

THE USE OF ELECTRONIC INFORMATION RESOURCES BY POSTGRADUATE
STUDENTS AT UNISA REGIONAL LEARNING CENTRE IN ETHIOPIA

by

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DECLARATION

I, Addisalem Gebrekidan Desta, declare that: **The use of electronic information resources by postgraduate students at UNISA Regional Learning Centre in Ethiopia** is my own original work and has not been previously submitted for a degree at any university. All the sources that have been used or cited have been correctly acknowledged by means of complete and proper referencing.

Researcher's signature

A handwritten signature in red ink, appearing to be 'A. Gebrekidan', written over a dotted line.

.....

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ABSTRACT

The aim of this study was to investigate the use of electronic information resources by postgraduate students at UNISA Regional Learning Centre in Ethiopia and to identify the problems they experience when using the UNISA online library. The literature review focuses on students' information-seeking behaviour, with a particular emphasis on their usage of electronic information resources. Previous studies indicated that the context in which students' information needs and their information-seeking behaviour arise can be determined by contextual and personal elements or factors. This study adopted a qualitative case study approach. Semi-structured face-to-face interviews were conducted to collect data from eight postgraduate students which were conveniently selected. The data were analysed by using a thematic data analysis technique.

The study established that the majority of the respondents used electronic information resources. However, the availability of Internet connections and electricity determined the frequency with which e-resources were used. The students used information resources for various purposes, including for course work, doing assignments, preparing for examination, writing proposals, for literature reviews, for writing Master's dissertations and doctoral theses, and for research.

The study revealed that postgraduate students had basic computer and information literacy skills; however, they lacked more advanced skills and this negatively affected their usage of electronic information resources. The findings also reported that a lack of ICT infrastructure, such as limited Internet access, inadequate Internet connectivity and frequent electric power interruptions were the main factors that affected postgraduate students' electronic information-seeking behaviour. Besides, the remoteness and poor facilities of the Akaki Branch Library also had a negative impact on students' information usage.

Recommendations are made in order to maximise the utilisation of electronic information resources and address students' skills deficiencies experienced while they are using electronic information resource.

KEY TERMS: Electronic information resources; information seeking; information use; information literacy.

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List of abbreviations and acronyms

The following abbreviations and acronyms are used in this dissertation:

CAES	College of Agriculture and Environmental Sciences
CD-ROM	Compact Disc-Read Only Memory
CDMA	Code Division Multiple Access
CEDU	College of Education
CEMS	College of Economics and Management Sciences
CHS	College of Human Sciences
CLAW	College of Law
CSET	College of Science, Engineering and Technology
ICTs	Information and Communication Technologies
IT	Information Technology
ODL	Open Distance Learning
OPAC	Open Public Access Catalogue
UNISA	University of South Africa

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

Information behaviour involves a set of actions that individuals take to express a need for information, to seek, evaluate and select information, and finally use this information to satisfy their information needs (Majid & Kassim 2000:2). Case (2007:5) defines information seeking as a conscious effort to acquire information in response to a need or a gap in an individual's knowledge.

With the advancement of computer and networking technologies there is a significant growth in availability and use of electronic information resources. Electronic information resources are products of information and communication technologies and they have been found relevant to the learning and research process in universities (Okiki & Asiru 2011). Electronic information resources offer students different opportunities (Ray & Day 1998:3). Brophy (1993) mentions that the advantages of electronic information resources include speed, ease of use, ability to search multiple files at the same time, the ability to save, print and repeat searches, more frequent updating, and the ability to access information from outside of the library, which is highly important for distance learning.

Different individuals and users need information for different purposes. It depends on the situation, or the context in which an information need arises (Bawden 2006:675). For example, students need information for their academic studies and research; managers need information for problem solving, decisions and planning; the general public also need information for everyday life such as to check news and sports, and to visit websites for public information. Most of the time students' information-seeking behaviour involves active or purposeful information seeking to satisfy their need to complete course assignments, prepare for class discussions, seminars, workshops, conferences or write final year research papers (Kakai, Ikoja-Odongo & Kigongo-Bukenya 2004:3). This is also true of the situation at the University of South Africa

(UNISA) Regional Learning Centre in Ethiopia. As the UNISA library is a leading distance education library in Africa, most of the information resources are electronically available, such as electronic books (e-books), electronic journals (e-journals), subject databases, electronic theses and dissertations and other electronic sources. In order to access such information resources students require knowledge of computers and information literacy skills to search and use these resources effectively.

The researcher observed that most of the UNISA students visiting the learning centre consult information sources for both their course work and their research. The majority of the students prefer to use printed information sources like recommended books, prescribed books, reference books, and journal articles. However, these students seem to find it difficult to use electronic information resources. In order to provide a library service that would meet the information needs of graduate students registered at the University of South Africa (UNISA) Regional Learning Centre in Ethiopia, this study hopes to gain an understanding of the students' information-seeking behaviour, examine the awareness of students regarding the facilities and services available to them, the impact of ICTs on graduate students' information seeking behaviour and their attitude towards electronic information resources. A qualitative research design will be adopted to investigate the problem in depth.

1.2 BACKGROUND

The University of South Africa (UNISA) is an open distance learning (ODL) institution of higher education. The open distance learning mode of teaching and learning means that there are no geographical limits to accessing education at UNISA. UNISA depends on and will increasingly depend on affordances of technology to offer services to its global learning community. In Ethiopia, for example, registration and financial processes are done online in terms of learner/student support. Networked computers are available in the library and students can access the Pretoria main campus library online (University of South Africa 2011:2).

The University Library supports the University's tuition, research and community service programmes by providing access to global information resources through branch and electronic services. The UNISA Regional Learning Centre in Ethiopia, Akaki Branch Library, provides

library and information services to all registered students. The services include lending books, providing Internet access, access to various online bibliographic and full text databases, providing both basic and advance library training, photocopying and courier services. In order for students to access these library and information services, they must have adequate information literacy skills. However, the researcher's personal experiences and observations as a UNISA branch librarian indicate that most of the students find it difficult to use the UNISA online library. The reasons could possibly be put to a lack of information literacy skills, the remoteness of the centre, and a lack of knowledge and awareness of the available resources.

The UNISA Library includes digital and printed information sources. In order to access the electronic information resources students should have adequate computer and information literacy skills. The problems UNISA students experience when using the UNISA online library can be aligned with Majid and Kassim's (2000:7) findings. According to them, it seems as if insufficient computer skills may have an impact on the use of online information resources. Using a computer is a challenge to most students in developing countries like Ethiopia, where access to electronic information is difficult. Some students face challenges that pertain to what information is needed and an inability to locate, evaluate and effectively use the information resources. It seems as if those students who lack basic computer and information literacy skills can't utilise UNISA electronic information resources effectively and efficiently.

Students also experience poor Internet connections and information technology (IT) infrastructure in Ethiopia. This makes it difficult for them to use the online databases that are available in the UNISA library. In this regard, Gelaw (1998:14) concludes that lack of a strong IT infrastructure is one of the main barriers that limit students to access and use IT-based information services effectively. Chekol (2010:123) found that a number of factors have a negative impact on the spread and use of ICT's in Ethiopia. These include poor infrastructure, access and an unsupportive, enabling environment. Thus, information communication technologies infrastructure could be one of the barriers affecting students when using electronic information resources.

As indicated in the introduction, Ray and Day (1998:3) believe that electronic information resources offer students different opportunities. However, according to the researcher's observations, most students at the graduate level are still highly dependent on printed information sources, like books, for their course work or research. In Botswana, Fidzani (1998) reports that some graduate students are not aware of the services the library offers them. This could also be true of students visiting the UNISA Regional Learning Centre (hereafter referred to as the Centre) in Ethiopia. It seems as if some of the students registered at the Regional Learning Centre are not aware of all the services and facilities the UNISA Library offers them. This may be due to insufficient marketing of library services and also due to a lack of continuous training in the use of library services.

Only a few students visit the UNISA Regional Learning Centre in Ethiopia, Akaki Branch. This is evident from library user statistics and register records. However, students who are able to visit the library are assisted by library staff and shown how to use the online resources that are available in the library. One could therefore assume that the students, who do visit the library regularly, might improve their information and computer literacy skills. A possible reason for the low library usage statistics can be found in the fact that the UNISA Library is available online. Students are therefore not expected to visit the library in person, but can gain access to the library's facilities from wherever they can get access to the Internet. However, in Ethiopia Internet bandwidth is not fast at Internet cafés and at the students' workplaces. Furthermore, some students also cannot get access to the Internet. The remoteness of the Centre also limits students' access to and utilisation of electronic information resources.

Postgraduate students are expected to utilise the UNISA online library since it is one of their major sources of information. However, observations and the researcher's personal experiences revealed that most postgraduate students do not use, or find it difficult to use the library's information resources and services. The reasons may be attributed to technical problems in accessing information resources, a lack of knowledge, a lack of awareness of the resources, and other reasons. Thus, adequate information literacy skills are inevitable skills which graduate students need to access an online library environment. As a result, they avoid using the library

service. Therefore this study will attempt to explore the various challenges graduate students face in using electronic information resources.

From the background, it seems as if four important factors could influence students' use of electronic information resources. These include a lack of interest in finding information, the impact of the current situation of students, low levels of information literacy and technological constraints, which make it difficult for students to gain access to online information resources.

1.3 RESEARCH QUESTION

Accessing electronic information resources offers opportunities to obtain accurate and timely information. However, according to the researcher's experience, it seems as if most students registered at the UNISA Learning Centre in Ethiopia, Akaki Branch Library, who are at the postgraduate level, are still highly dependent on printed information sources such as books for their course work and research. Therefore, an investigation is considered necessary to examine the use of electronic information resources. With this in mind, the research question can be formulated as follows: What are the factors that influence the information-seeking behaviour of postgraduate students at the UNISA Regional Centre in Ethiopia?

1.3.1 Aims and objectives of the study

The main aim of this study is to investigate the use of electronic information resources by postgraduate students at UNISA Regional Learning Centre in Ethiopia and to identify the problems they experience when using the UNISA online library. The study also aims at acquiring an understanding of the impact that students' use of electronic resources has on their information-seeking behaviour.

The objectives of the study are as follows:

- To identify the main information sources used by postgraduate students;
- To determine the use of electronic information resources by postgraduate students;
- To examine the awareness and attitudes of postgraduate students towards electronic information resources, and

- To recommend appropriate measures to improve electronic information access and use at UNISA Regional Learning Centre in Ethiopia.

1.3.2 Sub-questions

In order to investigate the core question, the following sub-questions need to be addressed:

- What are the main information sources that postgraduate students studying at the UNISA Regional Learning Centre in Ethiopia use?
- What are the factors that influence the information-seeking behaviour of postgraduate students at the UNISA Regional Centre in Ethiopia?
- How do postgraduate students use electronic information resources, and what are the related issues?
- How frequently do postgraduate students use the electronic information resources?

Table 1 illustrates the existing relationships between research questions, research methods and data collection instruments for this study.

Table 1: Research questions, research methods and data collection instruments

Objectives	Research question(s)	Research method(s)	Population	Research instrument(s)
To identify the main information sources used by postgraduate students	What are the main information sources that postgraduate students studying at the UNISA Regional Learning Centre in Ethiopia use?	Qualitative case study	Master's and doctoral students currently enrolled at the regional learning centre in Ethiopia	In depth semi-structured interviews
To determine the use of electronic information resources by postgraduate students	What are the factors that influence the information-seeking behaviour of postgraduate students at the UNISA Regional Centre in Ethiopia?	Qualitative case study	Master's and doctoral students currently enrolled at the regional learning centre in Ethiopia	In-depth semi-structured interviews
To investigate the impact of ICT on students' information-seeking behaviour	How do postgraduate students use electronic information resources, and what are the related issues?	Qualitative case study	Master's and doctoral students currently enrolled at the regional learning centre in Ethiopia	In-depth semi-structured interviews
To examine the awareness and attitudes of postgraduate students towards electronic information Sources	How frequently do postgraduate students use the electronic information resources?	Qualitative case study	Master's and doctoral students currently enrolled at the regional learning centre in Ethiopia	In-depth semi-structured interviews

1.4 LITERATURE REVIEW

In order to establish the present state of research, the researcher reviewed literature to establish what the most important findings from previous research were and what these studies suggest should still be researched. The review provided a conceptual understanding of information-seeking behaviour of graduate students, with a particular emphasis on their usage of electronic information resources. Neumann (2000:447) states that the purpose of a literature review is to provide a theoretical background to the study and to learn what others have done.

The literature was reviewed in order to highlight certain themes, such as: information users, information user contexts and personal elements or factors, information needs and information-seeking behaviour of postgraduate students, students' information literacy skills, information use, and problems postgraduate students experience when using electronic information resources. Chapter Two of this study comprises a detailed literature review on these themes.

1.5 IMPORTANCE OF THE STUDY

The value of the study is to understand the usage of electronic information resources by postgraduate students at UNISA Regional Learning Centre in Ethiopia. The study identified the problems associated with the use of electronic information resources. Based on the problems that were identified, it aimed to come up with some suggestions to improve the use of these library and electronic resources.

1.6 RESEARCH METHODOLOGY AND DESIGN

According to Leedy and Ormrod (2005:12), research methodology is the general approach a researcher follows when carrying out a research project. This study adopted a qualitative approach due to the nature of the area of research. The researcher carried out an in-depth investigation of information-seeking behaviour of postgraduate students at UNISA Ethiopia Regional Learning Centre with the intention of collecting the most meaningful form of data possible. The data were collected by means of open-ended interviews.

The study used a convenience sampling technique to take a sample. The focus on a small sample enabled the researcher to study the information-seeking behaviour in depth. Samples for studies

using a qualitative research design tend to be small and an appropriate sample size for a qualitative study is one that adequately answers the research question (Mugenda 2008). The sample of postgraduate students interviewed was taken from admission and registration data of currently registered students. The sample represents Master's and doctoral students of all six colleges, namely College of Agriculture and Environmental Sciences (CAES), College of Economics and Management Sciences (CEMS), College of Education (CEDU), College of Human Sciences (CHS), College of Law (CLAW) and College of Science, Engineering and Technology (CSET).

1.7 ETHICS

UNISA policy on research ethics (University of South Africa 2012) ensures that the rights and interests of human respondents and institutions are protected. This is particularly important where information gathered has the potential to invade the privacy and dignity of participants and third parties, and where respondents and third parties are vulnerable owing to their youth, disability, age, poverty, disease, ignorance or powerlessness. To ensure that participants were not put at risk and to respect their privacy, the researcher drafted an informed consent form that the respondents signed before they engaged in the research. Any information that is obtained during this study and that can be associated with participants will remain confidential and will be disclosed only with the respondents' permission. The research was approved by the Department of Information Science, University of South Africa (UNISA), and cleared by the University Research Ethics Committee before it was undertaken. Permission to conduct research involving UNISA students was obtained by the Research Permission Sub-committee (RPSC) of the UNISA Senate Research and Innovation and Postgraduate Degrees Committee (SRIPGDC).

1.8 DEMARCATION AND SCOPE OF THE STUDY

The scope of the study is focuses only Master's and doctoral students from UNISA Regional Learning Centre in Ethiopia, it excluded undergraduate and honours students. UNISA has about ten regional libraries in South Africa. This study was undertaken in only in Akaki Branch Library, Ethiopia.

1.9 LIMITATIONS OF THE STUDY

As every study has a set of limitations, this study also has some limitations. The first limitation of the research relates to the nature of case study. The case study method enables a researcher to examine the data closely in a specific context, but it could cause biased views to influence the direction of the findings and conclusions. In this case, the researcher himself is a staff member on the research site, namely the Akaki Branch librarian. This may present some problems for respondents to express their genuine feelings and to give free expression during data collection, to the extent of an anticipated level of honesty, which may be presumed to affect the reliability to some extent.

1.10 KEY CONCEPTS

It is useful to explain the most important concepts like information behaviour, information literacy, information seeking, information needs and information use in this study.

