

**ACCESS AND USE OF INFORMATION RESOURCES BY POSTGRADUATE
STUDENTS AT ADVENTIST UNIVERSITY OF AFRICA LIBRARY, KENYA**

BY

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**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
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SCIENCE IN LIBRARY AND INFORMATION STUDIES, DEPARTMENT OF
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OF INFORMATION SCIENCES**

MOI UNIVERSITY

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2018

DECLARATION

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DEDICATION

This thesis is lovingly dedicated to my beloved husband, Mr. Wilson Alex Mauti Ogonda, and to my children Eric Ondeyo Mauti, Rita Moraa Mauti, Bobronti Ogoti Mauti and Alvin Ogonda Mauti without whose prayers, support and encouragement, I would not have accomplished this work.

ABSTRACT

At Adventist University of Africa (AUA) library, observation and statistical reports depict a regressive pattern in the access and use of information resources. For example, in the year 2012, 400 students accessed information resources, while in 2013 the number dropped to 362. In 2014 the number dropped further to 304. The aim of this research was to analyse access and use of information resources by post-graduate students at AUA library and to suggest ways in which such access and use can be enhanced. The objectives of the study were: to examine the information resources in the library; establish how the information resources are accessed by the students; establish how the information resources are used; identify challenges post-graduate students face while accessing and using the information resources; and establish ways of enhancing access and use of the information resources. The study adopted a quantitative research approach. A survey research was used to guide the study within a case study. The study population consisted of 473 postgraduate students, with a study sample of 142. Probability and non-probability sampling methods were used to select the study sample. The researcher used stratified and purposive sampling techniques. Data collection methods included distribution of questionnaires. The study was guided by David Ellis' information seeking theory. Data was presented in tables and graphs, and analysed using Statistical Package for the Social Sciences (SPSS). The major findings were that the library is well stocked with information resources such as books, journals, newspapers, DVDs among other resources, and that the information resources were accessed and used by the students albeit the low usage. The study also established that the students were not well equipped with information retrieval skills to access and use information resources effectively. The challenges as established by the study included, lack of sufficient information literacy skills to access and use information resources, language barrier because some students come from non-English speaking countries, lack of awareness of available information resources among other challenges. The researcher concluded that the information resources were not effectively accessed and used optimally due to lack of sufficient information literacy skills and information retrieval skills. The study recommended that the respondents should be well equipped with the necessary skills to access and use information resources in the library, the information resources should be popularized and that the resources should be regularly updated.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACRL:	Association of College and Research Libraries
ASDAL:	Association of Seventh-day Adventist Librarians
AUA:	Adventist University of Africa
CAS:	Current Awareness Services
CUE:	Commission for University Education
IC:	Information Commons
ICT:	Information Communication Technology
ISB:	Information Seeking Behaviour
LIS:	Library and Information Science
MARC:	Machine Readable Cataloguing
MBA:	Master of Business Administration
OPAC:	Online Public Access Catalogue
ROI:	Return On Investment
RSS:	Really Simple Syndication
SDI:	Selective Dissemination of Information
SPSS:	Statistical Package for Social Sciences

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

This chapter addresses the introductory part of this study which includes the subject under which the study falls, the background of the study, statement of the problem, aim of the study, objectives and questions of the study, significance and scope of the study, and finally limitations of the study. An overview of the subject under study is presented here.

Academic libraries are fundamental fountains of information and knowledge in institutions of higher learning. Abubakar (2011) reaffirms that academic libraries are attached to tertiary institutions such as universities, polytechnic institutions, colleges of education, medical colleges and research institutions. Makori (2009) says that academic libraries acquire, preserve, organize, distribute and manage information resources in relation to research, teaching, learning and community services of universities. The author adds that in the university environment, the library is one of the single biggest source of memory that provides knowledge-base for research, teaching, learning and community services, and therefore forms the foundation of today's society built on reflection of the future academic generations.

Khan (2009) also believes that these libraries exist for the sake of users who are also promoters, whose major interests are that the desired information materials should be readily made available when needed, and in the appropriate format. Rasul & Singh (2011) also reaffirm that effective academic libraries are gateways to knowledge that

facilitate access and use of information resources. I agree with the authors above who reaffirm that preservation, access and use of information is the main mandate of academic libraries alongside supporting the mission and vision of the parent institutions which is teaching, learning and research. Consequently, it is imperative that any academic library facilitates easy access and use of information resources in its custody to facilitate effective research.

