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STUDENTS' USE OF ELECTRONIC RESOURCES IN UNIVERSITY OF PROFESSIONAL STUDIES, ACCRA

BY

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DECLARATION

I sincerely declare that this thesis is my own work and was supervised by Dr. Ebenezer Ankrah and Dr. Evelyn Markwei. All the sources used have been duly acknowledged.

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DEDICATION

This study is dedicated to all students and lecturers at the Department of Information Studies, my family, and all my friends and loved ones for their progressive encouragement.

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ABSTRACT

This study investigated students' awareness of the availability of e-resources in UPSA, their extent of use of these e-resources, reasons for use, usefulness of e-resources for students' academic performances, challenges with use, and the relationship between "students' computer literacy skills" and "use of electronic resources". This study is beneficial to three (3) main categories of people within a university community, and includes university administrators, library information professionals, and students. It also adds to knowledge in its area of study.

A survey methodology was used in this study, and the study has a population size of 2,850 (level 400 students of UPSA). A sample size of 570 (which is 20% of the population of 2,850) was used. A convenience sampling technique was adopted for data collection. SPSS was used to analyze data that were collected via questionnaires, whereas an interview schedule was analyzed according to themes.

The findings revealed that UPSA students are fairly aware of electronic resources, and they fairly used electronic resources to conduct their researches and to answer their assignments. It was further discovered that comparatively, electronic resources' significance quite outweigh that of paper-form documents. Some challenges such as overcrowding of the library's electronic resources section by students due to inadequate number of computers and inadequate training on how to use e-resources were discovered. A Chi-square test revealed the direction of relationship between "students' computer literacy skills" and their "extent of use of electronic resources". It was discovered that "students' computer literacy skills" affect their "extent of use of electronic resources".

Recommendations to improve the situation were made.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A significant transformation has been noticed over the last several years in collection development policies and practices. A rapid urge for more and more information online has been identified among the user community. The development of Information and Communication Technology devices, the rapid rise of e-journals and e-book technologies have altogether changed the entire state of informatics. "Users' attitude to information is gradually shifting from the printed documents to electronic resources. Thus, it has been their prerogative to know the details of the availability and organization of e-resources like online journals and databases, electronic theses and dissertations, online newspapers, and so on in the information centers. The phrase 'electronic resources' has broadly been defined as, information accessed by a computer and may be useful as bibliographic guides to potential sources, but they infrequently appear as cited references in their own right" (Graham, 2003, pp. 18-24).

The "change in traditional document delivery services, from print to electronic, has come about very quickly and libraries and information service have undergone significant transformation in order to effectively deliver electronic resources to the academic community" (Appleton, 2006, p. 619). E-resources add value to this era's library collection and satisfy the unique needs of students, faculty and research scholars with less risk and time. Additionally, electronic resources have the potential power to increase students' learning opportunities. The interactive and multimedia components provided by the electronic media somehow offer multiple learning experiences than conventional (paper-form) documents. Teaching materials in electronic formats tremendously enhance teaching possibilities by providing students with various exercises and making courses much more lively and

interactive. These e-resources enable instant feedback to students and enhance their ability to understand concepts more clearly and easily by providing several supporting and supplementary resources for the courses so that students can visualize the material and its content without facing much difficulty in understanding.

In recent years, e-journals (an important component of e-resources) have become widely popular among library patrons. E-resources are omnipresent and can always be accessed across geographical barriers. E-resources reach their subscribers well before the conventional documents, besides their ability to reach all their subscribers simultaneously. Articles in electronic formats can be downloaded and printed simultaneously by several readers depending on access right and permission. Electronic resources solve the missing issue problem. Thus, with cloud computing, electronic resources are readily available online. This is a gain for big campuses, particularly ones with hundreds of readers and many departments like the University of Professional Studies, Accra campus. Moreover, "e-journals, CD-ROM databases, online databases, e-books, web based resources and a variety of other electronic resources are fast replacing the traditional resources of modern libraries" (Mohamed, 2007, p. 23). The presence of resources on the desktop can save a trip to the library and thus saving time.

Dadzie (2005) mentions that "electronic resources are invaluable research tools which complement print-based resources in any traditional library. Electronic resources provide access to information that might be restricted to the user because of geographical location or finances. They also provide access to current information because they are frequently updated. Through their various search techniques, electronic resources provide extensive links to explore additional resources or related content. In addition, electronic resources are convenient to use since users are able to access information from the library, internet cafe´, and offices or at times from the comfort of their homes at any time of the day". (p. 290).

These are reasons why university libraries in Ghana are continuously challenged to provide access to e-resources to support teaching and research activities. Print or Electronic resources are costly, and for electronic resources in particular, their continual use is greatly dependent on the sustainability of the current technological and infrastructural development at UPSA. With decreasing budgets for libraries however, there is the need to maximize the use of available e-resources to justify the financial investment involved in the maintenance of such systems in academic libraries.

1.1.1 University of Professional Studies

University of Professional Studies, Accra (UPSA) is a "public university that provides both academic and professional business education in Ghana. With over forty (40) years of experience, the University has gained a reputation as the oldest professional accountancy and management tuition provider having many of its products in key leadership positions in Ghana and around the world. The University currently has a student population of ten thousand (10,000). "It was founded in 1965 as a private professional business education tuition provider and was taken over by government in 1978 by the Institute of Professional Studies Decree, 1978 (SMCD 200). It was subsequently established as a tertiary institution with a mandate to provide tertiary and professional education in the academic disciplines of Accountancy, Management and other related areas of study by the Institute of Professional Studies Act, 1999 (*Act 566)*" (UPSA, 2015).

The then "IPS had been offering tuition for various business professional programmes that were internationally recognized. In this respect, the University has contributed immensely to the teaching and practice of Accountancy and Management in Ghana. In September 2005, the then Institute introduced Bachelor's Degree Programmes in its various mandated disciplines to give meaning to the IPS Act 566. It received a Presidential Charter in September 2008,

conferring on it the status of a fully-fledged public university. The University currently offers Undergraduate and Master's Degrees in several programmes. The combination of scholarship with professionalism is the foundation of the university's unique profile" (UPSA, 2015).

"The development of the initial and new range of academic programmes coupled with trends in tertiary education at both local and international levels called for an amendment of the existing Act 566 of 1999. Subsequently, the University of Professional Studies Act, 2012 (ACT 850) was enacted to rename the Institute as a University of Professional Studies, Accra (UPSA)" (UPSA, 2015).

UPSA currently has candidacy status from Accreditation Council for Business Schools and Programmes (ACBSP) in America. This is a global accreditation body for business schools. "The process and status is intended to further instill confidence in the academic programmes of the University. The University also intends to explore further collaborations with universities in the United States of America, China, Hong Kong, Europe, Australia, New Zealand, Norway and other Scandinavian countries" (UPSA, 2015).

1.1.2 University of Professional Studies Library

University of Professional Studies, Accra "(UPSA) library has a unique collection of a balanced blend of both academic and professional reading and research materials that support the University's mission of producing scholars and professionals. To enable the library play the very important role it performs in the academic life on campus, the Library has been segmented into two branches which perform similar functions but in different locations. The main library which is designated for undergraduate and graduate students as well as lecturers is located on the first floor of the old Administration/Library Block. However, there is also a library for graduate students, which is designated for graduate students as well as lecturers,

and it is also located on the graduate floor of the old Lecture block. The UPSA main Library, with its rich and diverse collection of materials serves the teaching and research needs of administrative staff and students as well as other clients. The Library's mission is to support the University's teaching, research and service functions. Besides the Library's large collection of printed materials which have been shelved according to the Library of Congress Classification scheme, the library has an electronic library unit that stocks very large volumes of electronic journals, databases as well as electronic books which users access for research purposes. The Electronic Support Unit of UPSA library has large volumes of e-books, e-journals and databases for use by students for their research purposes" (UPSA, 2015).

There are also "information materials on CDs which students are able to access on the computers available at the Electronic Support Unit. The electronic library has been extended beyond the walls of the University; thereby making it possible for students outside the University campus to access using their Student Identification log in information. A number of publications from both public and private institutions and individuals can be found in the library's collection. A collection of dissertations have also been put on the Library's shelves for viewing on a reference only basis" (UPSA, 2015). Facilities of the library include; computers, scanners, printers, photocopy machines, and Online Public Access Catalogue (OPAC). The library opens at 8:00am to 10:00pm from Monday to Friday and at 9:00am to 9:00pm on Saturdays within a given semester. However, during vacation periods, the library is opened on Monday to Friday from 8:00am to 5:00pm.

University of Professional Studies has a wide range of electronic journal databases (a magazine or periodical, especially one published by a specialist or professional body for its members, containing information and contributions relevant to their area of activity available

online) but not electronic books. Among the numerous databases listed by the library, the fully subscribed electronic journal databases and a brief description of them are as follows:

- Ebscohost
- Emerald (covers management, library and information management, engineering - Full text)
- JSTOR (all subjects - full text)
- Oxford University Press
- Policy press
- Sage Journals Online (contains more than 560 journals in Business, Humanities, Social Sciences, and Science, Technology and Medicine - full text)
- Taylor and Francis
- Wiley and
- IMF eLibrary (for one year trial period after which the Library has to pay a fee for the services).

The electronic resources in UPSA's main library are mostly accessed and used by students within the library. The Library has also made available to users an off-campus access facility. This allows the clients of the library to access and use the e-resources away from the library's premises. These electronic resources are available to help make studies and research enjoyable and easier for all stakeholders.

However, "increasingly, students use Web search engines such as Google to locate information resources rather than seek out library online catalogs or databases of scholarly journal articles. Many faculty express concern that students do not know how to adequately evaluate the quality of information resources found on the Web, and Librarians share this concern. Libraries need to find ways to make their information access systems more

approachable to students, integrate guides to quality resources into course pages, and find ways to increase their presence in general Web search engines. Newly emerging services such as Google Scholar are providing access to more library resources in the general internet environment. Libraries also need to be more cognizant of Net Gen students' reliance on visual cues in using the internet and build Web pages that are more visually oriented" (Lippincott, n.d.).

1.2 Statement of the Problem

The dawn of a new era in library services has led to a change from the dominance of the traditional print collection to the inclusion of electronic collection. Despite the massive influx of electronic resources available at UPSA, students of the University face several challenges in using the electronic resources which are available at UPSA library. A reason is that fresh students are theoretically oriented about the library's electronic resources at a lecture hall. This leaves the students with lack of practical skills for using these resources, thereby leading to students' negative directional response towards the electronic resources of the University of Professional Studies, Accra. It also results in some students' lack of awareness of the presence of e-resources in UPSA since not every freshman attends freshmen's orientation.

Furthermore, students of UPSA are most often seen using the famous search engine; Google to undertake their researches instead of using the academic online databases that have been subscribed unto by the University. Also, instead of using the electronic resources for studies, some students of UPSA are found to be executing other activities (such as twitting, facebooking, watching pornography, etc.) online.

Students are faced with a challenge of readily getting access to a library computer system for use, since the number of computer systems available within the library is scanty and insufficient to take care of the student population of the university. For instance, there are just

five desktop computers available within the library to be used by students. The limited number of computers within the library leads to students queuing-up for computer use in the library. The next option for these students is to carry their laptops to the library for use. However, connecting to the Wi-Fi is also most often a challenge since the connection keeps fluctuating.

Search for and review of literature has revealed that inadequate studies have been undertaken to survey large numbers of students so far to investigate the extent of use of the electronic resources at the University of Professional Studies, Accra and to probe into how "students' computer literacy skills" relate to their "use of e-resources" at the University of Professional Studies, Accra. However, few of the studies that have been conducted on use of electronic resources in universities in Ghana have found out the following: Dilek-Kayaoglu (2008) discovered that the major challenges to the use of e-journals were lack of user orientation/training and limited bandwidth. Also, Ali (2005) mentioned that users faced numerous problems while browsing electronic information, such as lack of knowledge about the resources, lack of trained staff and inadequate terminals. It is therefore worth noting that the perspectives or variables of this study have been inadequately investigated far back in time.

With an increasing level of budgets for acquiring and maintaining electronic resources however, academic libraries must justify why these resources should be made available. A justification therefore could be based on a record of high usage of these resources by those they are acquired for. This study therefore seeks to investigate the extent of use of e-resources by students of the University of Professional Studies, Accra and challenges affecting the effective use of these highly essential e-resources.

1.3 Purpose of the Study

The purpose of this study was to examine students' use of electronic resources in UPSA and the significance of the electronic resources on students' academic performances.

1.4 Objectives of the Study

The main objectives of this study are:

1. To determine students' awareness of the availability of electronic resources.
2. To find out the extent of use of electronic resources by students of UPSA.
3. To examine UPSA students' reasons for use of electronic resources.
4. To investigate the usefulness of electronic resources to students of UPSA.
5. To examine the relationship between computer literacy skills and use of electronic resources.
6. To find out the challenges students of UPSA face in using electronic resources.
7. To recommend appropriate measures to maximize the use of electronic resources among students.

1.5 Central Hypotheses

The central hypotheses tested in this study are:

1. Students' computer literacy skills affect their extent of use of electronic resources.
2. Students' awareness of electronic resources increases their usage of electronic resources.

1.6 Scope and Limitation of the Study

The research was undertaken at the University of Professional Studies, Accra campus. Most data were collected from the University's main library because the library is the central point where students access the electronic resources due to relatively efficient internet connectivity there. The study examined students' use of electronic resources in UPSA and the significance of the electronic resources on students' academic performances with a targeted population of 2,850 students of UPSA as well as the Head of the e-resources unit of UPSA library because he has much information about the electronic resources. However, data were gathered from 570 students and the Head of electronic resources. The study focused on only one amongst the various universities available in Ghana. Therefore, the findings cannot be overly generalized.

1.7 Theoretical Framework

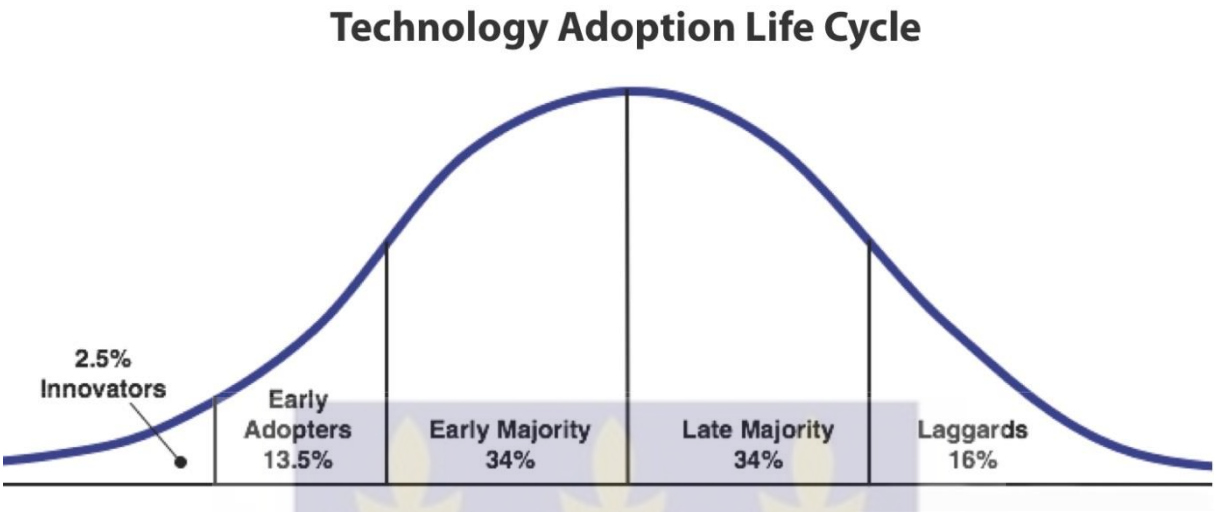
Theoretical framework contains the theory that guides a study. It is the structure that holds or supports a theory of the research study. The theoretical framework presents and describes the theory which explains why the research problem under study exists. "Theoretical framework helps a researcher or writer to determine problem areas, content considerations, research questions that need to be addressed, and the methodology or way in which the researcher plans to go about finding an answer to the research question. A theory can be defined as a set of definitions and propositions that specify the relationship among variables. They help to explain and predict phenomena that occur in the world" (Bentil, 2011). According to Creswell (2003), the theory for a study guides the entire study, an organizing model for the research questions and for the data collection procedure. In other words, a theory guides the research process.

1.7.1 Rogers's Diffusion of Innovations

Diffusion of Innovation Theory "(DIT) by Rogers (2003) has been employed in studying individuals' technology adoption. The main goal of DIT is to understand the adoption of innovation in terms of four elements of diffusion including; innovation, time, communication channels, and social systems. DIT also states that an individual's technology adoption behavior is determined by his or her perceptions regarding the relative advantage, compatibility, complexity, trial ability, and observability of the innovation, as well as social norms". A number of studies have used DIT as their theoretical framework or combined DIT with other theories and models to explain ICT adoption and use. IS scholars mentioned that in the context of end-user computing, many of the classical diffusion assertions were valid (Agarwal & Prasad; Brancheau & Wetherbe, cited in Kim, 2011). The five main constructs of DIT were employed and found to have significant relationships with other factors in ICT adoption and use research. Relative advantage was found to have a positive relationship with attitude (Agarwal & Prasad, cited in Kim, 2011), and relative usage intention (Lin, Chan, & Wei, cited in Kim, 2011). Compatibility was found to influence PU (Bhattacherjee & Hikmet, cited in Kim, 2011), PEOU (Hernandez, Jimenez, & Martin, cited in Kim, 2011), attitude (Agarwal & Prasad; Lee, Kozar, & Larsen, cited in Kim, 2011), and intention (Saeed & Muthitacharoen; Wu & Wang, cited in Kim, 2011). Complexity was found to have a negative relationship with the technology adoption intention (Beatty, Shim & Jones, 2001; Son & Benbasat, cited in Kim, 2011).

At a point, the number of adoptions drops off as there is progressively fewer new consumers as shown in the diagram below.

Figure 1.1: An example of a plot of adoption over time. S-curve of cumulative adoptions



Source: Technology Adoption and Use Theory Review for Studying Scientists' Continued Use of Cyber-infrastructure (Kim, 2011).

The DIT diagram above indicates how adoptions drop off with the passage of time as there are progressively fewer new consumers of a technology. This means that usage of technology can be affected by new people's awareness of the technology just as in the case of adopting to use electronic resources. The Diffusion of Innovation Theory (DIT) brings to bare the fact that humans have certain factors to consider before changing and clinging onto an innovation such as; the emergence and usage of electronic resources. One of the factors to be considered for this study is the significance or usefulness of electronic resources. Another factor is the problems that come with the usage of e-resources. Lack of practical computing skills has been discovered as a problem faced by UPSA students while they used e-resources. This lack of practical computing skills is also generally influenced by other factors apart from lack of practical orientation sessions in the use of e-resources at UPSA.

1.7.2 Theory of Reasoned Action

The Theory of Reasoned Action "(TRA) by Fishbein and Ajzen (1975) is a well-known social psychology theory that explains an individual's behavior based on his or her behavioral intention, which is influenced by his/her attitude toward the behavior and perception of the subjective norms regarding the behavior".