1.10.1 Information awareness

Awareness is knowledge about something that exists or an understanding of a situation or subject at the present time, based on information or experience (Ani & Ahiauzu, 2008). According to Akpojotor (2016), awareness can be seen as “perception of a situation, fact, consciousness, recognition, realization and grasp about and well-informed interest or familiarity in a particular situation or development”. Information awareness is viewed in this study as graduate students’ level of access, usage and awareness of the availability of electronic information resources and services at the Akaki Branch Library in Ethiopia.

1.10.2 Information behaviour

Wilson (2000:49) defines information behaviour as “the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking and information use”. Wilson’s (2000:49) definition “includes face-to-face communication with others, as well as the passive reception of information as in, for example, watching TV advertisements, without any intention to act on the information given”. Case (2007:5) also notes that the concept encompasses other behaviour, such as information seeking and sharing. For the

purpose of this study, the emphasis will be on the information-seeking and information use activities of postgraduate students at UNISA Regional Learning Centre in Ethiopia.

1.10.3 Information literacy

Information literacy is a set of abilities (skills) requiring individuals to recognise when information is needed and have the ability to locate, evaluate and use the needed information effectively (Association of College and Research Libraries 2000:2). Therefore, for the purpose of this study, information literacy refers to the competence and a set of skills to search and use the UNISA online information resources by UNISA postgraduate students in Ethiopia.

1.10.4 Information need

An information need arises when an individual senses a problematic situation or information gap, in which his or her internal knowledge, beliefs and model of the environment fail to suggest a path towards the satisfaction of his or her goals (Case 2007:333). The term “information need” does not necessarily imply that people are “in need of” information as such, but that the use of information can lead to the satisfaction of a more basic need (Wilson 1981:5-6).

In terms of this study, an information need is viewed as a knowledge gap that graduate students experience in completing their academic tasks, namely study and research, at UNISA Regional Learning Centre in Ethiopia.

1.10.5 Information seeking

Case (2007:333) defines information seeking as the “behaviour that occurs when an individual senses a problematic situation or information gap, in which his or her internal knowledge and beliefs, and model of the environment, fail to suggest a path towards satisfaction of his or her goals”. Therefore information seeking is a special case of problem solving and includes activities such as the recognition and interpretation of the information problem, establishing a search plan, conducting an information search, the evaluation of the search results and, if necessary, iterating through the process again (Marchionini 1989). According to Wilson (2000), information-seeking behaviour is “the purposive seeking for information as a consequence of a need to satisfy some goal”. Information seeking is also an important part of the learning process, as indicated by

Vakkari (1999:820) when he regards information seeking as a process of searching, obtaining and using information for a purpose. Therefore, for the purpose of this study, information seeking is viewed as [a process comprising] those activities which postgraduate students, registered at the Akaki Branch Library in Ethiopia, embark on to seek information they require to complete their studies.

1.10.6 Information use

Information use, as it is understood by Meyer (2003:111) can be defined as the manner in which people handle information when collecting, searching, accessing and communicating information. Information use is therefore viewed in this study as those activities in which postgraduate students registered at the Akaki Branch Library in Ethiopia, obtain and use information sources for their academic study and research.

1.10.7 Internet skills

Internet skills can be define as the ability to utilize common IT tools, including hardware, software, and Internet tools like search engines; and technical proficiency (Søby 2003).

1.10.8 Library skills

Library skills in the academic setting refers to the acquisition of a range of skills relating to identification of and familiarity with sources and information seeking processes, usually through formal bibliographic instruction and informal user education (Bell 1990).

1.10.9 Postgraduate students

In this study, postgraduate students refer to students who have already obtained a bachelor's degree and are studying at UNISA for more advanced qualification, such as Master's and doctoral.

1.11 OUTLINE OF CHAPTERS

Chapter One: Introduction

Chapter One is an introductory chapter and introduces the study. The chapter includes a general background of the problem statement and research questions. Key concepts are also clearly defined.

Chapter Two: Literature Review: Information-seeking Behaviour

This chapter presents an overview of previous work on related topics that provide the necessary background to the study. The purpose of this literature review is to provide the reader with a specific overview of postgraduate students' information-seeking behaviour.

Chapter Three: Research Methodology

Chapter Three explains how the research was conducted and outlines the research design, research methodology, target population, sampling procedures and data collection procedures.

Chapter Four: Findings or Results

This chapter analyses and discusses the findings that were obtained through interviews with conveniently selected postgraduate students at UNISA Regional Learning Centre in Ethiopia.

Chapter Five: The Information Behaviour of Students at the Akaki Branch Library

This chapter discusses the findings in relation to the themes identified in the literature review chapter. It also summarises the findings of the study.

Chapter Six: Conclusions, Limitations and Recommendations

This chapter answers the research questions. Based on these findings, recommendations are made on how the barriers prohibiting graduate students from using electronic resources could be lifted. Suggestions or directions for further research are also included.

1.12 SUMMARY

This chapter is an introductory chapter of the study, which involved a qualitative investigation of postgraduate students' information-seeking behaviour, with a particular emphasis on their usage of electronic information resources. The contextual setting of the study and the problem statement and research questions, were explained. The methodology that was used for the study was briefly explained. Ethical issues that had to be observed were covered and definitions of the

main terms were provided. The chapter concluded with an explanation of the structure of the dissertation. The next chapter of this dissertation is the literature review.

CHAPTER TWO

INFORMATION-SEEKING BEHAVIOUR: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 INTRODUCTION

Information has become an important resource for the development of knowledge. Every day, people from all walks of life seek and use information. Information regarding studies and research, work, entertainment, health, money matters, family, and other topics, is obtained from various sources. As indicated in Chapter One, the purpose of this study is to investigate the use of electronic information resources by postgraduate students at UNISA Regional Learning Centre in Ethiopia. The purpose of this chapter is therefore to acquire an understanding of students' information needs and information-seeking behaviour. The main concepts affecting information seeking, namely, information users, user contexts and information needs will be discussed in detail. A discussion on information seeking will follow thereafter. The contextual and personal elements that affect students' information-seeking behaviour will be identified and discussed.

2.2 BACKGROUND

Students' information-seeking behaviour mostly involves active or purposeful information seeking to satisfy their needs to complete course assignments, prepare for class discussions, seminars, workshops, conferences or write final year research papers (Kakai et al. 2004:3). Students' information needs therefore seem to arise within an academic context. Kakai et al.'s (2004:3) findings are supported by Case's (2007:5) definition of information-seeking behaviour. He defines information seeking as a "conscious effort to acquire information in response to a need or a gap in an individual's knowledge." Based on an analysis of Case's (2007) definition and Kakai et al.'s (2004) findings, three concepts can be identified which seem to influence information seeking. These are information users, user contexts and information needs.

Therefore, to acquire an understanding of students' information-seeking behaviour, it is necessary to learn more about how these concepts influence users' information-seeking behaviour.

2.3 INFORMATION USERS

Information users are persons who expose themselves to available information in a given environment with the intention of applying or using it to solve a problem (Ukachi 2007:6). According to Aina (2004), the term information user is all-embracing. It is used broadly to include all persons who use information that is available in their given environments. Information users, therefore, are persons who utilise information for different purposes, such as problem solving, research, study and decision-making. The different categories of information users may include specialists, students, teachers, businessmen, scientists, engineers and managers (Prabha 2013; Prasad 2000). In the context of this study the information users are students, particularly postgraduate students.

Allen and Kim (2001) mention that personal characteristics, such as ability, knowledge and preferences, can affect information-seeking behaviour. Postgraduate students may have different backgrounds, information literacy skills, computer skills, and knowledge of using electronic information sources as indicated in the next sections.

2.3.1 Personal knowledge

Personal knowledge is a personal aspect that could affect information-seeking behaviour. Lee, Paik, and Joo (2012) mention that user knowledge is one factor that influences the selection of information sources. The personal knowledge that seems to affect postgraduate students' information-seeking behaviour includes their subject knowledge and information literacy skills.

2.3.1.1 Subject knowledge

Subject knowledge has a major influence on information usage patterns and preferences (Woo 2005). For example, Chrzastowski and Joseph (2006) found that graduate students from the physical sciences and engineering departments used online resources more than students from other subject fields. Similarly, Bar-Ilan, Peritz, and Wolman (2003) report that faculty members

in science or agriculture tend to use the Internet more intensively than faculty members of humanities or social sciences. This entails that subject knowledge influences information usage patterns and preferences. This view is supported by Hölscher and Strube (2000). They found that individuals' knowledge about the subject influences their online information seeking.

In addition to the differences between subjects, Hölscher and Strube (2000) found that insufficient knowledge of the subject could also influence students' information usage patterns and preferences.

2.3.1.2 Information literacy skills

Modern technological changes require societies to have certain skills to fully utilise information resources (Somi & De Jager 2005:259). Somi and De Jager (2005:259) believe this is because information communication technologies (ICTs) facilitate quick and easy access to a wide range of information resources. This view is supported by Spink and Cole (2006) who believe that people should possess the necessary skills to perform tasks such as information seeking, evaluation and use. The required skills may involve digital literacy as well as information and computer literacy. Similarly, information literacy is an important part of doing well in an academic career (Oakleaf & Owen 2010). According to them students who lack information literacy skills experience frustration when attempting to complete course-related work which requires to be done.

Lowe and McAuley (2000:6) define information and communication technology literacy as “the skills and abilities that will enable the use of computers and related information technologies to meet personal, educational and labour market goals”.

The information literacy skills that students should acquire, which are identified by Okello-Obura and Magara (2008:42), include:

- knowledge of the structure of the databases,
- knowledge of the instructions they must enter into the computer, and
- understanding the ways in which these instructions are linked to one another.

Various studies have found that a lack of information literacy skills affects students' information-seeking behaviour:

- Al-Muomen, Morris and Maynard's (2012) study reveals that the majority of their participants needed more instruction on the use of databases, the search process and effective search strategies. This is due to a lack of information literacy skills. This entails that information literacy is one of the various significant factors that affects postgraduate students' information-seeking behaviour.
- Makri (2007) found that law students found it difficult to use digital law libraries due to their poor knowledge of the digital library system.
- George, Bright, Hurlbert, Linke, St Clair and Stein (2006) report that postgraduate students faced challenges to search and use information due to a lack of knowledge about the existing services and information resources that are provided by the library. This entails that knowledge of library services and knowledge of information sources influence students' information-seeking behaviour.
- Safahieh (2007:123) reports a low usage of electronic information sources by international students. According to him, the reason for low usage of e-resources could be a lack of knowledge about electronic information sources.

From the above it seems evident that students need basic information literacy skills to select, evaluate and use appropriate, reliable and current information sources to meet their study-related information needs effectively.

The literature reports indicate that, in order to utilise electronic information sources, postgraduate students should acquire the necessary knowledge and skills. These skills include knowledge about e-resources, library systems, subject knowledge and Internet skills.

2.3.2 Personal preferences

Besides knowledge and information literacy skills students' information use activities can also be influenced by their personal preferences for certain types of information sources, which in turn could affect their information-seeking behaviour. Kim and Sin (2007) found that undergraduate

students preferred information sources such as books, online databases and journals. This is contrary to an earlier study by Hiller (2002) conducted at the University of Washington, which reports on undergraduates' preference to visit the library to study rather than to seek journals or books. On the other hand, Seiden, Szmborski and Barbara, as cited in Callinan (2005), found that the responding students in their study showed a preference for digital resources. Similarly, George et al.'s (2006) findings indicate that postgraduate students depend heavily on the Internet and they show a preference for online resources.

In summary, this discussion shows that certain personal characteristics have the potential to affect users' information-seeking behaviour. These include personal knowledge, information, communication and technology literacy skills and personal preferences. The combination of different personal aspects and contextual elements becomes factors that could affect users' information needs, which in turn give rise to information seeking.

As mentioned previously, context is a factor affecting information-seeking behaviour. This will be the focus of the following discussion.

2.4 USER CONTEXTS

User contexts entail the interaction between the information users and contextual elements within the context in which they operate. These contextual elements include setting, situation, background or environment. Courtright (2007:276) observes that researchers have been using the term 'context' interchangeably with various terms such as situations, settings, environments, information worlds and information grounds. In library and information science studies, Talja, Keso and Pietiläinen (1999:752) note that context "usually refers to any factors or variables that are seen to affect individuals' information-seeking behaviour". According to Sonnenwald's (1999) definition, a context consists of a "variety of situations" and "different contexts may have different possible types of situations". McCreadie and Rice (1999:58) view context as "the larger picture in which the potential user operates; the larger picture in which the information system is developed and operates, and [in which the], potential information exists". Courtright (2007) identifies different contextual elements that become factors affecting users' information needs and give rise to information seeking. The elements she identifies include rules (e.g.

organisational rules), resources and culture, social factors in context, tasks or problem situations and the role of information technologies (IT).

2.4.1 Contextual elements

Organisational rules, resources and culture are the first contextual factors that affect users' information seeking (Courtright 2007). It also includes a given organisational set of rules, norms and values that manage the usage of information and determine the type of information that is acceptable or whether resistance towards information will take place (Audunson 1999).

Other environmental aspects that affect users' information-seeking behaviour that were identified by Wilson (1981:8) include the environmental climate, the sociocultural environment and the physical environment. The context of this study is an academic context. Inside the academic context one would expect that the library provides access to different kinds of information sources such as online databases, books and journals, which are crucial in information seeking in their home and university (Esfahani & Chang 2012:6).

2.4.2 Tasks or problem situations

Tasks or problem situations are primary contextual factors that affect users' information needs and give rise to information seeking (Courtright 2007:283). Kim (2008) believes that, among the many elements of context, tasks can be regarded as an essential element of context that affects information-seeking behaviour. Vakkari (2003:416) defines tasks as an "activity to be performed to accomplish a goal". Vakkari (2003:416) also notes that tasks have a recognisable beginning and an end.

This definition of tasks supports Fisher, Erdelez and McKechnie's (2009) observation that individuals' information-seeking behaviour is situated within the context of a task or a set of tasks that needs to be completed. Solomon (2002:240) observes that tasks are "a fundamental force that influences how and why people select sources, discover information in sources, evaluate information so discovered in relation to the task, and gain new insights related to the completion of the task". When applied to students, it seems as if a realisation that they lack the required knowledge to accomplish a task could give rise to an information need and subsequent information-seeking behaviour. Students, for example, need information to learn, write their

theses, complete assignments, or make presentations (Majid, Hayat, Patel & Vijayaraghavan 2012). Chikonzo and Aina (2001) researched the information needs and sources of information used by students at the University of Zimbabwe. Findings from their study reveal that writing assignments and studying for tests or examinations were the primary tasks for which students require information. However, Dzandu and Boateng (2013) also found that students need information for academic and non-academic purposes. The non-academic types of information they require are personal development information, career development, keeping up to date, current issues, recreation and others.

Therefore, students need information primarily for academic purposes such as assignments, papers, examination and research. Secondly, or additionally, they require information for personal development.

2.4.3 Role of information technologies (IT)

Information technologies (IT) is a third element that constitutes a context. The development of information and communication technologies (ICT) has brought us electronic information sources, such as e-books, e-journals and online databases, and other networked information sources (Safahieh 2007). As Lievrouw (2001) notes, users could experience these ICT developments as a bridge or a barrier when they want to access information. She also states that IT forms an essential part of information contexts and makes them more complex. She further indicates that information technology could therefore become a shaper of information practices or could be shaped by other contextual factors and by the users themselves. That is to say, in order to access electronic information sources, electricity, electronic devices, hardware and software, and the appropriate knowledge and skills are required. Manikandan, Esmail and Nagarajan (2013) also identify information technology as a factor affecting students' information-seeking behaviour. This is because information is available in different formats, and as a result information literacy skills could have an impact on students' information seeking.