Makori (2009) says that modern knowledge environment has led to the revolution and advancement of technology in Information Communication Technology solutions resulting to introduction of innovative and new products and services like electronic information resources. This development of technology has transformed access and use of information resources in academic libraries thus users of these libraries need to be in tandem with these developments if they are to access and make use the information resources effectively.

Efficiency, effectiveness and user's information satisfaction are no longer based on large collections of publications available physically in the library. Academic libraries now depend on both physical and electronic information resources. In fact, in the modern digital environment, academic libraries offer hybrid collections of information resources which the information professionals in academic libraries manage, provide and market to the user community (students, lecturers, researchers and non-academic staff). Therefore the fundamental business of academic libraries is to provide information services in institutions of higher learning and to ensure that there is effective access and use of the

information resources. Such libraries will immensely support post-graduate programs in academic institutions.

Collins English Dictionary, (2015) defines a post-graduate program as a course or an academic program that occurs after a college degree has already been obtained. A post-graduate student is also defined as a student who has obtained a degree from a university and is pursuing studies for a more advanced qualification. Post-graduate students are key producers of research in Universities hence effective access and use of information resources is important in their research process in academic libraries. This will enable the University to produce quality knowledge output for the post-graduates.

1.2 Background to the Study

1.2.1 Adventist University of Africa

This study was done at Adventist University of Africa which is a Seventh-day Adventist educational institution whose main objective is to develop a life of faith in God and respect for the dignity of all human beings. The University started in 2006 offering postgraduate education and training programs in various fields of specialization. The library stocks information resources that support learning and research activities in the university. These contribute to the academic and professional success of the students.

Adventist University of Africa has two schools and these are; Theological Seminary and School of Post Graduate Studies. Figure 1.1 below shows the organizational chart of the university.