TRA has been used in ICT adoption and use research as a fundamental theoretical framework, and it also has been combined with other theories and models. Both attitude and subjective norm were found to be important determinants of peoples' intentions to adopt and use ICTs (Brown, Massey, Montoya-Weiss, & Burkman; Karahanna, Staub, & Chervany, cited in Kim, 2011). Attitude was found to have a significant influence on the intention to adopt and continue to use ICT (Bhattacherjee & Premkumar; Po-An Hsieh, Rai, & Keil, cited in Kim, 2011). Regarding the subjective norm, previous studies found that subjective norm influences not only the behavioral intention (Hu, Lin, & Chen; Venkatesh & Davis, cited in Kim, 2011), but also other constructs including satisfaction, image (Hsu & Chiu, 2004) and perceived usefulness (Venkatesh & Davis, 2000). This research work on "students' use of electronic resources" therefore investigates students' perceived usefulness of electronic resources.

In conclusion, Rogers' model is important for consideration in this study because of its scope and scholarly reputation. The key to the diffusion process is the growing awareness of the technology among the intended user-population. This means that to know about students' use of electronic resources, the researcher must first determine the level of awareness of these electronic resources by students. Hence, students' awareness of electronic resources is an objective of this study. The awareness can emerge from seeing others use the technology or being told about it.

Also, from the theory of reasoned action, attitude was found to have a significant influence on the intention to adopt and continue to use ICT. This is very significant to this study since it partly reflects why students use electronic resources.

1.8 Significance of the Study

Three (3) main categories of people within a university community would benefit from this study. These include; University Administrators, Library Information Professionals, and Students.

To the University Administrators, the findings would assist them to know exactly what problems are facing libraries in their provision of e-resources for use by students, and allow for the purchase or advocacy for the purchase of the right electronic resources that would suit students' needs.

Again, it would assist Library Information Professionals to become aware of students' level of awareness of electronic resources, the challenges faced by students in using these e-resources, and how to help curb these challenges.

Furthermore, this study would make some Students become aware (since some students are ignorant of these electronic resources' availability in libraries) of the availability of electronic resources in libraries. They would then seek to use electronic resources to enhance their learning processes or abilities.

Last but not least, this study would add to existing literature in this area of study. Researchers and scholars would benefit from this study as it would add to the scholarly literature in this field. Some level of awareness would be created about the significance of electronic resources.

1.9 Organization of the Study

This study is organized into six chapters.

Chapter one is the introduction which entails a background of the study, statement of problem, purpose and objectives of the study, scope, theoretical framework, significance, and organization of the study.

Chapter two is a literature review which discusses available literatures that are relevant to the researcher's field of study. It discusses the topic from a global, African and Ghanaian perspective, and Literature on specific areas related to the topic.

Chapter three explains the methodology used to conduct this research. It covers the selection of a research design, population, sample size, instruments for data collection, analysis of data, ethical consideration, and so on.

Chapter four covers the analyses of data.

Chapter five is a discussion on major findings.

Chapter six gives a summary of the findings, a conclusion, and recommendations for the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

According to Neuman (2006) "a literature review is based on the assumption that knowledge accumulates and that people learn from and build on what others have done. A literature review can therefore be defined as a description of the literature relevant to a particular field or topic".

Greene, et al., (1989) states that "the literature in a research study accomplishes several purposes" (p. 255). These purposes include:

1. It shares with the reader the results of other studies that are closely related to the study being reported.
2. It relates a study to the larger ongoing dialogue in the literature about a topic filling in gaps and extending prior studies.
3. It provides a framework for establishing the importance of the study as well as a bench-mark for comparing the results of a study with other findings.

The purpose of a review of literature is to ascertain what is already known about "students' use of electronic resources" and to describe the current understanding of the research objectives by examining similar studies.

This section reviewed literature that pertains to the topic in question categorized under several sub-topics such as;

i. Awareness of Electronic Resources.
ii. Extent of Use of Electronic Resources.
iii. Reasons for Use of Electronic Resources.
iv. Usefulness of Electronic Resources.

v. Computer Literacy Skills and Use of Electronic Resources.

vi. Challenges with the Use of Electronic Resources.

2.2 Awareness of Electronic Resources

According to Hawthorne (2008) "the library profession recognized the potential of computers to make library resources more accessible early in the development of computer technology. Librarians were often enthusiastic and sometimes early adopters of technology. The use of electronic resources in libraries began with the development of the machine-readable cataloging (MARC) format in the mid-1960's, a full 30 years before the introduction of the World Wide Web and its subsequent ubiquity. Bibliographic databases became available at approximately the same time. During the microcomputer revolution of the 1980's, libraries acquired software and data on diskettes and offered databases on CD-ROM. Search interfaces became more straightforward and simpler to use. Online catalogs became more common, and libraries began to offer them through the pre-World Wide Web Internet". (p. 1).

Hawthorne (2008) continues to say that, "the graphical interface and the later development of Web search engines such as Yahoo made resources on the Internet more accessible to average patrons. Web-based electronic resources were widely available beginning in the mid-1990's. Libraries offered Web-based catalogs, bibliographic and full-text databases, electronic journals, and eventually electronic books through the Web. Patrons no longer had to go to the library to do a significant amount of their research. Electronic resources began to dramatically change the way patrons accessed library resources in the mid-1960's". (pp. 1-2).

Numerous researches have been carried out about the awareness of electronic resources.

In Shuling's (2007) study dubbed investigation and analysis of current use of electronic resources in university libraries, it was revealed that nearly 80 percent of respondents had

little awareness of electronic resources. Nearly half the respondents used both printed and electronic resources, and print periodicals.

Ali's (2005) study confirms Shuling's (2007) findings. Ali highlighted the use of Electronic Information Services (EIS) among the users of Indian Institute of Technology (IIT) library in Delhi, India. Data was collected from three hundred IIT library users. The finding revealed that 95 percent of users had awareness about Electronic Information Services provided by the library.

In the same vein, Dadzie (2005) investigated the use of electronic resources by students and faculty of Ashesi University, Ghana, "to determine the level of use, the type of information accessed and the effectiveness of the library's communication tools for information research and problems faced in using electronic resources. Her findings revealed that almost 85 percent of respondents used the Internet to access information, meaning that students were aware of electronic resources". (p. 293).

In support of Dadzie's (2005) findings, Ansari and Zuberi (2010) conducted a similar research at the University of Karachi and found out that electronic resources were widely used in universities.

As cited in Ani (2010), "the internet is now a global tool to achieve a better educational outcome of different nations, particularly in developing countries. The use of internet in Nigerian universities among the students is pervasive and innovative. The transition from print to electronic medium, apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval that take their idiosyncrasy into account" (Tsakonas and Papatheodorou, 2006).

Furthermore, as cited in the works of Madhusudhan (2010), a research conducted on "availability and use of electronic resources" indicated that electronic resources and services had become the most popular tools for research and academic activities. Electronic resources are highly preferred to the printed format (Borrego et al., 2007) and electronic resources were being well utilized compared with CD-ROM databases (Swain and Panda, 2009). It was established that electronic information sources were used because they provided faster and reliable information (Kumar and Sampath, 2010).

In addition, Madhusudhan (2010) stated that; as the number of electronic journals grows every day, libraries are interested in subscribing to them considering their benefits over print media. An example is University of Professional Studies, Accra library who subscribes to Emerald, JSTOR, Sage and Taylor and Francis among others to assist students to have enough information for their academic works. He went further to indicate that there is a dramatic shift from print collections to electronic collections which is having an impact on library patrons and on library functions. He further discovered in his study that the Kurukshetra University met the academic community's expectations since it had then expanded its library services to provide electronic resources.

A study conducted by Asamoah-Hassan (2003) showed that public universities in Ghana have embarked on computerization from as far back as the mid-1980s and some of them have been successful in providing services like the use of CD-ROM, internet connectivity and access to databases of full text journal articles and abstracts.

Full-text databases

Madhusudhan (2010) confirmed that full-text databases and bibliographic indexes can be found in American Chemical Society (31 journals), American Institute of Physics (18 journals), Emerald Library and Information Science (28 journals), Annual Reviews (29 journals), J-STOR (457 journals), Springer & Kulwar (1,217 journals), etc.

Bibliographic databases

Also, Madhusudhan's study revealed that bibliographic databases can be found in Royal Society of Chemistry (23 journals, six databases), Chemical Abstracts Service (one database), Blackwell (489 journals) and Biological Abstracts Service (one database).

Tenopir (2003) conducted a research which revealed that there were a number of researches that had been undertaken on the use of e-resources by students, teachers, and researchers of universities and research organizations. Various libraries were found to be embracing digital collections for their students, although most libraries continued to offer both print and digital collections. New purchases of journals, magazines, and abstracting and indexing services were heavily weighted towards digital, while digital books were only beginning to become present in library collections.

Also, Ming-der (2012) in his study on "how graduate students perceive, use, and manage electronic resources" discovered that the primary source for graduate students searching for documents was the website. 15 respondents reported that they preferred to search for relevant documents from the library web site first, before a search on the internet. Three students (science and technology students) reported that they typically start with Google Scholar because they could conveniently retrieve a large number of documents from it.

In contrast to the above findings, Shamin (2004) recommends that there should be greater promotion of the library's electronic resources such as online databases, CD ROMs, Web resources and audio or video tapes.

2.3 Extent of Use of Electronic Resources

In a study conducted by Sajjad ur Rehman (2004) at the health sciences center of Kuwait University, "respondents were asked to mark their extent of use of a number of electronic resources by using a five-point scale of 0-4 where 0 indicated no use and 4 meant extensive use. Assigned scores for each item were then converted into mean scores. It was found that Medline was the most heavily used resource, receiving the highest mean score of 3.22, which was followed by electronic journals, receiving the mean score of 2.15. There is a marked difference between the scores of these two resources, implying that Medline was most heavily used and the use of electronic journals was in no way close to the use of that resource. Use of online catalog also closely followed the use of e-journals, receiving the mean score of 2.09. It was somehow surprising to note that two services of Current Contents, which provided current awareness, received low mean scores of 1.49 and 1.30. All other resources received mean scores of 1.07 and lower, indicating that these received marginal, little or virtually no use. These even included the expensive full-text database of Evidence-Based Medicine Review. Six electronic databases and resources that received little use included Analytical abstracts, Embase: Drug and Pharmacology/Embase: Physical Medicine and Rehabilitation, Popline, International Pharmaceutical abstracts, Micromedix, and HealthStar". It is worth noting that e-resources are very expensive and such low use means that policy makers need to devote time to identify the reasons of this low usage. "Indeed, one of the primary impediments is lack of awareness and skills among the potential users" (Sajjad ur Rehman, 2004, p.153).

More so, according to Madhusudhan (2010), "the frequency of use of e-resources is the most important and basic aspect related to the appraisal of the usefulness of e-resources". (p. 496). In his efforts at finding out about the frequency of use of electronic resources, he discovered that 62 percent of the respondents made use of electronic resources daily, 18 percent occasionally, and 16 percent two or three times a week. "Only 4 percent used the e-resources once a week. None of the respondents reported using e-resources once a month. The frequency of use of e-resources by research scholars depends on the nature of a library's e-collections, organization, maintenance and services. It was also revealed at the time of the study that the availability of scholarly e-journals (intranet only) was free. That gave the respondents the latest up-to-date literature in their relevant fields, hence the main reason for daily use of e-resources by research scholars. It seems that being in the library environment influences research scholars' awareness of the resources available to them" (Madhusudhan, 2010, p. 496).

In a research conducted by Ozoemelem (2009) on use of electronic resources by postgraduate students of the Department of Library and Information Science of Delta State University, Abraka, Nigeria, the findings revealed that there was a high frequency of usage of electronic resources by both male and female respondents.

2.4 Reasons for Use of Electronic Resources

Several researches have been conducted on e-resources' usage by students, faculties and research staff of tertiary institutions. A high percentage of those studies have reported "high usage of internet resources" (de Vicente, et al., 2004; Falk, 2003). The ease of use, free availability, and currency are few of the reasons attributed to the high use of electronic resources.

The purpose for using e-resources is unique to each and every user. "Research scholars were asked about the purpose of using e-resources. Even though the purposes are many, the main purpose and the responses of the respondents were; 94 percent of the respondents used e-resources for research work (thesis/dissertation/project work), 54 percent for finding relevant information in their area of specialization, and 42 percent for keeping themselves up-to-date in their subject field and getting current information. The percentage of research scholars using such resources for teaching and publishing articles/books was 22 percent. It is interesting to observe that the respondents used the library's e-resources for their research work" (Madhusudhan, 2010, p. 498).

The reason for using e-resources is multi-dimensional (Rehman & Ramzy, 2004). To reflect this adequately, respondents were allowed to select multiple responses regarding their reasons for accessing electronic resources for use. Amongst the respondents' several reasons for accessing electronic resources, to gather information on a specific topic, to gain general information, to obtain answers to specific questions were the most common reasons for accessing electronic resources for use. Such an observation indicates that in recent times users are more dependent on the availability of electronic resources to undertake their routine activities in order to meet their daily needs (Rehman & Ramzy, 2004).

In Tenopir's (2003) research findings, it was revealed that there were a number of researches that had been undertaken about the use of electronic resources by teachers, students and research scholars of tertiary institutions and research organizations. The findings revealed that about 78% of the respondents felt that the use of electronic journals had created high dependency value on their research work (thus, their research works are highly dependent on e-journals for their completion) and they needed current article alert services and electronic document supply services. 67.64% of researchers of faculty of Science and 69.23% of researchers of Engineering used electronic journals for research work, whereas 35.29% of

Sciences used electronic journals to update their knowledge and 23.70% of Engineering used these for studies. Users of the electronic resources used them more frequently due to the speed of availability and the ease of accessibility of information from them. 49% of user-respondents were marginally satisfied with online services provided by the library (Tenopir, 2003).

2.5 Usefulness of Electronic Resources

Negahban and Talawar (cited in Bentil, 2011, p. 47) states that "the use of electronic information resources is necessary for users mainly because the electronic resources provide better, faster and easy access to information than information accessed through print media. In other words, they could be relied upon for timely information thereby providing access to the right information at the right time".

In the same vein, studies by Tenopir (2003) indicated that "libraries preferred digital collections for many reasons of which include but not limited to the following: digital journals can be linked from and to indexing and abstracting databases; access can be from the user's home, office, or dormitory whether or not the physical library is open; the library can get usage statistics that are not available for print collections; and digital collections save space and are relatively easy to maintain". (p. 1).

Furthermore, Montgomery and King (2002) found out in their research that electronic collections may result in some overall reductions in library costs, especially when total processing and space costs are taken into account. Such a dramatic switch from print collections to digital collections to him had an impact on library users and users' perceptions of the library.

Additionally, a study by Ray and Day (1998) at Oakland University established that 83% of the respondents felt that using electronic resource saved them time and were very easy to use. About two-thirds of the respondents indicated that if the CD-ROM was busy, they preferred to wait to use them rather than use the print materials.

More so, in a study on "how graduate students perceive, use, and manage electronic resources" conducted by Ming-der (2012), students were requested to rate the significance of e-resources on a ten-point scale, from 1 (extremely unimportant) to 10 (extremely important). 9.17 emerged as the average score, which means that students consider e-resources extremely significant in their academics.

Ashcroft and Watts (2004) mentioned that the potential benefits of electronic books include easier access, speed of publication, space-saving and lower costs.

Last but not least, Okello-Obura and Magara (2008) investigated electronic information access and utilization at the East African School of Library and Information Science, Makerere University, Uganda. The findings revealed that users derived a lot of merits from e-resources such as; gaining access to a wider range of information, and improved academic performance as a result of access to quality information.

On the other hand, patronage of online databases by clients have been on the low (Majid & Tan, 2002; Ibrahim, 2004) and some reasons for their low patronage were; lack of awareness of electronic resources, lack of time to access electronic resources, and too many passwords to remember.

2.6 Computer Literacy Skills and Use of Electronic Resources

Bentil (2011) undertook a study at UCC and discovered that all respondents from who were proficient (25.5%) and highly proficient (15.2%) in computer searching skills used the electronic resources of the school. Only 1.4% who were quite proficient and another 1.4% who were moderately proficient did not use the electronic resources of the library.

Furthermore, Shaheen (1999) discovered that "the use of electronic information sources and services was influenced by such factors as the computing skills of academics, among others. A majority of faculty members with 'very good' and 'excellent' computing skills had been frequently using electronic information sources and services. Use of these sources and services was minimal among faculty members with low computer literacy. As a significant relationship exists between computer literacy and use of electronic information sources and services, it is desirable that adequate emphasis should be given to developing basic computing skills among library users through user education programmes. End-users with better computing skills are more likely to benefit from the ever increasing volume of digital information" (p. 104).

Although most students are currently familiar with internet use, they are not sufficiently fluent with Information and Communication Technology (ICT), and are less fluent than their perceptions (Hilberg & Meiselwitz, 2008). Salisbury and Ellis (2003) mentioned that professors might believe students to be computer literate, but most students cannot demonstrate foundational skills for information research. Information technology competences, embodied in the broader term "information literacy" refer to individual capabilities of using computers, software applications, and other technologies to achieve a variety of goals (Association of College & Research Libraries [ACRL], 2005).

McDonald (2004) indicated that the current challenge for tertiary institutions is to ensure that their students meet a minimum level of computer competency when using new and constantly changing information technology. Because of the increasing electronic collections of university libraries, student computer competency is an important factor affecting student capability to use the collections successfully.

Also, Majid and Abazova (1999) found a positive correlation between the "level of computer literacy" and "usage of library OPAC". Faculty members with good and excellent computer skills inclined to use OPAC more than those with poor computer skills.

In surport of Majid and Abazova (1999), a study by Callinan (2005) revealed that undergraduates had difficulty finding course-related materials because they were unfamiliar with library computer systems.

Gross and Latham (2009) found that undergraduate students self-reported they were computer information proficient, but their knowledge and information searching skills were insufficient. This means that they were not really computer literates.

Ansari and Zuberi (2010) found that e-resources are widely patronized in universities and that a direct relationship exists between "computer literacy" and "use of electronic resources".

2.7 Challenges in the Use of Electronic Resources

The emergence of computer-based services has not been without difficulties. The major barriers to the use of e-journals were the lack of subscriptions in their field, lack of user orientation/training, limited bandwidth and improvement of e-resources (thus, the improvement of e-resources leads to a need for advanced IT devices) (Dilek-Kayaoglu, 2008).

The problems identified in a study of online searching of scientific information in science and technology libraries by Ali (2005) in Delhi, India include lack of knowledge about the resources, lack of trained staff and inadequate terminals.

Furthermore, Chisenga (2004) carried out a survey on the use of ICTs in ten African Public Library Services. The findings revealed that few of the libraries that had internet connectivity offered web-based information services to their users. Four barriers to the effective provision of e-resources in most libraries were however discovered, namely; lack of strategic planning, lack of adequate or reliable funding, lack of use of Internet to provide information services to users and a lack of frequent training for users in new ICT services.

Also, Ajuwon (2003) carried out a study of uptake of ICTs by health science students at the University College Hospital, Ibadan. The study revealed that 57% of respondents could not use a computer; their use of the database was poor due to lack of awareness, lack of access to computers, insufficient training and the high cost of provision.