In the African context, Internet access is limited by a lower penetration rate when compared to the rest of the world. Nyirenda-Jere and Biru (2015) reported on the percentage of individuals using the Internet in Africa. According to them, Morocco has 56% users, followed by Egypt with

50% users, and South Africa with 49% users. The rest of several sub-Saharan African nations are still below 2% Internet penetration. When compared to the rest of the world, the number of Internet users in Africa is very low (International Telecommunication Union 2013). Schumann and Kende (2013) provide some reasons for this. According to them, Internet users in Africa are challenged by poor bandwidth and the high cost of Internet access. This is despite significant improvements in Internet connectivity. Ethiopia, in particular, is one of the countries with the lowest rate of Internet access in Africa (Chekol 2009). According to Adam (2010), Ethiopia ranks 147 out of 159 countries in terms of information access and technology. There is only one state-owned monopoly Internet service provider, which is Ethio Telecom, formerly the Ethiopian Telecommunications Corporation (ETC), and most people access the Internet through Internet cafes (Chekol, 2009).

One of the barriers to using electronic information sources in sub-Saharan African countries is the physical barrier (Ingutia-Oyieke & Dick 2010:69). According to their report, the main physical barriers in using electronic information sources are mainly related to ICT infrastructure. Some of the ICT infrastructure-related problems in Africa include frequent power outages on campuses. Instances of power outages, resulting in damage to computers in the library, have been reported and there are frequent periods of equipment downtime as a result of these power outages. Ahmed's (2013) study reports that students were not satisfied with electronic resources because of poor IT infrastructure, difficulty in finding required information, inability to access from home, slow download speed and online access problems. Similarly, Haneefa (2007) notes that users were dissatisfied with electronic information sources due to inadequate ICT infrastructure. Ani's (2010) findings reveal that access to the Internet by undergraduate students in the university libraries and ICT centres of Nigeria was hampered due to the poor infrastructure. Similarly, Luambano and Nawe (2004) reveal that the majority of students were not using the Internet due to an inadequate number of computers with Internet access, as well as the slow speed of these computers. This implies that a well-established ICT infrastructure is essential in order to use electronic information sources. However, an inability to gain access to the Internet and poor Internet connectivity could affect students' low usage of electronic information sources.

2.4.4 Time

Time is one of the main contextual factors of information seeking (Savolainen 2006). He points out that, depending on the situation to which the user is compelled to respond, the time available could affect information seeking. This observation is supported by Case (2002:35) when he notes that time pressures may differ and the time pressures that are experienced depend on how urgently the information is needed. In this section, the time available for task completion and accessibility are discussed as time factors.

2.4.4.1 Time available for task completion

The task or problem at hand will determine the time pressure that is experienced by the information seeker. For example, the time pressures students experience are determined by their assignment submission dates or submission dates for research papers. According to Esfahani and Chang (2012), students have limited time for doing their academic tasks and this may affect their approach to obtaining information.

2.4.4.2 Accessibility

Marton and Choo (2002) and Savolainen (2006) found that time affects the accessibility of information resources. The way in which time urges an individual to access information, is to get rid of the problem within a defined period of time. Furthermore, Savolainen (2006) determines time as a qualifier of access to information sources. He further contends that time is a scarce resource for information seekers. As a result, the time available for information seeking usually allows information users to access and use only a limited set of information sources and channels. That is to say, the amount of time those information users have may affect the searching and accessing of information sources. The more time that information users have, the more access to information sources they will have. It is true that lack of time to access information resources is one of the major problems associated with information-seeking behaviour of undergraduate students (Nwobasi, Uwa, & Ossai-Onah 2013).

2.4.5 Reflection on context

This section discussed the possible influence that a user context may have on users' information-seeking behaviour. Specifically, the discussion also showed that certain elements of students'

contextual factors affect their information-seeking behaviour. These factors include organisational rules, resources and culture, tasks, ICT and time. The following paragraphs will now address information needs as a factor affecting information-seeking behaviour.

2.5 INFORMATION NEEDS

According to Miranda and Tarapanoff (2008:2), the term ‘information need’ can be defined as “a state or process started when one perceives that there is a gap between the information and knowledge available to solve a problem and the actual solution of the problem.” Similarly, Case (2007:333) notes that an information need “arises when an individual senses a problematic situation or an information gap, in which his or her internal knowledge and beliefs, and model of the environment fail to suggest a path towards the satisfaction of his or her goals.” He further indicates that information needs may be related to educational, research, professional, recreational, and cultural activities. Information need may be understood, in the context of Belkin's "anomalous state of knowledge", as that knowledge gap or uncertainty existing within the individual that triggers information seeking, either immediately or at a later stage in an attempt to address uncertainty (Belkin 1984). According to Dervin (1986:21) information needs can be described as a situation in which an individual’s internal sense has “run-out” requiring the individual to create a new sense. Taylor (2009) viewed that information needs is a personal and unconscious conditions. He articulated four levels of information need that an individual passes through before he or she makes formal encounters with an information professionals. These levels are visceral need, conscious need, formalized need and compromised need. Information need is produced in the context in which the user's problem situation, social and work environment, or the user's task (Cole 2011).

Wilson (1981:5-6) indicates that the term ‘information need’ does not necessarily imply that people are ‘in need of’ information as such, but that the use of information can lead to the satisfaction of a more basic need (Wilson 1981:5-6). According to Safahieh (2007:21), people need information for performing five broad functions, namely:

- Fact-finding. This function provides answers to specific questions;
- Current awareness. This function keeps information up-to-date;

- The research function, which investigates a new field in-depth;
- The briefing function, which obtains a background understanding of an issue; and
- The stimulus function, which provides ideas to obtain stimulus.

Wilson (1997) believes that users' information needs should be understood within the users' context. The context may be the individual's work environment, the roles and the tasks that the individual has to carry out. Savolainen (2012) identifies three contextual elements that give rise to information needs, namely situation of action, task performance and dialogue.

2.5.1 Situation of action

The situation of action in which an information need arises has certain requirements and conditions that determine the human action that is taken (Savolainen 2012). The urgency of the problem is one such requirement. This view is endorsed by Chen and Hernon (1982). According to them, an information need arises whenever individuals find themselves in a situation requiring knowledge to deal with the situation as they deem fit. According to Fiankor and Adams (2004), the concept 'information need' refers to the amount of positive information an individual or group of people need to have for their work, recreation and many other phenomena, like satisfaction. This implies that if there is a gap in the knowledge required to accomplish tasks, it gives rise to an information need, which in turn motivate information seeking (Courtright 2007; Wilson 1981). Students' information needs occur when they are involving active or purposeful information to complete course assignments, prepare for class discussions, seminars, workshops, conferences, or write final year research papers (Kakai et al. 2004:3).

2.5.2 Task performance

Tasks are contextual factors which have an effect on information needs. As indicated in section 2.4.2, tasks are primary contextual factors that affect users' information needs and give rise to information seeking (Courtright 2007:283). When considered from a task performance point of view, information needs are the requirements for information to complete a given assignment, solving problems and decision making (Savolainen 2012). Likewise, Safahieh (2007) notes that postgraduate students require information related to the broad functions of their studies, including completing project assignments and tasks that form part of the course requirements.

Chikonzo and Aina (2001) report that writing assignments and studying for examinations or tests are the most important information needs that students experience throughout their studies. Kakai et al.'s (2004) study reveals that the main information needs that induce undergraduate students to search for information include: course work and assignments, preparation for examinations and tests, general reading to enhance lecture notes, and class group discussions.

2.5.3 Dialogue

Dialogue is the third contextual element affecting information needs that is identified by Savolainen (2012). According to him, dialogue is a written or spoken conversational exchange between two or more individuals. When considered from a dialogue point of view, information needs arise during the course of conversational exchange between two or more individuals. This implies that communicative factors could give rise to information needs.

2.5.4 Reflection on information needs

In this section the third concept affecting information seeking, that is, information needs, was discussed. In an academic environment, students' information needs seem to be cognitive needs that are required to enable students to plan and to learn the required skills to complete academic tasks. The three contextual elements that give rise to information needs, such as situation of action, task performance and dialogue, were discussed. The literature review indicates that most of the time students need information for completing tasks that the course requires, and for writing dissertation and research papers.

2.6 INFORMATION SEEKING

The concept information seeking is the result of an information need, experienced by a user who may then make demands upon formal and informal information sources or services, in order to satisfy their needs (Boadi & Letsolo 2004; Wilson 2000). This view supports Case's (2007:5) definition of information seeking. According to him, information seeking can be viewed as a conscious effort to acquire information in response to an information need or a gap in an individual's knowledge. Boyd (2004) adds that information seeking is a personal and situation-dependent activity that is underpinned by access to information and the relevance of the information sources. Information seeking, therefore, can be viewed as a set of actions individuals

take to express their information needs, seek, evaluate and select information, and finally use it to satisfy their information needs (Fatima & Ahmad 2008:141).

In his definition for information seeking Wilson (2000) notes that users may consult manual information sources (e.g. newspapers and textbooks), or computer-based systems (e.g. the Internet) in the process of seeking for information. Rieh and Hilligos (2008) expand this view by adding to the list the use of Web search engines, consulting authorities, asking friends, going to the library and watching television. Bhatti (2009) also adds research, experimentation and entertainment as information sources.

2.6.1 Contextual elements

Contextual elements play an important role in shaping users' information seeking. In this section the environment and tasks are discussed as contextual elements affecting information seeking.

2.6.1.1 Environment

Environment is a contextual element which affects information seeking. Environmental factors could also affect students' information seeking. The environmental aspects that are highlighted by Wilson (1981:8) include the climate of the environment, the socio-cultural environment and the physical environment. The environments in which students seek and use information are their universities or homes. In the university environment, the university library's facilities and the information sources it provides access to, are important to consider. In this environment the digital environment also needs to be considered. As David (2002:13) notes, this environment has led to changes in the creation, storage, distribution, access and delivery of information. Kadli and Kumbar's (2011) study indicates that most of the information users in the commerce colleges in Mumbai are affected by the changing ICT environment. The changes that affect their users most include electronic information formats and electronic networks. In order to use information in these changing environments, students should have information literacy skills and access to good Internet connections. Gakibayo, Ikoja-Odongo, and Okello-Obura (2013) report that utilisation of electronic resources is affected by a lack of computer skills, information literacy skills and slow Internet connectivity.

The Internet plays an important role in academic institutions for teaching, learning, research and information sources (Kumar & Kaur 2006). Students depend on the Internet as their first choice when they seek information to prepare their assignments and for other academic work (Moly 2014). Moly's (2014) study also reports that, even if students do have access to Internet resources, their use is still affected by bandwidth and network related problems. These findings are supported by Okello-Obura and Magara (2008) who found that students' use of the Internet is affected by slow Internet connection, inadequate network computers, inadequate opening hours of the computer laboratory, a lack of access to printers in the library at low cost and few computers in the Internet laboratory. Similarly, Luambano and Nawe (2004) show that low speed Internet connections, a shortage of time, and lack of awareness and inadequate skills can hinder students in the successful utilisation of Internet services.

As has already been stated earlier, poor Internet connectivity is a barrier affecting the use of electronic information resources. The changing ICT environment therefore affects information seeking in terms of necessary skills, accessibility of Internet with fast speed bandwidth, price and ICT infrastructure.

2.6.1.2 Tasks

As discussed in section 2.4.2, tasks or problem situations are primary contextual factors affecting users' information needs and which result in information seeking. Kim (2008) also mentions that information-seeking behaviour is affected by tasks. Tasks not only lead users to search information, but they also affect how users seek information (Kim 2008).

Emmanuel and Jegede's (2011) study indicates that MBA graduate students' information needs and information-seeking behaviour and use of information resources are primarily influenced by their course requirements, the availability of information sources, as well as the ease of access and use. Similarly, Chikonzo and Aina (2001) report that writing assignments and studying for tests or examinations were the primary tasks for which students require information. Adeniji (2007) reveals that lecturers of Olabisi Onabanjo University, Osun State, seek information for teaching and research purposes.

Postgraduate students' information seeking can be determined by the type of tasks in which they are engaged, such as the completion of a research project. According to George et al. (2006), postgraduate students search and use information to support their scholarly endeavours, primarily for their research process. All these kinds of tasks require specific information.

The literature reports therefore indicate that students' different types of tasks have an effect on their information-seeking behaviour. The students' tasks include:

- Doing assignments
- Preparing for and writing examinations
- Course requirements
- Preparing for class discussions
- Teaching and research
- Completing a final year project
- Completing theses or dissertations
- Seminar papers.

Therefore, the nature of the tasks on hand determines and shapes their information-seeking behaviour.

2.6.2 Personal elements

Individuals' personal qualities, such as demographics, personal knowledge, skills and experience, have an influence on their information seeking. In this section, age, information skills of information users, emotions and personal dimension are discussed as personal elements affecting information seeking.

2.6.2.1 Age

User demographics, such as age, are also variables that influence or affect information-seeking behaviour. This is according to Taylor (1991) and Wilson (2000). According to Cemalcilar, Falbo and Stapleton (2005), younger students are able to use local Internet sources and have access to local knowledge more quickly than their older counterparts. According to Menou (2010) those younger people refers "Google generation". Regarding young people's skills and behaviour on the Internet, (Centre for Information Behaviour and the Evaluation of Research,

2008) showed that young people are more competent with technology and have very high expectations of ICTs than older counterparts.

2.6.2.2 Users' information skills

Users' personal skills, such as IT and information literacy skills, searching skills and library skills, can affect information-seeking behaviour. Each of these user skills will be discussed in more detail in the next sections.

a. IT and information literacy skills

Information literacy skills are vital in a digital environment and particularly students need these skills in order to succeed in their academic tasks. According to Taylor and Procter (2005:1), information literacy is the ability to scan literature efficiently using manual or computerised methods to identify a set of useful articles and books.

Esfahan and Chang (2012) argue that different levels of IT skills and information literacy skills have an effect on students' information-seeking behaviour. Baro and Fyneman (2009) identify factors such as:

- Information illiteracy among library users;
- Absence of computer systems with Internet connectivity in university libraries;
- Poorly conducted user education programmes; reliance on manual information retrieval tools which leads to poor filing and slow retrieval; and
- Limited awareness of library information resources and services as factors that hinder the effective utilisation of library resources and services.

This entails that the level of students' information literacy and IT skills and poor user training programmes could affect students' utilisation of electronic information sources.

b. Search skills

Chowdhury (2004) identifies information searching skills as a factor affecting information-seeking behaviour. Searching skills include keyword searching and the use of Boolean operators

and truncation. The study by Malliari, Korobili and Zapounidou (2011) reveals that information-seeking behaviour could be influenced by search experiences, computer and web experiences, perceived ability and frequency of use of e-resources, and not necessarily by specific personal characteristics.

c. Library skills

Esfahani and Chang (2012) emphasise international students' challenges regarding accessing and obtaining information. Their study indicates that students' ability of using the library is a challenge for international students. Similarly, Kakai et al. (2004) discovered that students of Makerere University seek assistance from library staff and rely on textbooks as their major sources of information. The reason why these students rely mainly on textbooks is that they do not know the value of other information resources and are unable to use them, due to a lack of skills. Zondi (1992) also mentions that the majority of students at the University of Zululand showed a very low level of library use competencies and display poor information-seeking patterns. Zondi (1992) assumes that the students in her study could have experienced technical problems in accessing information resources. Also, since the library in her study had a card catalogue, the catalogue did not provide adequate access to the library's collections. It is possible that these students were not information literate and lacked the required library literacy skills.

2.6.2.3 Emotions

Affective phenomena such as emotions are other personal elements that could affect information-seeking behavior. According to Kuhlthau (1991) whose information search process model based on empirical research, students experience three realms such as the affective (feelings), the cognitive (thoughts) and the physical (actions) in information search process. This entails that the affective aspects or the feelings of a user could affect information seeking process.

2.6.2.3 Personal dimension

User personal dimension has also associated with information seeking behavior. Hepworth (2007) identified and discussed the different types of elements of the personal dimension that affect information seeking. The inner mental states he discussed are cognitive (thinking

processes), conative (inherent factors that affect motivation and preferred ways of learning) and affective responses (feelings).