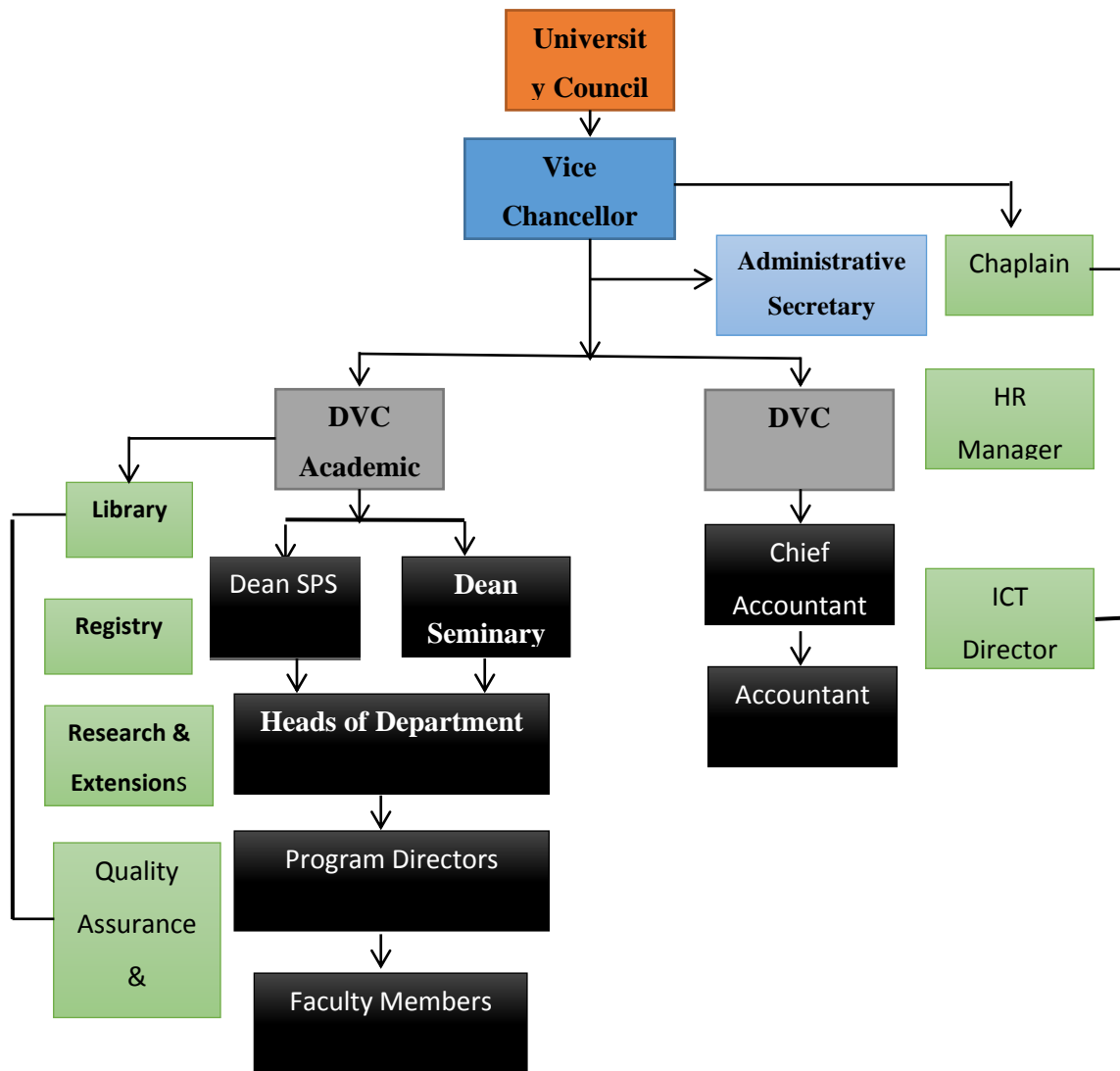


Figure 1.1: Adventist University of Africa Organizational Chart

The University has its main campus in Nairobi, Kenya with five extension sites where students gather so that they have the convenience of learning near their territory and place of employment. These sites include Solusi University in Zimbabwe, Babcock University in Nigeria, Valley View University in Ghana, University of Eastern Africa Baraton in Kenya and Helderberg College in South Africa. Figure 1.2 is a chart showing the extension sites.

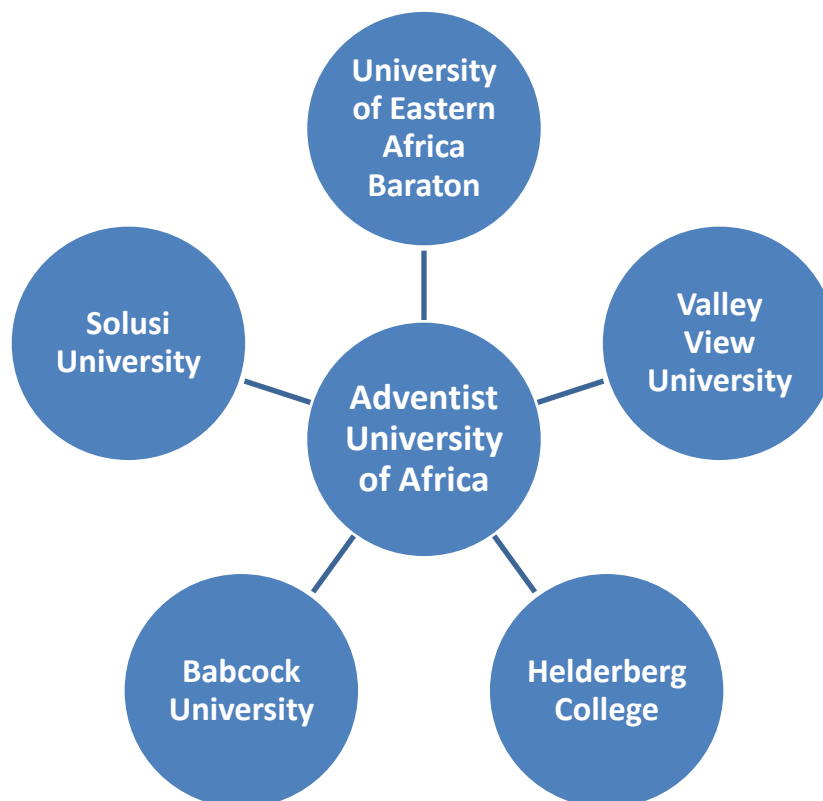


Figure 1.2: Adventist University of Africa Extension Sites

1.2.2 Postgraduate Programmes at Adventist University of Africa

Adventist University of Africa runs the following post-graduate programs that the library supports in learning and research: Doctor of Ministry, Master of Arts in Pastoral Theology; Master of Arts in Leadership; Master of Arts in Missiology; and Master of Business Administration (MBA). A number of other programs are at the approval stage at Commission for University Education (CUE) and will start soon. The University's library plays a major role in working in partnership with the faculty members to provide up-to-date, relevant, quality and adequate information resources that support these programmes.

