduate Students of various Colleges

Colleges	Students population
College of Humanities & Legal Studies	355
College of Health & Allied Sciences	37
College of Agriculture & Natural Sciences	133
College of Education Studies	390
Total	915

Source: UCC Students Record Management Unit (2015)

3.4 Sample Size

Researchers in Social Sciences defines sample as a representative of a research study, it should be proportional of the population (Welman, Kruger, and Mitchell, 2005; Zikmund, 1994). A

sample size is basically the subset of the total population. A sample size helps to describe the precision of research outcomes.

In determining the sample size for this study, the sample ratio proposed by Neuman (2007) indicates that for small population less than 1000, a researcher needs sampling ratio of 30%. In line with the principle, a sample size of 275 which is 30% of 915 postgraduate students of UCC was attained.

$$\text{Thus, Sample size} = \frac{30}{100} \times 915 = 275$$

Neuman's sample size formula was used to determine the proportionate sample size for each college.

To get the proportionate sample size, the proportionate sample formula is;

$$\text{PS} = \frac{\text{Total student population for each college}}{\text{Total student population}} \times 275$$

Where PS = Proportionate sample size.

For example, for the College of Humanities & Legal Studies with a student population of 355,

$$\text{PS} = \frac{355}{915} \times 275 = 107$$

Table 3.2 Provides information on the proportionate sample sizes of colleges.

Table 3.2 Proportionate Sample Size for each College

Colleges	Proportionate sample
College of Humanities & Legal Studies	107
College of Health & Allied Sciences	11
College of Agriculture & Natural Sciences	40
College of Education Studies	117
Total	275

3.5 Sampling Technique

Sampling technique is the method used in drawing out participants in a study from a population. Statistical theory suggests that the most reliable way to select a representative sample upon which generalization could be made is the use of random sampling. Babbie et al., (2001) confirms that random sampling technique permits “a researcher to make relatively few observations and generalize from those observations to a much wider population”. Thus, each individual in the population has the potential to be chosen randomly for the study. The simple random sampling technique was used to select respondents for the study. Hair, Bush and Ortinau (2003) outlined the advantages of simple random sampling method as:

1. It is easy to understand and the outcomes of the study can be generalized to the defined target population.
2. It also represents an unbiased nature of the study population.
3. The sampling units of the population have same opportunity of being chosen for the study.

Simple random sampling was used to sample the respondents. A list of total number of postgraduate students from the four selected colleges of UCC formed a complete sampling frame. The lottery method was used in the selection procedure. Numbers were assigned to the respondents. Numbers were also written on pieces of paper and put in a bowl for respondents to pick out. The respondents whose numbers were picked were included in the study. This process was replicated in each college in order to arrive at the sample size.

3.6 Instrumentation

Instrumentation are research tools used to measure variables in the data collection process. Questionnaire was the sole data collection instrument for the study. Reasons for the choice of the instrument were that questionnaire is described as structured instrument for gathering data hypothetically large population within a shorter possible time when, especially the population is easily accessible (Deng, 2010; Amedahe & Gyimah, 2005).

The questionnaires were self-designed and comprised both close-ended and open-ended questions. Open-ended questions offer freedom to the respondent to provide his/her personal opinion on the subject matter. Also, they are easy to ask, however, they may be difficult to analyse. The close-ended questions; are convenient to answer, allows brief writings; hence quantification is less difficult, and more questions could be completed within short period of time.

The questionnaire was structured into eight sections: Section A captured respondents' bio-data of the respondents; section B focused on the awareness of electronic resources by postgraduate

students, Section C looked at the frequency of use of electronic resources by postgraduates, Section D explored the computer competency levels of postgraduate students, Section E focused on user perception and use of electronic resources, Section F looked at the purpose of usage of electronic resources by postgraduate students, Section G focused on the problems encountered by users on the use of electronic resources by postgraduate students and finally, Section H focused on suggestions to ensure maximum and effective use of e-resources by postgraduate students.

3.7 Pre-Testing

Pre-test is a miniature version of the real study. Pre testing is conducted in order to correct all detected irregularities before the actual study (Alasuutari, Bickman & Brannen, 2008; Welman, Kruger & Mitchell, 2005).

To get a reliable and valid instrument, the researcher conducted a pre-test. The pre-test was to further find out the appropriateness of the data gathering instrument and to have adequate knowledge about the target population. The pre-test was conducted at the Department of Education and Psychology and the Department of Management Studies of University of Education, Winneba. This university was chosen because respondents had similar characteristics with those used in this study. The convenient sampling technique was used to select 20 postgraduate students, 10 from each department as respondents for the pilot study. The researcher gathered respondents and had them respond to the questionnaire individually and give comments about the study. In this study, the feedback from the respondents afforded the

researcher the opportunity to discover possible weaknesses, inadequacies and challenges in all aspect of the research.

The pilot study also helped to record the time taken to complete the questionnaire and decide whether it was realistic. It also helped to remove all unnecessary or ambiguous items. For example, “mention the type of electronic resources you search information on”. For the main study, a multiple response was provided and was rephrased as “which of these e-resources do you often search for information?”

- i. Emerald
- ii. JSOR
- iii. ESCHO host
- iv. AGORA
- v. HINARI
- vi. Others specify.....

The pre-test also provided opportunity for the researcher to assess whether each item gave an adequate range of responses and to re-word any item that was not answered as expected. For example, “reasons for accessing electronic resources” was re-worded in the main questionnaire as “purpose of accessing electronic resources” which was clearer to the respondents.

3.8 Data Collection Procedure

The researcher presented formal introductory letters from the Department of Information Studies, University of Ghana, Legon to all Provosts of the various colleges where the study was carried out at the University of Cape Coast before the administration of the questionnaires.

Primary data were collected using questionnaire designed based on the objectives of the study. The questionnaire was distributed to respondents at the lecture halls by the researcher and with the help of teaching assistants.

Generally, respondents who answered the questionnaire in the lecture hall used an average of 25 to 30 minutes to complete the questionnaire. In order to ensure high return rate of the answered questionnaire, follow-ups were made through phone calls to locate and collect questionnaire from respondents who were unable to answer them at the given time. This took almost 4 weeks to retrieve most of the questionnaire from those respondents. The data was collected between January 17 and February 22, 2016.

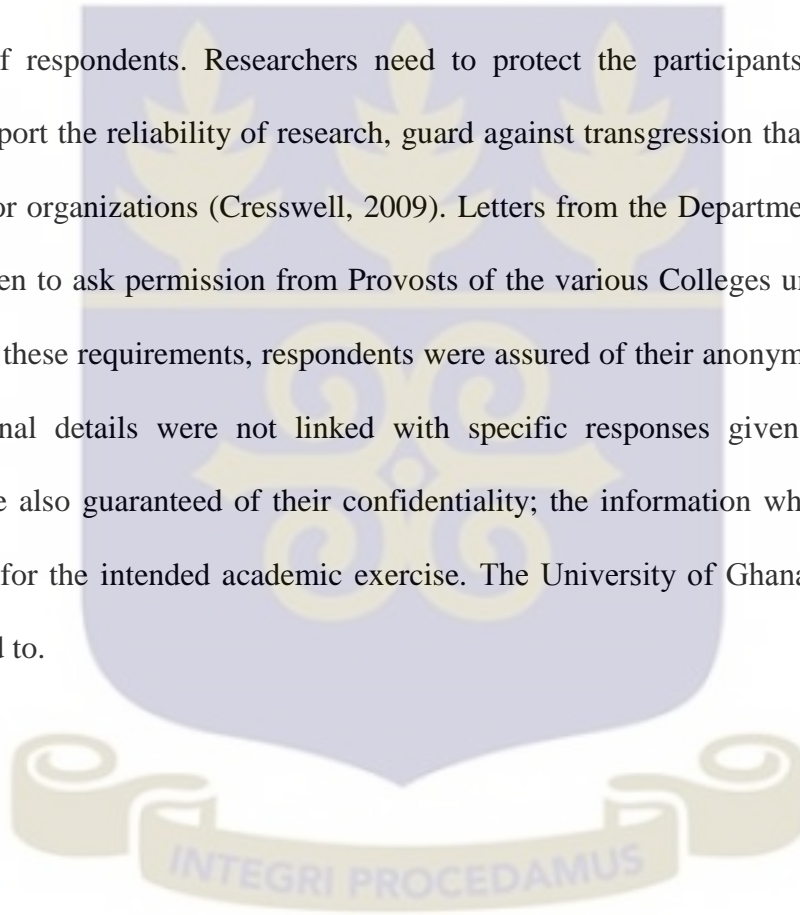
3.9 Data Analysis

According to Robson (2002) data analysis is carried out to bring data together so as to present possible interpretation. Data from the completed questionnaire were edited for consistency. The Statistical Package for Social Sciences (SPSS, version 22) software was used to run the actual analysis. This was done by coding in the variable view. The data type was defined. Then the responses from the questionnaire was inputted in data view to generate the required report. The analysis based on the descriptive statistics included frequencies and percentages, tables and

charts. Data from SPSS was exported to excel to draw charts. The analysis was structured systematically, following each objective of the study.

3.10 Ethical Considerations

The ethical dimensions of every research and how they were addressed are imperative to be stated. This research took into accounts the issues of informed consent, anonymity and confidentiality of respondents. Researchers need to protect the participants, gain trust with respondents; support the reliability of research, guard against transgression that might reflect on their institution or organizations (Cresswell, 2009). Letters from the Department of Information Studies were taken to ask permission from Provosts of the various Colleges under the study. In compliance with these requirements, respondents were assured of their anonymity, in that names and other personal details were not linked with specific responses given. For this study, respondents were also guaranteed of their confidentiality; the information which was provided was only meant for the intended academic exercise. The University of Ghana's code of ethics was duly adhered to.



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CHAPTER FOUR

Data Analyses and Interpretation of Data

4.1. Introduction

This chapter presents the analysis of the data gathered through the use of the questionnaire on the use of electronic resources by postgraduate students of the University of Cape Coast. The gathered data were analyzed, classified and tabulated using Statistical Package for Social Sciences (SPSS) software. Also, descriptive statistics such as frequencies, percentages, tables and charts were used to present the results of the analysis. The questionnaire retrieved and analysed were 252 out of 275, representing a response rate of 91.63%.

4.2. Biographic Data of Respondents

A research like this needs a bio-data of the respondents that will serve as a trailblazer to the research. It is also necessary because it reveals the calibre of the respondents the researcher worked with. In view of this, necessary information about the respondents was ascertained. Areas considered were their ages, gender, academic levels and their respective colleges in UCC.

4.2.1 Gender of the Respondents

The gender representation is a key in any study. This helps to determine the number of males and females that were used in the study; it also provides an even representation of the views of the respondents used for the study and hence contributes in the research process. The researcher elicited information about the gender of respondents. The results of the analysis revealed that 157(62.2%) were males and 95(37.8%) were females. This means that a large percentage of the

respondents in the study were males. The high percentage of male domination could be due to the fact that more males were admitted than females in the postgraduate programmes.

4.2.2 Ages of Respondents

Information about ages of respondents in a research study helps to determine the average age that the researcher worked with in order to test the level of majority of respondents used in a study. As part of the background information, the age range of the respondents was inquired into by the researcher. Table 4.1 illustrates responses received.

Table 4.1: Age Range of Respondents

Age Group	Frequency	Percent
20-29 yrs.	100	39.7
30- 39 yrs.	131	52.0
40-49 yrs.	21	8.3
Total	252	100

Source: Field Data, 2016

As seen in Table 4.1, 131(52.0%) respondents were found within the age range of 30-39 years, 100(39.7%) were within the range of 20-29 years while 21(8.3%) respondents were within the range of 40-49 years. The data analysis showed that most of the respondents were between the ages of 30-39 years.