2.6.3 Trustworthiness of sources of information

Trust seems to be a factor when selecting information sources. According to Hertzum (2002), trust is a fundamental aspect of supportive work and is at play whenever people make a selection of information from available sources. For example, the trust that engineers place in an information source can only be determined if the source is accessible in a way that allows the engineer to form a perception of its quality (Hertzum 2002:6). That is to say, the user's perception of quality and accessibility is important in engineers' choice of information sources. Kim and Sin (2007) determined that students believe that books, encyclopedias, OPACs and librarians are trustworthy sources. The findings of Liyana and Noorhidawati (2014) also indicate that the majority of postgraduate students evaluate the trustworthiness of information sources by reading introductions, conclusions and by reading abstracts of information sources. This entails that trustworthiness of information sources determines the selection of information sources by students.

Therefore, there seems to be a number of factors that influence the selection of information sources such as trustworthiness and type of information source.

2.6.3.1 Electronic information sources (resources)

According to Andreou (2001), electronic information resources are the sources that provide information in an electronic and/or digital format. In the same way Tsakonas and Papatheodorou (2006) define electronic information resources as information resources provided in an electronic form. These include resources available on the Internet, such as e-books, e-journals, online databases, CD-ROM databases and other computer-based electronic networks. These sources are usually provided either on a CD-ROM or online (via a network or the Internet) and the user can use them by means of a personal computer (PC). Ray and Day (1998:3) believe that electronic information resources offer students different opportunities. In section 2.6.3, it was argued how the characteristics of e-sources, like ease of use and accessibility, could affect information-seeking behaviour.

There are a variety of factors that influence the use of electronic information resources, such as types of sources used, user personal preference, ease of access, availability and accessibility and skills (Adeogbo 2011; Burton & Chadwick 2000; Fidel & Green 2004).

a. Types of sources used

Scholars and students actively seek current information from the various media available in libraries (Prabhavathi 2011). The media identified by Prabhavathi (2011) include encyclopaedias, books, journals and more current, electronic media, like databases and the Internet. Graduate students are highly dedicated users of electronic information resources for their academic studies and research (Liu 2005:586). In related studies, Abubakar and Adetimirin (2015), Pandurangaswamy and Kishore (2013), and Sinha, Singha and Sinha (2011) show that the Internet, databases, e-journals and online catalogues (OPACs) are the main electronic sources for graduate students for their academic and research purposes. Baro, Onyenania and Osaheni (2010) point out that, in addition to books, journals and the Internet, students also use human resources such as community heads/chiefs, lecturers and colleagues, for meeting their information needs.

b. Personal preferences

Previous studies (as indicated below) report that personal preference for electronic sources influence the selection thereof. Al-Harbi (2002) and Xuemei (2010) report a preference order in which electronic sources are used. The order of preference in Al-Harbi's (2002) study is: the Internet, academic libraries and lecturers. In Xuemei's (2010) study it is: the Internet, databases, online catalogues and e-mail. Similarly, Egberongbe's (2011) study shows that the use of e-resources is very common among the lecturers and research scholars of the University of Lagos. It also shows that the majority of teachers and research scholars are dependent on e-resources to get the desired and relevant information. Furthermore, Friedlander (2002), Tenopir (2003) and Thanuskodi (2012) report that the majority of students and researchers prefer using electronic information resource.

c. Ease of access

Ease of access is another influential factor affecting the use of electronic information sources. For example: Dalglish and Hall (2000) report that access of online library information resources are becoming easy and fast, without any space and time constraints. Similarly, Burton and Chadwick (2000) report that students' selection of information resources depends on ease of access. This entails that ease of access could be a determinant factor when students use electronic information sources.

d. Availability and accessibility

Ellis and Oldman (2005) note that through the use of electronic resources, researchers and students now have access to global information resources, particularly when using the Internet for their scholarly intercourse. The availability of and access to electronic information has been changing students' information-seeking behaviour, according to Williamson, Bernath, Wright and Sullivan (2007). Their findings indicate that the Internet and other electronic search tools influence the manner in which students search for information and the kinds of sources they select. Similarly, with the advancement of electronic information sources, the information needs of library users have also changed (Chen & Wu 2009). Boumarafi's (2010) study has also found that students' information-seeking behaviour has changed due to the availability and accessibility of electronic information sources. Similarly, Burton and Chadwick (2000) observe that accessibility, ease of use and availability of information sources determine students' selection of information sources.

Although the use of electronic information sources has advantages over the use of print sources, it also has disadvantages. In this regard, Dadzie's (2007) observation reflects both advantages and disadvantages. The geographical location could be a disadvantage since the user might not be able to get access, due to a lack of infrastructure, and would then prefer using a printed version. But electronic sources have advantages over print sources in that they are more current and provide links to additional resources and related contents.

Therefore, the availability, accessibility, ease of use and advantages of electronic information sources could be factors contributing to changes in the way students make use of electronic sources.

e. Skills

Skills, such as information literacy and library skills, could affect the use of electronic information sources, according to Ozoemelem (2009). He notes that “in order to utilize the growing range of electronic resources, students must acquire and practice the skills necessary to exploit them”. The skills he refers to include information literacy skills, library skills and Internet skills. Okello-Obura (2010) also reports that students greatly value electronic information resources, although many of them feel that they lack adequate skills to use these resources effectively.

2.6.4 Reflection on information seeking

Information seeking can be viewed as a set of actions individuals take to express their information needs, seek, evaluate and select information, and finally use it to satisfy their information needs. Information seeking as well as factors related to information sources are affected by both personal and situational variables, such as individuals' experience, knowledge, IT and information skills, as well as information sources. From the various studies that are reported on, it is quite obvious that the reasons why students seek information are mostly for educational or academic purposes.

2.7 INFORMATION USE

Information use is defined by Wilson (2000:50) as “the physical and mental acts involved in incorporating the information found into the person’s existing knowledge base”. Information use is an activity that involves the use of information that would meet individuals’ information needs. This is why Meho and Haas (2001) observe that information use is an indicator of information needs, but that information use and information needs are not identical. As Line (1973) points out, individuals do not use all the information they need. The reasons they give are that it is partly because they are not always able to obtain the information they need, the materials may not be relevant when they obtain the information, and individuals sometimes do not know what they need.

Saracevic and Kantor (1997:533-534) describe a three-step model of information use, with the following components:

- **Acquisition:** getting information or objects potentially conveying information, as related to some intentions
- **Cognition:** absorbing, understanding, integrating the information
- **Application:** use of this newly understood and cognitively processed information.

Information use can also be described in terms of the physical use of information (that is the use of information sources and resources). With this in mind, Meyer (2003:111) describes, information use as the manner in which people handle information when collecting, searching, accessing and communicating information. When considering the physical use of information sources and resources, there are different factors that influence students' information use. This was observed by Lee et al. (2012). According to them, these factors include the characteristics of the sources, search purposes, user preferences, user knowledge and information literacy. In addition to these factors, Young and Von Seggern (2001) found that reliability, accuracy, currency and cost are also factors determining the use of information sources.

Kakai et al. (2004) observe that most students concentrate on using particular materials recommended by either their lecturers or colleagues, who have used them before, rather than searching to find the most appropriate documents to use. This is because of a lack of searching skills and not knowing the value of other information resources, such as electronic information sources. It seems as if postgraduate students use a variety of information sources to meet their diverse information needs (Majid et al. 2012:16). Vezzosi (2009) reveals that doctoral students rely heavily on the Internet for their research work. Majid and Tan (2002) found that the use of databases and electronic journals was quite low among the Nanyang Technological University's engineering students.

Many researchers have also identified the reasons for information source selection in different information-seeking situations. For example, Dilevko and Gottlieb's (2002) study reports that print information resources were the dominant sources selected and used by undergraduate students (of a particular library). According to them, the reason is the nature of accuracy and in-

depth content of the information. This entails that accuracy and in-depth content of information resources determine students' information selection and use. Similarly, Kim and Sin (2007) identify factors associated with undergraduate information source selection. Their findings reveal that one of the most important factors in resource selection is accuracy. Furthermore, Lee, Han and Joo (2008) found that accuracy, accessibility and reliability are considered most important when researchers search for information in research-oriented tasks.

Accessibility is the most influential factor in the selection of information sources (Fidel & Green 2003). According to them, familiarity, right format, and different types of information in one place, among others, are the different aspects of accessibility of engineers' information source selection. In addition, Burton and Chadwick (2000) report that students depend on accessibility, ease of use and availability when choosing information resources. Young and Seggern's (2002) study reveals that ease of use, reliability, accuracy, currency, availability, and cost were the main criteria for using information resources. Devi and Devi (2005) describe important criteria for selection of electronic information sources for the information needs of users, including currency, accuracy and ease of use.

In summary, information use is a behaviour that involves the use of information that would meet individuals' information needs. Previous studies on the use of different information sources indicate that ease of use, accessibility, availability, reliability, accuracy, currency, content and cost are the main factors that affect the selection and use of different information sources by students.

2.8 CONCLUSION

The purpose of this chapter was to review the information behaviour literature to learn more about the information needs and information-seeking behaviour of students. The theoretical concept of information seeking and research findings, reported on in the subject literature on students' information-seeking behaviour, particularly postgraduate students, were also discussed. Most of the previously mentioned studies indicate that students need information mainly for the purpose of updating their knowledge, preparing for examinations, doing research and for assignments. The context in which students' information needs and their information-seeking

behaviour arise seemed to be determined by contextual and personal elements or factors. In order to investigate the research problem of this study, Chapter Three will discuss the qualitative research methodology used in the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter focuses on the research methodology and research approach followed in the study, the research population, sampling, data collection methods and procedures, and data analysis. The methodology used in this study was to establish the use of electronic information resources of graduate students at UNISA Regional Learning Centre in Ethiopia.

3.2 RESEARCH METHODOLOGY

According to Leedy and Ormrod (2005:12), research methodology is the general approach a researcher follows when carrying out a research project. There are mainly three types of research methodologies, namely quantitative, qualitative and mixed methods research. According to Creswell (2014:4), quantitative research is based on testing a theory composed of variables, measured with numbers and analysed with statistical procedures. Qualitative research, in contrast, is concerned with non-statistical methods and understands and interprets more local meanings; it recognises data as gathered in a specific context. This entails that a quantitative research approach involves collecting numerical data that can be counted while the qualitative research approach involves collecting verbal or textual data. Mixed methods research involves collecting and analysing both quantitative and qualitative data, that is to say a researcher collects both numeric and textual data (Creswell 2014). According to Creswell, the assumption of mixed methods research is that the combination of quantitative and qualitative approaches provides a better understanding of a research problem than either approach alone.

The other distinction between quantitative and qualitative approaches is that quantitative studies involve large numbers of respondents while qualitative research involves collecting detailed information from a smaller number of people or samples (Harding 2013). Considering the differences between the two methods, this study used a qualitative research approach.

There are two reasons why the researcher used a qualitative research approach in this study. The first reason is to understand the experiences of the participants, to ascertain the context in which their behaviour occurs and to ascertain the processes that determine their behaviour, which can only be examined by a qualitative research approach (Maxwell 1997). Furthermore, Gillham (2008) mentions that, to understand people in real life, they should be studied in their contexts and in the way they operate. This entails that context determines human behaviour, thoughts, and feeling. The second reason is that qualitative research is an appropriate approach to investigate information seeking. This view is supported by Greifeneder's (2014) findings that a qualitative research approach still dominates information behaviour research. Furthermore, previous studies on information-seeking behaviour have used a qualitative research approach. These include the studies by Barrett (2005), George et al. (2000), Jamali and Nicholas (2007), and Lal, Kaur and Kumar (2012).

Therefore, it seems that a qualitative research approach would offer the best method for conducting an in-depth study of the use of electronic information resources of postgraduate students at the UNISA Regional Learning Centre in Ethiopia. There are five major types of qualitative research approaches, namely narrative study, phenomenology, grounded theory, ethnography and case study research (Creswell 2013). This study followed a qualitative case study research approach.

A case study is an in-depth description and analysis of a bounded system. Yin (2012) defines case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident. Case study research means the study of a particular issue that is examined through one or more cases within a 'bounded system', such as a setting or a context (Creswell 2009). A case study approach is useful for responding to *how* and *why* questions about a contemporary set of events (Meyer 2001:330). As Yin (2012) clearly states: "When the researcher's questions are intended to address explanatory inquiry, such as how or why something happened, case study research is the most appropriate approach". Furthermore, he maintains that case studies are also applicable when the study phenomenon is contained in its actual context. Hence, in line with this

perspective, this study used the case study approach to investigate the research topic in its actual context.

Information-seeking researchers such as Barrett (2005), George et al. (2000), Jamali and Nicholas (2007), and Lal et al. (2012) found qualitative case studies useful since it enabled them to conduct a deep and diagnostic study and to contextualise the study. As this study used a qualitative case study, it allowed the researcher to study postgraduate students' information-seeking behaviour in depth and to examine the data closely within a specific context.

3.3 POPULATION

A population is defined as the entire group of persons or set of objects that the researcher wants to study. Neuman (2006:224) defines the concept as a large pool of cases or elements from which the sample is drawn. It is also defined as the group of people on whom the results of a study are intended to apply (Fraenkel & Wallen 2000:104). The population under investigation are Master's and doctoral students across the six colleges of the University of South Africa: the College of Agriculture and Environmental Sciences (CAES), the College of Economics and Management Sciences (CEMS), the College of Education (CEDU), the College of Human Sciences (CHS), the College of Law (CLAW) and the College of Science, Engineering and Technology (CSET). The list of colleges was obtained from the UNISA Ethiopia student admission and registration office. The population includes male and female postgraduate students.

3.4 SAMPLING PROCEDURES

Sampling refers to a process used to select a portion of the given population for study (Johnson & Christensen 2008:247). The two basic types of sampling are probability and non-probability sampling. Non-probability sampling is the process of selecting a sample, using a technique that does not permit the researcher to specify the probability, or chance, of each member of a population to be selected for the sample (Gay, Mills & Airasian 2011). Since generalisation in a statistical sense is not a goal of qualitative research, probability sampling is not necessary in a qualitative research study. Therefore, a non-probability sampling method was used in this study. A sample for qualitative investigations tends to be small and an appropriate sample size for a

qualitative study is one that adequately answers the research question (Marshall 1996:523). Non-probability sampling was used in this study because the researcher has limited knowledge about the large group or population from which the sample was taken. As indicated in Chapter One, this study also used convenience sampling to select the participants.

Convenience sampling, according to Liamputtong (2007:12), “allows researchers to access individuals conveniently available and willing to participate in the study.” With this assumption, convenience sampling was used in this study. This decision was based on the fact that the majority of the students are scattered across the country and gaining access to them might prove to be difficult. Also, not all students might be willing to participate in the study. Multi-stage sampling can also be used to assist the researcher when participants are not willing to participate, even though they are convenient. A convenience sample of eight students was selected. This sample of students included postgraduate students who reside in various regions of the country, Ethiopia. As most Master’s and doctoral students are living in different regions of the country, they do not visit the library regularly. The researcher was therefore expected to visit their regions and conduct in-depth interviews with conveniently selected students. The interviews were conducted in participants’ offices. The sample was selected from various regions of the country, so that a wide range of students’ personal and situational characteristics could be considered for the study. Moreover, this kind of sample provided rich information or data on the problem under investigation.

Table 2 provides a summary of the age, gender, the region that students came from, distance of the region and qualification registered for. The individual students are indicated by the letters A to H. Students B, F and H are women. The rest of the students A, C, D, E, and G are male. The interview sample was selected across the six colleges of the University of South Africa: CAES, CEMS, CEDU, CHS, CLAW and CSET.

TABLE 2: The interview sample

Graduate Students	Age	Gender	Region	Distance of the region	College	Qualification registered for
Student A	40-50	Male	Jimma	306 km	CHS	Master's
Student B	30-40	Female	Addis Ababa	24 km	CLAW	Master's
Student C	50-60	Male	Mekele	777 km	CEDU	Master's
Student D	40-50	Male	Addis Ababa	24 km	CEMS	Master's
Student E	50-60	Male	Wachemo	670 km	CHS	Doctoral
Student F	40-50	Female	Dilla	460 km	CEDU	Doctoral
Student G	60-70	Male	Gondar	670 km	CAES	Doctoral
Student H	50-60	Female	MezanTepi	665 km	CSET	Doctoral

3.5 DATA COLLECTION METHODS AND PROCEDURES

There are different data collection methods such as observation, interviews, questionnaires and tests (Babbie 2010; Creswell 2014; Johnson & Christensen 2012; Kumar 2014). This study used qualitative data collection techniques by means of interviews. According to Merriam (2009:85), qualitative data consist of “direct quotations from people about their experiences, opinions, feelings, and knowledge.” Creswell (2014) mentions that qualitative data can be collected through examining documents, observation or interviews. McMillan and Schumacher (2012) discuss similar data collection methods, but note that unstructured and open-ended interview schedules are used to guide qualitative interviews. With this assumption, interviews were used as a data collection tool.