Table 1.1: Academic Programmes Offered at AUA

Program
Doctor of Ministry
MA in Pastoral Theology
MA in Leadership
MA in Missiology
MBA

Source: A report from the office of the Registrar

Table 1.1 shows programmes that are offered at AUA. This information is useful in this study because the researcher needed the information for sampling purposes to ensure a fair representation from each programme. There are many more programs envisaged for future growth of the University.

1.2.3 Adventist University of Africa Library

The library named Judith Thomas Library was established in 2008 in a small room situated at Maxwell Academy with about 3,000 volumes. In 2009, the library was moved to a bigger room until 2012 when it was moved to the current ultramodern building, which was officially opened in 2012 and whose sitting capacity was about 500 patrons. The library's collection of information resources is over 17,000 books, numerous electronic resources, and periodicals. The users of the library are mainly students, faculty, non-academic staff and the interested community surrounding the university. The library is automated and uses an integrated library management system to manage its information resources.

1.2.4 Role and Functions of Adventist University of Africa Library

The main objective of the library is to partner with the University in research, teaching and to meet the information needs of its users by facilitating access to relevant and quality information resources and services. The primary role of the library is to provide fast access to information, satisfy the expectations of the users and reduce the costs of the services. Just like other academic libraries, the library facilitates access and use of information resources to the AUA fraternity. However observation and statistical reports indicate that access and use of the information resources has not kept an upward graph. This could be attributed to constant technological changes and lack of information literacy skills on the part of the users.

1.2.5 Information Resources

Just like any academic library charged with the role of providing up-to-date and relevant information resources, AUA library also provides information resources that support faculty in their teaching and postgraduate students in learning and research activities. The information resources include print based books, journals, magazines, theses, e-journals, e-books CDs, DVDs, among other resources. The library has partnered with two other universities to offer interlibrary loan facilities to supplement its information resources.

1.2.6 Information Sources

Adventist University of Africa houses primary, secondary and tertiary sources of information. Primary sources of information include; journal articles, theses, conference papers, reports among others. The secondary sources are; Journals, textbooks, article

indexes and databases. The tertiary sources are; encyclopaedias, dictionaries, almanacs, fact books among others.

1.2.7 Information Services

Cassell & Uma (2013) define information service as the process of resolving information needs of users in response to a particular question, interest, assignment or problem and building positive relationships with users. As an academic library, Adventist University of Africa library is committed to fulfilling this statement by providing myriad services and these include circulation services, reference services, book reservations, Current Awareness Services (CAS), and Selective Dissemination of Information (SDI). The library also provides information literacy programs to equip students with information access and use skills to enable them satisfy their information needs. An information literacy service may range from showing individuals how to use the library's Online Public Access Catalogue (OPAC), basic print and electronic sources to formal classroom sessions about conducting research in the library. Quality information services justify library expenditure and therefore attract sufficient funding.

1.2.8 Funding of the Library

Each year the University Librarian presents a budget request for the purchase of information resources. The request is based on the needs of the academic programs of the university in terms of reading and research resources. According to the Finance Department Budget Allocation Report (2016) the library receives sufficient allocation of funds for books and journals acquisition per year and this is shared among the School of

Postgraduate Studies and the Theological Seminary. Each school receives 40% of the total budget while the remaining 20% goes to journals. There is also an operational fund set aside to cater for other library expenditures other than the library reading resources. Library standard number LIB/STD/09 of the Commission for University Education University Standards and Guidelines (2014) states that Universities in Kenya ought to allocate the library 10% of the total University operational budget. Adventist University of Africa is working towards complying with this requirement.

1.2.9 Use of Information Communication Technology

Information Communication Technology (ICT) has tremendously changed the management of library resources and housekeeping operations as well as the way services are delivered in libraries. Krubu & Osawaru (2011) qualify the forgoing statement by asserting that Information Communication Technology (ICT) has brought unprecedented changes and transformation to academic library and information services, conventional library and information services such as Online Public Access Catalogue (OPAC), user services, reference services, bibliographic services, current awareness services, selective dissemination of information, document delivery, interlibrary loan services, audiovisual services, and customer relations. These services are provided more efficiently, cost effectively and faster using ICTs. Adventist University of Africa Library has embraced this trend and it is fully automated and it uses Information Technology application tools and an integrated library management system in its housekeeping operations like acquisitions, cataloguing, circulation control, serials control and access to e-resources. This makes information management efficient, effective and faster.