4.2.3 Academic levels of Respondents

The academic level of respondents provides researchers with information about the number of respondents from the various academic levels in the postgraduate programme that were involved

in the study. It helps to provide holistic views of respondents from the various academic levels for the possible outcome of the research. As part of the background information, the educational levels of the respondents were also investigated. The results are shown in Table 4.2.

Table 4.2: Academic levels of Students

Academic level	Frequency	Percent
PhD	14	5.5
M. Phil.	92	36.7
M. Sc.	35	13.8
MBA	65	25.8
M. A.	20	8.0
M. Ed.	26	10.2
Total	252	100

Source: Field data 2016

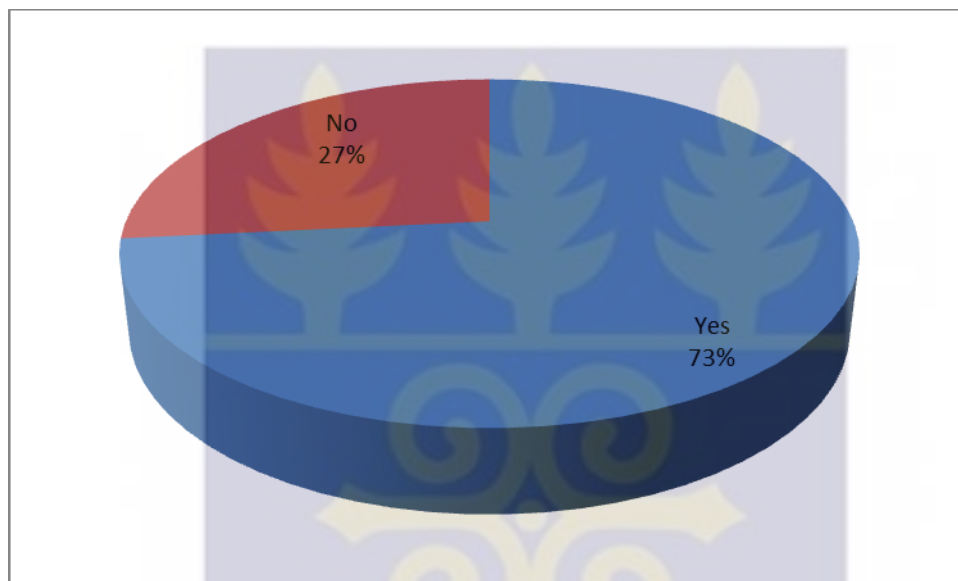
Table 4.2 shows that 92(36.7%) respondents were M. Phil. students, 65(25.8%) respondents were MBA students. 35(13.8%) were M. Sc. students while 26(10.2%) respondents were M. Ed students. In addition, 20(8.0%) respondents were M. A. students and the remaining 14(5.5%) were PhD Students.

4.3 User knowledge of Electronic Resources

Access to knowledge is an important aspect of development to every human being. Awareness of e-resources is when users of the library have acquired information and knowledge about the existence of e-resources in the library. When users of a library are exposed to information resources available in a particular library, they stand a better chance and are also more motivated

to utilize them judiciously to satisfy their information needs. In line with this, the views of respondents were solicited to ascertain if they were aware of the availability of e-resources of the UCC Library. Figure 4.1 illustrates responses received.

Figure 4.1: Awareness of Electronic Resources



Source: Field survey, 2016

From Figure 4.1, it can be seen that 185(73.0 %) respondents indicated that they had knowledge about the available e-resources in the University of Cape Coast Library while 67(27.0%) of them responded otherwise. Thus, one can assert that most postgraduate students had knowledge about the existence of e-resources in the University Library.

4.3.1 Awareness Creation Channels

Academic libraries in this information era are proactive in achieving their purpose of meeting the emerging information demands of users through the provision of efficient and effective information resources. Libraries are expected to operate in tune with the continuous

advancement in technology in terms of adapting to modern promotional channels to get information resources and services to potential users. It is for this reason that this study sought to find out the channels by which e-resources were promoted to the respondents. Respondents were allowed to provide multiple responses. The results are represented in Table 4.3.

Table 4.3 Creating Awareness of Electronic Resources

Statements	Frequency	Percent
Orientation	123	48.8
Seminars/workshop	115	45.6
Library guide	26	10.3
Library website	24	9.5
Library staff	41	16.3
Lecturers	39	15.5
Colleagues/friends	18	7.1

Source: Field data, 2016

University of Cape Coast Library uses various means to get students informed about the Library's information resources and services. As shown in Table 4.3, 123(48.8%) respondents indicated they got to know about e-resources from the library's orientation programmes. In addition, 115(45.6%) respondents confirmed that they learnt about e-resources of the library at seminar/workshops, 41(16.3%) respondents said they became aware of the available e-resources from library staff. Another 39(15.5%) respondents indicated that they acquired knowledge about

e-resources of the library from lectures, 26(10.3%) of them said they learnt about e-resources of the library from the library guide. In addition, 24(9.5%) respondents acquired knowledge about e-resources from the library's website, while 18(7.1%) respondents got to know about e-resources in the library from colleagues/friends. It is apparent that postgraduate students had knowledge about the available e-resources in the library through orientations and seminar/workshops.

4.3.2 User Awareness of Types of Electronic Resources

Accessibility and usage of library resources improve after they are properly promoted to users. In order to meet the emerging information requirements of their heterogeneous users, academic libraries are required to publicize the various types of electronic information resources available. This enables users to have fair knowledge about the different electronic information resources in the library to seek information from. In view of this, respondents were asked to indicate the e-resource services they were aware of in the library. Respondents were given the chance to provide more than one response. The responses are represented in Table 4.4.

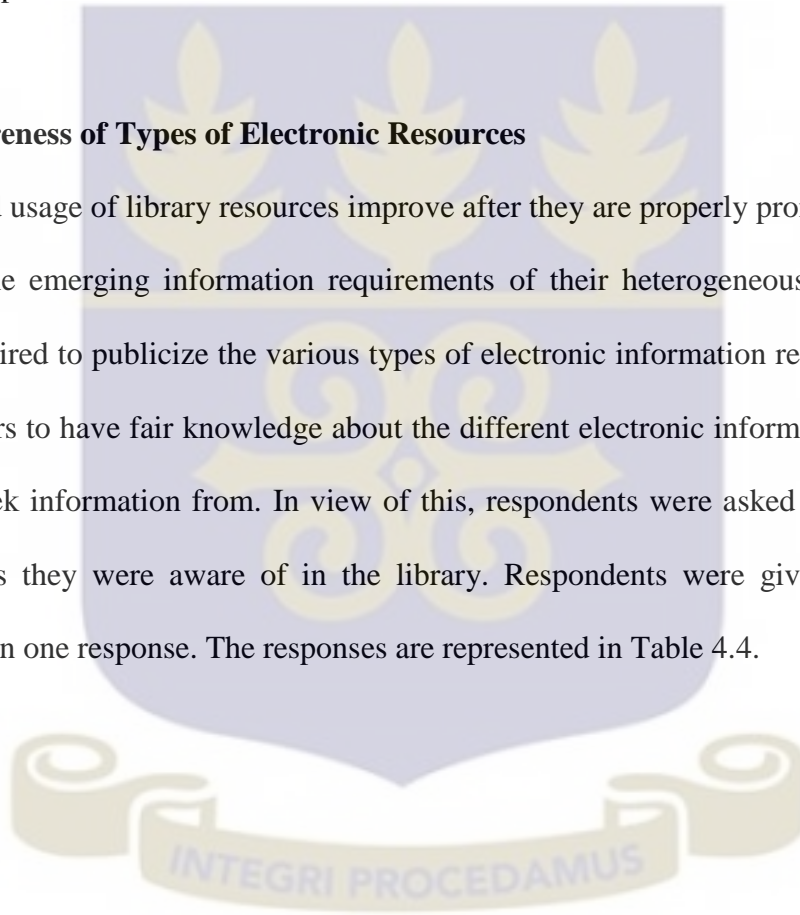


Table 4.4 Awareness of Electronic Resource Services

Responses	Frequency	Percent
E-journal	139	55.2
Online database	135	53.6
Institutional repository	61	24.2
CD ROM	2	0.8
OPAC	44	17.5
ILL/DD	4	1.6

Source: Field data, 2016

As can be seen from Table 4.4, 139(55.2%) respondents indicated that they were aware of e-journals service. A total of 135(53.6%) respondents claimed they were familiar with online databases, 61(24.2%) of them said they were aware of institutional repository. Another 44(17.5%) respondents confirmed that they had knowledge about the OPAC, 4(1.6%) of them revealed they had knowledge of ILL/DD services while only 2(0.8%) claimed they were aware of CD ROM databases. It is evident that postgraduate students were familiar with e-journals and online databases.

4.3.3 Publicity of Electronic Resources Services

Publicity of information resources has become a necessity to most academic libraries. This helps to showcase library resources and services to a wide range of users. Publicity serves as a driving

force of increased accessibility to information resources by users. Libraries were now adopting technological trends to create publicity for their resources. In line with this, the opinion of respondents were sought to find out if the e-resources in UCC Library are well publicized or not. Table 4.5 presents the views of respondents about publicity of e-resources.

Table 4.5: Electronic Resource Publicity

Response	Frequency	Percent
Yes	85	34.0
No	156	62.0
Non Response	11	4.0
Total	252	100

Source: Field survey, 2016

Responses represented in Table 4.5 indicate that 85(34.0%) respondents acknowledged that e-resources in the library were well publicized. A total of 156(62.0%) respondents were of the view that e-resources were not well publicized while 11(4%) of them were indifferent as to whether the e-resources were well publicized or not. Those who responded 'no' to the question suggested that, more publicity, more education as well as more awareness programmes should be created for electronic resources services. It is apparent from the responses that electronic resource services of UCC Library were not well publicized.

4.4 Perception of Electronic Resources

Information seeking behaviour of users depends on the relevance of that information to their research. This is not different from the perception of postgraduate students on the use of e-resources. To survey the postgraduate students' perception on the usage of e-resources, respondents were asked to indicate their preference for using e-resources. The responses are presented in Table 4.6.