"E-resource services are mainly donor-driven and the over reliance on donor support is making sustainability of the service difficult. Even the National ICT policy which was ratified by the Parliament of Ghana in 2004 is expected to be funded by the World Bank, UNECA, IICD, among others" (Asamoah-Hassan, 2003, pp. 4-5).

According to Martey (2004), the ICT scene from 1996 to 2004 in libraries was slow, and the reasons can be attributed to the high cost of ICT infrastructure as well as lack of technical expertise. Martey further stated some of the challenges encountered with the 1996 IFLA/DANIDA project to enhance inter-lending and document supply in Ghana as; lack of technical support for the equipment in four of the participating universities, limited internet connectivity, dissatisfaction with the composition of the management team, inadequate publicity of the inter-lending project, and many more.

In addition, a study conducted on how graduate students perceive, use, and manage e-resources by Ming-der (2012) revealed that "most students reported ease of use for library electronic resources. However, they encountered some problems. Ten students (three humanities students, five social sciences students, and two science and technology students) mentioned that they had occasionally encountered problems when searching for electronic resources. Their major problem was the inability to retrieve relevant materials, especially when searching by keywords. The various search methods among databases confused some students. A few students mentioned uncertainty on the comprehensiveness of their searches as a problem because they had no knowledge regarding some databases' coverage. Six students reported problems in setting up internet connections to access library electronic resources. Compared to students in other disciplines, science and technology students rarely reported this type of problem. For authentication, students must input the address of the library proxy server or install appropriate software on their own computers when connecting from off-campus locations. Some students also reported slow internet connections when attempting to access library electronic resources from home. Five students also reported problems finding complete text articles because the library did not subscribe to the journals, or back issues were unavailable. Two students mentioned simultaneous user limits on some databases, resulting in delays" (p. 647).

In confirmation of the above, a study by Adika (2003) mentions two main reasons why the internet is not effectively used to access current information by faculty on campus. These are lack of access to the internet and lack of training.

Rehman and Ramzy (2004) also investigated the awareness and use of electronic information resources among health academics. The results of that study revealed that libraries are extensively used for research activities, preparation of lectures, and for obtaining current

knowledge. Respondents mentioned "lack of time" as the main reason for not using e-resources (37.0%), followed by "unfamiliarity with computerized searching" (22.6%).

More so, Majid and Tan (2002); Ibrahim (2004) found out that electronic databases had not been equally patronized by library patrons. Lack of awareness of electronic resources, lack of time to access and too many passwords to remember, were mentioned as the reasons for low patronage of electronic databases.

2.8 Summary of the Literature

From the above discussions, it can be realized that the use of e-resources in libraries began with the development of the machine readable cataloguing (MARC) format in the mid-1960s even before the World Wide Web (www) and its omnipresence was introduced.

Academics are increasingly becoming aware of the presence of e-resources in universities, and e-resources are gradually becoming the best means of getting current and up-to-date information. As a result, there is an increasing preference for electronic resources to the detriment of the printed format. Electronic resources provide faster and reliable information, and "computer literacy skills" is found to have a positive relationship with the "use of electronic resources".

Electronic resource services have emerged and are now significantly used by Ghanaian university libraries. Majority of these electronic resources are enjoyed through the efforts of the Consortium of Academic and Research Libraries in Ghana (CARLIGH). Quite a number of university libraries in Ghana are subscribing to online databases.

Despite the several benefits of using e-resources such as; freely available access, ease of use, currency, space-saving and lower costs, time saving, and access to quality information, the

use of electronic resources come with several challenges of which include; lack of subscriptions to e-journals, limited bandwidth, lack of trained staff, and so on. The chapter on analysis of research findings (chapter four) gives reasons to either accept or reject the claims of the various researchers identified above.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a set of tools, techniques and procedures that are used to collect, analyze and present data. This section covers research design, target and study population, sampling procedure, data sources and data collection procedure, data handling process, etc. Below are the methods and techniques that were employed.

3.2 Research Design

Research design is the complete plan used to obtain answers to the questions being investigated and for managing some of the challenges encountered during a research process. The research design normally specifies which of the numerous types of research approaches would be employed. There are various types of research designs for researchers to choose from. These include; case study, surveys, experiments, histories, ethnography, and phenomenology.

Survey methodology was adopted for this study. Survey methodology was used because it is a popular research design for collecting a huge amount of data from a sizeable population in an economical way. Data is often collected using questionnaires which in tend allows for easy comparison.

In confirmation of the reasons above, Saunders, Lewis and Thornhill (cited in Egberongbe, 2009) state that the survey strategy is perceived as authoritative by people in general and is both comparatively easy to explain and to understand. The survey research permits one to collect quantitative data for a quantitative analysis using descriptive and inferential statistics.

According to Aina (cited in Ankrah, 2014, p. 117),” a research design is made up of two main processes namely; research methods and data collection”. The elements of the research design for this study are as follows:

- Population
- Sample size
- Sampling techniques
- Instrumentation
- Data analysis

3.3 Selection of Case

University of Professional Studies, Accra is the case study for this research. UPSA is a public university located behind Presbyterian Boys Senior High School, Legon. The researcher chose UPSA as the case study area because he had visited the University on several occasions and had realized the problems students of the University faced while using the University library’s e-resources. The library is mentioned here because it is the place where the e-resources (which is the central focus of this study) are managed. The researcher as well considered the convenience of accessing the University, most especially due to his cordial relationship with some staff of the university.

3.4 Selection of Subjects

The people selected for a study are the subjects or respondents of the study. Here, the population, sample size, and sampling technique are discussed. Below are discussions on the various components of this section.

3.4.1 Population

Population refers to all elements (individuals, objects, or substances) that meet certain criteria for inclusion in a given universe (Kerlinger, 1986; cited in Burns & Grove, 1999). Busha and Harter (1980) define population as any set of persons or subjects that possess at least one common characteristic. According to Alreck and Settle (cited in Ankrah, 2014, p. 117) "respondents in a population must possess the information required for the study".

The target population for this study is all the regular level 400 students of University of Professional Studies, Accra, because it would be a herculean task to study the entire population of students (both undergraduate and graduate students) of UPSA due to the large number of student population and the researcher's limited financial resources as well as human resources. They were chosen with the assumption that they had been in the university for the past three years and therefore very knowledgeable about the information resources of the library. The total number of the level 400 regular students of the University of Professional Studies is 2,850.

This study; "students' use of electronic resources" is more focused on students. However, the head of the e-resources unit of UPSA library was interviewed. This is because he is the one who sees to the successful use of these e-resources by students. He manages the e-resources and also direct students on how to use these electronic resources. He therefore has much knowledge on the various reasons for which the students use the electronic resources.

3.4.2 Sample Size

"A sample is a subset of the population that is selected for a particular study, and the members of a sample are the subjects" (Burns and Grove, 1999, p. 660). The sample is selected through the sampling process. Sampling is "the selection of some units from a study's population of interest which involves selecting an unbiased and representative unit from a population" (Aina, 2004). In this study, the researcher selected the sample size with reference to the sampling ratios proposed by Alreck and Settle (cited in Ankrah, 2014, p. 121). "They proposed that for different population sizes; sampling ratio of 30% is adequate for a population of less than 1,000; sampling ratio of 20% is adequate for a population between 1,000 and 10,000; and a sampling ratio of 10% is adequate for a population greater than 10,000".

According to Alreck and Settle (1985) "only a small fraction of the entire population ordinarily provides sufficient representation of the group as a whole and enough accuracy to base decisions on the results with confidence". The researcher therefore, selected a sample size of 570 which is 20% of the 2,850 regular level 400 students of the University of Professional Studies, Accra. Thus;

$$\textit{Sample size of students} = \frac{20}{100} \times 2{,}850 = \underline{\mathbf{570}}$$

From Table 3.1 below, 570 represents the sample size of the regular level 400 day students of UPSA with reference to the sampling ratios proposed by Alreck and Settle (1985). However, a proportionate sample size was used to select the sample sizes of the various disciplines of level 400s. To calculate the proportionate sample size for the students of each discipline, the following formula was used:

$$\mathbf{P.S} = \frac{\text{Population of level 400 students for each disciplne}}{\text{Total population of level 400 students}} \times 570$$

Where **P.S** = Proportionate Sample size. The result is represented in Table 3.1.

For **B.A**, $\mathbf{P.S} = \frac{656}{2{,}850} \times 570 = 131.2 \equiv \underline{\mathbf{131}}$

Where **B.A** = **Business Administration** as represented in Table 3.1

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

Table 3.1: Population and Proportionate Sample Size for each Discipline

DISCIPLINES	**Students Population**	**Proportionate Sample**
Business Administration (B.A)	656	131
Banking and Finance (BK.F)	406	81
Management (MGT)	660	132
Marketing (MKT)	476	95
Accounting (ACC)	652	131
Total	**2,850**	**570**

Source: Field Data, 2015

In addition, the head of the electronic resources unit of UPSA library was interviewed to obtain supplementary information to the information from copies of the questionnaire since he has detailed understanding of what electronic resources are, and he answers students' information needs on electronic resources.

3.4.3 Sampling Technique

"Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population" (Mugo, 2002). "The researcher sampled the population in order to make inferences about the population based on the sample since it was not convenient to collect data from the entire population" (Kumekpor, 2002). The study therefore considered the sampling of part of the population. The sampling was done to select elements that accurately represent the population size from which the elements were drawn. The researcher carefully selected the sample so that it would properly represent the whole.

3.4.3.1 Sampling Technique for Selection of Students

Despite the ideal nature of simple random sampling, the convenience sampling technique was used to collect data from the students. This was because the chosen sample size of 570 is somehow large for a sample frame to be structured and data gathered from the members of the sample frame. In convenience sampling (a non-probability sampling technique), subjects are selected because of their convenient accessibility and proximity to the researcher. The researcher can swiftly gather data and poll a large number of people since he can quickly reach his desired number of participants by utilizing this method to draw from the nearby population, and it is also economical. There is minimal cost because there is no complex setup, and the researcher can pull from local population groups (various disciplines under study).

3.5 Instrumentation

According to Burns and Grove (1999), "data collection is the precise systematic gathering of information relevant to the research purpose or specific objectives, questions, or hypotheses of a study". (p. 660). The researcher used questionnaire as major instrument for the collection of relevant primary data for the research because they enabled the researcher to gather the responses in a standardized way. Besides, questionnaires are certainly more objective than interviews, and relatively quicker in collecting. The researcher was able to collect information from a large portion of the population though this potential may not be realized as returns from questionnaires are usually low. However, the researcher had improved rates as the copies of the questionnaire were delivered and responded to in class time (Popper, et al., 2004).

On the contrary, the researcher recognized that the questionnaire took a long time to design, apply and analyze. Other challenges likely to affect the quality of data collection using questionnaires include the likelihood of some forgetting important issues, and misinterpretation of some points in the questionnaires. However, this was partially solved through piloting of the questions, and that was done using a case study.

Open-ended questions can generate large amounts of data that can take a long time to process and analyze. One way of limiting this would be to limit the space available to students so their responses are concise or to sample the students and survey only a portion of them. To avoid the situation where respondents may answer superficially, the researcher constructed a questionnaire that did not take a long time to complete (Popper, et al., 2004).

A questionnaire is a series of questions usually stipulated on paper. When properly constructed and responsibly administered, questionnaire becomes an essential instrument through which statements can be made about specific groups of people or entire populations.

The questionnaire for this study was partly structured and partly unstructured. A categorical scale ("yes" or "no") was used to measure some items of the questionnaire. The questionnaire comprised of seven parts. The first part (Part I) of the questionnaire was captioned as "Biographic Data", and asked questions on gender, age, and discipline of students. The second part (Part II) was "Awareness of Electronic Resources", and consisted of various questions asked about students' awareness of electronic resources. The third part (Part III) was captioned as "Extent and Reasons for use of Electronic Resources", Part IV was captioned as "Usefulness of Electronic Resources", Part V; "Computer Literacy Skills and Use of Electronic Resources", Part VI; "Access, Use and Challenges with Electronic Resources", and the final part (Part VII); "Respondents' Recommendations".

Copies of the questionnaire were administered by the researcher to students found in the library and the various departments of the University of Professional Studies, Accra within a time span of two weeks, and collected each of them immediately after they had been answered by respondents in a class time (in a day). This helped to reduce the non-response rate of this study.

The researcher also used a semi-structured informational interview schedule. This was designed by the researcher to collect data from the Head of electronic resources unit at UPSA Library. This was because an interview schedule is one of the valuable and unmatched sources of information which gave the researcher opportunities for an intimate inside view of the e-resources unit. The informational interview communicates the first hand experiences and impressions of the Head of e-resources and is directed by the researcher's questions.

However, some disadvantages of using an interview schedule in data collection include; the inconsistency, bias of the interviewer can affect the data, it is very time consuming and not used for a large number of people (Opdenakker, 2006). The interview schedule included

questions asked on the objectives of this study. The researcher personally went to the library to conduct a face-to-face interview with the Head of the e-resources section of UPSA library. A sample of both the questionnaire and the interview schedule are appended to this report.

3.6 Pre-Testing

The researcher began the data collection with a pilot study during which the questionnaires were pre-tested. The pilot study was conducted using fifty (50) level 400 students of the University of Ghana Business School (UGBS). The students were selected from University of Ghana Business School (UGBS) library. The researcher chose to pre-test the questionnaire at the University of Ghana Business School (UGBS) library because the category of students by disciplines found there were representative of that of the students of UPSA, and the Business School students could access the electronic resources of the university mostly from the UGBS library. This makes the students greatly aware of what electronic resources are.

The respondents were requested to make suggestions and comments that could help to improve the questionnaire. The respondents' comments (such as; why use "Discipline" instead of "Program", Age range of respondents should be 17 years and above, but not below 17 years, etc.) were taken into consideration. Respondents' comments helped the researcher to make necessary changes to the questionnaire in order to eliminate ambiguous questions and give clarification to the questions. The questions for the interview schedule were then extracted from that of the questionnaire.

3.7 Mode of Data Collection

Data were gathered using copies of a questionnaire administered to the regular level 400 students of UPSA, and the head of e-resources interviewed. The collection of data was possible because the researcher sent an official letter from the Department of Information Studies, University of Ghana, Legon introducing the researcher as an MPhil student at the department. The copies of the questionnaire were administered within the first two (2) weeks of February, 2016 and the head of e-resources was interviewed face-to-face in the third week of February, 2016 to generate supplementary information to the information from the copies of the questionnaire.

Most of the data were collected by the researcher because he wanted to be available to monitor the genuineness of the data collected. Data collected by the researcher was also convenient in the sense that the researcher was able to collect all data within a particular period for quick analysis rather than having to wait for several periods if respondents were e-mailed for example.

3.8 Data Analysis

According to Burns and Grove (1999) "data analysis is the process of extracting from a given data, relevant information from which a summarized and comprehensible numerical description can be formulated". Data analysis is "conducted to reduce, organize and give meaning to the data" (Burns and Grove, 1999). Data that were gathered for this study were analyzed using descriptive and inferential analyses. The analyses are more statistical. Descriptive statistics is concerned with the description, presentation and summarization of a set of data in order to properly describe the various features of that set of data. In effect, descriptive statistics describe numerical data. Data that are collected can be analyzed in

different ways. But for the purpose of this study, the researcher analyzed the data collected on a computer using the Statistical Package for Social Sciences (SPSS) version 22.

The SPSS is software that is used in analyzing data statistically and may include frequency distribution tables, bar charts, pie charts, and so on. The inferential aspect of data analysis is concerned with drawing conclusions from all information of interest on the basis of a small part of that information. Information about the number of returns and non-returns of copies of the questionnaire was reported. The interview was analyzed according to themes. Thus, the various questions stated on the interview schedule were organized into themes and then discussed by the researcher. Last but not least, the two hypotheses stated earlier in this study were tested using Chi-Square.

3.9 Ethical Consideration

Ethics are very vital to all kinds of research, especially when the research involves human subjects. The ethical issues that were considered for this study are as discussed below:

A letter of introduction from the Department of Information Studies was presented to the librarian of UPSA to permit the researcher to conduct this study. Also, the research participants were fully informed about the procedures involved in the research and their consents to participate in this study were sought for. Furthermore, participants were informed that the information they gave out to the researcher would remain confidential. All the sources that were employed were duly acknowledged in order to avoid plagiarism. Finally, the researcher adhered to the University of Ghana Codes of conduct for undertaking research.

CHAPTER FOUR

ANALYSES OF DATA

4.1 Introduction

This chapter presents the analysis of data gathered from students and the Head of electronic resources through the use of copies of a survey questionnaire and a structured interview respectively. The chapter is divided into two (2) sections. The first section analyzed data gathered from copies of the questionnaire, and the second analyzed an interview with the Head of electronic resources at UPSA library. Out of 570 copies of a questionnaire that were administered, 540 were successfully retrieved fully completed, giving a response rate of 94.7%.

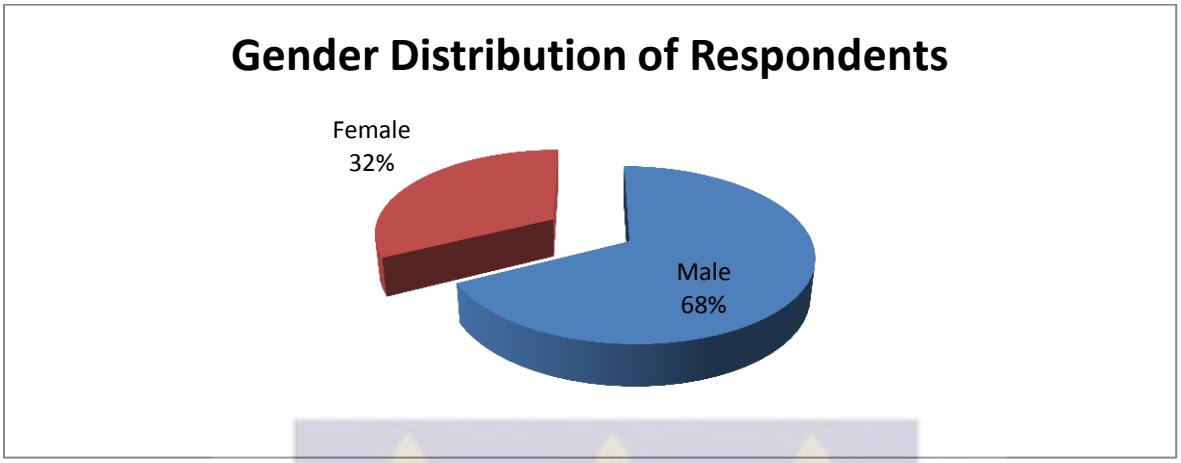
4.2 Demographics

Demographics are the statistical data of a population that shows average age, income, education, etc. This part collected data about gender distribution, age distribution, and disciplines of the respondents.

4.2.1 Gender

Gender was relevant to the study as "earlier studies have shown that it influences the patronage of electronic resources" (Bentil, 2011, p. 84). Upon this, the respondents were asked to indicate their gender. Figure 4.1 depicts their gender distribution.

Figure 4.1: Gender Distribution of Respondents



Source: Field data, 2016

Out of the 540 respondents, 365 (68.0%) were males, and 175 (32.0%) were females. This suggests that most of the respondents were males. This finding suggests that the student population at the University of Professional Studies, Accra has more males than females (Field data, 2016).