3.5.1 Interviews

Interviews are the most common method of gathering data for qualitative research. Savin-Baden and Major (2013) define interviews as a conversation between two individuals in which the interviewer asks questions and the interviewee responds. According to DeMarrais's (2004:55) definition, interviews are "a process in which a researcher and a participant engage in a conversation focused on questions related to a research study." Babbie (2010:342) also mentions that a qualitative interview is an interaction between an interviewer and respondent in which the interviewer has a general plan of enquiry but not a rigid set of questions that must be asked in particular words and in a particular order. Qualitative interviews can be used to obtain in-depth information about respondents' thoughts, beliefs, knowledge, reasoning, motivations, and feelings about a topic (Johnson & Christensen 2008:207). Interviews are necessary when the researcher is unable to observe behaviour, feelings or how people interpret the world around them (Merriam 2009).

According to Genise (2002) and Schneiderman and Plaisant (2005), the main advantages of using interviews to collect data are that:

- direct contact with the users often leads to specific, constructive suggestions;
- they are good at obtaining detailed information; and that
- few participants are needed to gather rich and detailed data.

There are different types of interviews. For example, interviews can be structured, semi-structured and unstructured (Braun & Clarke 2013:78). This study used a semi-structured interview as a data collection tool.

3.5.1.1 Semi-structured interview

According to Merriam (2009:90), a semi-structured interview is in the middle between structured and unstructured interviews. Therefore, in semi-structured interviews the questions include a mix of more and less structured questions. With this understanding, a semi-structured interview schedule was drawn up with open-ended questions to explore the use of electronic information resources by postgraduate students. The interview guide appears in Appendix B.

Before the interview, the researcher provided a brief introduction about the research topic and the purpose of the interview. Thereafter, each respondent signed an information consent form, addressing voluntary participation. The face-to-face interviews were conducted by the researcher only and took place in the respondents' workplace. A digital recorder, a smartphone voice recorder and handwritten notes were used to record the interviews. The interviews varied in length between 45 and 90 minutes and were conducted in English, although, in some cases participants found it difficult to respond in English, and they were encouraged to use Amharic (one of the local languages). All responses acquired through the local language were translated into English by the researcher. The interviews were conducted from September to October 2015.

3.5.2 Pre-testing of the interview questions

Before data collection, the interview questions were pre-tested to eliminate any ambiguities and mistakes. Ngulube (2003:215) mentions that pre-testing plays an important role in maximising the reliability and validity of the data collection instruments. The purpose of the pre-test was to verify the clarity of the questions, and modify them, based on feedback received. With this assumption, the interview questions were pre-tested on four postgraduate students who were visiting the library in person. In addition, the researcher also obtained opinions of experts on interview questions. The experts are academics, who have extensive experience and proficiency in the related field of research. The interviews were conducted by the researcher in the meeting room at UNISA Ethiopia branch library.

3.6 DATA ANALYSIS

Rubin and Rubin (2005: 201) define data analysis as “the process of moving from raw interviews to evidence-based interpretations that are the foundation for published reports.” In qualitative research, data analysis is done not only after all the data have been collected, but also during data collection (McMillan & Schumacher 2014). McMillan's advice was followed in this study and data analysis started during data collection.

There are different qualitative methods to analyse data. These include discursive, thematic, structured and instrumental methods (Madill & Gough 2008:257). This study used a thematic data analysis technique. Thematic analysis is “a method for identifying themes and patterns of meaning across a dataset in relation to a research question” (Braun & Clarke, 2013:175). This study followed the six steps that Braun and Clarke (2013) identify to conduct thematic analysis. These include transcription, coding, searching themes, reviewing themes, defining and naming themes and producing a report.

Step 1: Transcription

Braun and Clarke (2013) state that, after completing the data collection, the researcher needs to transcribe the data into written form. The researcher therefore transcribed the interview data into written form in order to conduct a thematic analysis. Then the researcher carefully and attentively read and re-read the transcriptions in order to be familiarised with the content thereof.

Step 2: Coding

According to Braun and Clarke (2013:206) “coding is a process of identifying aspects of the data that relate to the research questions”. Furthermore, Ezzy (2002:86) states that “coding in thematic analysis is the process of identifying themes or concepts that are in the data.” In order to code the data, this researcher looked for chunks (small and large chunks) of data that potentially addressed the research question of the study. In this step the researcher generated an initial list of ideas about the data. Collation of the coded data is the final coding stage. Therefore, for each individual code, the researcher collated together all instances of text where that code appeared in the dataset.

Step 3: Searching for themes

As suggested by Braun and Clarke (2013:223), the searching-for-themes stage begins after all the data have been coded and collated, and a list of different codes has been identified across the data set. Therefore, the next task was to review the codes and the collated data relating to each code, with the aim of identifying similarity and overlap between codes. This level, which re-

focuses the analysis on the broader level of themes, rather than codes, involved sorting the different codes into potential themes, and collating all the relevant coded data extracts within the identified themes. Therefore, the data were analysed by forming categories or themes that were used to describe the meaning of similarly coded data.

Step 4: Reviewing themes

The ‘reviewing of themes’ step is essentially a ‘quality control’ step (Braun & Clarke (2013:233)). This step focuses on whether the candidate themes fit well with the coded data. Once created, a set of candidate themes needs to be refined. Therefore, as Braun and Clarke (2013) advise, the researcher conducted a reviewing of themes by going back to the coded and collated data, and by going back to the whole dataset.

Step 5: Defining and naming themes

At this point, the researcher defined and named themes. ‘Define and refine’ means that the researcher identified the ‘essence’ of each theme as well as the themes overall, and determined the aspects of the data that each theme captures. All of the themes have catchy names and capture the essence of the themes’ focus.

Step 6: Producing a report

During this final stage of thematic data analysis, the researcher produced a report. The report production involved choosing examples of transcript to illustrate elements of the themes. These extracts clearly identified issues within the theme and presented a lucid example of the point being made. Repeated ideas, associated with information-seeking behaviour, and keywords in context were identified as themes, which means that the more frequently a concept occurs in a text, the more likely it will be considered a theme.

3.7 CRITERIA FOR EVALUATING QUALITATIVE RESEARCH

According to Tracy (2013), the criteria for quality research, such as reliability, objectivity, and generalisability, are appropriate for quantitative research but have very little application in

qualitative research. Tracy (2010) identifies criteria by which qualitative research may be assessed. This study used Tracy's criteria to assure the quality of this study. The criteria includes: worthy topic, rich rigour, and credibility.

3.7.1 Worthy topic

The first criterion for the evaluation of a qualitative study that was identified by Tracy (2013) is the worthiness of the topic. This study focuses on the information-seeking behaviour of postgraduate students and focuses on the impact electronic information sources have on their information-seeking behaviour. Considering the number of studies focusing on the influence of information technologies on information seeking and use activities of users, this topic is a worthy topic.

3.7.2 Rigour

Rigour is the second criterion for ascertaining the quality of a qualitative study. Holloway and Wheeler (2002:251) define rigour as "the means by which we show integrity and competence". Furthermore, according to Liamputtong (2013), the concept rigour refers to the quality of qualitative enquiry and is used as a way of evaluating qualitative research. This entails that a more rigorous research process will result in more trustworthy findings. Thick description refers to the detailed account of field experiences in which the researcher makes explicit the patterns of cultural and social relationships and puts them in context (Holloway 1997). With this assumption, the researcher used thick description of the phenomenon under scrutiny, peer scrutiny of the research project, searching for negative cases and alternate explanations, and an audit trail as strategies to ensure rigour. A more detailed explanation of thick description presented in section 3.7.2.1.

3.7.2.1 Thick description of the phenomenon under scrutiny

Thick description is described by Lincoln and Guba (1985) as a way of achieving a type of external validity. One can assess and understand to what extent the obtained conclusion might be applicable to other times, settings, situations and people, by adequately defining the phenomenon in detail. With this understanding, the researcher aimed to show a clear picture of the event, situation, environment, or culture in question.

3.7.2.2 Peer scrutiny of the research project

According to Lincoln and Guba (1985:161), peer review means involving some colleagues who are competent in qualitative research procedures to re-analyse the raw data, listen to the researcher's concerns and discuss them. The researcher ensured scrutiny by getting opinions and feedback from experts in qualitative data encoding and analysis. Questions, comments, suggestions and observations that are given by colleagues, peers and academics enabled the researcher to refine his methods.

3.7.2.3 Searching for negative cases and alternative explanations

According to Holloway and Wheeler (2002:258), "negative case analysis involves addressing and considering alternate interpretation of data." The researcher therefore conducted negative case analyses of the emerging cases from the study. Reporting the negative cases ensured the rigour of the study, because the researcher accounted for the contradictions that emerged from the data and this could be used as a base for trustworthy alternative explanations in the study.

3.7.2.4 Audit trail

The audit trail technique involves the development of a description of the entire research process, from the start to the final reporting. The audit trail helps researchers to remember important events and retrace steps if necessary (Savin-Baden & Major 2013). With this assumption, the researcher achieved an audit trail by outlining the decisions made throughout the research process to provide a rationale for the methodological and interpretative judgements.

3.7.3 Credibility

Credibility refers to dependability and trustworthiness of the research process (Lincoln & Guba 1985). In addition to dependability and trustworthiness, Tracy (2010) also identifies the expression of a reality that is plausible or seems true. Therefore, ensuring credibility involves establishing the believability of the research results. This study used prolonged engagement, interpretation and evidence, and member reflections as a technique to gauge the accuracy of the findings.

3.7.3.1 Prolonged engagement

The first credibility technique is for researchers to stay at the research site for a prolonged period. According to Liamputtong (2013), prolonged engagement allows a trusting relationship to develop between researchers and participants. She also states that, the longer that time is spent on the study site, the more accurate data will be collected. The researcher has been working as a branch librarian on the study site for more than seven years. As a result, it supported the development of trusting relationships with the participants over a period of time and enabled him to collect accurate data. Moreover, the researcher also allotted sufficient time with participants during data collection.

3.7.3.2 Interpretation and evidence

Baxter and Eyles (1997:508) define the term ‘interpretation and evidence’ as “for revealing how meanings are expressed in the respondents’ own words rather than the words of the researcher.” Accordingly, the researcher provided some evidence to support his interpretation of the data. The evidence is in the form of appropriate verbatim quotations of the participants.

3.7.3.3 Member reflections

Tracy (2010:844) notes that the term ‘member reflections’ refers to “allow for sharing and dialoguing with participants about the study’s findings, providing opportunities for questions, critique, feedback, affirmation and even collaboration”. Even though the researcher conducted the interviews himself, he e-mailed the findings to each of the participants and requested their feedback. The reason why the researcher used member reflections is that member reflections suggest that participants’ feedback is valuable for additional insight and credibility (Tracy 2010). This is considered crucial by the researcher, since the feedback may help in getting more views from participants and also to check for consistency between the original data and his summary.

3.8 ETHICAL CONSIDERATIONS

UNISA’s policy on research ethics (2012) ensures that the rights and interests of human respondents and institutions are protected. This is particularly important where the collected information has the potential to invade the privacy and dignity of participants and third parties. It

is also important where participants and third parties are vulnerable owing to their youth, disability, age, poverty, disease, ignorance or lack of power. As a result, the study was approved by the ethics committee of the Department of Information Science, University of South Africa, after meeting the ethical requirements. Using Creswell's (2007:123-124) procedures, the respondents were informed both in writing and orally of the purpose of the study and the procedures used in data collection. They were assured that the information they provide will be used only for research purposes. The participants were also ensured that the results would be reported in a way that maintains confidentiality. They were also informed of their right to withdraw from the study at any time if they were not comfortable with it. To this effect, a consent form was prepared and signed by the researcher, as well as the participants of the study (See Appendix A).

3.9 EVALUATION OF THE RESEARCH METHODOLOGY

The researcher believes that the research methodology that he followed in this study was an appropriate method. However, like other studies, this study also has some limitations. The population of this study was limited to postgraduate students of UNISA Regional Learning Centre in Ethiopia. It did not cover the entire university population. The inclusion of other groups, such as undergraduate and honours students, is left for further studies. The sample size was relatively small, namely eight (8). A bigger sample would probably have enhanced the reliability of the research.

The situations covered in the interview in this study only dealt with that particular context, and consequently the postgraduate students responded accordingly. The respondents' views expressed in this study cannot be generalised. In other words, the result of this study should not be interpreted as a representative description of all postgraduate students. In this regard, further research studies could be done by incorporating both qualitative and quantitative methods in the methodology.

Finally, another limitation of this study involves potential researcher bias. Although strong measures were taken to avoid clouding the data collection and analysis, it is likely that some aspect of the personality of the researcher interacted with the research process.

3.10 SUMMARY

This chapter provided the methodology used in this study. The characteristics of and reasons why a qualitative research approach was selected as the most suitable approach, were also mentioned. The case study approach was considered an appropriate method for this study. The discussion also addressed the research population and justified the use of a convenience sampling technique. Semi-structured interviews were used to collect data. The pre-testing of interview questions was discussed. This chapter also briefly discussed the thematic data analysis procedures and an evaluation of the research method in terms of worthiness of the topic, rigour and credibility. Ethical considerations related to the practice were emphasised. The findings of the study will be discussed in the next chapter.

CHAPTER FOUR

FINDINGS OR RESULTS

4.1 INTRODUCTION

This chapter discusses the findings that were obtained through interviews with conveniently sampled graduate students at UNISA Regional Learning Centre in Ethiopia. The research questions of the study were answered, based on respondents' personal experiences and awareness of their current information-seeking behaviour, with a particular emphasis on their usage of electronic information resources. The research findings are presented in terms of different themes and sub-themes that emerged from the data analysis.

4.2 FINDINGS OR RESULTS

As discussed in section 3.5, the researcher transcribed the results of the interviews in order to conduct a thematic analysis. The semi-structured interviews were concerned with respondents' information-seeking behaviour. The questionnaire included questions on the respondents' information needs, choices and usage of information resources, their usual information-searching techniques, and challenges that students face in the use of electronic information resources.

The following section presents the findings, highlighting the use of electronic information resources of postgraduate students in their Master's and doctoral studies. The results obtained from the respondents are presented, and the themes derived from the interviews are outlined under the following themes: information sources used by postgraduate students, purpose of using information sources, usage of electronic information resources, search techniques used by postgraduate students, access to the Internet, computer and information literacy skills, familiarity and usage of databases subscribed to by UNISA, challenges postgraduate students encounter in accessing electronic information resources, participation in library training and orientation sessions, and participants' library usage behaviour. The themes were derived from word repetitions. Repeated ideas, associated with information-seeking behaviour, and keywords in

context were identified as themes, which means that the more frequently a concept occurs in a text, the more likely it will be considered a theme.

4.2.1 Information sources used by postgraduate students

Findings from the literature (Majid et al. 2012:16; Prabhavathi 2011) indicate that postgraduate students seem to use a variety of information sources. The information sources include books, encyclopaedias, journals and electronic information resources. The UNISA Library offers a wide range of information sources, from print to electronic, to support learning, teaching and research.

4.2.1.1 Information sources used

In order to establish which sources were used by postgraduate students, the respondents were asked the following question: Which sources of information are used by postgraduate students for their studies and research? Table 3 provides an analysis of the sources that are used by postgraduate students who are users of the Akaki Branch Library.