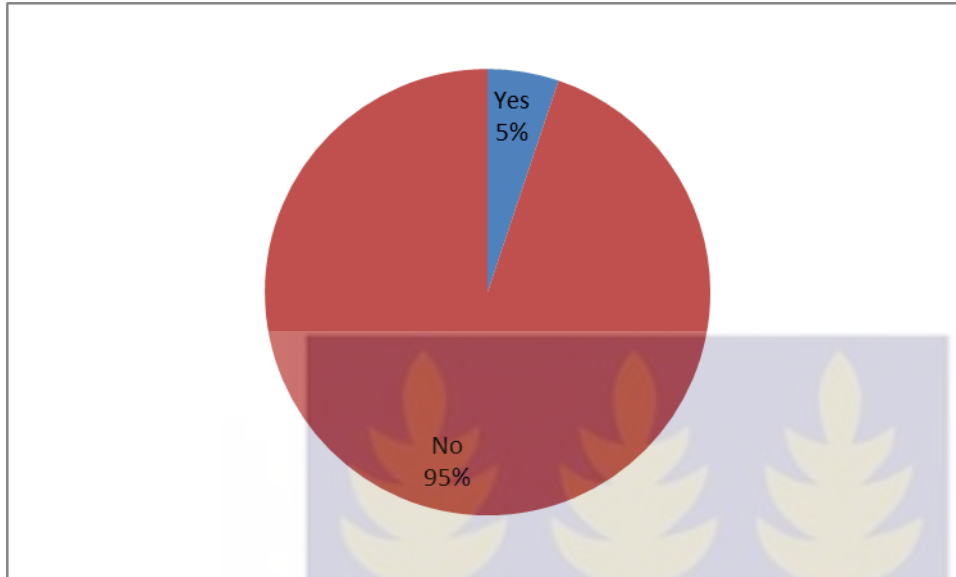
Table 4.6: Adequacy of Electronic Resources

perception on Training	Frequency	Percent
Yes	125	50.0
No	68	27.0
Somehow	59	23.4
Total	252	100

Source: Field data, 2016

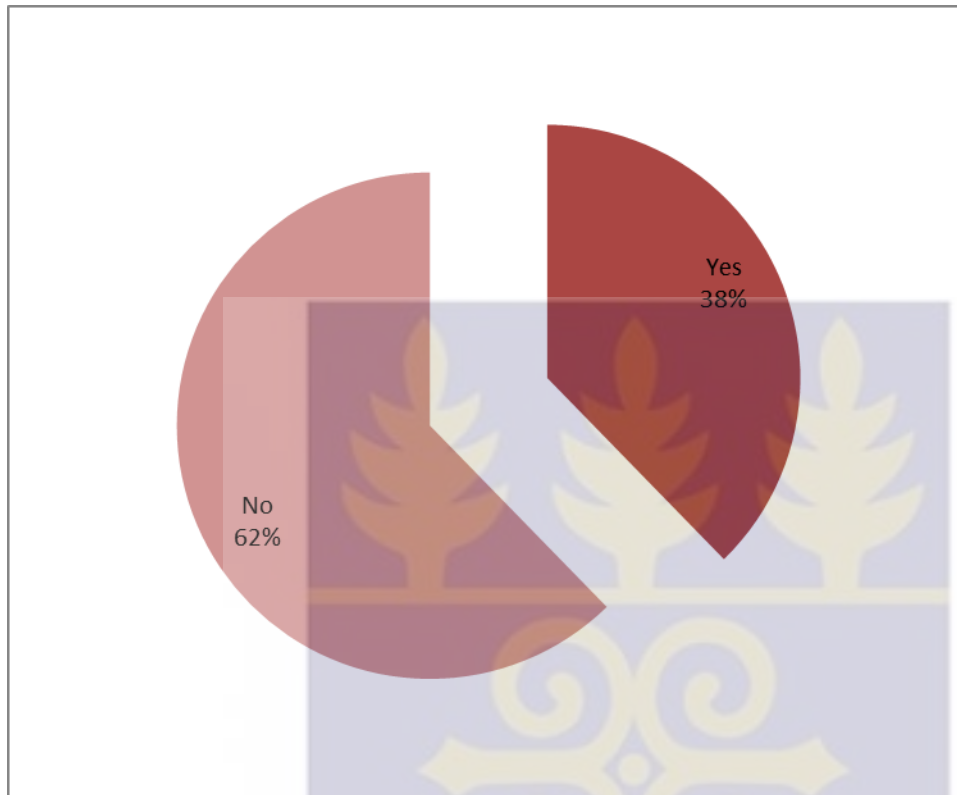
A glance at Table 4.6 shows that 125(50.0%) respondents perceived that e-resources in the library met their information needs. Sixty-eight (27.0%) of them expressed that e-resources in the library were somehow adequate, while 59(23.0%) respondents disagreed that e-resources in the library met their information needs. It is obvious that e-resources met postgraduate information needs. A follow-up question to find out whether e-resources were easily accessible was asked. The responses are presented in figure 4.2.

Figure 4.2: Accessibility of Electronic Resources



Source: Field data, 2016

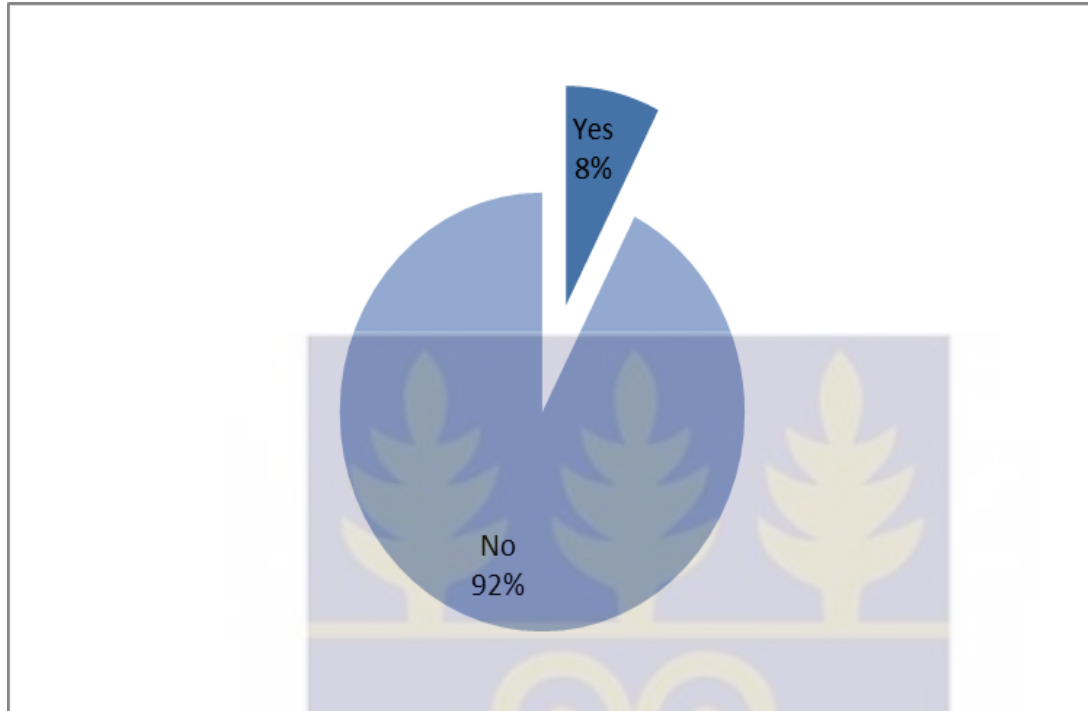
As can be seen from the figure, 239(95.0%) respondents had the perception that e-resources were not easily accessible while 13(5%) respondents indicated that they had easy access to e-resources in the library. This shows that most postgraduate students faced challenges when gaining access to e-resources. The researcher probed further to find out whether there were enough subscribed titles of electronic databases on the library's website. The results are shown in Figure 4.3.

Figure 4.3: Responses on Subscribed Titles

Source: Field data, 2016

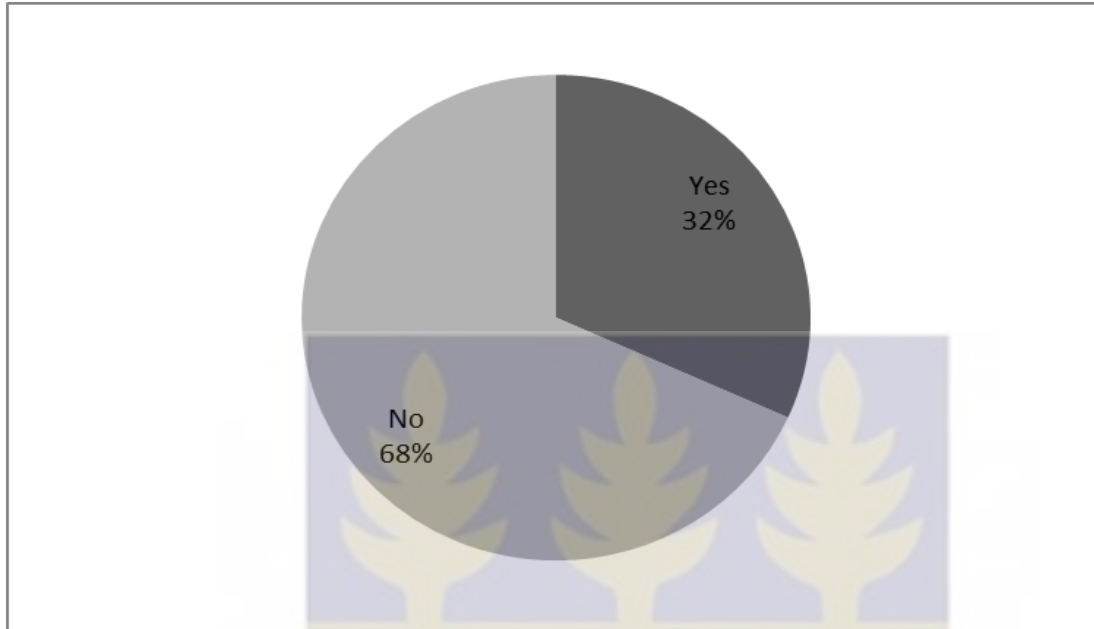
From Figure 4.3, it can be seen that 157(62.0%) respondents were of the view that there were limited titles of electronic databases on the library's web page for their academic work but 95(38.0%) respondents indicated that there were enough titles. It is obvious that there were limited subscribed titles of electronic databases in the library. The researcher went further to find out whether there were enough computers in the library to facilitate access to e-resources. The responses are shown in Figure 4.4

Figure 4.4: Computer Availability



Source: Field data, 2016

Figure 4.4 depicts that 233(92.0%) respondents indicated there were limited number of computer systems in the library which they could use to access e-resources while 19(8.0) respondents claimed there were enough computers in the library. As a follow up question, respondents were asked whether they received preferential services any time they visited the library. The responses received are shown in Figure 4.5.

Figure 4.5: Responses of Preferential Services

Source: Field data, 2016

It can be seen from the figure that 172(68.0%) respondents indicated that they did not receive preferential service any time they visited the library to access e-resources while 80(32%) responded otherwise. Generally, it can be deduced from the responses that even though e-resources met the information needs of the respondents, they had varied perceptions about e-resource services in the library.

4.5. Attitude towards the use of electronic resources

The rate of accessibility and use of e-resources of a library is an indicative tool to measure and determine how these resources are patronized by users. Information users have preferences in their bid to search for information from different databases to satisfy various needs. These preferences could be due to differences in programmes of study, user interest or the less

restrictive nature of electronic information resources. In view of this, respondents were to indicate how frequent they accessed e-databases. Table 4.7 presents the frequency of access to e-resources.