4.2.2 Age

The age of the respondents was of importance to the study as Kumar and Grover (2007) noted that it influences the use of electronic resources. As a result, the ages of the respondents were investigated in order to discover their age ranges. Table 4.1 depicts the age distribution of respondents.

Table 4.1: Age Distribution of Respondents

Age intervals	Frequency	Percent
17-25 years	453	83.9
26-35 years	74	13.7
36-45 years	13	2.4
Total	**540**	**100.0**

Source: Field data, 2016

From Table 4.1, majority of the respondents constituting 453 (83.9%) were between the ages of 17 and 25, whereas those between the ages of 26-35 constituted 74 (13.7%). Also, those between the ages of 36-45 constituted 13 (2.4%). It was however not surprising because this bracket (17 – 25 years) is usually the most predominant age bracket of most tertiary students. It is relevant because they constitute the cream of the youth (18 – 35 years) who are often more into ICT than the older people who are often techno-stressed and may not use electronic databases regularly like the youth. Older generations may not have had much exposure to computers, thereby increasing their computer anxiety (techno-stress) which ultimately leads to their lower level of use of e-journals (Erdamar and Demirel, 2014).

4.2.3 Disciplines of Study

"Discipline of study" is the respondents' academic disciplines or programs/courses of study. Bentil (2011) reports that a person's discipline or faculty may influence his use of electronic resources. Table 4.2 shows the distribution of respondents by their disciplines of study.

Table 4.2: Respondents' Disciplines of Study

Academic Disciplines	Frequency	Percent
Business Administration	131	24.3
Management	130	24.0
Accounting	131	24.3
Banking and Finance	67	12.4
Marketing	81	15.0
Total	**540**	**100.0**

Source: Field data, 2016

As shown on the table above, the data collected indicated the following distribution of respondents by their disciplines: Business Administration 131 (24.3%), Management 130 (24.0%), Accounting 131 (24.3%), Banking and Finance 67 (12.4%), and Marketing 81

(15.0%). The researcher employed proportionate sampling technique in the allocation of sample sizes. The data shown in Table 4.2 above indicates the unretrieved copies of the questionnaire as follows: Management Department – 2; Banking and Finance – 14 and Marketing Department – 14 respectively. All questionnaires that were administered to the proportionate sample sizes of Business Administration and Accounting were retrieved. This means that, a total of 30 copies of the questionnaire were not retrieved, thus giving a very high response rate of 94.7%.

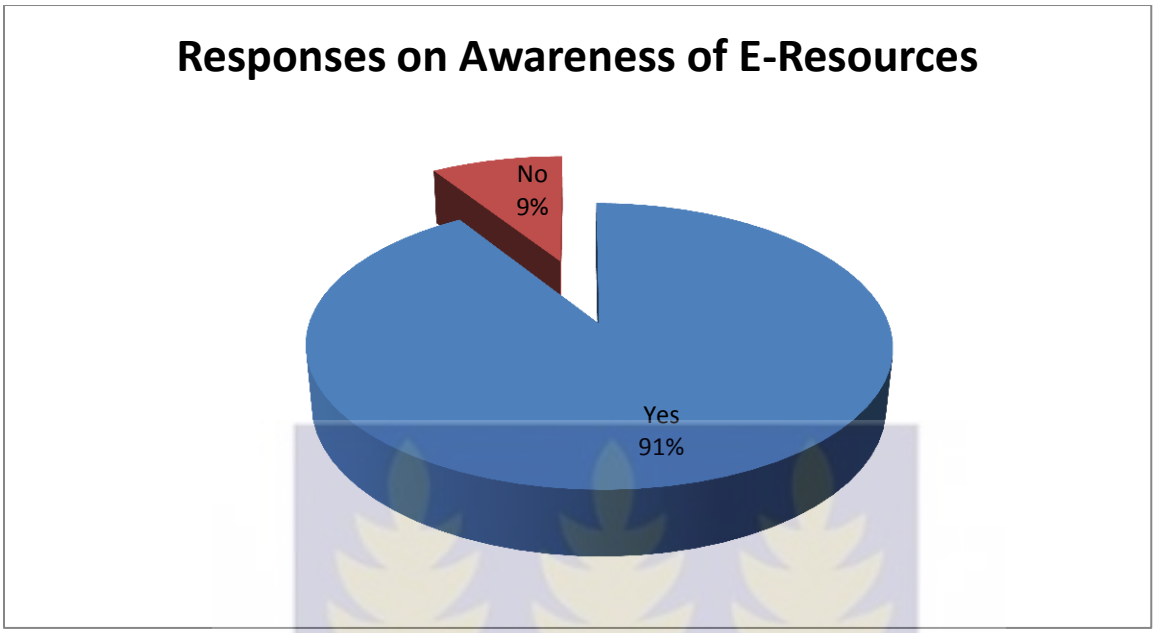
4.3 Awareness of Electronic Resources

According to Egberongbe (2009), creation of awareness is vital to the promotion of any service and very important if that service is to be patronized. This part analyzed data that concerned students' awareness of electronic resources.

4.3.1 Students' Awareness of E-Resources

"To promote any service for patronage, it is very crucial that awareness of that service is created. Services that would have otherwise been underutilized or unused could be highly patronized if users or the target audience are aware of them" (Bentil, 2011, p.88). Whitaker (1993) emphasizes that communication of services need to be placed first if the library is to succeed fully with its user services. Against this background, respondents were asked to indicate whether they were aware of the electronic resources at UPSA Library. The responses are shown on Figure 4.2.

Figure 4.2: Responses on Awareness of E-Resources



Source: Field data, 2016

As shown in Figure 4.2, 494 (91.0%) of the respondents were aware of the electronic resources but 46 (9.0%) were not. The higher number recorded on respondents who stated that they were aware of the e-resources indicates that electronic resources are becoming more popular. Awareness is the state or condition of being aware. It means having knowledge of something.

4.3.2 Channels of Awareness of E-Resources

Respondents were asked to indicate how they became aware of the e-resources at UPSA. Table 4.3 shows their responses.

Table 4.3: Responses on Channels of Awareness of E-Resources

Channels of awareness	Frequency	Percent
Colleagues	226	41.9
Notices	89	16.5
Library website	69	12.8
Orientation	95	17.6
Other	15	2.8
No Response	46	8.5
Total	**540**	**100.0**

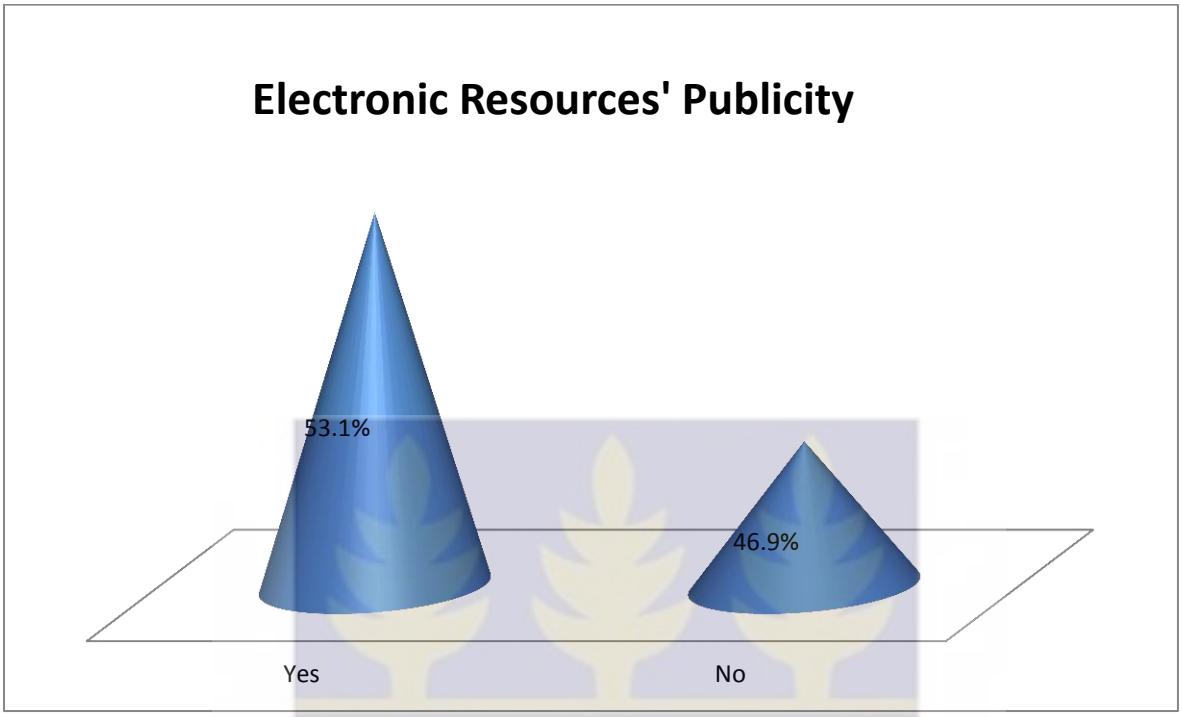
Source: Field data, 2016

From Table 4.3, it is apparent that respondents got aware of the existence of the electronic resources through; information they gathered from their colleagues 226 (41.9%), orientation for fresh-men 95 (17.6%), notices 89 (16.5%), Library's website 69 (12.8%), and other means such as flyers, newspapers, library handbooks and brochures 15 (2.8%). However, some of the respondents constituting 46 (8.5%) did not provide any clues as to how they became aware of the e-resources. This was because they had mentioned in earlier responses that they lacked awareness of the electronic resources at UPSA Library. The above finding indicates that an effective means of disseminating information about an innovation (such as e-resource) is by "word of mouth", i.e. through colleagues, orientation, and other forms of oral information dissemination.

4.3.3 Publicity of Electronic Resources

Publicity is advertising or other activities designed to rouse public interest in something. Respondents were asked whether in their views electronic resources have been well publicized by UPSA Library staff to users of UPSA Library. Their responses are shown on Figure 4.3.

Figure 4.3: Electronic Resources' Publicity



Source: Field data, 2016

From Figure 4.3, it is realized that 287 (53.1%) of the respondents stated that the electronic resources have been well publicized, whiles 253 (46.9%) stated that the electronic resources have not been well publicized. The closeness of the numbers suggests that there is a need to increase the publicity of electronic resources in the University of Professional Studies, Accra.

4.3.4 Frequency of Training on Electronic Resources

As e-resources play crucial role in accessing electronic information on the web (Madhusudhan, 2010), it is necessary to ascertain the frequency of training of students in the use of e-resources. Respondents were therefore asked how often the University provided training on electronic resources. This investigation is important because training has the potential to increase the use of e-resources among students. The responses were as shown on Table 4.4.

Table 4.4: Frequency of Electronic Resources Training

Training Period	Frequency	Percent
Very often	40	7.4
Often	91	16.9
Once a while	137	25.4
Not at all	82	15.2
Not sure	190	35.2
Total	**540**	**100.0**

Source: Field data, 2016

From Table 4.4, the views of the respondents on how often the University provided training on electronic resources are as follows: "very often" 40 (7.4%); "often" 91 (16.9%); "once a while" 137 (25.4%); "not at all" 82 (15.2%), and "not sure" 190 (35.2%). This indicates that the training provided on the use of electronic resources has not been regular. However, for an innovation like electronic resources, training to use them is a prerequisite for all users. Without training, there would be no optimum utilization of e-resources.

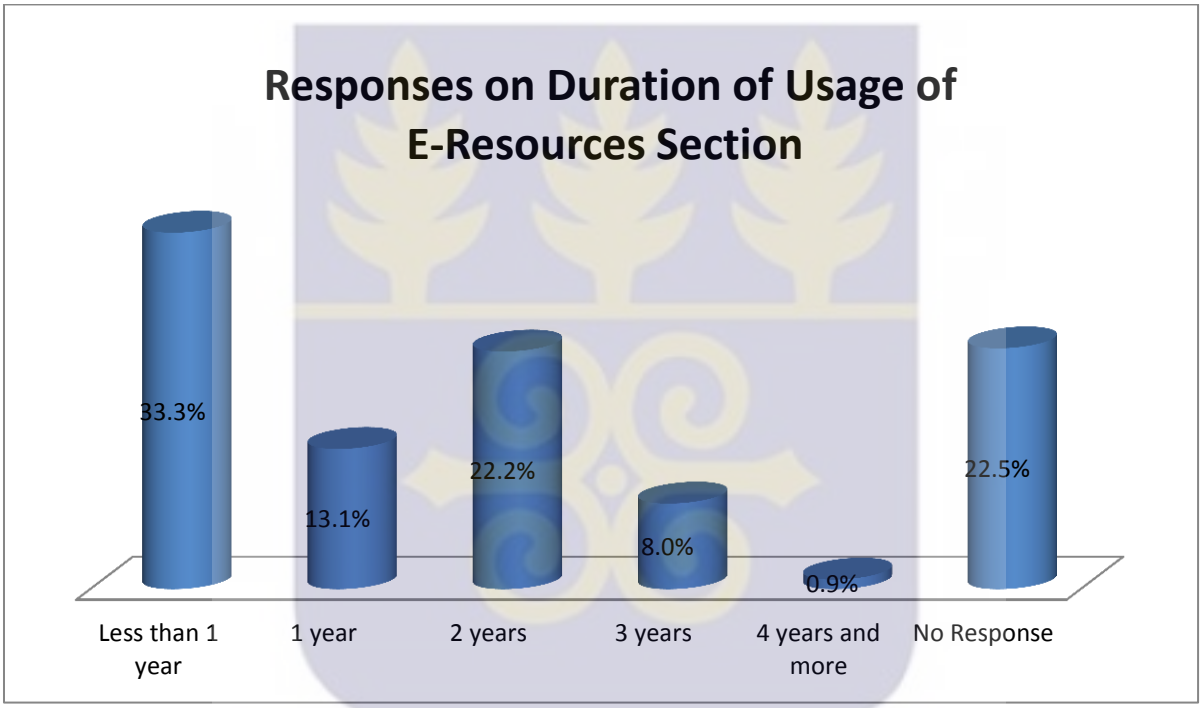
4.4 Extent and Reasons for Use of Electronic Resources

According to Kwadzo (2015), it is only proper, appropriate and economical that e-journals are optimally utilized to facilitate the academic achievement of faculty and students and get value for money in addition. Also, reasons given to fair use of e-journals may differ from place to place and also from one situation to another (Kwadzo, 2015). In line with this, this part discussed respondents' extent and reasons for use of electronic resources.

4.4.1 Duration of Usage of E-Resources Section

Weiner (2003) pointed out that universities pay huge sums of money to acquire electronic journals on a large scale for faculty members, but they do not use them in the same scale. Respondents were therefore asked to indicate how long they have been using the electronic resources section of UPSA Library. Figure 4.4 depicts their responses.

Figure 4.4: Responses on Duration of Usage of E-Resources Section



Source: Field data, 2016

From Figure 4.4, majority of the respondents 180 (33.3%) indicated that they had used the e-resources section of the library for less than a year. But 121 (22.5%) did not provide any answers to this question because they had already stated in earlier responses that they were not aware of the presence of e-resources at UPSA Library. Furthermore, 120 (22.2%) of the respondents stated that they had used the e-resources section of the library for two (2) years, 71 (13.1%); for one (1) year, 43 (8.0%); for 3years and 5 (0.9%) of the respondents stated that they had used the e-resources section for 4 years or more. The findings therefore indicate that most of the respondents have been using the electronic resources section of UPSA Library.

Therefore, most students are now becoming aware of the e-resources at UPSA Library. Being in the library environment influences library patrons' awareness of the resources available to them (Madhusudhan, 2010).

4.4.2 Students' Frequency of Use of E-Resources

According to Whittaker (1993), it is believed that if a library's services are well used, it is fairly certain indication also that it is meeting the needs of its users. However, Madhusudhan (2010) indicated that, "the frequency of use of e-resources by research scholars depends on the nature of a library's e-collections organization, maintenance and services. He further stated that the most important and basic aspect related to the appraisal of the usefulness of e-resources is the frequency of use of them by their users". In line with this, respondents were asked to indicate how regularly they use electronic resources. Table 4.5 depicts their responses.

Table 4.5: Frequency of Use of E-Resources

Usage Frequency	Frequency	Percent
Daily	107	19.8
Twice daily	58	10.7
Weekly	165	30.6
Monthly	94	17.4
Other	116	21.5
Total	**540**	**100.0**

Source: Field data, 2016

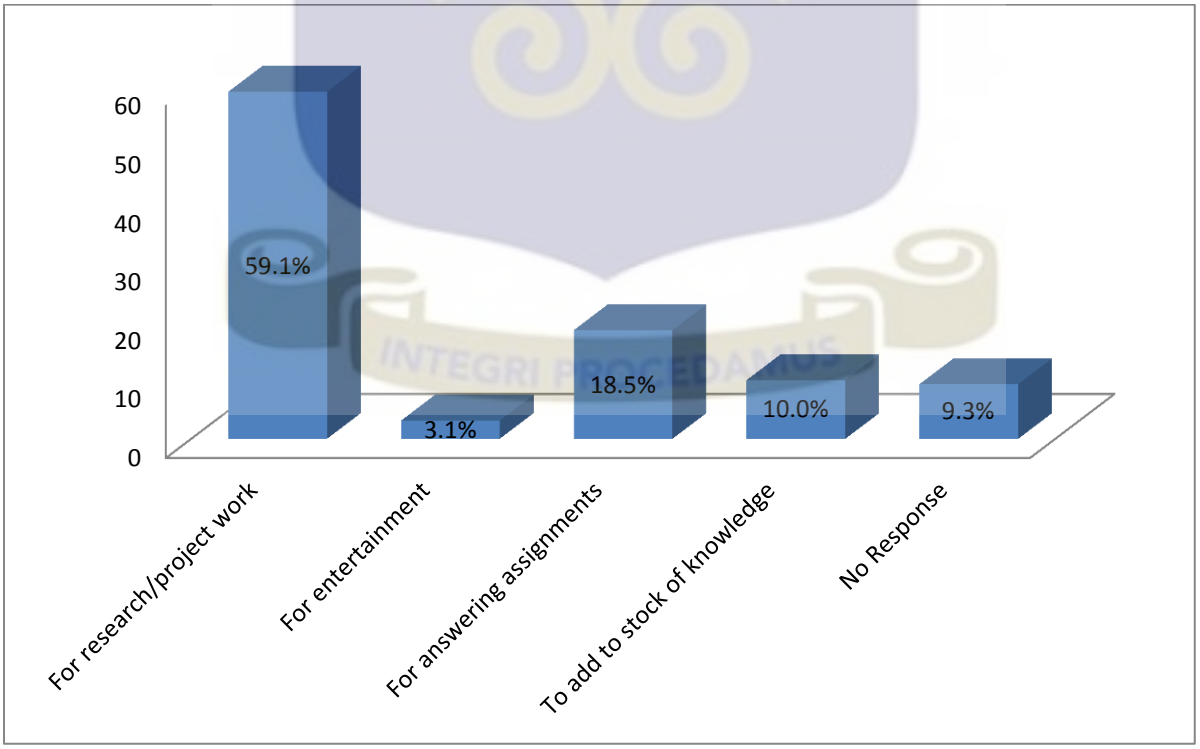
The frequency of use of e-resources (Table 4.5) is as follows: daily 107 (19.8%); twice daily 58 (10.7%); weekly 165 (30.6%) and monthly 94 (17.4%). However, 116 (21.5%) of the respondents used the University's electronic resources on occasions that were different from the possible answers they were provided with. These included; for a specific period of time,

once in a while, five times in a week, and just once for an assignment. A cursory observation of Table 4.5 indicates that, most respondents constituting 165 (30.6%) used the e-resources on a weekly basis. Frequency of use of the Library's e-resources (especially for those who visit the library in order to access the e-resources) would increase if the library provided a comfortable environment for users. The respondents stated in other responses that their library was usually hot and did not have enough computers for use.