TABLE 3: Type of information sources used by postgraduate students

Printed Resources	E-Resources
Books	E-journals
Text books (prescribed books)	E-books
Lecture notes (presentation slides)	E-theses and dissertations
Handouts	E-reserved (Course reserve)
Journals	Search engines like Google and Google Scholar
Newspapers	Databases like ERIC, EBSCO, JSTOR

Respondents asserted that they use both printed and electronic information sources for their academic study and research. This includes books, text books, prescribed books, journals, lecture

notes or slides, e-reserved materials, e-journals, e-books, electronic theses and dissertations, Internet, Google and Google Scholar. The majority of respondents reported that Internet availability and electricity supply determined their use of electronic resources. One respondent, that is Respondent B, said that she had never used e-resources and, for the different courses that she was enrolled for, she only used books and prescribed materials.

4.2.1.2 Reasons for source selection or use

In order to acquire an understanding of why students selected specific sources, the respondents were asked to provide an explanation for their choices.

a. E-resources

The majority of respondents said that ease of use, accessibility, availability, convenience, up-to-date information, reliability, and timeliness are reasons for source selection. Other reasons for this choice of information source that were given by some of the students included cost, culture or background experience, and their research topics or field of study.

Many of the respondents, especially the responding PhD students, used e-resources for their academic study and research. Respondent F explained his choice of e-resources by saying:

“E-resources are available everywhere and also updated content included on e-resources, relevant and most important articles are available electronically for my research area. So, because of this I prefer electronic materials than printed sources.”
[Respondent F]

b. Printed sources

The main reasons given why students prefer printed information resources are the availability of resources, no need to connect to the Internet, and no need for electricity to use them. The following quotations capture the reasons:

“Most of the time I used books for my study and research because they are available all the time and no need of Internet connection.” [Respondent B]

“I used printed materials for my study because of cost, availability and our culture to read books is more comfortable than electronic information resources. And also our culture using Internet [as such not developed].” [Respondent D]

Similar findings were reported on in section 2.7 by pointing out that ease of use, accessibility, availability, reliability, accuracy, currency, content and cost were the main influential factors in

the selection of information sources (Burton & Chadwick 2000; Dilevko & Gottlieb 2002; Lee et al. 2008).

4.2.1.3 Constraints experienced in finding information

Findings from the literature (Ahmed 2013; Haneefa 2007; Kim & Sin 2007; Spink & Cole 2006) show that students face various constraints in finding information sources. These include contextual reasons and students' personal characteristics. In order to identify constraints in finding information, the respondents were asked the following question: What are the constraints in finding information for your studies?

The following quotations capture these constraints:

“My constraints to find information sources is the delays of the books that I requested from main library, Internet problem to access online resources [is] the general problem of the countries, Addis Ababa University Internet is very poor [so that] it is difficult to download e-resources. The other problem is some literature, if you do not know the exact name of journal it is difficult to search and get them. These are the main problems that I face to use information sources from Unisa library or other sources.” [Respondent H]

“One of my constraints is getting books from Akaki Branch Library collection, in terms of the departmental subject level. The collection is small, I didn't get books for research purpose[s]. For example, in my research area on Geography, I only request[ed] books from Main library ... Most of the books which are available in my research area in Akaki Branch Library is only used for introduction purposes. Not used for the theoretical background of my study.” [Respondent F]

He further explained that *“For finding electronic sources network is a serious problem outside of the centre. The other constraint that I face is working and learning at the same time - very difficult because to get books I need to come to Akaki Branch Library to collect books ... distance is very difficult.”* [Respondent F]

As shown in the preceding quotations, the respondents face various constraints in finding information sources for their study and research. These include:

- Internet access: as Respondent H indicated, the Internet connectivity is poor and students experience a problem in downloading information from the Internet. This problem was also highlighted in section 2.6.1.1. In the literature review, it was also noted that Internet connectivity is a problem in the use of electronic information resources (Luambano & Nawe 2004; Moley 2014; Okello-Obura & Magara 2008).

- A lack of skills on how to search information sources: Respondent H's comment that she found it difficult to retrieve information if she did not know the title of the journal is an indication of a lack of information-searching skills. A lack of skills can therefore also be viewed as a constraint. This finding is also supported by many researchers (Chowdhury 2004; Malliari, Korobili & Zapounidou 2011).
- The delay of requested books from the main library in Pretoria, as these are sent via a courier service. This problem was highlighted by respondent H.
- The Akaki Branch Library is located far from the city centre. Students are therefore not interested in visiting the library and using the available services.
- The unavailability of relevant books in the Akaki Branch collection and a lack of time to find and collect information sources. This problem was highlighted by Respondent F and Respondent H.

Therefore, the comments made by the respondents regarding the problems they experiences in finding information include a lack of information retrieval skills, poor Internet connection, delay of couriered books and the distance between the respondent and the Akaki Branch Library.

4.2.2 Purpose of using information sources

The literature review indicated that information sources are used for various reasons. Some of the reasons that were identified include academic studies and research, problem solving, decision making and planning, information for everyday life such as to check news and sports, and to visit websites for public information (Bawden 2006:675; Safahieh 2007:21).

As reported in section 2.5.1, students appear to search for and use information related to their academic studies, research work, to update their knowledge, and to prepare for their examinations (Kakai et al. 2004:3). With this assumption in mind, the respondents were asked the following question: For what purpose are you using information sources?

The following quotations capture their responses in this regard:

“I use/visit Akaki Branch Library sometime ... within two months, for the purpose of my visit is just to search books from shelf and borrowing them. Also I used e-resources like,

e-journals, databases, electronic theses and dissertation[s]. I used them such information sources for my academic study and research purpose.” [Respondent F]

“I use the UNISA library resources. I visit the library once within two or three months. Just I go to the branch library just to borrow books and to attend the training. Regarding the online library I use every day. The materials I used for the purpose of to do my courses, to do the assignments and for examination purpose[s].” [Respondent B]

“For the online library. If I get an Internet access I use once within two days. Most of the time my purpose to visit the online library is to search journal articles and e-books. Firstly I used such kind of e-resources for my academic purpose and secondly there are very amazing sources on UNISA online library. So, I used for my own non-academic purpose ... like to develop my knowledge in every point of view.” [Respondent H]

As shown in the preceding quotations, the main purpose given by the respondents for requiring information is for academic study and research purposes. These include course work, assignments, class discussions, preparing for examinations, writing proposals, literature reviews, for writing Master’s dissertations and doctoral theses, and for research. This is in line with the results reported in the literature review (Chikonzo & Aina 2001; George et al. 2006; Majid et al. 2012).

Two students (Respondents A and H) said that, in addition to academic purposes, they used electronic information resources for non-academic purposes as well, like personal knowledge development, to be informed of world events, and for entertainment. It is also supported by Dzandu and Boateng’s (2013) statements, pointing out that students need information for academic and non-academic purposes.

4.2.3 Usage of electronic information resources

The UNISA Library offers access to a wide range of e-resources to support students’ research and study. These include full-text e-journals, e-books, databases, theses and dissertations, e-references, e-newspapers and other resources. In order to identify the frequency with which graduate students used e-resources, the following question was asked: How often do you use the UNISA online library?

In this regard, the following quotations capture most of the responses:

“For the online library I use usually to search e-resources particularly e-journals, thesis and dissertation and database because the UNISA online library have ample resources as

compare[d] [to] other institutions like Addis Ababa University. I used e-resources for my research purpose.” [Respondent H]

“For the online library, if I get an Internet access I use once within two days and most of the time my purpose to visit the online library is to search and download electronic resources like e-journal article, e-books, databases and sometimes I use theses and dissertations.” [Respondent F]

Respondent B also asserted that:

“... regarding the online library I use usually. I just only access the e-reserved materials. The other e-resources I can't access them because I don't know how to use it ... I think I need training. The materials I used for the purpose of to do my courses, to do the assignments and for examination purpose.” [Respondent B]

As illustrated by the preceding quotes, the students, in particular the PhD students, try to use e-resources. This is despite the problems they experience with Internet connections. They mainly use e-journal articles, e-books, databases and electronic theses and dissertations. However, the respondents' answers indicated that usage of e-resources is still limited, due to personal and contextual factors.

4.2.4 Search techniques used by postgraduate students

Findings from the literature, as reported by Chowdhury (2004) and Malliari et al. (2011), indicate that students' search skills could influence their information-seeking behaviour. Search techniques involve the use of search terms to retrieve the required information from online sources. These online sources could be Online Public Access Catalogues (OPAC), databases, search engines, and the Web. In order to retrieve relevant information from various online sources, students should have appropriate search skills. With this assumption in mind, the question was formulated as follows: What kind of search techniques do you use to find information sources?

All eight respondents said that they did not use a certain, specific search technique. They use simple search techniques like keyword, title, author and subject searches.

Respondent E reported that:

“... with regard to searching techniques, this is the point of training regarding using the online materials effectively and efficiently. So, if I get search technique training opportunity about it the more I use the online resources.” [Respondent E]

Respondent G also said the following:

“... Regarding searching technique I cannot say that I use certain style of searching, I don't have a clear style ...”

The respondents expressed a need for training. This could be indicative that the training that is offered is not enough or that there is a need for more advanced retrieval skills training. The findings therefore indicate that graduate students experience a lack of searching skills training.

4.2.5 Access to the Internet

Internet access is a vital tool to use e-resources; not only Internet access, but also good Internet connectivity is required to utilise e-resources effectively and efficiently. As reported by Ani (2010) and Luambano and Nawe (2004), an inability to gain access to the Internet and poor Internet connectivity could affect students' low usage of electronic information sources. With this in mind, the respondents were asked to indicate where they get access to the Internet and whether there were any connectivity and bandwidth problems.

4.2.5.1 Places of access

In view of the importance of the Internet as a vital tool to access e-resources, the respondents were asked to indicate where they usually get access to the Internet. The question was formulated as follows: Do you get Internet access at your home, workplace or elsewhere?

The findings indicate that the majority of the respondents get Internet access either at their workplace or in Internet cafés. Two respondents get Internet access at home and two respondents get Internet access on campus, at Akaki Branch Library workstations.

As section 3.3.1 indicated, the researcher conducted interviews in various regions of Ethiopia. This helped the researcher to consider the students' situational characteristics. The majority of the respondents (Respondent A,B, D, E, and F) indicated that they do not visit the library regularly. This can be put to the fact that most of the Master's and doctoral students live on average 650 km away from the library. This study identified that the distance from the Akaki

Branch Library could be an important factor why they could not get Internet access at a workstation of the Akaki Branch Library.

The researcher also observed that socio-economic conditions and the quality of the infrastructure where the respondents reside could be further reasons for experiencing problems with information searches. The infrastructure in the region where the respondents live, who get access at home, might be better than the infrastructure in other regions. For example, the ICT infrastructure is very poor in the Wachemo, MezanTepi and Dilla regions and students living in these regions face challenges, such as Internet access interruptions. They do not get Internet access consistently so that they are forced to use the Internet at home or to travel to other towns to get to an Internet café. This is because Internet access at their homes might be better than at their workplaces. This entails that the majority of respondents had a lack of access to Internet. On the other hand, in some regions like Mekele, Jimma and Addis Ababa, the ICT infrastructure in their workplace (the University) is good, since they have a broadband Internet connection. Students who reside in these regions have Internet access with better bandwidth than at home or at an Internet café.

4.2.5.2 Internet connectivity and bandwidth

The respondents were also asked questions to investigate issues of internet connectivity and bandwidth. The following quotations capture responses in this regard:

“The Internet connection is very poor, especially when many users use at the same time. We can generally conclude that the Internet connectivity is very slow and poor. Regarding the cost, personally I used Code Division Multiple Access [CDMA] but CDMA by itself poor connection and it costs me 10 to 15 birr to download some materials so it too cost a lot of money to download a certain materials.” [Respondent C]

“The Internet speed is very slow sometimes even I can’t check myLife e-mail. So I have to go internet café to check myLife. And also sometimes I come to Addis Ababa and check my e-mail and download some e-information and back to my work.” [Respondent H]

“The Internet speed is not much interesting. The connectivity is not suitable to download the materials ... sometimes in lucky days fast sometime[s] very slow. Generally the connectivity is not comfortable they are very slow.” [Respondent F]

These findings show that the Internet connection speed varies from place to place and from time to time. For example, the majority of respondents said that their Internet connection is very poor

whenever they use it. Respondent G also indicated that using an Internet service out of office or campus or in Internet cafés is costly and the work environment in such areas is noisy and not comfortable.

4.2.6 Computer and information literacy skills

Both Baro and Fyneman (2009) and Esfahani and Chang (2012) found that the level of students' computer and information literacy skills determines their utilisation of electronic information resources. This study also investigated whether computer and information literacy skills are an issue affecting graduate students' use of electronic information resources. With this in mind, the respondents were asked to evaluate their computer and information literacy skills by indicating how confident they are in using a computer and in searching for information. The basic computer skills that respondents reflected on included keyboard and mouse skills, their use of word processing packages, e-mail and the Internet. The information literacy skills that were reflected on included keyword searching, formulating questions based on their information needs, the identification of key concepts and terms, knowing how to use Boolean operators, how to limit searches, use truncation, and to save, retrieve and print the search results. The question was formulated as follows: How do you rate your level of computer and information literacy skills?

Respondent G asserted that:

“I am not good in efficient level I can say that am in average level. The major advantage of in this university is the availability of the online resources and materials. As much as the availability of e-resources I am not use effectively and efficiently. Yea! Definitely I need information and computer literacy training.” [Respondent G]

“I am not perfect ... aaa ... in data processing and the like. I try but it takes me time ... due to age ... or I don't know. So I feel gap on computer literacy skills. I need training especially information literacy that is very important. I use keyword, title, author search and the like.” [Respondent C]

Among the eight interview respondents, three of them said that they were good or comfortable regarding their computer literacy skills. The other five respondents did not consider their existing computer literacy skills as being adequate. With the exception of one respondent, all of the respondents felt they didn't have the necessary information literacy skills.

This finding with regard to computer and information literacy skills therefore reveals that there is a gap in the skills of graduate students. This gap could influence or cause the low, ineffective and inefficient usage of e-resources.

4.2.7 Awareness of UNISA subscribed databases

The UNISA library subscribes to many online subject databases to which all registered Unisa students have access. Many of these databases also contain full text articles which can be viewed, printed and downloaded. The respondents were asked about their familiarity and usage of UNISA- subscribed databases. The question was formulated as follows: How do you evaluate the importance of databases as a tool for collecting information sources for your research?

The following quotations capture responses in this regard:

“I can say that totally my study and research are depending on databases. For example, I used EBSCO, Educational research, ERIC mostly. Hundred percent help me so they are very important. Regarding the search technique just I browse by myself trial and error I didn't use specific techniques. If I get training on this I would use the databases more effectively.” [Respondent E]

“As I am only using e-reserved, I cannot evaluate or use the databases ... I have not used them ... I think I need training.” [Respondent B]

The findings show that the majority of students, particularly PhD students, are familiar with or aware of the databases. Students mentioned some of the databases they were using for their research, such as EBSCO, ERIC, JSTOR, and EMERALD. However, Respondent B was either unaware of or have never used the databases. In the UNISA library catalogue system, some book chapters are scanned and reserved by course code as e-reserves. In order to access such e-reserves, the user is expected to type the course code and then he/she will get access to the e-reserved materials by clicking on the link. This is also the way that Respondent B uses e-reserves. However, regarding the full text database, the user should at least be aware of the availability of different databases and have the necessary skills to retrieve information from the databases. Therefore, even if a user, like Respondent B, uses e-reserves, it doesn't mean that s/he is aware of all the different e-resources, like the full text databases.

In line with this, students also mentioned some of their problems in utilising different databases, such as searching techniques and certain useful functions of the databases, the required

authentication, and getting full text. While many of the databases have full text, in some cases they don't. Even if many of the participants were somehow familiar with the available databases, it is advisable to arrange awareness creation sessions in order to enhance the utilisation of e-resources.

It was observed that significant numbers of graduate students face challenges in using the databases. This means that unfamiliarity with the databases and lack of knowledge on using the database interface are contributing to the low usage of electronic information resources.