Table 4.7: Frequency of Accessing Electronic Databases

Electronic Databases	Everyday		More than Once a week		Once a week		Rarely		Non Response	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Emerald	47	18.7	67	26.7	26	10.3	6	2.9	6	2.9
J S T O R	17	6.7	17	6.7	4	1.6	54	21.4	3	1.2
EBSCO host	32	12.7	45	17.9	12	4.8	36	14.3	4	1.6
AGORA	21	8.3	45	17.9	12	4.8	36	14.3	4	1.6
HINARI	9	3.6	11	4.4	2	0.8	61	24.3	2	0.8
Project Muse	4	1.6	7	2.8	4	1.6	44	17.4	1	0.4
African journal online	3	1.2	4	1.6	2	0.8	36	14.3	3	1.2
Sage	18	7.1	31	12.3	7	2.8	53	21.0	5	0.2
Taylor & Francis	15	6.0	21	8.3	6	2.9	54	21.4	4	1.6
Others	72	28.6	146	57.9	17	6.7	0	0.0	0	0.0

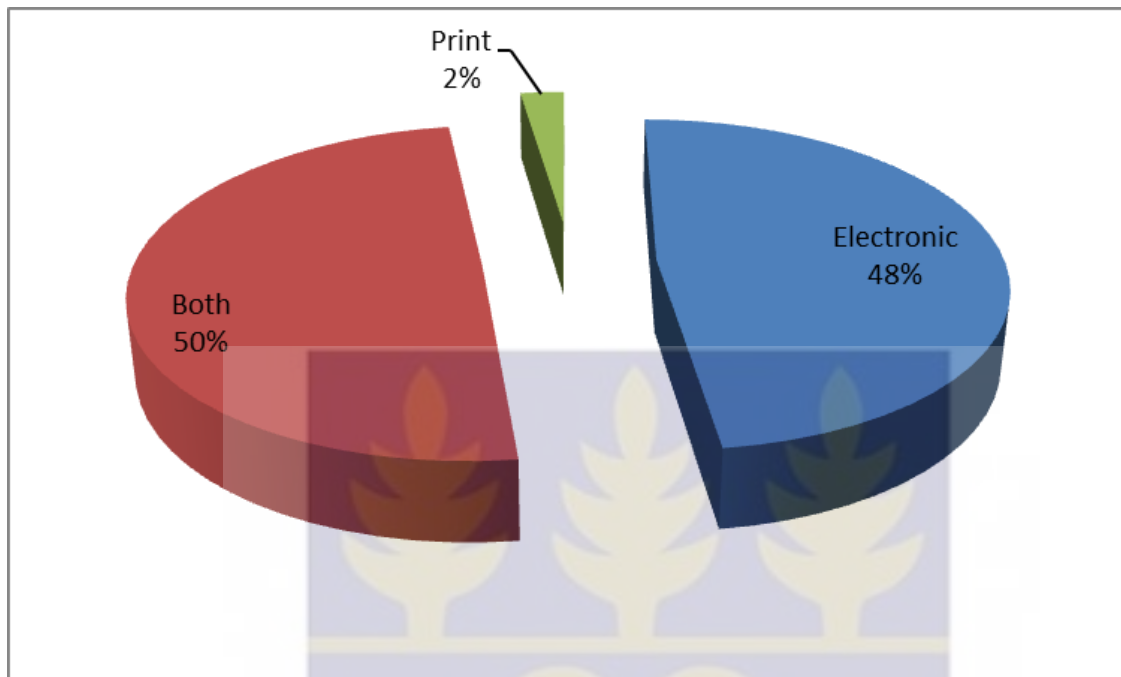
Source: Field data, 2016

From table 4.7, it can be seen that a significant number-147(57.9%) respondents indicated they preferred to access information from other sources such as Google search, Google scholar, Yahoo, Wikipedia and amazon more than once a week while 72(28.6%) respondents accessed

them on daily basis. In addition, 67(26.7%) respondents accessed Emerald databases more than once in a week and 47(18.7%) respondents accessed it on daily basis. In addition, 45(17.9%) of them accessed information from EBSCO host more than once in a month while 36(14.3%) respondents rarely accessed them. Meanwhile, HINARI, Francis & Taylor and Sage databases had low patronage because 64(24.2%), 54(21.4%) and 53(21.3%) respondents respectively indicated that they rarely accessed them. The emerging trend from the analysis is that awareness of e-resources by postgraduate students did not influence their access of them. These may be due to some challenges that are subjective to them.

4.5.1 Forms of Information Resources

With the current development in ICT, academic libraries in Ghana are now providing information resources in hybrid form. University libraries need to have strong collection development of information resources in print and non-print format to meet knowledge requirements of both local and remote users (Olofinsawe and Oyeniya, 2010). Many university libraries are making significant investment to provide services through print and electronic information resources. These afford users the opportunity of having varied information resources to choose from for their information needs. In view of this, the study was inclined to find out the most accessed information resources by postgraduate students. The responses can be seen represented in Figure 4.6.

Figure 4.6: Access to Forms of Electronic Resources

Source: Field survey, 2016

From figure 4.6, it can be seen that 125(50.0%) respondents indicated that they accessed information from both prints and electronic resources for their academic work. A total of 121(48.0%) respondents confirmed that they used only electronic information resources while 6(2.0%) said they accessed information from only print sources for their academic work. It is obvious that the postgraduate students of UCC accessed information from both information resources for academic purposes.

4.5.2 Mode of Access to Electronic Resources

The differences in characteristics of adopter categories to innovation are worth reflecting on, in order to understand the abilities of each individual in terms of information seeking and usage.

The study inquired about the mode of access to e-resources from the respondents. The results are shown in Table 4.8

Table 4.8: Mode of Access

Response	Frequency	Percent
Self	110	43.7
Assistance from library staff	124	49.2
Colleagues/friends	18	7.1
Total	252	100

Source: Field data, 2016

From Table 4.8, it can be seen that 124(49.2%) respondents indicated they accessed e-resources with assistance from library staff. A total of 110(43.7%) of them confirmed that they accessed e-resources by themselves while 18(7.1) of the postgraduate students said they accessed e-resources through the help of colleagues/friends. It is obvious that the postgraduate students depended more on library staff to access e-resources.

4.6 Access to Electronic Resources

The essence of academic library is to meet the emerging information needs of its users. Different types of electronic information services are provided by the libraries in order to make information readily available to users. Respondents were asked to indicate how often they accessed the various types of e-resources. Respondents were permitted to provide more than one answer. The responses are captured in Table 4.9.

Table 4.9 Frequency of accessing Electronic Resources

Response	Frequency	Percent
E-journals	86	32.6
Institutional repository	55	20.8
Online databases	95	36.0
CD ROM databases	0	0.0
Online Public Access Catalogue	26	9.8
Others	2	0.8

Source: Field data, 2016

From Table 4.9, it can be seen that 95(36.0%) respondents indicated that they accessed online databases. Another 86(32.6%) accessed e-journals. Fifty-five (20.8%) respondents affirmed accessing institutional repository, 26(9.8%) respondents claimed that they accessed the OPAC to locate information resources but none of them accessed information from CD ROM databases. Other 2 indicated that they never accessed e-resources in the library since they could get information from Google. From the analysis it could be deduced that most postgraduate students made good use of online databases in the University of Cape Coast Library for their research work.

4.6.1 Place of Access of Electronic Resources

Electronic information resources by their nature have no limitations of accessibility and usage. Regardless of their geographical locations, users can have access to electronic resources once they have access to the internet. This study tried to elicit information about the different places that the respondents acquired their e-resources. Respondents were allowed to choose more than one response. The results are shown in Table 4.10.

Table 4.10 The Place Where Electronic Resources can be accessed

Response	Frequency	Percent
Library	139	55.2
Computer Centre	65	25.8
Home	53	21.0
Hostel	87	34.5
On-campus location	47	18.7
Off-campus location	36	14.3
Department	137	54.4
Others	0	0.0

Source: Field data, 2016

The responses in Table 4.10 show that postgraduate students accessed e-resources from more than one place. In all, 139(55.0%) respondents confirmed that they accessed e-resources from the UCC Library. Another 137(54.4%) of them indicated that they accessed e-resources from their various departments, 87(34.5%) respondents said they accessed e-resources from their hostels. A

total of 65(25.8%) respondents indicated they accessed e-resources at the computer centre of the university, while 53(21.0) respondents claimed they accessed e-resources at home. Forty-seven (18.7%) respondents confirmed that they accessed e-resources from on-campus locations and another 36(14.3%) affirmed that they accessed e-resources from off-campus locations.

Since some e-resources required passwords and usernames and the means of accessing them was quite difficult, postgraduate students needed assistance from library professionals. In addition, internet access in the library was also a factor. In effect, they had no option than to come to the library for assistance. This influenced their choice of UCC Library for their e-resources.

4.7 Purpose of Accessing Electronic Resources

Technological revolution has brought a vibrant transformation to information storage, access, retrieval and management processes. Electronic resources have made essential impact on the teaching, learning and research processes in universities. E-resources are used for different purposes. In order to comprehend how respondents perceived the benefits of using e-resources, four reasons were chosen from the literature review and itemized in the survey. Respondents were permitted to select more than one answer. The responses are shown in the table 4.11.

Table 4.11 Benefits derived from Electronic Resources

Response	Frequency	Percent
To complete assignment	132	52.4
For research	234	93.0
To write thesis or dissertation	126	50.0
To support academic work	133	52.7
Others	5	2.0

Source: Field data, 2016

As shown in Table 4.11, 234(93.0%) indicated that they used e-resources for research purposes. Other purposes were; to support academic work 133(52.7%); to complete assignment 132(52.4) and to write thesis or dissertation 126(50.0). Meanwhile, other respondents indicated that they used e-resources because they were informative and helped them to upgrade their knowledge. Overall, it was obvious that postgraduate students of UCC used e-resources to support research.

4.8. Training on the use of Electronic Resources

Users need to be equipped with requisite skills to enable them access and use information resources effectively. Users could have difficulties to access e-resources when they have inadequate computer skills (Okello-Obura and Magara, 2008). Therefore, adequate skills in the use of computers are very necessary since computers are major means by which electronic resources can be accessed. The degree to which e-resources are accessed and utilized by postgraduate students will largely depend on some factors relating to users, particularly computer literacy skills. It is for this reason that this study sought to examine the computer competencies

of postgraduate students of UCC. Table 4.12 presents the responses received when questions were posed to respondents.

Table 4.12: Knowledge in the computer

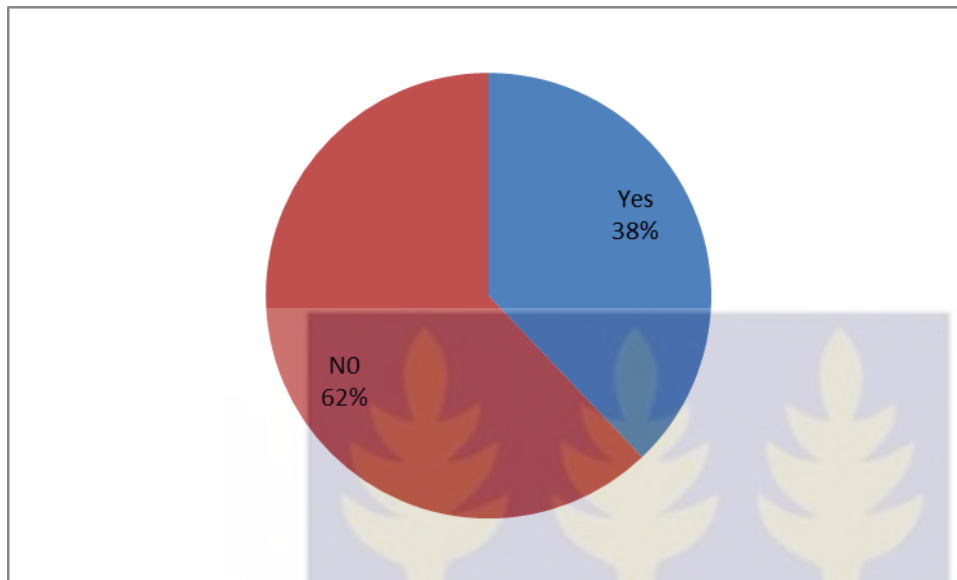
Response	Frequency	Percent
Yes	220	87.3
No	21	8.3
Non Response	11	4.3
Total	252	100

Source: Field survey, 2016

From Table 4.12, 220(87.3%) of the postgraduate students indicated that they had knowledge in the use of computer while few-21(8.3%) of them said they did not. Again, 11(4.0%) of the respondents were indifferent as to whether they had knowledge in the use of computer or not. It is evident that respondents had knowledge in the use of the computer.

4.8.1 Computer Skills

With the influxes of different computer systems, people owe different types of computers such as mini computers, lap tops, palm tops and mobiles. Information in electronic format can be accessed through these computer systems. Therefore, skills are needed in order to exploit the required information from electronic sources for human endeavours. In view of this, the study was inclined to find out whether postgraduate students have maximum skills to search for electronic information effectively. The responses can be seen represented in Figure 4.7.