4.4.3 Reasons for Use of E-Resources

The purposes for using electronic resources differs from one user to another (Madhusudhan, 2010), and it is multi-dimensional (Rehman and Ramzy, 2004). Based upon this, the students were asked to indicate the reasons for which they used the e-resources of UPSA Library. The details of responses are shown on Figure 4.5.

Figure 4.5: Respondents' Reasons for Use of E-Resources



Source: Field data, 2016

Figure 4.5 indicates that, 319 (59.1%) of the respondents used the electronic resources for research or project work, 17 (3.1%) used them for entertainment, 100 (18.5%) used them to answer assignments, and 54 (10.0%) used them to add to their stock of knowledge. However, 50 (9.3%) of the respondents did not answer this question. In this instance, it means that among the respondents who used the e-resources, their common usage were; for research purposes, assignments and update knowledge. It therefore implies that students are using e-resources for the exact purposes for which they were created. Such an observation points out the fact that users are more dependent on the availability of electronic resources for meeting the needs of their daily lives in this current era (Rehman and Ramzy, 2004).

4.5 Usefulness of Electronic Resources

Electronic resources are predominantly becoming an effective and popular medium of communication these days among researchers (Madhusudhan, 2010). This part of the study discussed the usefulness of these electronic resources.

4.5.1 Significance/Impact of Electronic Resources

Presently e-resources have become the largest and fastest growing areas of digital collections for most of our libraries and it has many benefits (Madhusudhan, 2010). In line with this, respondents were asked to indicate whether the use of e-resources had significance/impact on their learning abilities. Their responses are shown on Table 4.6.

Table 4.6: Responses on Significance/Impact of Electronic Resources

Response	Frequency	Percent
Yes	470	87.0
No	20	3.7
No Response	50	9.3
Total	**540**	**100.0**

Source: Field data, 2016

As indicated on Table 4.6, 470 (87.0%) of the respondents indicated that the use of e-resources had significance on their learning abilities whiles 20 (3.7%) said the use of e-resources had no significance on their learning abilities. However, 50 (9.3%) of the respondents provided no answers to this question because they had already stated their lack of awareness of the e-resources at UPSA Library. The data analyzed above therefore indicates that to most of the respondents, the use of the e-resources was significant or had impact on their learning abilities.

4.5.2 Perceptions on Significance/Impact of Electronic Resources

"Perceived usefulness is the degree to which an individual believes that using a particular system would enhance his job performance or productivity" (Bentil, 2011). Respondents were therefore asked to indicate what impacts electronic resources had on their learning abilities. Their various views were as shown on Table 4.7.

Table 4.7: Respondents' Perceptions on Significance/Impact of Electronic Resources

Impact	Frequency	Percent
It makes me retrieve information with ease.	215	39.8
It helps me to expand my knowledge-base.	150	27.8
It makes me excel in my academics, since studying on a computer makes me sit long hours to study.	25	4.7
It enhances my ability to recall what I have learnt easily, since I can easily visualize computer-based information.	27	5.0
It makes me retrieve information with ease and expands my knowledge-base.	20	3.7
It makes me retrieve information with ease, expands my knowledge-base, and makes me excel in my academics.	15	2.8
It helps me to expand my knowledge-base and excel in my academics.	20	3.7
It makes me excel in my academics and enhance my ability to recall what I have learnt easily.	5	0.9
No Response	63	11.6
Total	**540**	**100.0**

Source: Field data, 2016

Note: Respondents were allowed multiple answers.

It is evident on Table 4.7 that the respondents' opinions on the significance/impact of e-resources on their learning abilities were that; e-resources make them retrieve information with ease 215 (39.8%), helps them to expand their knowledge-base 150 (27.8%), excel in their academics 25 (4.7%), and enhance their abilities to recall what they have learnt with ease 27 (5.0%). Furthermore, other respondents provided various combinations of the earlier responses as shown on Table 4.7. However, 63 (11.6%) of the respondents provided no responses. The table above reveals that majority, constituting 215 (39.8%) of the respondents indicated that electronic resources make them retrieve information with ease. It can therefore

be inferred that information available in electronic resources have proved to be an asset of great value to many of the respondents and have allowed them to find significant materials they would not have otherwise found.

4.5.3 Significance of Conventional (Paper-Form) Documents

Despite the taking-over of conventional documents by the non-conventional forms, conventional documents still retain their values to some extent (Madhusudhan, 2010). Respondents' were therefore asked to indicate the significance of conventional documents. Their views are shown in Table 4.8.

Table 4.8: Responses on Significance of Conventional (Paper-Form) Documents

Significance	Frequency	Percent
Appeals to readers' visual capabilities	217	40.2
No special training required for use	65	12.0
No computer hardware required	207	38.3
Requires no electric power	34	6.3
Other	9	1.7
No Response	8	1.5
Total	**540**	**100.0**

Source: Field data, 2016

As shown on the table above, the findings revealed that 217 (40.2%) of the respondents indicated that conventional documents appeal to readers' visual capabilities, 65 (12.0%); conventional documents require no special training in order for one to use, 207 (38.3%); conventional documents require no computer hardware in order to use, 34 (6.3%); conventional documents require no electricity power for use, and 9 (1.7%) indicated other reasons for which conventional documents are significant. Among their reasons included; conventional documents if kept well, can be accessed at any time, they are independent and

do not require other facilities in order to use, and they provide a medium for records-keeping. However, 8 (1.5%) of the respondents provided no answers to this question. This means that for the respondents who answered this question, conventional documents are significant. This is because non of them stated otherwise.

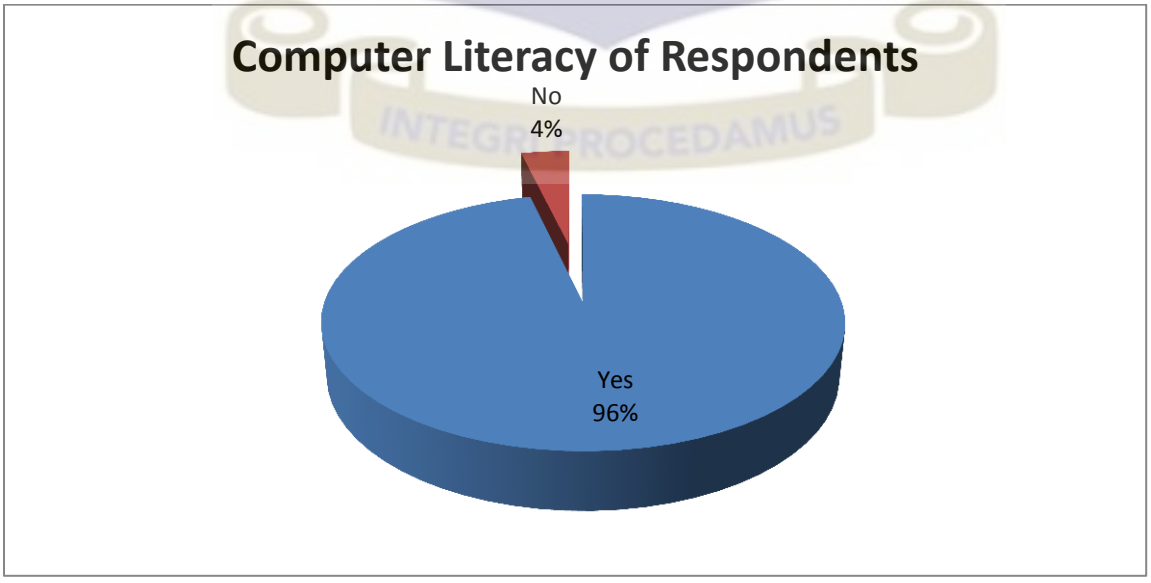
4.6 Computer Literacy Skills and Use of Electronic Resources

Ansari and Zuberi (2010) posit that there is a direct relationship between computer literacy and use of electronic resources. This part therefore analyzed respondents' computer literacy skills and how that affects their usage of e-resources.

4.6.1 Computer Literacy

"To utilize the growing range of electronic resources, one needs to acquire and practice the skills necessary to exploit them" (Bentil, 2011, p. 118). For this reason, respondents were asked to indicate whether they were computer literates or not. Their responses are as shown on the diagram below.

Figure 4.6: Computer Literacy of Respondents



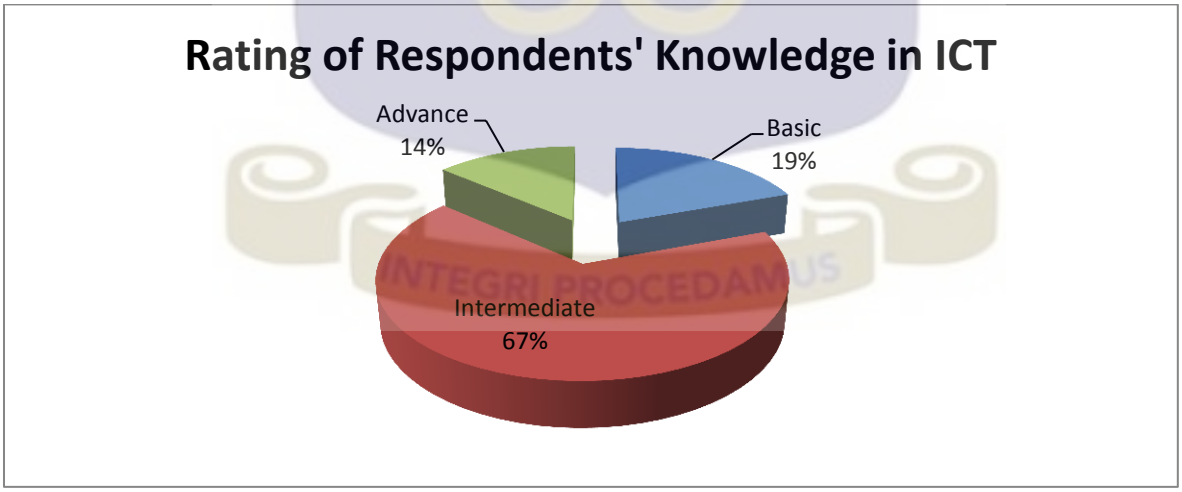
Source: Field data, 2016

Out of the total number (540) of respondents, 520 (96.0%) of them indicated that they were computer literate persons, and 20 (4.0%) stated that they were not computer literates. This shows that majority of the respondents were computer literates. It can therefore be infered that computer literacy skill is a key factor to an effective and efficient use of electronic resources. However, Gross and Latham (2009) found that undergraduate students self-reported they were computer information proficient, but their knowledge and information searching skills were insufficient. Computer literate persons are mostly seen using e-resources at ease since e-resources involve the use in computers.

4.6.2 Levels of Knowledge in ICT

In a bid to ascertain students' familiarity and involvement with ICT, the study delved into the background of students' ICT skills. Respondents were asked to rate their knowledge in ICT. Figure 4.7 represents their responses.

Figure 4.7: Rating of Respondents' Knowledge in ICT



Source: Field data, 2016

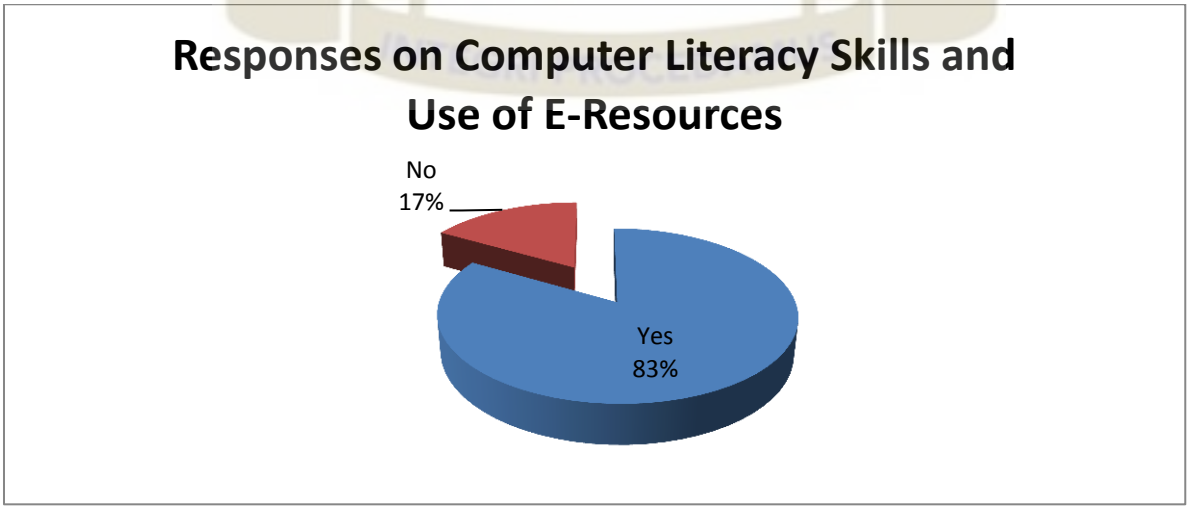
As shown on Figure 4.7, the respondents stated as follows: 348 (67.0%) indicated that their levels of knowledge in ICT were intermediate, 101 (19.0%) stated "Basic" and 71 (14.0%)

stated "advanced". The finding indicates that most of the respondents who were computer literates were intermediates, followed by basic, and few were advanced users of ICT. With majority of the computer literate respondents being at the intermediate level suggests that the respondents were fairly computer literates. No respondent stated that he or she had no knowledge at all in ICT. It can therefore be inferred that, at least a little of ICT proficiency is required by users in order to effectively use electronic resources. Owing to the increasing electronic collections of university libraries, student computer competency is an important factor affecting student capability to use the collections successfully (McDonald, 2004).

4.6.3 Computer Literacy Skills and Use of E-Resources

Information Technology competencies, embodied in the broader term "information/Computer literacy" refer to individuals' capabilities of using computers, software applications, databases, and other technologies to achieve a variety of goals (Association of College and Research Libraries [ACRL], 2005). Respondents were asked to indicate their views on whether computer literacy was necessary for a maximum use of electronic resources. Figure 4.8 shows their responses.

Figure 4.8: Responses on Computer Literacy Skills and Use of E-Resources



Source: Field data, 2016

Figure 4.8 reveals that 450 (83%) of the respondents opined that computer literacy was necessary to maximize the use of electronic resources whereas 90 (17%) responded otherwise. Computer literacy is indeed a necessity for a maximum use of e-resources. Hardly can any individual make use of electronic resources without the requisite skills needed to access them (Bentil, 2011).

4.6.4 Reasons for Computer Literacy Skills and Use of E-Resources

In order to know about the exact factors that influenced respondents' answers to the question about whether computer literacy was necessary for a maximum use of e-resources, respondents were asked about the reasons for their selected answers. The finding revealed that, out of 61 (11.3%) of the respondents to this question, 59 (11.0%) of them gave reasons to why they selected "yes", whereas 2 (0.3%) gave reasons for selecting "no". Amongst those who answered "yes", their common responses were that, it would be difficult and time wasting for a non-computer literate person to use electronic resources because they are sometimes complicated, one cannot use for example search engines efficiently if he or she has no computer literacy skills, e-resources are based on information technology architectures, and it takes a computer literate person to understand IT architectures, and being a computer literate makes an individual enjoy using electronic resources. However, for the respondents who stated that computer literacy was not necessary for a maximum use of e-resources, their common response was that the use of electronic resources is a routine process and can be learnt without necessarily having knowledge about ICT.

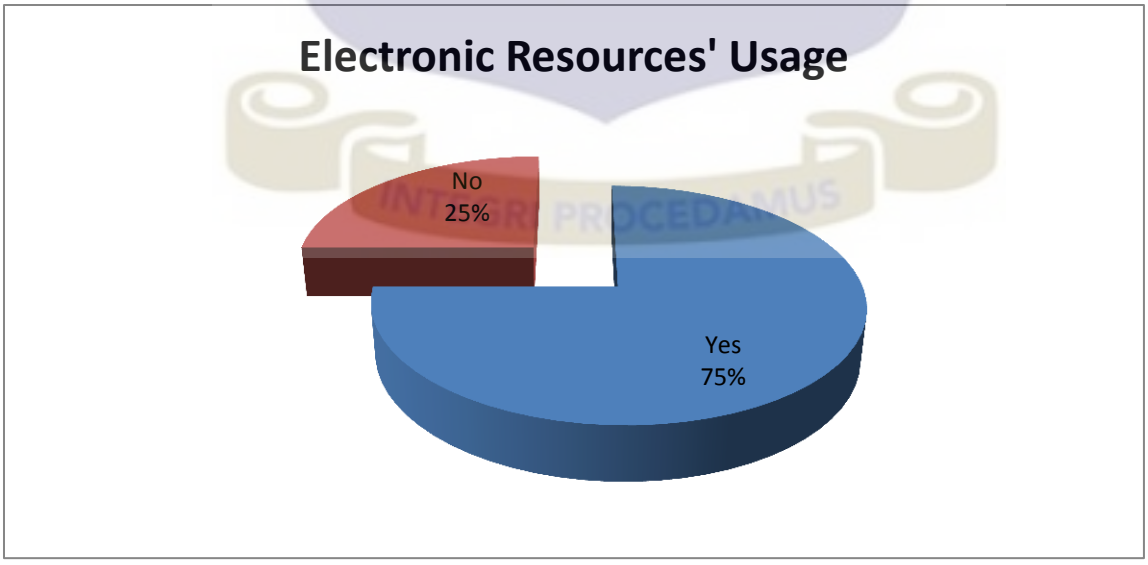
4.7 Access, Use and Challenges with Electronic Resources

In the process of searching electronic information, research scholars can only judge the usefulness and satisfaction of the electronic services offered to them from the rate at which they succeed in retrieving electronic information (Madhusudhan, 2010). Also, challenges to the use of e-resources may either encourage or discourage their usage. Discussions under this part centered on how people access information from UPSA library, their use of e-resources, and the challenges they faced while using the electronic resources.

4.7.1 Use of Electronic Resources

"The change in traditional document delivery services, from print to electronic, has come about very quickly and libraries and information services have undergone significant transformation in order to effectively deliver electronic resources to the academic community" (Appleton, 2006, p. 619). Respondents were therefore asked whether they had ever used the e-resources at UPSA Library. See details on the diagram below.

Figure 4.9: Electronic Resources' Usage



Source: Field data, 2016

It can be observed from Figure 4.9 that 405 (75.0%) of the respondents indicated that they had at least used one of the varieties of e-resources available at UPSA Library before. However, 135 (25.0%) of the respondents indicated that they had never used any of the electronic resources before. Investigating into students' use of e-resources is salient for this study and would have a greater impact on the recommendations of this study.