4.2.8 Challenges graduate students encounter in using electronic information resources

This study identified different problems, which most often hinder graduate students to access and utilise the existing electronic information resources. In order to identify the problems graduate students face when using e-resources, the respondents were asked the following question: What are the constraints impacting on your use of electronic sources?

The following quotations capture responses in this regard:

“The main constraints to use e-resources are access to Internet, connection problems and cost even when I use Akaki Branch workstation the computers are very old and slow Internet connection.” [Respondent A]

“The basic constraint to use e-resources is the Network ... the network is terrible, the other problem is power interruption. This two things are very terrible.” [Respondent C]

“The major problem is Internet connection problem; the other problem is I didn't know the way how to access some e-journals and databases.” [Respondent G]

“The major problem is Internet connection problem, the second problem is the commands on some databases are confusing and needs clarification ... the interface etc.” [Respondent H]

As shown in the preceding quotations, the respondents face various challenges while using electronic information resources. These include:

- Poor network connectivity
- High cost of using the Internet privately
- Lack of accessibility of the Internet

- Lack of search skills in different databases
- Commands on some databases are confusing and need clarification (interface)
- Power failures
- Lack of knowledge on how to log in to databases or e-journals.

This implies that the majority of graduate students at UNISA Regional Learning Centre in Ethiopia encounter a variety of challenges when accessing and using electronic information resources. The findings of this study confirm previous findings (Ani 2010; Luambano & Nawe 2004; Okello-Obura & Magara 2008). They observed that lack of search skills, the high cost of Internet access, power outages, and difficulties in navigating through e-resources, are problems encountered by students while using electronic information resources.

4.2.9 Participation in library training and orientation sessions

It is important that all students should possess an adequate level of information literacy skills to utilise library resources effectively, including electronic information resources. They also need to know how to construct a good search technique for searching online databases. In this regard, respondents were requested to evaluate library training that is provided by the Akaki Branch Library. The question was formulated as follows: What is your evaluation or impressions of the library orientation and training sessions?

Respondent G asserted that:

“Frankly speaking with this regard, this is really unique experience in Ethiopia ... because in Ethiopia we don’t have e-library that much in Academic institutions ... so students are forcing to search different kind of information ... so we were not acquainted [with] this kind of modern library services. When you come to the UNISA case the library training is really very interested and it is like an academic course. Both Akaki Branch Library staff and the personal librarians from International staff are very concerned. So the training and orientations are very excellent and helpful. The other thing is consistently provided the training. For each year the training added new value. So, it is a good lesson for other institutions if they are going to e-learning activity.” [Respondent G]

“I didn’t attend the training and orientation. I want to take those training but due to the location of the centre I couldn’t attend it. The location of the library is the main factor for me and also lack of accessibility of transport.” [Respondent E]

The respondents were asked to indicate the type of training they participated in. They mentioned the following:

- Introduction to library services and procedures
- UNISA Library catalogue (OPAC)
- Introduction to electronic resources
- Using reference sources
- Database and e-journal searching
- Reference techniques.

Among the eight interviews that were conducted, six of the respondents attended the training and orientation sessions. They said that the training was generally good and helpful. The other two students did not attend the training, due to the location of the library, and the training is usually scheduled by the Branch Library for new students, which often occurs only after they have been admitted. The term of the formal training offered for newly admitted postgraduate students is once a year. But students who visit the library and who indicate that they need training are trained by the Branch Library. This is irrespective of whether training was scheduled or not at the time of their visit

Students were requested to forward their opinions and suggestions, if any, to improve the service. Accordingly, they pointed out some important issues that Akaki Branch Library should consider:

- Provide training once a year when all new admitted students are invited for the general orientation.
- The time given for the training sessions is very short and training is given in groups.

- The Akaki Branch Library did not invite us individually for library training.
- There is a lack of scheduled library training.
- There is a lack of continuous training.
- The location of the Akaki Branch Library is not accessible by public transport. So, it is difficult to attend the training.
- The Akaki Branch Library does not have its own library training room.
- The workstation computers are very old.

Respondents also suggested that they still needed specific training on, for example, search techniques, RefWorks and managing references.

4.2.10 Graduate students' library usage behaviour

In order to establish the library usage behaviour of graduate students, the respondents were requested to indicate how often they used the UNISA library, both the Akaki Branch Library and the online library. In this regard Respondent F mentioned the following:

“For the Akaki Branch Library I use/visit sometime ... within two months. For the purpose of my visit is just only for the purpose of search books from shelf and borrowing books, collecting requested books from South Africa, and to use workstation. Because the library space, and silence are very nice but the computers (workstations) is very old and backward. The Internet is slow. For the online library I use usually to search e-resources particularly e-journals, thesis and dissertation and database because the UNISA online library have ample resources as compare[d] [to] other institutions like Addis Ababa University. I used e-resources for my research purpose.” [Respondent E]

“For Akaki Branch Library I visit once within 15 days. The purpose of my visit is just to collect my request[ed] books from main library.” [Respondent H]

“For Akaki Branch Library. It is not much often because it is far so it is not convenient for me to go[to] the library. So, I visit the library once within two or three months. Just I go to the branch library just to borrow books and to attend the training.” [Respondent F]

These findings indicate that almost all the respondents rarely visited the branch library more than once every two or three months. Their reasons for not visiting the Branch Library on a regular basis is that the branch library is located far from the centre of the city, and most of the students,

especially PhD students, live in various regions of the country, on average about 650 kilometers from the Centre. Therefore, inaccessibility by transportation and time constraints play a role, as almost all of them are part-time students.

The old and slow computers in the Akaki Branch Library have also discouraged students in visiting the Akaki Branch Library. This is a problem since the main purpose of their visit to Akaki Branch Library is to borrow books and search materials from the Branch collection, to use the student workstations to search and download e-resources, and also to collect the requested books which are sent from the UNISA Main Library, Pretoria. The majority of the respondents use the online library, depending on the availability of an Internet connection and electric power. The purpose of visiting the online library is to search e-resources, particularly e-journals, theses and dissertations and databases, for example OPAC.

4.3 SUMMARY OF FINDINGS

The recorded responses of graduate students were thematically analysed to reveal their information-seeking activities, with particular emphasis on their usage of electronic information resources. It is apparent that graduate students asserted that they used both printed and electronic information sources for their academic study and research. The preference of information sources was determined by ease of use, accessibility, availability, convenience, up-to-date information, reliability, and timeliness. The findings showed that the Akaki Branch Library does offer training for postgraduate students, that is irrespective of whether they are new or old students. However, this training does not seem to be adequate and there is therefore a need for more advanced retrieval skills training. The results of this study also reveal that slow Internet connections and bad connectivity are the major constraints for graduate students when using electronic information resources. The study further reveals that on the Ethiopian campus the old computers in the student workstations create difficulties to search and download electronic information resources in the library.

4.4. CONCLUSION

The purpose of this chapter was to analyse the recorded responses of the responding graduate students. The findings revealed their information-seeking activities. Their usages of electronic

information resources were emphasised. The challenges they experience in accessing information were also highlighted. Chapter Five will discuss the findings in relation to how the context and users' personal experience influence their information needs and information-seeking activities.

CHAPTER FIVE

THE INFORMATION NEEDS AND INFORMATION-SEEKING BEHAVIOUR OF STUDENTS AT THE AKAKI BRANCH LIBRARY

5.1 INTRODUCTION

The main aim of this study, as stated in Chapter One, is to investigate the utilisation of electronic information resources by graduate students at UNISA Regional Learning Centre in Ethiopia and to identify the problems they experience when using the UNISA online library. This chapter integrates the analysis of the interviews presented in Chapter Four. The findings of the study are discussed according to information users, user contexts, information needs, personal preferences, and information activities, namely seeking, searching and use.

5.2 INFORMATION USERS

Information users are persons who expose themselves to available information in a given environment with the intention of applying or using it to solve a problem (Ukachi 2007:6). In the context of this study the information users are students, particularly master's and doctoral students across the six colleges of the University of South Africa: CAES, CEMS, CEDU, CHS, CLAW and CSET. Allen and Kim (2001) mention that personal characteristics, such as ability, knowledge and preferences, can affect information-seeking behaviour. The findings of this study correlates well with the findings of Allen and Kim.

5.2.1 Computer and information literacy skills

Section 2.3.1.2 showed that students should possess the necessary information literacy skills to select, evaluate and appropriately use information sources to effectively meet their study-related information needs. A lack of such basic skills could affect their utilisation of e-resources. As described in section 4.2.9, the Akaki Branch Library provides graduate students with basic and advanced library training, such as an introduction to library services, procedures, the UNISA

library catalogue (OPAC), introduction to electronic resources, using reference sources, database and e-journal searching, and reference techniques.

Based on the findings discussed in section 4.2.6, only a few students had intermediate or average computer skills. In other words, they were able to use or perform basic computer tasks, but not all tasks. On the other hand, most of the students felt that there was a gap in their computer literacy skills. The findings with regard to information literacy skills also indicate that almost all the respondents, with the exception of two respondents, reported that they lacked the necessary information literacy skills. The remaining two respondents said that they were competent regarding information literacy skills. This means that the majority of graduate students would likely require some assistance or help while using computers and online information resources. Thus, the findings in this regard can be interpreted that the majority of the respondents were not competent in computer skills and lacked certain information literacy skills training.

The findings mentioned in section 4.2.6 indicated that almost all of the respondents felt they didn't have the necessary information literacy skills to use e-resources, such as databases, e-journals and e-books.

Therefore, the findings of this study imply that postgraduate students' electronic information seeking-behaviour is affected by their lack of computer and information literacy skills. These findings show a low usage of e-resources, which are in line with the studies conducted by Esfahani and Chang (2012), Okello-Obura and Magara (2008), Oakleaf and Owen (2010), Safahieh (2007:123) as well as Spink and Cole (2006). These researchers also found that a lack of the necessary IT skills and information literacy skills may have an effect on students' information-seeking behaviour.

According to the findings it seems as if the UNISA postgraduate students, Ethiopia require computer and information literacy skills training to improve their information seeking skills.

5.2.2 Search skills

As reported in section 4.2.4, the findings revealed that the majority of the respondents use simple search techniques like keyword, title, author and subject searching. This means that simple

keyword searches, subject searches, title and author searches are the most popular search techniques used by graduate students. However, advanced searches, utilising Boolean operators and truncation, are rarely conducted. This proves that the majority of postgraduate students in Ethiopia have insufficient information-searching skills. This could mean that the training that was offered at the time did not quite suit their needs, or that they were not ready to do advanced searches after the basic training.

Therefore, the low level of information-searching skills of graduate students influenced or determined their utilisation of e-resources. Most previous research findings agree that effective and efficient utilisation of e-resources depends mainly on good information-searching skills that graduate students should possess (Chowdhury 2004; Korobili, Malliari & Zapounidou 2011; Spink & Cole 2006). Thus, it seems that the postgraduate students need continuous searching skills training to maximise their use of e-resources of the Akaki Branch Library.

5.2.3 Personal preferences

The findings discussed in section 4.2.1.2 showed that personal preferences have the potential to affect graduate students' information-seeking behaviour. The study revealed that graduate students' preferences for particular sources of information were based on personal knowledge and experience. These include subject knowledge, graduate students' culture or background experiences, ease of access, and convenience. Only two students reported some experience of using Google and other search engines for their personal use of information and to some extent for academic purposes. This means that a lack of background knowledge or previous experience limits or influences the utilisation of UNISA's online information resources by postgraduate students and thus determine their personal preferences. Therefore, it seems that the selection and use of information sources by the respondents are according to their personal knowledge, experience and electronic information usage culture. This finding is consistent with previous studies (Lee et al. 2012; Hölscher & Strube 2000).

5.2.4 Awareness of e-resources

The findings revealed that most of the respondents are familiar with or are aware of the UNISA online databases. The respondents mentioned the use of some databases such as EBSCO, ERIC,

JSTOR, and EMERALD. However, they experience difficulties in using the databases more effectively. Their challenges deal with unfamiliarity with the databases' search screen interface features and also certain other useful functions like links to full-text articles on the Internet, alert services and exporting of article citations. This finding can be interpreted that unawareness of search screen interface features and useful functions of databases can influence the efficient utilisation of e-resources by graduate students. These results of the study harmonised with a study reported by (Nlayidzi 2005). Considering these findings, there is a need for awareness creation of and training in the availability and features of the different databases, as well as the usage of the UNISA online databases.

5.3 USER CONTEXTS

The findings established that the environment in which graduate students operate influences their use of electronic information resources. The information sources that they use are revealed in their information-seeking behaviour. The contextual factors identified in the study were related mainly to the ICT infrastructure (context) in which graduate students operate. These include Internet access, bandwidth and distance from the Akaki Branch Library.

5.3.1 Internet access

In section 2.4.1, it was shown that Internet access in Africa is limited when compared to developed countries. Ethiopia, in particular, is one of the countries with the most limited Internet access in Africa (Chekol, 2009). This actual contextual situation affects postgraduate students' electronic information-seeking behaviour. The findings show that, although the majority of the respondents have Internet access, either at their workplace, an Internet café or at home, the availability of Internet is not consistent. That implies that on some days they have Internet access and at other times there are no access for a couple of days or even for a month. This means that the majority of postgraduate students do not have regular Internet access. As a result, the utilisation of electronic information resources by postgraduate students seems limited. Consistent with the findings reported in the studies conducted by Ani (2010) and Luambano and Nawe (2004), this study also pointed out that lack of access to the Internet could affect students' restricted usage of electronic information sources.

5.3.2 Bandwidth

Internet access alone is not all that is needed to use electronic information resources. Good network connectivity or adequate bandwidth is also required. As indicated in Chapter Four (section 4.2.5.2), the majority of postgraduate students face problems with inadequate bandwidth to use the UNISA online resources effectively. The respondents confirmed that network connection is a serious problem and Internet connectivity is not suitable to download e-resources. Therefore this finding can be interpreted that, due to inadequate bandwidth, the majority of graduate students of the Akaki Branch Library do not utilise e-resources effectively and efficiently. The findings of this study correlate with the findings of studies conducted by Luambano and Nawe (2004), Moley (2014) and Okello-Obura and Magara (2008). These researchers noted that inadequate Internet connectivity hindered graduate students' successful utilisation of e-resources.

5.3.3 Locality of the Akaki Branch Library

As discussed in section 3.3.1, the majority of the respondents reside in various regions of Ethiopia. They live on average 650km from the Akaki Branch Library, and as a result of that, they do not visit the library regularly. This finding with regard to library usage behaviour of graduate students (section 4.2.10) demonstrates that, due to the location of the branch library, the majority of respondents only visit the branch library once in two or three months. For instance, Respondent E mentioned that he didn't attend the library training and orientation sessions that Akaki Branch Library provided. The reason for not attending training, given by one of the respondents, was the location of the library and lack of transport. Therefore, these findings can be interpreted that the locality of the branch library has an effect on graduate students' information usage behaviour.

5.4 INFORMATION NEEDS

In section 2.5 it was shown that information needs arise when an individual senses a problematic situation or information gap, in which his or her internal knowledge and beliefs, and model of the environment fail to suggest a path towards the satisfaction of his or her goals (Case 2007). In the same section, reference was made to three contextual elements that give rise to information needs, such as situation of action, task performance and dialogue, as identified by Savolainen

(2012). The contextual elements that gave rise to the postgraduate students' information needs were demonstrated in section 4.2.2.

The findings reported on in section 4.2.2 showed that the majority of the respondents need information for their course work, to do assignments, prepare for examinations, for writing proposals, conducting literature reviews for their Master's dissertations and doctoral theses, and for research purposes. Some of these students indicated that their information needs were satisfied when they used the electronic resources that are available in the Akaki Branch Library. This implies that postgraduate students need information when they are in a situation requiring knowledge to deal with the situation in their context as they deem fit and to carry out their academic tasks successfully. This can be interpreted that situation and tasks are contextual elements that affect information needs of graduate students. This is also endorsed by the findings of Chikonzo and Aina (2001), Kakai et al. (2004:3) and Safahieh (2007).