Figure 4.7.: Computer Competency

Source: Field survey, 2016

From Figure 4.7, a total of 92(37.9%) of the respondents agreed that they had enough skills in the use of computer whilst 158 (62.1%) of the respondents stated otherwise. It is obvious that the postgraduate students had inadequate skills in the use of computers; hence, their inability to effectively access library e-resources.

4.8.2 Importance of Computer Literacy

Information is key in every facet of human endeavours. The proficiency to sift through quantities of information from World Wide Web sources is essential since it helps to determine the authenticity and reliability of information. In line with this, the opinion of respondents were sought to find out the importance of computer literacy. Figure 4.13 contains the responses from respondents.

Table 4.13: Importance of Computer Skills

Response	Frequency	Percent
Yes	217	86.2
Non Response	6	2.4
No	4	1.4
Total	252	100

Source: Field survey, 2016

As shown in Table 4.15, 217(86.2%) respondents stipulated that computer literacy was important in order to make maximum use of library electronic resources and services. Six (2.4%) of them were indifferent to statement while 4(1.6%) respondents disagreed with the assertion that computer literacy was important. Some of the respondents that responded ‘No’ indicated that they did not rely on the computer for information.

4.8.3 Training needs of Students

The use of ICT and other related resources involve the use of special skills that cannot be ignored, and these skills can only be acquired through proper training and guidance. In an attempt to make effective use of the increasing rate of e-resources, postgraduate students need to acquire and practise the skills necessary to exploit them. It is against this backdrop that the respondents were asked whether they were given training on the types of e-resources in the library. Table 4.14 presents the data that was received.

Table 4.14: Responses on Training

Response	Yes		No		Non Response	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Internet	110	43.6	117	46.4	25	10.0
E-journals	150	59.5	87	34.5	15	6.0
Online databases	158	62.7	90	35.7	4	1.6
CD ROM	0	0.0	211	83.7	41	16.3
OPAC	41	16.3	195	77.4	16	6.3
Institutional repository	48	23.0	194	77.0	10	4.0

Source: Field data, 2016

As shown in Table 4.14, 158(62.7%) respondents indicated that they were trained on online database, 90(35.7%) respondents disagreed that they had training on online databases but 4(1.6%) respondents were indifferent as to whether they were trained on online databases or not. Another, 150(59.5%) respondents agreed that they received training on e-journals while 87(34.5%) respondents indicated they did not. Respondent did not receive formal training on all the e-resources in the library because 211(83.7%) respondents indicated they were not trained on CD ROM databases while 41(16.3%) respondents did not respond. In addition, 195(77.4%) respondents disagreed to receiving training on the OPAC though 41(16.3%) respondents claimed they were trained on OPAC. One hundred and ninety-four (77.0%) respondents did not receive any training on institutional repository but 10(4.0%) respondents did not respond. Apparently,

some of the students had assistance from individual library staff to acquire skills on e-resources they were not trained on.

4.8.4 Effectiveness of Training

It is imperative that after providing training on information resources to users, libraries do follow up to check the success of the training. In this way, students concerns or misgivings about the training may be known and addressed by the library since skills required for searching information is as important as the information resource itself. It is for these reasons that the study sought to find out the perception of postgraduate students about training in the library. The responses are captured in Table 4.15.

Table 4.15: Adequacy on Training

Response	Frequency	Percent
Yes	84	23.4
No	109	43.3
Somehow	59	23.4
Total	252	100

Source: Field data, 2016

From Table 4.15, it can be seen that a total of 109(43.3%) respondents lamented that the training they had on e-resources was inadequate, 84(33.3%) respondents agreed that it was adequate while 59(23.4%) of them indicated that the training was somehow adequate. A follow-up question on how often the library organizes training was asked. The responses are presented in Table 4.16.

Table 4.16: Frequency of Training

Regularity of Training	Frequency	Percent
Very often	7	2.8
Often	4	1.6
Once in a while	145	57.3
Not at all	96	38.1
Total	252	100

Source: Field data, 2016

It can be seen from Table 4.16 that 145(57.3%) respondents indicated that once in a while, the library provided training on e-resources to students, 96(38.1%) respondents stated that the library did not provide training at all for students but 7(2.8%) respondents said the library organized training very often for them while 4(1.6%) respondents agreed that the library often provided training for students. It is evident that the library offered training on e-resources to users once in a while.

4.9. Problems encountered in the use of Electronic Resources

The review of literature for this study has brought to the fore, the fact that information users encountered several challenges in their bid to access e-resources in academic libraries. These challenges, unfortunately, may serve as detractive forces to deny information seekers the chance to effectively access and use e-resources. This study sought to establish the difficulties postgraduate students faced in their quest to access e-resources of the UCC Library. Respondents

were allowed to select more than one response. Table 4.17 shows the responses received from the respondents.

Table 4.17 Challenges in Accessing Electronic Resources

Responses	Frequency	Percent
Inadequate computer in the library	143	56.7
Lack of information on how to use e-resources	46	18.3
Insufficient search skills	165	65.5
Poor internet connectivity	183	72.6
Power outages	173	68.7
Limited subscribed titles	157	62.3
Information overload	32	12.7
Other	8	3.2

Source: Field Data, 2016

From the Table, 183(72.6%) respondents were of the view that poor internet connectivity was the major challenge they faced in accessing e-resources. Another 173(68.7%) confirmed that power outages in the library was a limitation they encountered 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. Also, 32(12.7%) of them

perceived that overload of e-resources was a challenge. Further, other postgraduate students stated other limitations such as passwords and user names on the e-databases of the library and the absence of research centre for postgraduate students as hindrance for effective access of e-resources.



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CHAPTER FIVE

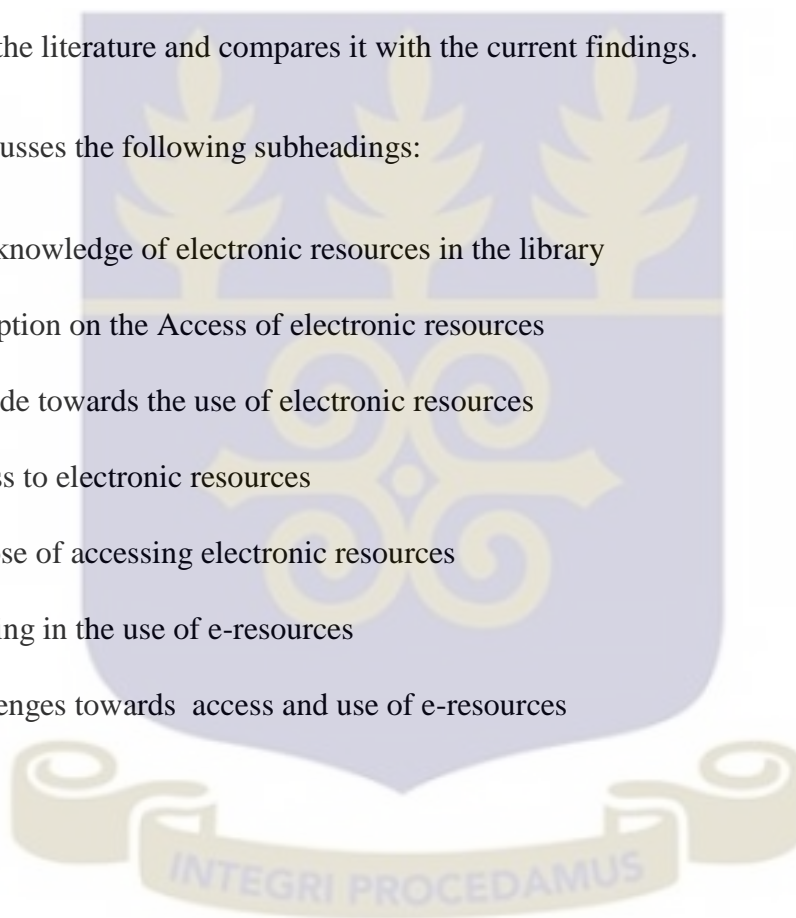
DISCUSSION OF MAJOR FINDINGS

5.1. Introduction

This chapter presents discussion on the major findings of the study. It provides meanings to the data obtained from the study in relation to previous studies in the study area. It also looks out for discrepancies in the literature and compares it with the current findings.

This chapter discusses the following subheadings:

- User knowledge of electronic resources in the library
- Perception on the Access of electronic resources
- Attitude towards the use of electronic resources
- Access to electronic resources
- Purpose of accessing electronic resources
- Training in the use of e-resources
- Challenges towards access and use of e-resources



5.2 User Knowledge of Electronic Resources

Information resources that can be accessed, retrieved, stored and used through electronic means are seen as e-resources. Awareness of e-resources is when library users have information and knowledge about the available electronic information resources of the library. Access and usage of electronic information services is prevalent among users who have knowledge of the available resources. Libraries in this information era are playing proactive roles in their bid to get information to the door steps of their users.

The first objective of the study sought to find out the awareness of e-resources among postgraduate students of UCC. The findings revealed that most of the postgraduate students were aware of the e-resources in the library. This awareness was as a result of the library's orientation, seminar and workshop programmes. This finding is in line with Soyizwapi (2005) who asserted that postgraduate students became aware of e-resources from different sources such as friends, library orientation programmes and lecturers. It also corresponds with the findings of Chirra and Madhusudhan, (2009), Badu and Markwei (2005) which point to the fact that users had high awareness of e-resources and most of their services.

Nonetheless, these findings contradict that of Kwafoa et al., (2014) who indicated that faculty and administrators had low patronage of the library's online databases due to lack of awareness. This means that relentless promotional and marketing efforts are critical by the library to ensure maximum and efficient use of electronic information resources by users. The expectations of libraries are achieved when information resources are fully utilized by users.

The postgraduate students' awareness of the various e-resource services in the library varies. Through the research, it was realized that most postgraduate students were aware of e-journals and online databases but had low awareness in the OPAC, ILL/DD and CD ROM databases. This means that the high awareness of e-resources as indicated by the postgraduate students related to individual e-resources in the library. Perhaps, this forms the basis for postgraduate students stating that the e-resources were not well publicized. The low levels of awareness of other e-resources may be due to low publicity by the library. This confirms the argument put forward by Okello-Obura (2010) that many prospective users may be deprived of benefiting from some electronic information resources because of low publicity from libraries. In order to improve on the awareness of e-resources services, other respondents made the following suggestions; intensify publicity, provides more education as well as more awareness programmes on electronic resources services.

It could be deduced that the current awareness campaign programmes of the library seemed to have reached only few postgraduate students. In view of this, Entsua-Mensah (2010) identified marketing as non-profitable venture in academic libraries, and stressed the need for information professionals to adopt different marketing strategies as means of getting information to users. Academic libraries need to promote awareness of electronic information resources within and beyond the University community through the adoption of social networking channels like Web 0.2 or Library 0.2 technologies as interactive means in sharing and disseminating information to promote e-resources to every postgraduate student. It is also paramount for the University of Cape Coast Library to seriously consider the establishment of subject librarians at the college level to link students and the library.

5.3 Attitude towards the use of Electronic Resources

Adoption to e-resources by postgraduate students do not happen simultaneously but rather in a process whereby some are likely to adopt easily than others. Since there are different characteristics of adopter categories to the use of e-resources, it is important for the academic libraries to understand the characteristics of the postgraduate students to aid in the adoption process to e-resources.