4.7.2 E-Resources Used by Students

In recent years, electronic resources have become the library's important storage (Shuling, cited in Madhusudhan, 2010). Respondents were asked to indicate which of the following e-resources they often used; JSTOR, Emerald, Wiley and Sage. Table 4.9 presents the types of electronic resources that were often used by respondents.

Table 4.9: E-Resources Used by Respondents

E-resources	Frequency	Percent
JSTOR	52	9.6
Emerald	152	28.1
Wiley	42	7.8
Sage	55	10.2
JSTOR & Emerald	20	3.7
JSTOR, Emerald & Sage	15	2.8
Other	64	11.9
No Response	140	25.9
Total	**540**	**100.0**

Source: Field data, 2016

Note: Respondents were allowed multiple answers.

As evident on the table above, 140 (25.9%) of the respondents provided no answers. However, 152 (28.1%) often used Emerald, 55 (10.2%); Sage, 52 (9.6%); JSTOR, 42 (7.8%); Wiley, 20 (3.7%); both JSTOR and Emerald, and 15 (2.8%) used JSTOR, Emerald and Sage.

In addition, 64 (11.9%) used other e-resources apart from the possible answers that were provided. These e-resources included Taylor and Francis, Ebscohost, Google and Google scholar, e-books and Proquest. From above, it can be realized that Emerald was the most often used electronic resource. The reason according to the respondents was that Emerald is popular and provides easy access to academic materials in particular due to its good and well-designed interface.

4.7.3 Students' Preferences for E-Resources

One's preference for a particular thing on earth is in no way by chance, but it is influenced by the individual's personal reasons. The 405 (75.0%) respondents who indicated that they often used particular types of e-resources were asked a follow-up question that required them to indicate the reasons why they preferred to use particular e-resources. Their reasons were as follows; it ensures easy accessibility to needed materials due to the ease of navigation of its interface, it covers all disciplines (multi-disciplinary), it has a well-designed interface (making it user friendly), full-texts can easily be acquired, it has a wide range of materials on users' subject areas, it provides more specific information, it is more convenient and time-saving, and it contains much current information. The above reasons given by the respondents influenced their usage of some particular e-resources.

4.7.4 Mode of Access to Information from UPSA Library

Tracing of respondents' mode of access to information from UPSA library is very crucial for this study. This is because it informs the researcher of whether the e-resources of UPSA Library are used by students. Table 4.10 presents respondents' mode of access to information from UPSA Library.

Table 4.10: Mode of Access to UPSA Library's Information

Mode of access	Frequency	Percent
Browse the shelf	301	55.7
I ask the librarian	132	24.4
Scholarly databases subscribed by the library	74	13.7
Other	33	6.1
Total	**540**	**100.0**

Source: Field data, 2016

From the responses gathered, it was identified that 301 (55.7%) of the respondents searched information from the Library by browsing the library shelves. Others, constituting 132 (24.4%) asked the librarian for needed information whenever they visited the Library. More so, 74 (13.7%) searched for information by consulting the scholarly databases that have been subscribed by the Library. 33 (6.1%) of the respondents indicated that they accessed information from the Library through other means such as browsing the internet, and searching the UPSA website. Respondents' "modes of access to information" from the library is their most preferred ways of accessing information from the library. Their responses indicated that they mostly browsed the library's shelves to locate information. Few of them contacted the library's schorlarly databases. The responses to this question is directly proportional to the research topic under study. It tells whether the students are really using the e-resources of UPSA library or not.

4.7.5 Challenges in the Use of Electronic Resources

There are many obstacles to the use of electronic resources for research work (Madhusudhan, 2010). Respondents were therefore requested to provide the details regarding the challenges or difficulties they faced while using the e-resources at UPSA Library. Table 4.11 depicts their challenges.

Table 4.11: Challenges Faced while Using Electronic Resources

Challenges	Frequency	Percent
Slow internet access speed	217	40.2
Overload of information on the internet	49	9.1
Difficulty in fnding relevant information	35	6.5
It takes too long to view/download pages	34	6.3
Privacy problem	56	10.4
Other	20	3.7
No Response	129	23.8
Total	**540**	**100.0**

Source: Field data, 2016

As evident on the table above, most of the respondents 217 (40.2%) indicated that internet access speed was slow, 56 (10.4%); privacy problems, 49 (9.1%); overload of information on the internet, 35 (6.5%); challenge in finding relevant information, 34 (6.3%) it takes too long to view and download pages, and 20 (3.7%) indicated other reasons. Among their reasons were; there may be network failures sometimes, the use of e-resources require efficient IT knowledge, overcrowding of the library's e-resources section by students due to limited number of computers available at the section, poor user interface design of some e-resources, and there is much heat generated in the library. However, 129 (23.8%) of the respondents did not indicate any challenges with their usage of e-resources. The trend of challenges mentioned by the respondents would assist the researcher to suggest recommendations for this study.

4.8 Interview

This section dealt with the analysis of an interview that was conducted between the researcher and the Head of UPSA Library's electronic resources section. The Head of electronic resources was interviewed for his views on some questions relating to students' use of e-resources. His responses to the various questions are interpreted below.

4.8.1 Channels of Awareness of E-Resources

The Head of electronic resources at UPSA Library was asked by the researcher to indicate his opinion on how students got informed about the e-resources of the library. He mentioned that the students were informed about the e-resources through "notices that were posted around campus as well as information that were posted on the learning management system, called the Moodle". This contradicts the students' responses that they mostly got informed about the e-resources through colleagues.

4.8.2 Frequency of Training on Electronic Resources

The Head of electronic resources at UPSA Library was asked by the researcher to indicate whether frequent training sessions on how to use e-resources were organized for the students. "I am not too sure, but I was able to organize a training session for some students and staff last year"; said the head of e-resources at UPSA library. This confirms the students' responses which indicated that 35.2% (majority) of the 540 student-respondents were not sure of how often the university offered training programmes on e-resources.

4.8.3 Reasons for Use of E-Resources

The head of electronic resources was asked to indicate his views on reasons why the students used the e-resources. He stated that; "I believe most of them used the electronic resources for their research or project work, whilst others used them for their assignments". This confirms the students' responses; which indicated that 59.1% of the respondents used the e-resources for research or project work, whiles 18.5% used them to complete assignments.

4.8.4 Computer Literacy Skills and Use of E-Resources

The head of e-resources was asked to state his opinion on whether computer literacy was necessary to make maximum use of electronic resources. He said; "yes, I think so". His reasons were that; "it would be very difficult and time wasting for a non-computer literate person to use e-resources, because e-resources are sometimes complicated". Also, "e-resources are based on Information Technology architectures and it takes a computer literate person to understand these IT architectures". This confirms the students' responses.

4.8.5 Challenges in the Use of Electronic Resources

The use of e-resources in libraries worldwide has never been without challenges. Due to this, the researcher asked the Head of e-resources about the challenges students faced while using the e-resources at the library. His response was that, there were several challenges students faced in using the e-resources of the library. Some of the challenges he mentioned were; "most of the students complained of slow internet access, difficulty in getting the desired information since they are not so much abreast with information on how to effectively use the e-resources, as well as limited space in the library". These difficulties confirm those that were indicated by the student-respondents.

The interview with the Head of e-resources at UPSA is summarized as follows:

First and foremost, he indicated that majority of the students got aware of the e-resources of UPSA through notices. He further mentioned that he was not sure of how often the University provided training on e-resources. However, he mentioned that the students used the e-resources for research and for answering assignments. To him, Computer Literacy is necessary for effective use of electronic resources. He continued to mention that; slow internet connectivity, difficulty in getting desired information because students are not much abreast with information on how to effectively use the e-resources, and limited space in the library were the challenges students faced during their usage of the e-resources.

Most of his views confirmed that of the student-respondents. Even though some of his responses were contradictory to that of the student-respondents, they were very important and sincere.

4.9 Hypotheses Testing

4.9.1 Hypothesis One

H_0: Students' computer literacy skills do not affect their extent of use of electronic resources.

H_1: Students' computer literacy skills affect their extent of use of electronic resources.

Where, H_0 is the null hypothesis

H_1 is the alternate hypothesis

χ^2 is Chi-Square

DF is Difference

COR is Correlation Coefficient

Table 4.12: Responses of Computer Literacy Against Extent of Use of Electronic Resources

			Extent of Use of Electronic Resources					
			Daily	Twice daily	Weekly	Monthly	Others	Total
Computer Literacy Skills	Yes	Count	107	54	165	87	107	520
		Expected Count	103.0	55.9	158.9	90.5	111.7	520.0
	No	Count	0	4	0	7	9	20
		Expected Count	4.0	2.1	6.1	3.5	4.3	20.0
Total		Count	107	58	165	94	116	540
		Expected Count	107.0	58.0	165.0	94.0	116.0	540.0

Source: Field data, 2016 $\chi^2 = 21.160$ DF =4 COR = 0.134

The software (SPSS) was used to test the relationship between the two variables ("Computer Literacy Skills" and "Extent of Use of Electronic Resources). Using a significance level of 0.05, the Chi-Square value from a Chi-Square distribution table at a difference of 4 gave 9.488. The calculated Chi-Square value (21.160) is more than the table value (9.488), therefore, the null hypothesis must be rejected and hence conclude that "students' computer literacy skills affect their extent of use of electronic resources". The Correlation Coefficient is also positive even though the value is relatively small, indicating a positive relationship between "computer literacy skills" and "extent of use of electronic resources".

4.9.2 Hypothesis Two

H_0: Students' awareness of electronic resources does not increase their usage of electronic resources.

H_1: Students' awareness of electronic resources increases their usage of electronic resources.

Where, H_0 is the null hypothesis

H_1 is the alternate hypothesis

χ^2 is Chi-Square

DF is Difference

COR is Correlation Coefficient

Table 4.13: Responses on Awareness Against Use of Electronic Resources

			Use of Electronic Resources		
			Yes	No	Total
Awareness of Electronic Resources	Yes	Count	385	109	494
		Expected Count	370.5	123.5	494.0
	No	Count	20	26	46
		Expected Count	34.5	11.5	46.0
Total		Count	405	135	540
		Expected Count	405.0	135.0	540.0

Source: Field data, 2016 $\chi^2 = 26.647$ DF =1 COR = 0.222

A significant level of 0.05 was used. At this level, the Chi-square value from a Chi-square distribution table at a difference of 1 gave 3.841. The calculated Chi-square value (26.647) is greater than the Chi-Square Probabilities Table value (3.841). Therefore, the null hypothesis must be rejected and conclude that "students' awareness of electronic resources Increases their usage of electronic resources". The Correlation Coefficient is positive and therefore indicates a positive relationship between "awareness" and "use of electronic resources".

CHAPTER FIVE

DISCUSSION ON MAJOR FINDINGS

5.1 Introduction

This chapter presents a discussion of the major research findings in relation to the research objectives and existing literature. The major findings are discussed under the following sub-headings.

1. Awareness of Electronic Resources
2. Extent of Use of Electronic Resources
3. Reasons for Use of Electronic Resources
4. Usefulness of Electronic Resources
5. Computer Literacy Skills and Use of Electronic Resources
6. Challenges with the Use of Electronic Resources

5.2 Awareness of Electronic Resources

Awareness of e-resources is having knowledge about the existence of electronic resources. According to Bentil (2011), to promote any service for patronage, it is very crucial that awareness of that service is created. Services that would have otherwise been underutilized or unused could be highly patronized if users or the target audience are aware of them (Bentil, 2011). Similarly, Whitaker (1993) emphasizes that communication of services need to be placed first if the library is to succeed fully with its user services.

The first objective of this study was to find out about the awareness of electronic resources by the students of University of Professional Studies, Accra. The findings from the study showed that majority of the respondents were aware of the e-resources at UPSA. This indicates that electronic resources, though found in various sophisticated formats, are becoming ever more

popular and pervasive (Swain and Panda, 2009). The findings further revealed that majority of the respondents stated that the electronic resources had been well publicized at UPSA.

However, the closeness of the numbers suggests that much has to be done to increase the publicity of electronic resources in the University of Professional Studies, Accra. The respondents mentioned their media of awareness of the electronic resources as, information they gathered from colleagues, freshmen's orientation, notices, the Library's website, flyers, newspapers, library handbooks and brochures. This means that an effective means of disseminating information about an innovation (such as e-resource) among tertiary students is by "word of mouth", i.e. through colleagues, orientation, and other forms of oral information dissemination. It was thus not surprising that the level of awareness of electronic resources was high among the respondents. However, the interview with the Head of e-resources revealed that a learning management system (known as Moodle) was also used to disseminate information about e-resources to students.

The above findings are consistent with Ali's (2005) findings in a study that centered on the use of Electronic Information Services (EIS) among the users of Indian Institute of Technology (IIT) library in Delhi, India. The study revealed that 95 percent of users indicated their awareness of Electronic Information Services provided by the library. Furthermore, Madhusudhan (2010) undertook a research on "availability and use of electronic resources" and discovered that e-resources had become the most popular tools for research and academic activities. There was an increasing preference for the electronic resources to the detriment of the printed format (Borrego et al., 2007) and e-resources were being used compared with CD-ROM databases (Swain and Panda, 2009), which confirms that the users were aware of the e-resources.

Furthermore, some of the media for disseminating information about e-resources that were discovered from the findings are in consonance with those that were mentioned in a study titled "Electronic resources: access and usage at Ashesi University College" by Dadzie (2005). Her findings revealed that about 85 percent of respondents used the internet to access information. In addition, Ming-der (2012) in his study on how graduate students perceive, use and manage electronic resources found out that the library website is the primary source for graduate students searching for documents.

The finding however is in contrast with Shamin (2004) who recommended that there should be greater promotion of the library's e-resources such as CD ROMs, online databases, web resources and audio/video tapes. His findings indicated that respondents were not aware of electronic resources.

The Diffusion of Innovation Theory (DIT) by Rogers (2003) that was adopted for this study conforms to the objective of investigating the awareness of electronic resources by UPSA students. The main goal of DIT is to understand the adoption of innovation in terms of four elements including communication. Thus, the media through which awareness is created about the innovation. Some media were discovered from the findings of this study as, information gathered from colleagues, freshmen's orientation, etc. DIT also states that an individual's technology adoption behavior is determined by his or her perceptions regarding some factors of which include observability of the innovation. This means, to use an innovation, one has to observe it. Observation of an innovation leads to awareness of that innovation. Hence, awareness can be said to usher one into the use of an innovation.

5.3 Extent of Use of Electronic Resources

Extent is the area covered by something. Therefore, the extent of use of electronic resources is the length of use of electronic resources. According to Kwadzo (2015), it is only proper, appropriate and economical that e-journals are optimally utilized to facilitate the academic achievement of faculty and students and get value for money in addition. This section discussed the length of use of electronic resources by UPSA students.

Discussion under this section is based on the second objective of this study. The findings revealed that majority of the respondents had used the e-resources section of UPSA library for less than a year and they often used the e-resources weekly. The findings however presented the fact that most of the respondents had used the electronic resources before, and they often used Emerald. It therefore supports the respondents' earlier indication of their awareness of the electronic resources at UPSA.

This finding is in contrast with Madhusudhan's (2010) findings which indicated that 62% (forming a majority) of respondents used e-resources on a daily basis. Frequency of use of the Library's e-resources (especially for those who visit the library in order to access the electronic resources) would increase if the library provided a comfortable environment for users. The respondents hinted that their library was usually hot and did not have enough computers for use. The frequency of use of e-resources by research scholars depends on the nature of a library's e-collections organization, maintenance and services (Madhusudhan, 2010).

Also, in a study conducted by Sajjad ur Rehman (2004), "respondents were asked to mark their extent of use of a number of electronic resources by using a five-point scale of 0-4 where 0 indicated no use and 4 meant extensive use. Assigned scores for each item were then converted into mean scores. It was found that Medline was the most heavily used resource,

receiving the highest mean score of 3.22". (p. 153). In a research conducted by Ozoemelen (2009), the findings revealed a high frequency of usage by both male and female respondents.

The Diffusion of Innovation Theory (DIT) as has been used in several studies has revealed that factors such as complexity, relative advantage, etc. affect one's usage of an innovation. The theory therefore validates the findings of this study on the extent of use of e-resources, thus, the findings revealed that students did not use the e-resources regularly for the fact that the library was often hot and did not provide enough computers for use by students.

5.4 Reasons for Use of Electronic Resources

The reasons for using e-resources differs from one user to another (Madhusudhan, 2010), and it is multi-dimensional (Rehman and Ramzy, 2004).

The findings from the research brought out that, for majority of the respondents, their reasons for using electronic resources were to undertake research or project work, and to a large extent, answer assignments. This was however confirmed by the Head of e-resources during an interview with him. The finding is in agreement with a study that was conducted by Madhusudhan (2009) who discovered that even though the purposes for using electronic resources as were indicated by respondents were many, the main purposes were that the respondents used electronic resources for research work, for finding relevant information in their area of specialization, and for keeping themselves up-to-date in their subject field and getting current information.

It is interesting to observe that the students used the library's e-resources for their research works. It therefore implies that students are using e-resources for the exact purposes for which they were created. This may lead to improved students' academic performances, and it is needed to improve our educational system.

The "purpose of using electronic resources is multi-dimensional. To reflect this adequately, the survey instrument was designed and used to allow respondents to select multiple responses regarding their purposes for accessing electronic resources. Of all the possible purposes for using electronic resources, to gather information on a specific topic, to gain general information, and to obtain answers to specific questions were the most common reasons for accessing electronic resources. Such an observation reflects the fact that currently users are more dependent on the availability of electronic resources for meeting the needs of their daily lives". (Rehman and Ramzy, 2004).

The Theory of Reasoned Action (TRA) explains an individual's behavior based on his/her behavioral intention (thus, what he/she seeks to achieve with that behavior). Thus, an individual's behavior is usually backed by several reasons. Based on this, students' reasons for using an innovation such as e-resources were investigated.

5.5 Usefulness of Electronic Resources

The fourth objective of this study was to investigate the usefulness/impact of electronic resources on students' learning abilities. The findings showed that, to majority of the respondents, their use of e-resources had impact on their learning abilities. They indicated the usefulness of electronic resources as, e-resources make them retrieve information with ease, e-resources help them to expand their knowledge-base to excel in their academics, and they enhance their abilities to recall what they have learnt with ease. However, among the reasons that were gathered, it was discovered that to majority of the respondents, electronic resources make them retrieve information with ease. It can therefore be inferred that information available in e-resources have proved to be of great value to many of the students and have allowed them to find vital materials they would not have otherwise found.

The respondents however hinted that despite the numerous significances of the non-conventional documents (e-resources), conventional (paper-form) documents still retain their values to some extent. They stated that conventional documents appeal to readers' visual capabilities, conventional documents require no special training in order to use, they require no computer hardware in order to use, and they require no electricity power for use.

Comparing the conventional documents to that of the non-conventional types however, it would be realized that the use of e-resources saves time over conventional documents, they are easy to use than conventional documents, they provide more information, they can be accessed at anytime and anywhere, they can be used by various people simultaneously, and e-resources are affordable compared to conventional documents.