5.5 INFORMATION ACTIVITIES: SEEKING AND USING INFORMATION

As it was shown in section 2.6, information seeking is a set of actions individuals take to express their information needs, seek, evaluate and select information, and finally use it to satisfy their information needs (Fatima & Ahmad 2008:141). During their information-seeking activities users could be affected by various factors. Wilson (1981:8) highlighted the environmental aspects of factors, such as the physical environment.

The findings of this study indicated that postgraduate students seek information from a variety of sources to meet the demands of their academic study and for their research needs. These include printed sources (i.e. books, prescribed books, lecture notes in the form of PowerPoint presentations, journals and newspapers) as well as electronic information sources (e-journals, databases, e-books, and e-reserved sources, ie. course reserves), the World Wide Web and e-theses and dissertations. Even though graduate students used both printed and electronic information sources, the majority of respondents rather preferred electronic information sources for academic purposes than printed sources, subject to the availability of an Internet connection and electricity. This means that the physical environments in which graduate students operate, affect their information-seeking activities.

Section 2.7 also reported that Lee et al. (2012) identified factors that influence the selection of information sources by students. These factors include the characteristics of the sources, search purposes, user preferences, user knowledge and information literacy. The findings revealed that various reasons were given by the students for the selection and use of certain information sources. These reasons include ease of use, accessibility, availability, and up-to-date nature of the information resources. The results are in line with studies conducted by Boumarafi (2010), Burton and Chadwick (2000), and Dalglish and Hall (2000). These studies also found that the information sources which students select depend on ease of use, accessibility, and availability of the information sources.

An interpretation of the findings suggests that the challenges graduate students face in accessing e-resources are caused by physical environmental factors as well as their personal information literacy skills. The physical environmental factors are related to poor ICT infrastructure. In turn, these factors affect their utilisation of electronic information resources. The majority of the respondents are living in various regions of Ethiopia where there is poor ICT infrastructure. The lack of good ICT infrastructure in Ethiopia results in low usage of e-resources by graduate students. The current findings support Ingutia-Oyieke and Dick's (2010) findings. Their study also indicated that one of the barriers to use electronic information sources in sub-Saharan African countries is mainly related to poor ICT infrastructure. Thus, even though graduate students in this study showed interest to use electronic information resources, the usage of e-resources was still limited.

5.6 BRANCH FACILITIES, SERVICES AND RESOURCES

In order to maximise the use of electronic information resources and to enable students to search and retrieve information resources by themselves, independently and to be self-sufficient, the branch library should be equipped in terms of facilities and services. As discussed in section 1.2, Akaki Branch Library provides library training and electronic access to various online resources on campus, and has a collection of printed resources, among others. Respondents were requested to comment on the Akaki Branch Library's services and facilities, specifically on library training that was given by the branch, as well as to comment on the workstations and the collection.

The findings indicated that the majority of students were satisfied with the training that was given by the Akaki Branch librarians and personal librarians from main campus. However, they suggested that continuous and scheduled training was required in a specific area. Regarding the library computers (student workstations), all the respondents complained that the computers in the library were very old and making it difficult to use it. Electric power interruptions on campus were also reported to have been a major problem. On the other hand respondents indicated that they are not that efficient in advanced searching techniques. However, since a variety of factors hailing from various conditions (eg. contextual, personal, technological etc) the postgraduate students' lack of information literacy skills can also be viewed as a factor influencing their information seeking and download activities.

This finding can be interpreted that the facilities of the branch library are part of the institutional factors affecting graduate students' utilisation of information sources. Thus, from these findings it seems that the status of the Akaki Branch Library's electronic facilities and services also affect its users' information seeking behaviour.

5.7 SUMMARY

From the discussion, it seems apparent that graduate students' personal and contextual elements influence their information-seeking behaviour, particularly their usage of electronic information resources. The discussion highlighted how the personal dimension (i.e. computer literacy and information literacy, search skills, personal preferences and awareness of e-resources) and contextual factors (i.e. Internet access, bandwidth and distance from the Akaki Branch Library) affect graduate students' information usage behaviour. The interpretation of the findings was compared with findings in existing literature. It also indicated how the branch facilities, services and resources affected students' information-seeking activities.

Chapter Six will address the conclusions, limitations and recommendations of this study, as well as suggestions for future research.

CHAPTER SIX

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The purpose of this chapter is to discuss the conclusions of the findings of the study in relation to the research questions formulated in Chapter One. Conclusions and recommendations will be made, based on the analysis of data and interpretation of results covered in Chapters Four and Five. Future research, as well as the value of this study, will also be discussed. Finally, a summary and final comment of the study will be given.

As described in section 1.3.1, the objectives of this study are:

- To identify the main information sources used by graduate students
- To determine the use of electronic information resources by graduate students
- To examine the awareness and attitudes of graduate students towards electronic information resources
- To recommend appropriate measures to improve electronic information access and use at UNISA Regional Learning Centre in Ethiopia.

6.2. CONCLUSIONS RELATED TO THE RESEARCH QUESTIONS

In Chapter One (section 1.3) the research question was formulated as follows: What are the main information sources that graduate students studying at the UNISA Regional Learning Centre in Ethiopia use? The research question was subdivided and discussed theoretically and empirically in order to make recommendations on how to address the factors impacting on postgraduate students' information-seeking and information use at the Akaki Branch Library, Ethiopia.

6.2.1 Research question 1: What are the main information sources that graduate students use at the UNISA Regional Learning Centre in Ethiopia?

The findings revealed that graduate students use both print sources in the collection of the Akaki Branch and electronic resources that are available through the UNISA library. When they are unable to find the information in the Akaki Branch Library, some students request items from the main library in Pretoria. Electronic information resources have brought many opportunities for graduate students. This study indicated that electronic information resources are the main information sources used by graduate students for academic purposes, and to some extent for non-academic purposes. These include e-journals, databases, e-books, e-reserves (course reserves), the World Wide Web and e-theses and dissertations. Graduate students also use print resources like books, prescribed books, lecture notes (PowerPoint presentations), printed journals, newspapers and other materials.

6.2.2 Research question 2: What are the factors that influence the information-seeking behaviour of graduate students at UNISA Regional Learning Centre in Ethiopia?

The findings indicated three major factors that have a significant influence on graduate students' utilisation of electronic information resources. These are contextual factors, personal factors, and factors pertaining to the branch library facilities.

Contextual factors refer to the situation in which graduate students operate, which are mainly related to ICT infrastructure and Akaki Branch facilities, services and resources. It can be concluded that contextual factors deriving from their context include lack of access to the Internet, inadequate bandwidth and the remoteness of Akaki Branch Library, which have a significant influence on the usage of e-resources. Facilities at Akaki Branch Library are also a potential factors that influence graduate students' effective utilisation of electronic information resources. These include old computers at the student workstations and the absence of a library training room, among others. The findings of this study also revealed that the information-seeking behaviour of postgraduate students could be shaped by accessibility, availability, ease of use, cost, current and up-to-date information sources, and the availability of an Internet connection and electric power.

In addition to the contextual factors influencing postgraduate students' information seeking and use behaviour, some personal factors also influenced their behaviour. These personal factors include a lack of computer and information literacy skills, lack of skills to search and evaluate information, lack of background experience, and unawareness of the availability of e-resources. In addition, personal preferences, based on personal knowledge about a subject, as well as experience, also have the potential to influence the use of e-resources.

Thus, it is important to emphasise that, a lack of the necessary information literacy skills and computer skills prevent the post graduate students to maximise utilisation of electronic information resources.

6.2.3 Research question 3: How do graduate students use electronic information resources, and what are the related issues?

The study established that the majority of graduate students, particularly PhD students, use electronic information resources in research and for educational objectives. As the majority of the students live in various regions of the country Ethiopia, they have been using e-resources either in the workplace, at home or at an Internet café. Due to the remoteness of the branch library, only a few students access e-resources on campus (Akaki Branch Library workstations). However, when these graduate students experience problems while using e-resources off-campus, they are able to get help from the Akaki branch librarians via e-mail and telephone.

Issues like inadequate skills on how to use the e-resources, power outages, network and connection problems, confusing and unclear commands on the interfaces of some databases, lack of knowledge how to log in on databases or journals, difficulty in accessing some websites, and lack of knowledge about tools and techniques used for searching and retrieving electronic information resources are challenging for graduate students at the UNISA Regional Learning Centre in Ethiopia when using electronic information resources. The postgraduate students' inadequate information searching skills could be related to the fact that a significant number of students did not attend the once-a-year training that was offered. However, those that did, requested that the training be repeated after six months.

6.2.4 Research question 4: How frequently do graduate students use electronic information resources?

The finding showed that despite an abundance of e-resources available to students the usage rate is low due to a lack of computer literacy skills including knowledge in using database interfaces. The students' locality in relation to the locality of the Akaki Branch Library is also instrumental in the low use of e-resources.

From the discussion, it can be concluded that the findings showed that a number of contextual as well as personal factors are instrumental in the low level of using e-resources by the student population of the Akaki Branch Library.

6.3 RECOMMENDATIONS

Based on the findings in general, the Akaki Branch Library should provide comprehensive training programmes and equip the branch with facilities that can address the skills deficiencies experienced while students are using electronic information resources. This includes:

- **Basic training in computer and Internet usage.** When new students join UNISA they should receive basic computer training to provide in their academic needs. Based on students' needs, basic computer training guidelines should be developed by the ICT officer or section and training should be given to students, in collaboration with the Akaki Branch librarians.
- **Information literacy skills training.** The findings of the study indicated that the majority of postgraduate students face challenges in using electronic information resources. In order for these students to utilise the UNISA online e-resources, information literacy skills development training is mandatory. It is therefore recommended that the Akaki Branch Library develop a training manual and provide practical training to students. Training regarding search skills, and the use of RefWorks, Mendeley and other organising tools will be particularly useful.
- **Scheduled and continuous library training.** The findings indicated that a significant number of responding students did not attend the once-a-year training and most of the

students recommended that quarterly library training programme should be offered. Therefore, Akaki Branch Library should be prepared to give continuous, scheduled training, at least three or four sessions per year. In addition, as most of the graduate students live in various regions of Ethiopia, staff members of the Akaki Branch Library should give library training at students' work-places, rotating in various regions, based on their needs, and especially in regions where there is poor Internet access.

- **Facilities and infrastructure at the Akaki Branch Library.** In order to improve students' use rate of electronic resources, Akaki Branch Library should be address facilities and infrastructure shortcoming. For example:

Student workstations: The computers should be replaced by new standard computers with the latest processors. This will help students directly or indirectly to facilitate and maximise the efficient and effective use of e-resources.

Bandwidth: In order to eliminate the slow pace of Internet connectivity, it is suggested that the bandwidth in the Akaki Branch Library be upgraded. This should improve the utilisation of electronic information resources by graduate students.

Wi-Fi: Even though most of the students in the Ethiopia Regional Learning Centre are graduate students, there is no Wi-Fi in the library. Such kind of facilities should be available. Wireless local area networks should contribute to students' utilisation of e-resources.

Library training room: If postgraduate students are trained in a suitable environment, it may maximise their utilisation of electronic information resources. So, Akaki Branch Library should be equipped with facilities like training room, furniture, computers and training aids.

Generator: Because the regional learning centre has been experiencing power failures frequently, a generator should be installed in the centre. This will contribute to or facilitate the maximum use of electronic information facilities on campus.

- **Proper marketing and awareness.** The Akaki Branch Library is urged to engage in more initiatives to educate users about the importance of e-resources like OPAC, e-

journals, databases, e-books, ETD and others. This may increase the branch community's awareness of the available resources and services.

- **Relocation of the Akaki Branch Library.** The Branch Library is very far from the centre of the city. As the students mentioned, the location of the centre prohibits them from visiting and using the library facilities and services effectively. In order to improve the use of the facilities and services of the Akaki Branch Library, the library should be relocated to the city centre of Addis Ababa. This may increase the number of students using electronic information resources on campus.

6.4 FUTURE RESEARCH

This study focused only on UNISA Regional Learning Centre in Ethiopia, Akaki Branch Library. It is suggested that the study should be extended to collect data from other UNISA Regional Learning Centre branch libraries to determine students' needs for efficient library services. Besides, this study did not investigate demographic variables, such as age and gender, and whether or not these variables have a significant influence on the utilisation of electronic information resources. Future research on the influence of personal factors has on the use or non-use of e-resources could also be useful.

6.5 VALUE OF THIS STUDY

The value of the study relates to the understanding of the usage of electronic resources by graduate students at UNISA Regional Learning Centre in Ethiopia. Like other studies, this study tried to identify the major factors that play a significant role in students' use of electronic resources. It is beneficial to researchers who are interested in this area of study. With regard to practical value, this study makes recommendations that could help the management of the library to maximise the utilisation of e-resources, particularly in the Akaki Branch Library. Moreover, this study contributes to raise awareness of the level of graduate students' information literacy skills, which should be beneficial in a digital education system or environment.

6.6 SUMMARY AND FINAL COMMENTS

In this chapter the research questions were answered and the limitations of the research were discussed. Conclusions, based on the research findings, were formulated and recommendations were presented. Finally, suggestions for further research were identified and the value of this study was highlighted.

Digital information is not well-known in the context of library services in Ethiopia, particularly in the distance learning education system. This study showed how knowledge of students' information seeking behaviour can help to discover shortcomings of a current library service. The study is also an example of how theory of information behaviour can be applied to address information related problems in a real life situation – a library practice.

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APPENDIX A: Consent form

Form for research subject's permission

Title of research project: The Use of Electronic Information Resources by Postgraduate

Students at UNISA Regional Learning Centre in Ethiopia

I.....

hereby voluntarily grant my permission for participation in the project as explained to me by Mr. Addisalem Gebrekidan Desta (Department of Information Science, University of South Africa). Participation will include an in-depth individual interview. I agree to interviews being tape-recorded.

The nature, objective, and implications have been explained to me and I understand them.

I understand that the project is aimed at understanding the information needs and information behaviour, and how graduate students search for information. The intention at this stage is not to provide graduate students and significant others with the actual information required, etc.

I understand my right to choose whether to participate in the project and that the information furnished will be handled confidentially. I am aware that the results of the investigation may be used for the purpose of publication or conference presentations.

Upon signature of this form, you will be provided with a copy.

Signed: Date:.....

Witness:..... Date:.....

Researcher:..... Date:.....

APPENDIX B: Interview guide

Dear Students,

I am conducting research on the Use of Electronic Information Resources by Postgraduate Students at UNISA Regional Learning Centre in Ethiopia. You are, therefore, kindly requested to cooperate in providing me with your honest information as possible. The information you provide will be kept strictly confidential. The interview will be audio-recorded on your consent. The tape will be discarded after it is transcribed in full and its accuracy is confirmed by you. Please respond to each question based on your current information-seeking behaviour. There is no right and wrong answer and, therefore, please feel free to respond to each question.

THANK YOU VERY MUCH FOR YOUR TIME SPENT!

Section I. Personal information

1. Would you please indicate your age group:
20-30; 30-40; 40-50; 50-60; and 60-70
2. What is your present occupation?
3. For which academic qualification are you currently enrolled?
4. With which college are you enrolled?

Section II. Information-seeking behaviour

5. Which information sources do you often use for your study or research?
6. Explain the reasons?
7. What makes you comfortable to use such kind of information sources?
8. What are the major reasons why you didn't use another form of information sources?
9. Have you encountered any problems to access the information sources that you are consulting?
10. What are those problems?

11. How do you get access to sources that are not available in Akaki Branch Library?
12. What are the constraints impacting in finding information for your studies?

Section III. Electronic Resource Usage

13. Did you use electronic information sources before you joined UNISA?
14. How often do you use the UNISA library?
15. How often do you need help when you are using the UNISA online library?
16. How often do you use e-journals for your research?
17. How do you evaluate the importance of databases as a tool for collecting information sources for your research?
18. What is your evaluation or impressions of the library orientation and training sessions?
19. Do you get Internet access at your home, workplace or elsewhere?
20. How is the Internet speed to search and download e-journal articles?
21. How do you rate your level of computer literacy skills?
22. What are the constraints impacting on the use of electronic sources?
23. Finally, is there anything you would like to add?