The objective was to find out the frequency of access to e-resources by the postgraduate students of UCC. The findings of this study revealed that most postgraduate students rather preferred to access information from Google scholar, and other web based databases more frequently than the databases in the library. Similar to the findings is that study of He et al., (2012) which postulate that students regard online academic search engines such as Google and CiteSeers as more important resources than the university subscribed databases such as EBSCO, Emerald, and JSTOR. It could be deduced that most students perceive that Google search, Google scholar, Bing and yahoo search engines are free access and less restrictive than the library's databases. Cothran (2011) justifies that users accessed Google Scholar regularly because they were easy to learn, access and navigate as compared to other electronic information resources.

Also, postgraduate students perceive that Google search and other search engines contain all their information needs and research answers, without considering the fact that those information sources do not at all times provide relevant, reliable and authenticated information resources. For these reasons, academic libraries subscribe to electronic databases and journals to provide users with authenticated and up-to date access to unlimited current and archival information (Spalding

& Wang, 2006). This calls for the adoption of more effective measures by the library to enhance usage of the subscribed e-resources.

It emerged from the data analysis that postgraduate students had positive attitudes towards the use to e-resources because of their regular access to it. The findings of the study is similar to what Swain and Panda (2009) reported as they observed that users' attitude towards information was gradually shifting from the printed information resources to e-resources. It was also realized from the study that most of the electronic databases and journals the library subscribed to were not used to their maximum potential even though postgraduate students were aware of them. Some respondents attributed this to restrictive access due to passwords and user names which were many to remember.

They also indicated that the yearly seminar/workshop training by the library for first year postgraduate students on electronic resources should be extended for continuing postgraduate students to help them upgrade their searching skills. They further suggested that training should be organized in every semester and also cover all e-resources in the library.

Also in the findings, postgraduate students expressed that they accessed information from electronic resources more than print resources but most of them showed interest in accessing both information resources for their academic work. These findings affirm the findings of Shukla and Mishra (2011) which revealed that research scholars preferred e-resources to print resources, on the contrary, the finding contradicts the research finding of Majid and Tan (2002) who reported that students considered print resources in the library more valuable for their academic

needs than e-resources. It can be inferred from this finding that if the library is to satisfy the information needs of the postgraduate students most of its services will have to be electronic and internet based.

The analysis also showed that most postgraduate students accessed e-resources through the assistance of library professionals. This corroborates the research findings of Kumar and Reddy (2014) who found that research scholars get assistance from the library staff in accessing e-journals in the library. However, it would be proper if the library provides continuous training programmes on all the e-resources in the library for the postgraduate students to enable them conduct independent research work. This would relieve library staff of some burden, and then allow them to render other services to other students as well.

5.4 Perception on the Access of Electronic Resources

Perception is the key in adopting an innovation. This is because for one to adopt an innovation, it depends on one's perception on the innovation. The person assesses the pros and cons of it before adopting it. User perception of e-resources service offer academic libraries with valuable insight into how significant these services are to users. It brings to light e-resource services that have impact and those that need to be improved. User expectations and perceptions are indicators in the determination of service quality in most service organizations since these would help them to be in the position of providing information to meet the competitive environment (Metha, Lalwani & Soon, 2000). One of the objectives of this study was to find out the perception of postgraduate students in the use of e-resources services of Sam Jonah Library.

It was necessary to investigate this aspect because students' expectations and perceptions may influence the way in which e-resources are accessed and used. From Jayasundara's (2008) point of view, information service providers must fully understand users information expectations and perceptions to prevent the 'misfit' between the user information needs and service delivery. The study revealed that although e-resources met the information needs of the postgraduate students, they also held the view that e-resources were not easily accessible due to the limited subscribed titles, inadequate computers in the library.

In addition, some postgraduate students also perceived that the absence of a special research centre in the library for postgraduate students serve as a limiting factor for effective and efficient research work. This implies that students' perception of information resources is paramount because it provides the library with valuable insights into how students value e-resources services. It also provides the opportunity for information professionals to be aware of their services that meet students' information needs and those that need to be improved. This challenges the library to develop appropriate strategies or policies to meet user information needs.

5.5 Access to Electronic Resources

The adoption of an innovation by individuals is put into five categories namely; innovators, early adopters, early majority, late majority, and the laggards (Rogers, 2003). The postgraduate students of UCC fall within the various adopter groups in the adoption process of e-resources. The quality of all knowledge creation and more precisely, the quality of research output irrespective of the discipline is reliant on access to information (Milne, 1999). Among the

objectives set for this study, was to look at the access of electronic resources by postgraduate students.

The analysis of data of the study revealed that most postgraduate students obtained information from online databases in the library. Andaleeb and Simmonds (2001) consider an academic library as the heart of university community, assisting in the improvement of learning and dissemination of the knowledge to the members of the university and the community at large. It is apparent that due to the restrictions on most of the electronic databases of the library in terms of passwords and usernames requirements, and the perceived difficulties in accessing e-resources, most postgraduate students depend on the assistance of library professionals to enable them conduct effective research. In addition, internet access in the library was also a factor. Students had little option than to visit the library. This influenced their choice of Sam Jonah Library for their e-resources.

Although, it was an encouragement that most postgraduate students visited the library for e-resources, in order to attract more postgraduate students to patronize the library, conducive environment could be created such as special research centre with more computers and high internet speed, and the provision of more subscribed titles could motivate more postgraduate students into the library.

Also, it is imperative for students to have maximum access of the library's e-resources to achieve the same purpose without their presence at the library. Therefore, training students to become independent lifelong learners in the use of e-resources is important. Also, the library

needs to promote access to e-resources by removing possible barriers that could serve as hindrance to their access.

5.6 Purposes of Accessing Electronic Resources

The relevance of information to an individual is quite subjective. Whiles some postgraduate students prefer print resources, others also prefer e-resources. The sixth objective of the study sought to determine the purpose for which postgraduate students access e-resources. The findings of this study revealed that most postgraduate students accessed e-resources for research purposes. This is in line with the findings of Tenopir and King (2007); Kumar and Kumar (2008), Ansari and Zuberi (2010) who affirmed that many postgraduate students accessed e-resources for research purposes. This implies that the university library needs to be more proactive to identify research needs ahead.

Besides, the findings of Khan, Khan and Bhatti (2011) revealed that the purpose of e-resources usage among postgraduate students was academic. This study also found that postgraduate students valued e-resources because of their academic work. Time saving is seen as a key factor in the postgraduate studies due to the intensive nature of the programmes. Also, it could be observed that most postgraduate students were workers and needed to maximize their time, for these reasons postgraduate students' accessed e-resources for time convenience. Brown, Found and McConnell (2007) agreed that time saved on using e-resources had a very positive impact on postgraduate students' academic work. Therefore, it is crucial for the library to consider the improvement of e-resource provisions to meet information needs of postgraduate students.

Also from the data analysis it was found that postgraduate students used e-resources to write their theses or dissertations. This findings is similar to what Tenopir (2003) reported as he indicated that postgraduate students used e-journals frequently during theses writing period. Therefore, e-resources enable postgraduate students to have easy access to accurate, comprehensive information and current information for their theses work (Sinha; Singha & Sinha, 2011). Electronic information resources promote academic performance of postgraduate students.

It was also revealed from the study that, postgraduate students accessed e-resources in order to complete their assignments. The findings of Conyers (2006) indicated that apart from the easy accessibility and retrievable of e-resources, they also meet users' information needs.

Other postgraduate students also mentioned that they accessed e-resources because they were informative and helped them to upgrade their knowledge. The study also revealed that some postgraduate students did not access e-resources. This could be attributed to poor internet connection.

5.7 Computer Knowledge to Access Electronic Resources

The third objective of the study sought to examine the computer competencies of postgraduate students of UCC. Diffusion of technology requires skills to enable users to have confidence in the innovation and adopt it to their advantage. The different adopter categories in the social system require information professionals to provide training in the computer, since it is the means to access e-resources. Tella and Mutula (2008) revealed that students with higher

computer proficiency are motivated to access and make use of e-resources effortlessly. It could be deduced that postgraduate students with limited computer skills may have difficulties in conducting effective and efficient research of information for their academic purposes.

Similar research findings by Achonna (2008) revealed that low usage of e-resources, users stated inadequate skills to access the e-resources. In line with the findings, although most postgraduate students had knowledge in the computer, majority of them had inadequate skills in the use of the computer to search for e-resources. This made them depended on library staff for assistance in order to access e-resources. To curb the situation, Dange (2010) suggested that universities needed to offer preparatory computing literacy programme to ease postgraduate students' usage of e-resources to promote their academic work. Eves and Dalzeil (2007) added that computer literacy training was useful for effective use of e-resources in academic libraries among postgraduates since most contemporary and current information are stored electronically.

Data gathered indicate that the majority of the postgraduate students had training on e-journals and online databases but did not receive formal training on other e-resources such as the OPAC, institutional repository and CD ROM databases. This corroborates the findings of Dadzie (2005) who observed that very few users make use of the OPAC and the academic databases the library subscribes to. From the data analysis, it was observed that the few postgraduate students who could access these resources happened to have sought assistance from individual library professionals or friends. This implies that limitations of training on e-resources for students may hinder their access to information, since students may not have the requisite skills to use e-resources. These training limitations also make it difficult for them to become independent

lifelong learners and also affect their research productivity and academic performance as well, since they may not be able to utilize very current and relevant e-resources for their work.

Also, huge sums of monies are invested in the provision of e-resources. A lot of other resources are expended on training students in this proficiency. The inability to independently access reduces the rate of usage of the e-resources. This consequently defeats the purpose and investments made at acquiring these resources. In effect, the university loses out on the huge investment made.

On the issue of frequency of training on e-resources, the study found that the training opportunities offered by the library were inadequate. This could be one of the contributing factors to the low patronage of the library's e-resources. Bowden (1994) observed that users who had maximum training in information seeking and computer literacy were more likely to utilize e-resources frequently. The library needs to provide regular and more intensive training programmes to introduce users to the techniques in using the computer and the internet.

5.8 Problems encountered in the use of Electronic Resources

Postgraduate students' quest to use e-resources for their academic work encounters some difficulties in terms of access and usage. The final objective of the study was to identify some major challenges that students encountered in accessing e-resources. The respondents identified poor internet connection as the most significant constrained for ineffective access e-resources. This finding agrees with Madhusudhan (2010) who observed that low access speed of the

internet was common problem students' faced when accessing e-resources. This may serve as obstruction to learning and research work, especially to postgraduate students.

Computers are the major means to access e-resources. Generally, it has become the norm that most students in higher educational institutions are owners of computer devices like lap tops, palm tops and mobile phones. These enable them to access electronic information. The availability of computer systems in the library is necessary since it would enhance the usage of e-resources and make electronic information accessible to students who might not be able to afford computers. However, inadequate computers in Sam Jonah library was a major limitation for postgraduate students conducting their research work. This finding confirms the finding of Dadzie (2005) who revealed that access to e-resources was challenged by inadequate computers on campus.

Another challenge was power outages. This had the tendency to disrupt online information services and thereby limiting access to information on electronic devices. This finding agrees with the findings of Oduwole and Akpati (2003) which reported that lack of ICT and power outages were challenges to the use of e-resources. This could prevent access to e-resources and in effect, lead to low productivity in research. There is the need to ensure continuous usage of e-resources by provision of standby power generators by the library.

Insufficient skills were a worrying limitation on the part of postgraduate students to effectively use information from e-resources. This finding supports the findings of Watts and Ibegbulam (2006) who revealed that inadequate ICT infrastructure and lack of information searching skills were among challenges users faced in accessing e-resources. Other postgraduate students were of

the opinion that limitations such as passwords and user names on the e-databases of the library, and the absence of a research centre for postgraduate students and slow bandwidth were hindrances to effective access of e-resources. However, in spite of these limitations, the postgraduate students rely on e-resources for their information needs.