The above findings conform to Madhusudhan's (2010) findings where some respondents opposed the ascertion that e-resources were completely important over conventional documents. Also, the impacts of e-resources as were revealed by the findings of this study conform to the findings of a study that was conducted by Okello-Obura and Magara (2008) who "investigated electronic information access and utilization at the East African School of Library and Information Science, Makerere University, Uganda and found out that, out of the 250 targeted students for the study, 190 responded that they derived a lot of benefits from electronic resources such as gaining access to a wider range of information, and improved academic performances as a result of access to quality information". Negahban and Talawar (cited in Bentil, 2011, p. 47) also stated that "the use of electronic information resources is necessary for users mainly because the electronic resources provide better, faster and easy access to information than information accessed through print media". In other words, they could be relied upon for timely information, thereby providing access to the right information at the right time.

Ray and Day (1998) at Oakland University also established that 83% of respondents surveyed felt that using electronic resource saved them time and are very easy to use. Two-thirds also indicated that if the CD-ROM was busy, they would wait for it to become free rather than use the print tool.

The usefulness or significance of an object may entice one to adapt to the use of that object. Hence, this part of the study is a salient one and it satisfies an aspect of the Roger's Diffusion of Innovation theory that states that an individual's technology adoption behavior is dependent on his or her perceptions regarding the relative advantage of the innovation.

Electronic resources are gradually taking the place of conventional/paper documents. They are becoming an effective and popular medium of communication these days among the researchers (Madhusudhan, 2010). This is as a result of the importance attached to the use of electronic resources. In this current era, electronic resources have become the largest and fastest growing areas of digital collections for most libraries and it has many benefits (Madhusudhan, 2010).

5.6 Computer Literacy Skills and Use of Electronic Resources

Information Technology competencies, embodied in the broader term "information literacy" refer to "individuals' capabilities of using computers, software applications, databases, and other technologies to achieve a variety of goals" (Association of College and Research Libraries [ACRL], 2005).

Based on the fifth objective of this study, respondents were asked to indicate whether they were computer literates or not. The findings revealed that majority of the respondents were computer literate persons. More so, in a bid to ascertain their familiarity and involvement with ICT, the study delved into the backgrounds of students' ICT skills. The findings showed that

majority of the respondents had an intermediate knowledge in ICT. With most of the computer literate respondents been at the intermediate level means that they were fairly computer literates. It can therefore be inferred that, at least a little of ICT proficiency is required by users in order to effectively use e-resources since non of the respondents stated lack of ICT skills.

According to Gross and Latham (2009), computer literacy skill is a key factor to an effective and efficient use of e-resources. However, they found that undergraduate students self-reported that they were computer information proficient, but their knowledge and information searching skills were insufficient. Computer literate persons are mostly seen using e-resources at ease since e-resources involve the use of computers (Gross and Latham, 2009).

Majority of the respondents opined that computer literacy was necessary to maximize the use of e-resources. Their reasons included as follows: It would be difficult and time-wasting for a non-computer literate person to use electronic resources because electronic resources are sometimes complicated. One cannot use for example, search engines efficiently if he or she had no computer literacy skills. Also, e-resources are based on information technology architectures, and it takes a computer literate person to understand IT architectures. The above reasons why computer literacy is necessary for the use of electronic resources were further confirmed by the Head of e-resources at UPSA. Being a computer literate makes an individual enjoy using electronic resources. However, the minority hinted that the use of e-resources is a routine process and can be learnt without necessarily having knowledge about ICT.

The finding is supported by Bentil (2011) who undertook a study at UCC and discovered that all respondents from who were proficient (25.5%) and highly proficient (15.2%) in computer searching skills used the electronic resources of the school. Only 1.4% who were quite

proficient and another 1.4% who were moderately proficient did not use the electronic resources of the library.

Furthermore, Shaheen (1999, p. 104) discovered in a study that "the use of electronic information sources and services was influenced by such factors as the computing skills of academics, among others. Shaheen's findings revealed that a majority of faculty members with 'very good' and 'excellent' computing skills frequently used electronic information sources and services. However, the use of these sources and services was minimal among faculty members with low computer literacy. As a significant relationship exists between computer literacy and use of electronic information sources and services, it is desirable that adequate emphasis should be given to developing basic computing skills among library users through user education programmes. End-users with better computing skills are more likely to benefit from the ever increasing volume of electronic information" (Shaheen, 1999, p. 98). Ansari & Zuberi (2010) also found that electronic resources were widely used in universities and that there is a direct relationship between computer literacy and use of electronic resources.

More so, McDonald (2004) indicated that the current challenge for universities is to ensure that their students meet a minimum level of computer competency when using new and constantly changing information technology. Because of the increasing electronic collections of university libraries, student computer competency is an important factor affecting student capability to use the collections successfully (McDonald, 2004).

Majid & Abazova (1999) discovered a positive correlation between the level of computer literacy and usage of library Online Public Access Catalogue (OPAC). Faculty members with good and excellent computer skills inclined to use OPAC more than those with poor computer skills. In support of Majid and Abazova (1999), a study by Callinan (2005) revealed that

undergraduates had difficulty finding course-related materials because they were unfamiliar with library computer systems.

Although undergraduate students are currently familiar with Internet use, they are not sufficiently fluent with Information and Communication Technology (ICT), and are less fluent than their perceptions (Hilberg & Meiselwitz, 2008). Salisbury and Ellis (2003) mentioned that professors might believe students to be computer literate, but most students cannot demonstrate foundational skills for information research.

Computer literacy is indeed a necessity for a maximum use of e-resources. Hardly can any individual make use of electronic resources without the requisite skills needed to access them (Bentil, 2011).

The Diffusion of Innovation Theory (DIT) states that an individual's technology adoption behavior is determined by his or her perceptions regarding some factors of which include norms. Thus, for an individual to adapt to the use of a technology, he or she considers the norms regarding the use of that technology. To most of the respondents, a norm surrounding the use of e-resources is a user's computer literacy skills. Thus, to the respondents, an individual's computer literacy skill influences his or her use of electronic resources. The Diffusion of Innovation Theory therefore conforms to this finding.

5.7 Challenges in the Use of Electronic Resources

There are several obstacles to the use of electronic resources for research work (Madhusudhan, 2010). Hence, this study investigated the challenges faced in accessing electronic resources at UPSA. The findings from the research revealed that the barriers that affect the effective provision and delivery of electronic resources at UPSA included slow internet access speed, privacy problems, information overload on the internet, challenge of

finding relevant information, too much time needed to view/download pages, network failures, lack of efficient IT knowledge, overcrowding of the library's e-resources section by students due to limited number of computers available at the section, poor user interface design of some e-resources, and excessive heat generated in the library. The above difficulties were further confirmed by the Head of e-resources.

The finding is in agreement with a study of Ali (2005) who conducted "a study on online searching of scientific information in science and technology libraries of Delhi and discovered that a sizeable number of users (almost 60%) were facing several problems while browsing electronic information, such as lack of knowledge about the resources, inadequate terminals and lack of trained staff".

Similarly, Chisenga (2004) did "a survey on the use of ICT in ten African Public Library Services and discovered four barriers to the effective provision of e-resources in those libraries, namely; lack of strategic planning, lack of adequate or reliable funding, lack of use of the internet to provide information services to users and lack of consistent training for users in new ICT services".

Also, Ajuwon (2003) undertook "a study of uptake of ICTs by health science students at the University College Hospital, Ibadan. The study revealed that 57% of the respondents could not use a computer and their use of the database was poor, due to lack of awareness, lack of access to computers, insufficient training and the high cost of provision". "Electronic resource services are mainly donor-driven and the over-reliance on donor support is making sustainability of the service difficult. Even the National ICT policy which was ratified by the Parliament of Ghana in 2004 is expected to be funded by the World Bank, UNECA, IICD, among others" (Asamoah-Hassan, 2003, pp. 4-5).

A study conducted on how graduate students perceive, use, and manage electronic resources by Ming-der (2012) revealed that "majority of the respondents reported ease of use for library e-resources. However, they encountered some challenges. Ten students (three humanities students, five social sciences students, and two science and technology students) mentioned that they had occasionally encountered challenges when searching for electronic resources. Their major challenge was the inability to retrieve relevant materials, especially when searching by keywords. The various search methods among databases confused some students. A few students mentioned uncertainty on the comprehensiveness of their searches as a problem because they had no knowledge regarding some databases' coverage. Six students reported problems in setting up internet connections to access library electronic resources. For authentication, students must input the address of the library proxy server or install appropriate software on their own computers when connecting from off-campus locations. Some students also reported slow internet connections when attempting to access library electronic resources from home. Five students reported problems finding complete text articles because the library did not subscribe to the journals, or back issues were unavailable. Two students mentioned simultaneous user limits on some databases, resulting in delays" (p. 647).

More so, Majid and Tan (2002); Ibrahim (2004) found out that online databases had not been equally patronized by clients. Some reasons that were linked to low patronage of online databases included; lack of awareness of electronic resources, lack of time to access and too many passwords to remember.

The Diffusion of Innovation Theory that was adopted for this study states that an individual's technology adoption behavior is dependent on his or her perception regarding some factors of which include complexity. Thus, the difficulties or challenges that one encounters during the use of an innovation such as e-resources has an influence on whether that individual would

continue to use that innovation or not. It is upon this reason that students' challenges with the use of electronic resources formed part of the objectives of this study.

All the difficulties discovered reveal that there are several difficulties with the use of electronic resources. The trend of difficulties mentioned by the respondents would assist the researcher to suggest recommendations for this study.

In conclusion, this study has shown that there is a gradual adoption of e-resources at the University of Professional Studies, Accra, and the adoption is dependent on users' awareness of the e-resources' availability. The findings also showed that despite the challenges students faced with the use of e-resources, the introduction of e-resources have greatly impacted on students. More so, according to the students, computer literacy is necessary for a regular and efficient use of e-resources.

5.8 Theoretical Interpretations of the Findings

The Diffusion of Innovation Theory (DIT) was adopted for this study in order to predict the use of e-resources. The theory stated that an individual's technology adoption behavior is determined by his or her perception regarding the relative advantage, compatibility, complexity, trial ability, and observability of the innovation, as well as social norms.

The constructs of the theory as mentioned in the above paragraph (such as; relative advantage, complexity, etc.) conforms to the objectives as well as the findings of this study as discussed as follows. Thus, it was revealed that students fairly used the e-resources because they were highly aware of the availability of e-resources at UPSA. The students also stated that e-resources are significant to academics, and the level of significance affected their use. The findings further revealed that students faced several challenges while using the e-resources. The challenges (such as; poor internet connectivity, frequent network problems, inadequate

computers and space, which caused overcrowding and heat-up of the space) affected students' extent of use of the resources.

More so, the students stated that computer literacy skill is necessary for an effective use of e-resources. This can be linked to the Theory of Reasoned Action (TRA) which explains an individual's behavior based on his or her behavioral intention, which is influenced by his or her attitude toward the behavior and perception of the subjective norms regarding the behavior. Individuals' behavioral intentions influence their reasons for use of an innovation.

The theoretical framework provided a valuable tool to understanding the objectives of this study. The theoretical framework is in line with the objectives and findings of the study as discussed above. Hence, it justifies why the theory was adopted for this study. It therefore implies that the foregoing findings have been validated by the Diffusion of Innovation Theory (DIT) and backed by the Theory of Reasoned Action (TRA) which states that a person's behavior is based on his/her behavioral intention that is brought into existence by his/her attitude toward the behavior and perception of the subjective norms regarding the behavior.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter summarizes the findings of this study based on the study's objectives as indicated in chapter one. This chapter also draws a conclusion and recommends solutions to the difficulties students faced while they used the electronic resources of UPSA, in order to enhance its use.

6.2 Summary of Findings

This study determined students' use of electronic resources in University of Professional Studies, Accra. The major findings of the study were based on chapter four of this study. The researcher's major findings are as explained below.

6.2.1 Awareness of Electronic Resources

The study found out about students' level of awareness of e-resources in the University of Professional Studies, Accra. The findings indicated that most students were aware of the e-resources available at UPSA Library. These students however got to know of the electronic resources through their colleagues. The findings revealed that much has not been done to publicize the electronic resources at University of Professional Studies, Accra.

6.2.2 Extent of Use of Electronic Resources

One of the objectives of this study was to determine the extent of use of e-resources by students of the University of Professional Studies, Accra. The findings revealed that most students had used the e-resources (especially emerald) of the library for less than a year, and they often used them on a weekly basis.

6.2.3 Reasons for Use of Electronic Resources

This study also attempted to unravel the reasons for which students used the electronic resources of UPSA Library. It was observed from the research findings that the reasons why students used the electronic resources were mainly to undertake their researches or project works, to answer assignments, to add to their stock of knowledge, and to some extent, for entertainment.

6.2.4 Usefulness of Electronic Resources

The fourth objective of this study was to determine the usefulness of e-resources to students. The research findings unraveled that the use of electronic resources was useful to students in the following ways; electronic resources made students retrieve information with ease, they helped students to expand their knowledge-base, enhanced students' abilities to recall what they had learnt with ease, as well as assisted them to excel in their academics.

6.2.5 Computer Literacy Skills and Use of Electronic Resources

The study also investigated how students' computer literacy skills are related to their use of e-resources. The findings revealed that most of the students were fairly computer literate with intermediate skills in the use of Information Communication Technology. The students opined that computer literacy was necessary to maximize the use of e-resources. However, their reasons for stating that computer literacy skills was required for effective use of e-resources were as follows; it would be difficult and time wasting for a non-computer literate person to use electronic resources because electronic resources are sometimes complicated, electronic resources are based on information technology architectures which takes a computer literate person to understand, and being a computer literate makes an individual enjoy the use of electronic resources.

6.2.6 Challenges in the Use of Electronic Resources

There are several obstacles to the use of electronic resources for research work (Madhusudhan, 2010). The findings of this study revealed several challenges faced by students while they used the electronic resources at UPSA Library. These challenges were; the internet access speed was slow and resulted in a lot of time wasted to view/download pages, there were privacy problems, network failures, the need for efficient IT knowledge, overcrowding of the library by students due to limited number of computers which results in much heat generated in the library, and poor user interface designs of some electronic resources.

6.3 Conclusion

The transition from print documents to e-resources in recent times has been quite steady and various libraries have undergone tremendous transformation in order to effectively deliver e-resources to the academic community. E-resources add value to today's library collection and satisfy the unique needs of students, faculty and research scholars with less risk and time. Electronic resources carry the potential power of increasing the learning opportunities offered to students in particular. However, librarians worldwide hold the view that electronic resources are being underutilized. The e-resources at UPSA Library were under-utilized. However, there must be a justification for investment on electronic resources. This study have revealed that various electronic resources such as Jstor, Emerald, Wiley, Taylor and Francis, and many more are available at UPSA Library for use by students and all members of the university's community. The use of electronic resources ensures excellence in students' academics, easy retrieval of information, and helps to expand students' knowledge-base. It was discovered from a Chi-square test that 'computer literacy' is necessary for an 'effective use of electronic resources'. E-resources face several challenges of which include network

failures, slow internet access, the need for IT knowledge, and poor user interface designs of most electronic resources. These challenges make the print documents marginally irreplaceable.

6.4 Recommendations

The following recommendations have been made to improve the facilities and services for effective use of e-resources in the University of Professional Studies, Accra Library.

User training is vital to ensure that e-resources are better used in the library since a large number of library patrons are in recent times searching electronic literature on their own. Users of e-resources should be taught advanced search strategies and the use of controlled vocabulary languages to make electronic search processes much easier. Thus, there is a need for UPSA's governing body to integrate enough Information Technology Literacy contents into the curriculum for members of the University environment. Non-users of e-resources should be identified and proper steps should be taken to train and convert them into potential users of electronic resources. This will go a long way to increase students' awareness of e-resources at the University of Professional Studies, Accra.

Furthermore, the library's webpage should provide guides online, as well as various search-options to e-resources. This will direct users at finding desired contents. It will also maximize users' usage of e-resources as well as their satisfaction levels. Feedback systems (online and offline) can as well be introduced by the library for observing a proper use of electronic resources.

In addition to the above, suitable measures should be taken to overcome the challenges faced by users in gathering information from databases. Thus, the internet terminals can be replaced with more upgraded ones. The problem of slow internet connectivity and network failure can

be rectified or solved if authorities of the University of Professional Studies, Accra see to it that the internet connectivity of the library is upgraded or enhanced by consulting the Head of IT personnel in the university and directing him to ensure that the internet bandwidth is increased.

More so, University of Professional Studies, Accra should consider blocking all connections to unwanted websites from the school's central network server room. Also, the Library's information professionals should device strategies to monitor the activities of the Library's internet users in order to detect and report any misuse of the internet by library users to the ICT Directorate for the necessary measures to be taken by them in order to rectify the challenges.

Last but not least, laptop PCs with wireless connections to the internet allow people to access the internet in virtually any environment away from the cable-connected PCs. The Internet and the World Wide Web provides access to enormous amounts of information (mostly through electronic resources), some of which are for free and others are subscribed for a fee. Authorities of the University should consider an upgrade of the wireless connection available at the Library for use by students within any corner of the library. This will help prevent the overcrowding of the Library's e-resources section by users, because with the wireless internet connection, students can sit anywhere within the vicinity of the library or even outside it to access the electronic resources without having to necessarily visit the e-resources section in order to use them. Authorities can also explore the use of an effective "off-campus access" system to electronic resources, where users are registered into a well-designed system which permits them access to the electronic resources away from campus.

6.5 Areas of Further Study

The use of electronic resources in University of Professional Studies, Accra (UPSA) was investigated by this study. However, there is a need for researches to be conducted on the use of e-resources in other educational institutions in Ghana since the findings of this study cannot be over generalized. Hence, further research could be conducted on other educational institutions found in Ghana that have adopted the use of electronic resources. Also, the study partially investigated how students' computer literacy skills affect their use of electronic resources. A thorough research on how students' computer literacy skills affect their use of e-resources would be an important venture. Furthermore, a survey methodology was adopted for this study. However, a case study approach could be adopted for other studies. Also, instead of the convenience sampling technique used for this study, a simple random sampling technique could be adopted for further studies. Finally, other researches can be conducted to determine how individuals' attitudes and perceived significance of electronic resources affect their usage of electronic resources.

BIBLIOGRAPHY

Adika, G. (2003). Internet use among Faculty Members of Universities in Ghana. *Library Review*, *52*, 29-37.

Aina, L. O. (2002). *Research in information sciences: An African perspective*. Ibadan: Stirling - Horden Publishers Ltd.

Aina, L. O. (2004). *Library and information sciences text for Africa*. Ibadan: Third World Information Services Limited.

Ajuwon, G. A. (2003). Computer and Internet Use by First Year Clinical and Nursing students in a Nigerian Teaching Hospital. *BMC Medical Informatics and Decision Making*, *3*, 10.

Ali, N. (2005). The use of electronic resources at IIT Delhi Library; a study of search behaviours. *The Electronic Library*, *23*, 691-700.

Alreck, P. & Settle, R. B. (1985). *The survey research handbook*. Illinois; IRWIN.

Ani, O. E. (2010). Internet access and use. *The Electronic Library*, *28*, 555 – 567.

Ankrah, E. (2014). *The impact of information systems strategy on Bank performance in Ghana*. (Unpublished doctoral thesis). Department of Information Studies, University of Ghana, Legon.

Ansari, M. N. & Zuberi, B. A. (2010). Use of Electronic Resources among Academics at the University of Karachi. *Library Philosophy and Practice*, 385.