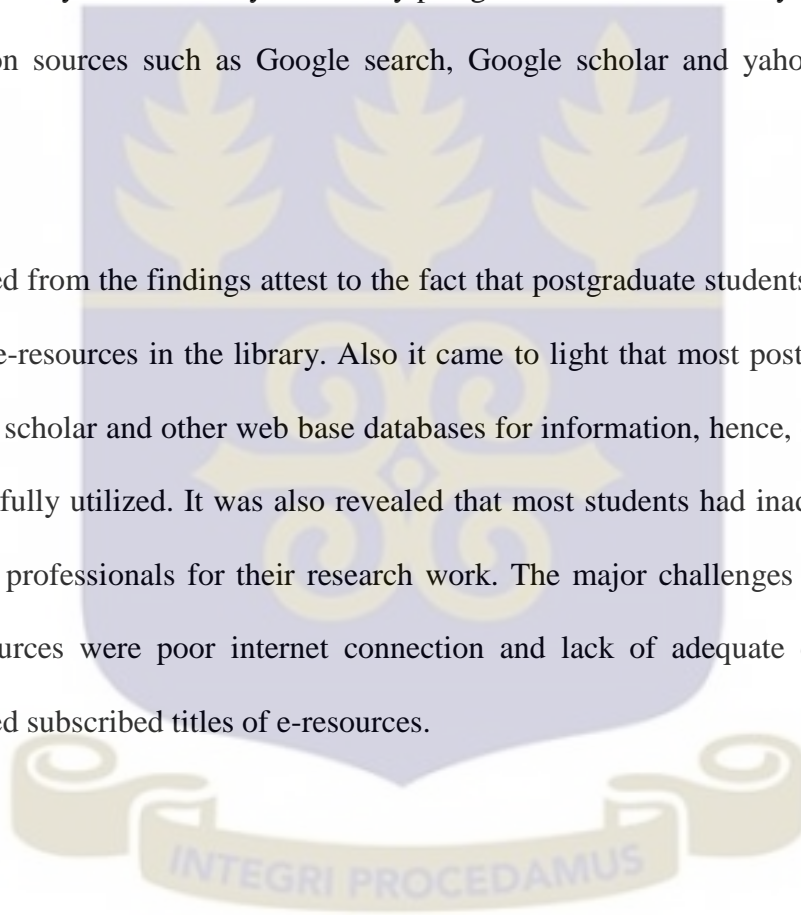
5.9 The Relationship of findings to Theoretical Framework

In relating the findings of the study to the Diffusion of Innovation (DOI) theory, innovation as an idea, product or object, is communicated to the members of a social system and is influenced by factors of adoption such as relative advantage, compatibility, complexity, triability and observability. Each of these factors connect to the five adopter categories in the social system (Rogers, 2003). Electronic resources are adopted by postgraduate students of the University of Cape Coast. Through awareness creation, relative advantage (the extent to which the technology offers improvement over existing one), compatibility, complexity (it must be easy to learn and use), triability and observability (the extent to which the technology produces gainful results).

According to Rogers (2003), the adoption of an innovation is put into five categories as: Innovators, Early Adopters, Early Majority, Late Majority, and Laggards. Since different characteristics are exhibited by people in the adoption process of an innovation in a community, this was not different from the rate of adoption of e-resources by the postgraduate students in the study. Although, postgraduate students had positive attitudes towards the adoption of e-resources, some had inadequate skills to effectively exploit e-resources for their academic work and therefore relied on library staff for assistance for electronic information resources. The solution lies in equipping students with the requisite skills to enhance usage of e-resources.

The Diffusion of Innovation Theory proposes that people in a social system would adopt an innovation, idea or product, once they are influenced of its greater benefits over the existing one (Rogers, 2003). Therefore, e-resources were perceived to have relative advantage over print information resources by the postgraduate students. This was through awareness creation, provision of training programmes and availability of technological infrastructure. However, e-resources of the library were not fully utilized by postgraduate students as they used more of web based information sources such as Google search, Google scholar and yahoo search engines among others.

The facts gathered from the findings attest to the fact that postgraduate students have knowledge of the available e-resources in the library. Also it came to light that most postgraduate students accessed Google scholar and other web base databases for information, hence, e-resources in the library were not fully utilized. It was also revealed that most students had inadequate skills and relied on library professionals for their research work. The major challenges students faced in accessing e-resources were poor internet connection and lack of adequate computers in the library and limited subscribed titles of e-resources.



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CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the summary of the major findings in line with objectives of the study, it draws conclusions and makes recommendations based on the outcomes of the study and suggests areas for further research.

6.2 Summary of Findings

The study focused on the use of electronic resources by postgraduate students of University of the Cape Coast. The investigation was aimed at user knowledge of electronic resources in academic libraries, attitude towards the use of electronic resources, computer knowledge in the use of e-resources, access to electronic resources, and perception on the access of electronic resources. In addition, purpose of accessing electronic resources and challenges relating access and use of e-resources were studied with the purpose of making recommendations for effective and efficient access and use of electronic resources.

6.2.1 Knowledge of Electronic Resources Service

The first objective of the study tackled knowledge of e-resources by postgraduate students of UCC. The key findings under this objective revealed that majority of postgraduate students were aware of available e-resource services in the library through orientation and seminar/workshop programmes. Most of them had knowledge of online databases and e-journals. The fact that the respondents had little awareness of other e-resource services such as the institutional repository,

ILL/DD, OPAC and CD ROM databases presupposes that the publicity and awareness creation of electronic resources were inadequate.

6.2.2 Attitude towards the use of Electronic Resources

The findings indicated that most postgraduate students preferred to access information from Google search, Google scholar, Yahoo, Bing and other web based databases regularly than the electronic databases and journals in the library. Postgraduate students also emphasized that they accessed information from electronic resources more than that of the print resources. However, most of them accessed e-resources in the library through the assistance of library staff.

6.2.3 Perception on the use of Electronic Resources

The study revealed that although e-resources met the information needs of postgraduate students, it was found that they were not easily accessible in the library. This was due to inadequate computers in the library and limited subscribed titles of e-databases and e-journals. In addition, absence of special research a centre in the library for postgraduate students served as a limiting factor for effective and efficient research work.

6.2.4 Access to Electronic Resources

The study found that most postgraduate students accessed e-resources in the library. This was due to reasons such as restrictions of access like passwords and user names on most of the databases, internet availability in the library and also to seek for assistance from library staff to

acquire needed information. It was also realized from the study that the institutional repository, OPAC and the CD ROM databases had low patronage by postgraduate students.

6.2.5 Purpose of accessing Electronic Resources

The study showed that postgraduate students used e-resources for their academic work, to write thesis or dissertation, for research and to their complete assignments. Other respondents indicated that they used e-resources because they were informative and helped them to upgrade their knowledge.

6.2.6 Computer Knowledge to access Electronic Resources

The findings revealed that most of the postgraduate students had inadequate skills in the use of the computer to access e-resources. Most respondents also had training on e-journals and online databases but did not receive formal training on other e-resources such as the OPAC, institutional repository and CD ROM databases. They however indicated that the training was inadequate.

6.2.7 Challenges towards access and use of e-resources

The study established that postgraduate students encountered difficulties in their use of e-resources. Poor internet connectivity, inadequate computers and insufficient skills constituted the major challenges. Others limitations that postgraduate students faced in accessing e-resources were; power outages, lack of information on how to use e-resources and limited subscribed titles. The presences of passwords and user names on e-databases and e-journals, and the absence of

research centre for postgraduate students also served as hindrance for effective accessibility and utilization of e-resources.

6.3 Conclusion

The provision of electronic information resources in academic libraries has provided unprecedented support to modern teaching, learning and research purposes in universities. Electronic resources have become a 'house hold name' for postgraduate students in terms of access to current and convenient information for their academic endeavours. For this reason, it is prudent for academic libraries to prioritize e-resources as the major information resources and ensure its potential usage. Unfortunately, e-resources were not utilized to their fullest by postgraduate students because of low publicity, inadequate training, restrictions of access such as passwords and usernames, and other limitations such as poor internet connection, inadequate computers, as well as power outage and inadequate searching skills which constrained students to depend more on library professionals for their information searches. These problems have affected the accessibility and utilization of e-resources in the library. In order to alleviate these challenges to ensure maximum use of e-resources, library management should put in place mechanisms to ensure that e-resources are fully accessed and utilized by users.

6.4 Recommendations

Based on the findings of the present study, it is imperative that ways forward regarding the effective use of e-resources by postgraduate students in the Sam Jonah library be recommended.

6.4.1 User knowledge of Electronic Resources in the Library

The study revealed low awareness of some e-resources due to low publicity. To promote awareness of e-resources, it is recommended that marketing and promotion of e-resources to users within and beyond the university community should be a priority to library management. Besides the traditional ways of creating awareness of library resources such as orientation programmes, library websites, library guides, and seminars/workshops, library management needs to promote e-resources extensively through the adoption of social networking channels like Web 2.0 or Library 2.0 technologies as interactive means in sharing and disseminating information. This way, users who might not be physically present at the awareness programmes can get interactive with the library online to be updated of their services. Also, lecturers in the university should play a key role in creating a positive approach by postgraduate students in accessing e-resources in the library, no matter their subject background. It is further suggested that, Library management should request for regular air time at the university radio station, “Library hour” to sensitize the university community and the public about their services. This could be factored into the annual budget of the library to the university administration.

6.4.2 Attitude towards the use of Electronic Resources

The study found that postgraduate students accessed information from Google search, Google scholar and other web based databases than the library’s subscribed databases, it is recommended for library management to ensure that online databases and e-journals of the library are free from passwords and usernames to make them easily accessible to users within the library or the university . This would help postgraduate students to patronize these highly authenticated information resources for their academic work.

6.4.3 Perception on the Access of electronic resources

The study found that number of computers in the library was grossly inadequate for the large number of students in the university. The issue of limited subscribed titles was also identified by the respondents in the study. It is recommended that, since computers are major means to access e-resources, budgets should be developed by the head of the Electronic Support Unit to be incorporated into the annual budget of the library in the provision of more computers. In addition, library management should develop electronic collection policies by investing in the subscription of more electronic databases from CARLIGH and other benevolent organisations such as INASP to enhance accessibility. Also, the heads of the digital sections of the library should ensure that subscribed titles of e-resources are periodically upgraded on the library's webpage to promote usage.

6.4.4 Access to electronic resources

The study indicated that postgraduate students accessed e-resources from the library. This should create a compelling need for library management to ensure the provision of conducive research centre in the library to facilitate the use of e-resources by postgraduate students for their academic work. There is need for the electronic support unit of the library to have a tracking system to monitor the level of access to subscribed databases within a time period so that appropriate measures can be taken by library management to either maintain or improve on their services.

It is also paramount for library management to seriously consider the establishment of subject librarians in the library, through face to face interaction or via the library's web site (Ask a

librarian). This would serve as a link between students and the library and help to create awareness of e-resources as well. This would also help address the concerns of users in their subject areas in relation to their information needs.

6.4.5 Training in the use of e-resources

The findings of the study found that the training on e-resources was inadequate for students to make maximum use of e-resources. It is recommended that training on e-resources should be organized at the beginning of each semester so that students do not rely solely on library staff for information. This should be done through the collaboration of the Head of Electronic Support Unit and the Head of the Digital Section. They should consider re-training continuing postgraduate students to upgrade their knowledge on information search. The training programmes should introduce users to the techniques in using the computer and internet and also to cover all e-resources in the library.

6.5 Future Research

This study sought to find out the use of electronic resources by postgraduate students of the University of Cape Coast, and make recommendations based on the findings. The study could be replicated in the undergraduate level in UCC since they also make use of electronic resources for their academic work.

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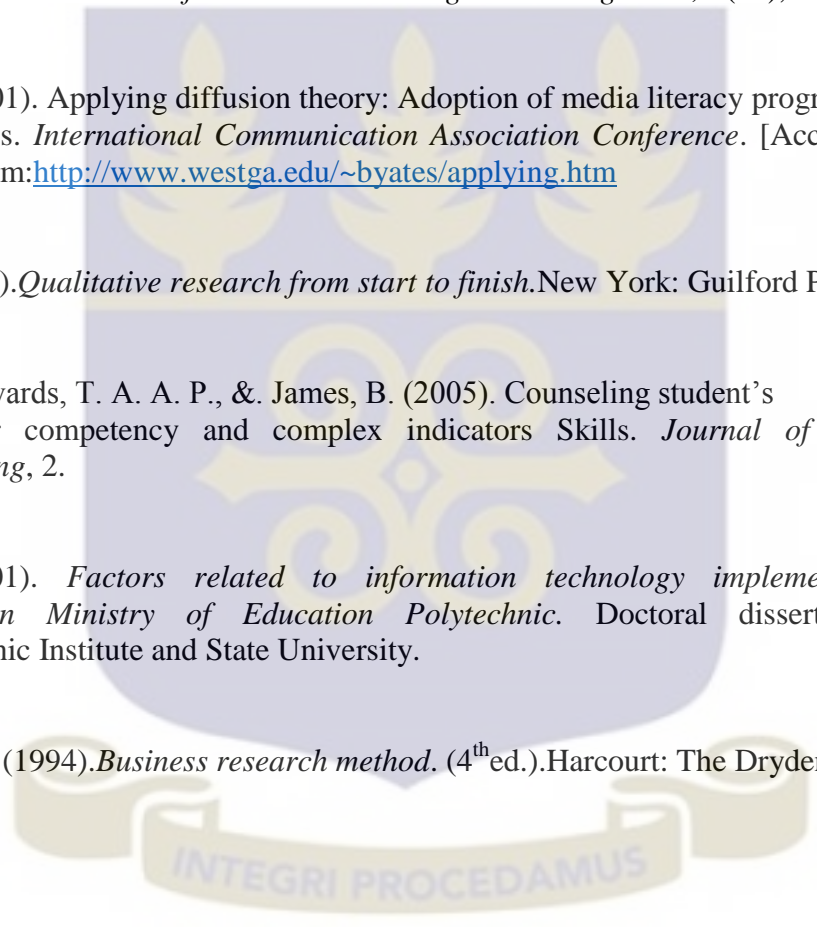
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APPENDIX A

QUESTIONNAIRE

UNIVERSITY OF GHANA

SCHOOL OF COMMUNICATION AND INFORMATION STUDIES

Dear Respondent,

I am an M.Phil student from the Department of Information studies, University of Ghana, Legon.

I am undertaking a study on “*The Use of Electronic Resources by Postgraduate Students of University of Cape Coast.*” You have been randomly chosen to voluntarily partake in this study.

I am therefore pleased to entreat you to kindly complete this questionnaire as appropriate, and be guaranteed that responses would be treated in confidence and used only for the purpose of the research.

Thank you.

(Please tick [√] the appropriate response)

SECTION A: BIOGRAPHIC DATA

1. Gender: Male [] Female: []
2. Age: i. 20-29 [] ii. 30-39 [] iii. 40-49 [] iv.50-59 [] v. 60 and above []
3. College (**Please tick [√] where appropriate**)
 - i. Humanities & Legal Studies []
 - ii. Agriculture & Natural Sciences []
 - iii. Health & Allied Sciences []
 - iv. Education Studies []

4. Status (**Please tick** [√] **where appropriate**)

- | | | | | | |
|-------------|-----|------------|-----|------------|-----|
| i. PhD | [] | iii. M.Sc. | [] | v. M. A. | [] |
| ii. M.Phil. | [] | iv. MBA | [] | vi. M. Ed. | [] |

SECTION B: AWARENESS OF ELECTRONIC RESOURCES

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

- i. Yes [] ii. No []

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

(Please you can tick as many as applied)

- | | | | |
|----------------------|-----|----------------------------|-----|
| i. Orientation | [] | v. Library staff | [] |
| ii. Seminar/workshop | [] | vi. Lecturers | [] |
| iii. Library guide | [] | vii. Colleagues/friends | [] |
| iv. Library website | [] | viii Other (Specify) | |

7. Which of the following electronic resources service in the library are you aware of?

(Please you can tick as many as you are aware of.)

- | | | | |
|-------------------------------|-----|----------------------------|-----|
| i. e-journals | [] | v. OPAC | [] |
| ii. Online databases | [] | vi. ILL/DD | [] |
| iii. Institutional repository | [] | vii. Others (specify)..... | |
| iv. CD ROM databases | [] | | |

8. Do you think that electronic resources services have been well publicized to attract postgraduate students?

- i. Yes [] ii. No []

9. If No what do you think must be done

(Please state).....

SECTION C: FREQUENCY OF USE OF ELECTRONIC RESOURCES

10. How often do you access electronic resources of the library?

- i. Everyday []
- ii. More than once a week []
- iii. Once a week []
- iv. Rarely []

11. Which of these electronic resources do you often search for information on?

(Please you can tick as many as applied)

- i. Emerald []
- ii. JSTOR []
- iii. EBSCO host []
- iv. AGORA []
- v. HINARI []
- vi. Project Muse []
- vii. African journal online []
- viii. Sage []
- ix. Taylor & Francis []
- x. Others (Specify).....

12. In your opinion, what services in the library do you mostly use?

- i. Print []
- ii. Electronic []
- iii. Both []

13. How do you normally conduct your searches?

- i. I do them myself []
- ii. I am assisted by Library staff []
- iii. I am assisted by colleagues/friends []

SECTION D: COMPUTER LITERACY SKILLS

14. Do you have knowledge in using the computer?

- i. Yes []
- ii. No []

15. Do you have enough skills to use the computer to search for information?

- i. Yes [] ii. No []

16. Do you think training/computer literacy is important to make maximum use of library electronic resources and services?

- i. Yes [] ii. No []

17. Give reasons if your response to question 16 is No

.....

18. Did the University Library provide you with any training on how to use the following electronic resources? (Please tick as applicable)

	Yes	No
i. Internet	[]	[]
ii. E-journals	[]	[]
iii. Online databases	[]	[]
iv. CD ROM	[]	[]
v. Online Public Access Catalogue (OPAC)	[]	[]
vi. Institutional repository	[]	[]

19. Do you think the training was adequate?

- i. Yes [] ii. No [] iii. Somehow []

20. How often does the library provide training on electronic resources?

- i. Very often [] ii. Often [] iii. Once in a while [] iv. Not at all []

SECTION E: PERCEPTION AND USE OF ELECTRONIC RESOURCES

21. Which type (s) of e-resource do use? (Please you can tick as many as applied)

- i. e-journals [] v. CD ROM databases []
 ii. Institutional repository [] vi. OPAC []

- iii. Online databases []
- vii. Others (Specify).....

22. Where do you get access to these electronic resources?

- i. Library []
- ii. Computer centre []
- iii. Home []
- iv. Hostel []
- v. On-campus location []
- vi. Off-campus location []
- vii. Department []
- viii. Other

23. Do the e-resources of the library meet your information needs?

- i. Yes []
- ii. No []
- iii. Somehow []

24. Are there enough subscribed databases in the library to cover your programme of study?

- i. Yes []
- ii. No []

25. Are there enough computer systems in the library for postgraduates to use?

- i. Yes []
- ii. No []

26. Do you receive preferential treatment when you visit the library?

- i. Yes []
- ii. No []

27. If your response from 24-27 are No, then specify what you prefer from the library.

.....

.....

SECTION F: PURPOSE OF USING ELECTRONIC RESOURCES

28. Please indicate your purpose of using electronic resources

(Please you can tick as many as applied)

- i. To complete assignment []
- ii. For research []
- iii. To write thesis or dissertation []
- iv. To support academic work []
- v. Others (Specify).....

29. Why do you choose to use electronic resources? (Please you can tick as many as applied)

- i. Convenient to access. []
- ii. Saves time []
- iii. Quick access to information []
- iv. Currency of information []
- v. vii. Other (Specify).....
- v. No need to visit the library []
- vi. Availability of search tools []

SECTION G: PROBLEMS ENCOUNTERED IN USING ELECTRONIC RESOURCES

30. What are some of the limitations you encounter in accessing electronic resources? (Please tick as many as applied.)

- i. Inadequate computers in the library []
- ii. Lack of information on how to use E-resources []
- iii. Insufficient search skills []
- iv. Poor internet connectivity []

- v. Inadequate access location []
- vi. Power outages []
- vii. Limited subscribed titles []
- viii. Information overload []
- ix. Other (Specify).....

28. What do you suggest to the library to solve these problems?

.....

.....

Thanks for your time and responses, they are greatly appreciated.



APPENDIX B



UNIVERSITY OF GHANA
DEPARTMENT OF INFORMATION STUDIES
SCHOOL OF INFORMATION AND COMMUNICATION STUDIES

INFS/6.24

Ref. No.: 18th December, 2015.

The Dean of Students
College of Education Studies
University of Cape Coast
Cape Coast

Dear Sir,

**LETTER OF INTRODUCTION-
DIANA ATUASE**

This is to introduce to you Diana Atuase, a Master of Philosophy student of the Department of Information Studies. Diana is expected to submit a thesis work as part of the requirements for her Masters' programme. She is researching on the topic: **"The Use of Electronic Resources by Postgraduate Students of University of Cape Coast"**.

We would appreciate any support you can give her.

Yours faithfully,


DR. E. DJEI
(HEAD OF DEPARTMENT)

INTEGRI PROCEDAMUS

APPENDIX C



UNIVERSITY OF GHANA
DEPARTMENT OF INFORMATION STUDIES
SCHOOL OF INFORMATION AND COMMUNICATION STUDIES

INFS/6.24

Ref. No.: 18th December, 2015.

The Dean of Students
College of Health & Allied Sciences
University of Cape Coast
Cape Coast

Dear Sir,

**LETTER OF INTRODUCTION-
DIANA ATUASE**

This is to introduce to you Diana Atuase, a Master of Philosophy student of the Department of Information Studies. Diana is expected to submit a thesis work as part of the requirements for her Masters' programme. She is researching on the topic: **"The Use of Electronic Resources by Postgraduate Students of University of Cape Coast"**.

We would appreciate any support you can give her.

Yours faithfully,


DR. E. DJEI
(HEAD OF DEPARTMENT)

INTEGRI PROCEDAMUS

APPENDIX D



UNIVERSITY OF GHANA
DEPARTMENT OF INFORMATION STUDIES
SCHOOL OF INFORMATION AND COMMUNICATION STUDIES

INFS/6.24

Ref. No.: 18th December, 2015.

The Dean of Students
College of Agriculture
University of Cape Coast
Cape Coast

Dear Sir,

**LETTER OF INTRODUCTION-
DIANA ATUASE**

This is to introduce to you Diana Atuase, a Master of Philosophy student of the Department of Information Studies. Diana is expected to submit a thesis work as part of the requirements for her Masters' programme. She is researching on the topic: **"The Use of Electronic Resources by Postgraduate Students of University of Cape Coast"**.

We would appreciate any support you can give her.

Yours faithfully,

DR. E. DJEFI
(HEAD OF DEPARTMENT)