Appleton, L. (2006). Perceptions of electronic library resources in further education. *The Electronic Library*, *24*, 619-623.

Asamoah-Hasan, H. (2003). Information: the oil in the wheel of national development. *Ghana Library Journal*, *15*, 1-14.

Ashcroft, L. & Watts, C. (2004). Change implications related to electronic educational resources. *Online Information Review*, *28*, 91-284.

Association of College & Research Libraries (2005). *Information literacy competency standards for higher education.* Chicago: American Library Association.

Beard, J., Dale, P. & Hutchins, J. (2006). The impact of e-resources at Bournemouth University 2004/2006. *Performance Measurement and Metrics, 8,* 7 – 17.

Bentil, W. (2011). *The Use of Electronic Resources in Ghanaian Universities: a comparative study of the University of Cape Coast and the Central University College*. (An Unpublished M. Phil thesis). Department of Information Studies, University of Ghana, Legon.

Borrego, A. (2007). Librarians' perceptions on the use of electronic resources at Catalan academic libraries: results of a focus group. Retrieved from http://www.diposit.ub.edu/dspace/bitstream

Burns, N. & Grove, S. K. (1999). *Understanding Nursing Research*. W.B: Saunders Company.

Busha, C. H. & Harter, S. P. (1980). *Research methods in librarianships: Techniques and interpretation.* New York: Academic Press.

Callinan, J. E. (2005). Information-seeking behavior of undergraduate biology students: A comparative analysis of first year and final year students in University College Dublin. *Library Review, 54,* 86-99.

Chisenga, J. (2004). *ICT in Libraries: An overview and general introduction to ICT in libraries in Africa.* Retrieved from http://www.inasp.info/lsp/ict- workshop-2004/session1-chisenga.ppt

Creswell, J. (Eds.) (2003). *Research design: qualitative, quantitative and mixed methods approaches*. London: Sage publications.

Dadzie, P. S. (2005). Electronic Resources: Access and Usage at Ashesi University College. *Campus-Wide Information Systems, 22,* 290 – 297.

de Vicente, A., Crawford, J. & Clink, S. (2004). Use and awareness of electronic information services by academic staff at Glasgow Caledonian University. *Library Review, 53*

401-7.

Dilek-Kayaoglu, H. (2008). Use of electronic journals by faculty at Istanbul University, Turkey: the results of a survey. *Journal of Academic Librarianship, 34,* 239-47.

Egberongbe, H. S. (2009). *The use of Electronic Resources in Nigerian Universities*. (Unpublished MPhil thesis). Department of Information Studies, University of Ghana, Legon.

Erdamar, G. & Demirel, H. (2014). Electronic sources preferences of education faculty staff: A case study of Gazi University. *European Journal of Research on Education, Special Issue: Educational Technology and Lifelong Learning,* 6-15.

Falk, H. (2003). Electronic campus. *The Electronic Library, 21,* 63-6.

Fishbein, M. & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Graham, S. R. (2003). Historians and electronic resources: a citation analysis. *JAHC, 3,* 18 - 24.

Greene, J. C., Caracelli, V. J. & Graham, W. F. (1989). Toward a Conceptual Framework for Mixed-method Evaluation Designs. *Educational Evaluation and Policy Analysis. 11,* 255-274.

Gross, M. & Latham, D. (2009). Undergraduate perceptions of information literacy: Defining, attaining, and self-assessing skills. *College & Research Libraries, 70,* 334-350.

Hawthorne, D. (2008). *History of Electronic Resources. Emporia State University, USA.* Retrieved from http://www.irma-international.org

Hilberg, J. S. & Meiselwitz, G. (2008). Undergraduate fluency with information and communication technology: Perceptions and reality. *Proceedings of the 9th ACM SIGITE Conference on Information Technology Education, 59,* 54-77.

Hsu, M. H. & Chiu, C. M. (2004). Internet Self-efficacy and Electronic Service Acceptance. *Decision Support Systems, 338,* 369-381.

Ibrahim, A. E. (2004). Use and user perception of electronic resources in the United Arab Emirates University. *Libri, 54*, 18-29.

Kaur, B. & Verma, R. (2006). Use of electronic resources at TIET library Patiala: a case study. *ILA Bulletin, 42*, 18-20.

Kim, Y. (2011). *Technology Adoption and Use Theory Review for Studying Scientists' Continued Use of Cyber-infrastructure*. Retrieved from http://crowston.syr.edu/system/files/ASIST2011-Cyber-infrastructureTheoryReview

Kumekpor, K. B. (2002). *Research Methods and Techniques of Social Research*. Accra: Son Life Press and Services.

Kumar, G. T. & Sampath, B. T. (2010). Perception and usage of e-resources and the internet by Indian academics. *Electronic Library, 28*, 1.

Kumar, S. & Grover, S. (2007). Electronic journals: Impact on scholarly communication, user and library. L*ibrary Herald, 45(4),* 325-336.

Kwadzo, G. (2015). Awareness and usage of electronic databases by Geography and Resource Development and Information Studies Graduate Students in the University of Ghana. *Library Philosophy and Practice (e-journal). Paper 1210*. Retrieved from http://digitalcommons.unl.edu/libphilprac/1210

Lippincott, J. K. (n.d.). *Net Generation Students and Libraries*. Retrieved from http://www.educause.edu/research-and-publications

Madhusudhan, M. (2008). Use of UGC infonet – journals by the Research Scholars of University of Delhi. *Library Hi Tech, 26*, 369 – 386.

Madhusudhan, M. (2009). Use of electronic journals by doctoral research scholars of Goa University, India. *Library Hi Tech News, 26*, 12 – 15.

Madhusudhan, M. (2010). RFID technology implementation in two libraries in New Delhi. *Program, 44*, 492 – 506.

Majid, S. & Abazova, A. F. (1999). Computer Literacy and Use of Electronic Information

Sources by Academics: A Case Study of International Islamic University, Malaysia. *Asian Libraries*. *8*, 100-111.

Majid, S. & Tan, A. T. (2002). Usage of information resources by computer engineering students: a case study of Nanyang Technological University, Singapore. *Online Information Review*, *26*, 318-25.

Martey, A. (2004). ICT in distance education in Ghana. *Library Hi Tech News*, *21*, 16-18.

McDonald, D. S. (2004). Computer literacy skills for computer information systems majors: A case study. *Journal of Information Systems Education*, *15*, 19-33.

Ming-der, W. S. C. (2012). How graduate students perceive, use, and manage electronic resources. *Aslib Proceedings*, *64*, 641 – 652.

Mohamed, H. K. (2007). Use of ICT based resources and services in special libraries in Kerala. *Annals of Library and Information Studies*, *54*, 23-31.

Montgomery, C. H. & King, A. (2002). Fast track transition to an electronic journal collection: a case study. *New Library World*, *101*, 294-303.

Mugo, F. W. (2002). *Sampling in Research*. Retrieved from http://trochim.human.cornell.edu/tutorial/mugo/tutorial.htm

Neuman, W. L. (Eds.) (2007). *Basics of Social Research: Qualitative and Quantitative Approaches*. Boston: Pearson edu, Inc.

Okello-Obura, C. & Magara, E. (2008). *Electronic Information access and utilization by Makerere University in Uganda*. Retrieved from http://www.creativecommons.org/licenses

Opdenakker, R. (2006). Advantages and Disadvantages of Four Interview Techniques in Qualitative Research. *Quality Social Research*, 7, 11.

Ozoemelen, O. A. (2009). Use of electronic resources by postgraduate students of the Department of Library and Information Science of Delta State University, Abraka, Nigeria. *Library philosophy and practice*, *301*.

Popper, K. (Eds.) (2004). *The Logic of Scientific Discovery*. Routledge, Taylor & Francis.

Ray, K. & Day, J. (1998). *Student attitudes towards electronic information resources*. Retrieved from http://www.informations.net

Rehman, S. & Ramzy, V. (2004). Awareness and use of electronic information resources at the Health Science Centre of Kuwait University. *Library Review*, *53*, 150-156.

Rogers, E. M. (2003). *Diffusion of Innovations*. London, New York: The Free Press.

Sajjad ur Rehman, V. R. (2004). Awareness and use of electronic information resources at the health sciences center of Kuwait University. *Library Review, 53*, 150 – 156. Retrieved from http://dx.doi.org/10.1108/00242530410526556

Salisbury, F. & Ellis, J. (2003). Online and face-to-face: evaluating methods for teaching information literacy skills to undergraduate arts students. *Library Review*, *52*, 209 – 217.

Shaheen, M. A. F. A. (1999). Computer literacy and use of electronic information sources by Academics. *Asian Libraries, 8*, 100 – 111.

Shuling, W. (2007). Investigation and analysis of current use of electronic resources in university libraries. *Library Management, 28*, 72-89.

Shamin, R. (2004). Knowledge and use of electronic information resources by medical sciences faculty at The University of the West Indies. *J Med Library Association, 93*, 10-20.

Swain, D. K. & Panda, K. C. (2009). Use of electronic resources in business school libraries of an Indian state: a study of librarians' opinion. *The Electronic Library*, *27*, 74-85.

Tenopir, C. (2003). *Use and Users of Electronic Library Resources: An Overview and Analysis of Recent Research Studies*. Retrieved from http://www.clir.org/pubs/abstract//report

Tsakonas, G. & Papatheodorou, C. (2006). Exploring usefulness and usability in the

evaluation of open access digital libraries. *Information Processing and Management, 44*, 1234-1250.

Vinkatesh, V. & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science, 46*, 186-2044.

Weiner, S. G. (2003). Resistance to change in libraries: Application of communication theories. *Libraries and Academy, 3(1)*, 69-78.

Whitaker, K. (1993). *The Basics of Library-based User Services*. Michigan; Library Association, 133.

Other Sources: Web:

1. http://www.upsa.edu.gh/pages/about-upsa/history [01/01/2015].
2. http://www.upsa.edu.gh/pages/teaching--learning-resources/library-resources [01/01/2015].

APPENDIX A

QUESTIONNAIRE

DEPARTMENT OF INFORMATION STUDIES

UNIVERSITY OF GHANA, LEGON

This questionnaire aims at collecting data on **"Students' Use of Electronic Resources in University of Professional Studies, Accra".**

This is a questionnaire to help an MPhil student of the Department of Information Studies to conduct a research on the topic above as his Thesis. The confidentiality of information provided by research participants will be guaranteed. For this reason, I wish you find time to answer the questions posed in this questionnaire and sincerely. Thank you for your time.

Please tick in the boxes provided below the right answers to the questions and write short answers where necessary.

Part I: Biographic Data

1. Gender: Male [ ] Female [ ]
2. Age: (a) 17-25 [ ] (b) 26-35 [ ] (c) 36-45 [ ] (d) 46-55 [ ] (e) 56 and above [ ]
3. Discipline of study:
   a. Business Administration [ ] c. Management [ ] e. Accounting [ ]
   b. Banking and Finance [ ] d. Marketing [ ] Others ……..……

Part II: Awareness of Electronic Resources

4. Are you aware of the electronic resources in the University Library?
   a. Yes [ ] b. No [ ]

5. If yes, how did you get to know of the electronic resources of the Library? Through
   a. Colleagues [ ] c. Notices [ ]
   b. Library website [ ] d. Orientation [ ] e. Other ……

6. Has the electronic resources been well publicized to students of this university?
   a. Yes [ ] b. No [ ]

7. If No, what should be done?

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……

8. How often does the University provide training on e-resources?

a. Very often [ ] b. Often [ ] c. Once a while [ ] d. Not at all [ ] e. Not sure [ ]

Part III: Extent and Reasons for Use of Electronic Resources

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

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

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

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

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

b. Twice daily [ ] d. Monthly [ ]

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

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

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

e. Others (specify) ……..…

Part IV: Usefulness of Electronic Resources

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

a. Yes [ ] b. No [ ]

13. If yes, what significance/impact does it have on your learning ability? Choose as many as apply.

a. It makes me retrieve information with ease [ ]

b. It helps me to expand my knowledge-base [ ]

c. It makes me excel in my academics, since studying on a computer makes me sit long hours to study [ ]

d. It enhances my ability to recall what I have learnt easily, since I can easily visualize computer-based information [ ]

e. Other ……..……..

14. What is the significance of conventional (paper-form) documents? Choose as many as apply.

a. Appeals to readers' visual capabilities
b. No special training required for use
c. No computer hardware required
d. Requires no electric power
e. Other ……..

Part V: Computer Literacy Skills and Use of Electronic Resources

15. Are you a computer literate?

a. Yes [ ] b. No [ ]

16. If yes, how would you rate your knowledge in ICT?

a. Basic [ ] b. Intermediate [ ] c. Advance [ ]

17. Is computer literacy necessary to make maximum use of library electronic resources?

a. Yes [ ] b. No [ ]

18. Give reasons for your selected answer to question 17.

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……
……

Part VI: Access, Use and Challenges in the Use of Electronic Resources

19. Have you ever used any of the electronic-resources? Yes [ ] No [ ]

20. If yes, which e-resources do you often use? Choose as many as apply.

a. JSTOR [ ]
b. Emerald [ ]
c. Wiley [ ]
d. Sage [ ]
e. Other ……

21. Why do you prefer to use that particular e-resource?

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……...

22. How do you access information when you use the UPSA library?

a. Browse the shelf
b. I ask the librarian
c. Scholarly databases subscribed by the library
d. WEBOPAC
e. Other ……..

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

a. Slow access speed [ ]
b. Overload of information on the Internet [ ]
c. Difficulty in finding relevant information [ ]
d. It takes too long to view/download pages [ ]
e. Privacy problem [ ] f. Other .....

Part VII: Respondents' Recommendations

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

a. It should maintain the quality and quantity of its print collection.
b. Adding more computers to the library.
c. Providing improved access to electronic resources (online databases, e-books, etc.).
d. Providing training in using library and web resources.
e. Other ……..

25. How can maximum use of these e-resources be ensured?

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

26. Give recommendations to the difficulties you face in using the e-resources.

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APPENDIX B

INTERVIEW GUIDE

DEPARTMENT OF INFORMATION STUDIES

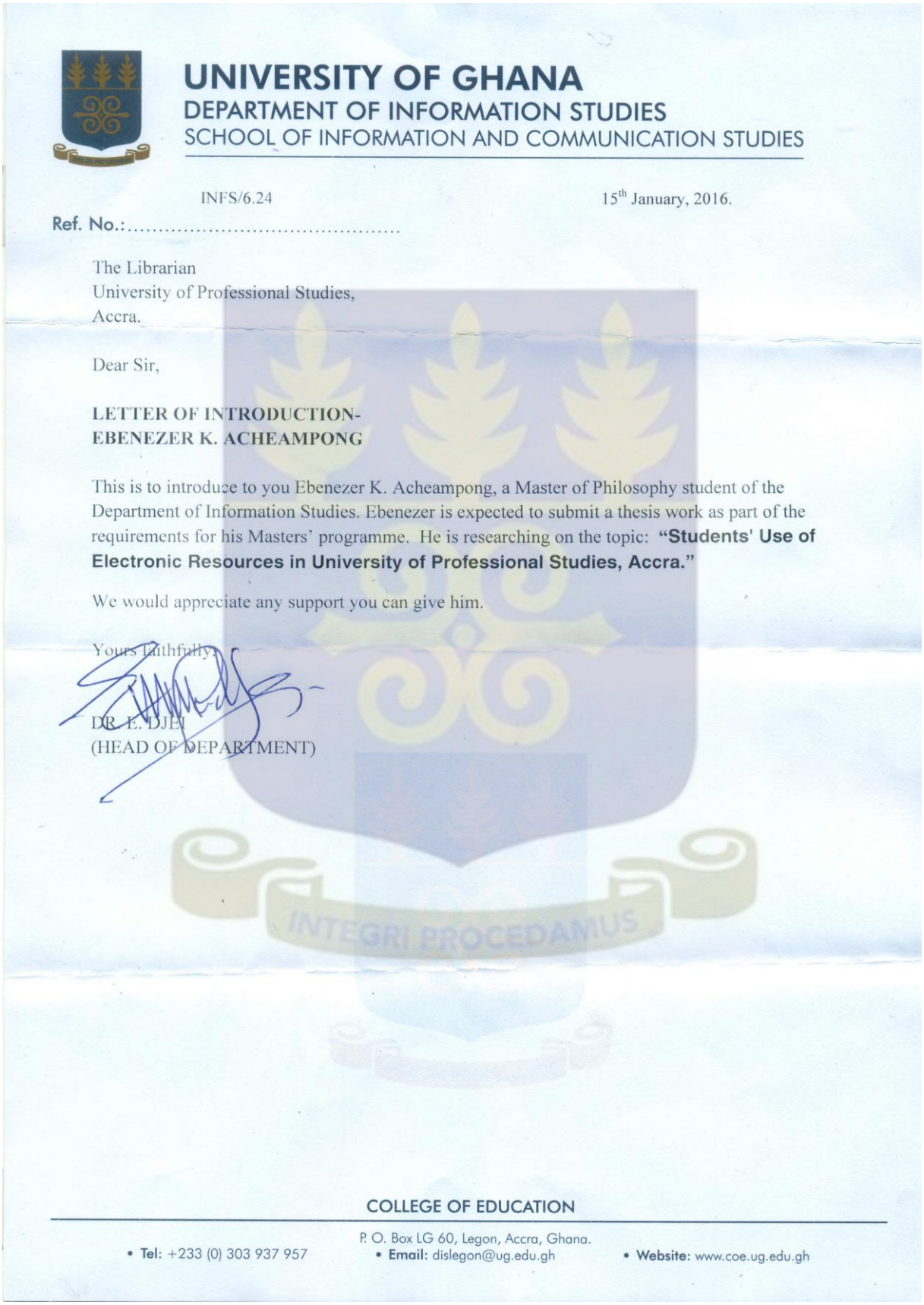
UNIVERSITY OF GHANA, LEGON

An interview guide for data collection on **"Students' Use of Electronic Resources in University of Professional Studies, Accra".**

This interview guide is to assist an MPhil student of the Department of Information Studies to conduct a research on the topic above as a Thesis project. For this reason I wish you whole heartedly find time to answer my interview questions and sincerely. Thank you very much for your time.

1. How are students informed about the electronic resources of UPSA Library?
2. How often does the University provide training on e-resources?
3. In your view, for what reasons do students use the electronic resources?
4. Is computer literacy necessary to make maximum use of library electronic resources?
5. What are some of the challenges students face while using the e-resources?
6. What should the library's priority be in terms of information provision?
7. Give recommendations to the challenges students face while using the e-resources.

APPENDIX C
LETTER OF INTRODUCTION



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

INFS/6.24 15th January, 2016.

Ref. No.:.....

The Librarian
University of Professional Studies,
Accra.

Dear Sir,

LETTER OF INTRODUCTION-
EBENEZER K. ACHEAMPONG

This is to introduce to you Ebenezer K. Acheampong, a Master of Philosophy student of the Department of Information Studies. Ebenezer is expected to submit a thesis work as part of the requirements for his Masters' programme. He is researching on the topic: **"Students' Use of Electronic Resources in University of Professional Studies, Accra."**

We would appreciate any support you can give him.

Yours faithfully,

DR. E. DJEI
(HEAD OF DEPARTMENT)

INTEGRI PROCEDAMUS

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