1.2.10 Facilities

Adventist University of Africa library maintains a number of facilities for the users. It has a beautiful ambience with green plants making the environment welcoming and friendly. It has two floors plus an upper basement. The ground floor is really the hub of the library, housing many of the library's resources and services. The second floor houses some books and textbooks for students, and a special collection. The floors have open study areas, individual study carrels and senior study cubicles used by PhD students.

The library has other facilities such as, an African Adventist Heritage Museum, a gift shop, a meditation gallery, space set aside for group discussions, outsourced printing and photocopying services, wireless internet access, a number of power access ports for laptop connections, a large auditorium for meetings, and luggage rooms. The library has well maintained restroom facilities as well.

1.2.11 Users of Adventist University of Africa Library

One fundamental aim of an academic library is to build and maintain a collection that will support the intellectual and research needs of its users. AUA library, as an academic library, meets the needs of a diverse group of users who have a variety of interests and demands that ought to be met. The users of the library are post-graduate students, faculty members, non-academic staff, the community surrounding the university and users from partner libraries (Interlibrary loan partnership).

1.3 Statement of the Problem

The fundamental business of any academic library is to facilitate access and use of information resources to support research, teaching and learning activities of any institution of higher learning. Chima & Nwokocha (2013) assert that information resources include all forms of information carriers that can be used to promote and encourage effective research activities and developmental projects. Access and use of these resources is of fundamental importance to the users of an academic library. Users of academic libraries require to access and use the information resources to satisfy their information needs. In view of this, the goal of an academic library is to ensure maximum access and use of the information resources in an academic library.

However, accessing and using information resources in many academic libraries in Universities face challenges that have made the process frustrating to users hence hindering the libraries from achieving their main goal of disseminating information effectively. This is the same scenario at Adventist University of Africa library where observation of use of information resources and statistical data show a regressive pattern in accessing and using the information resources by post-graduate students. For instance in the year 2012, 400 students accessed information resources, and in the year 2013 the number reduced to 362. Further still, in the year 2014 the number dropped to 304. This posed a challenge due to the heavy investment on library information resources that are purchased and stocked for use by the library users. Therefore Return On Investment (ROI) is in question.

Probably post-graduate students at Adventist University of Africa library do not visit the library regularly to access and use the information resources as expected due to time constraints, lack of the necessary information retrieval skills, lack of awareness of some of the information resources or lack of information communication technology skills to enable them access, retrieve and use information resources effectively. The challenges of access and use of information resources by the post-graduate students at Adventist University of Africa have not been empirically established. It is based on this understanding that a study was carried out to analyse access and use of the information resources in the library to establish the probable challenges and propose ways to address them to improve access and use of the resources. This will ultimately assist in meeting the information requirements of the students and at the same time achieve the main goal of the library which is to disseminate information effectively. Effective use of the information resources will make Return On Investment (ROI) more visible.

1.4 Aim of the Study

The aim of the study was to analyse access and use of information resources by postgraduate students at Adventist University of Africa Library, Kenya and to suggest ways in which they can be enhanced.

1.5 Objectives of the Study

- (i) Examine the information resources in the library.
- (ii) Establish how the information resources are accessed by the students.
- (iii) Establish how the information resources are used.

- (iv) Identify the challenges students face while accessing and using the information resources.
- (v) Propose ways on how access and use of the information resources can be enhanced.

1.6 Research Questions

- (i) What information resources are available in the library?
- (ii) How are the information resources accessed?
- (iii) How are the information resources used?
- (iv) What challenges do the students face while accessing and using the information resources?
- (v) How can access and use of the information resources be enhanced?

1.7 Significance of the Study

1.7.1 Theoretical Significance

The research project will constitute a new addition to the existing body of the knowledge on access and use of information resources in academic libraries.

1.7.2 Practical Significance

The research will inform planning and provide practical solutions to the problem of access and use of information resources by post-graduate students in academic libraries.

1.7.3 Policy-Related Significance

The research will inform policy formulation in relation to access and use of information resources by postgraduate students.

1.8 Scope of the Study

The study focused on the analysis of access and use of library and information resources by post-graduate students of Adventist University of Africa, Kenya. The University has students from other African countries, for example, Nigeria, Ghana, Zimbabwe, and South Africa.

1.9 Limitations of the Study

The researcher faced some limitations while carrying out the study as follows; Some of the post-graduate students were not fully computer literate and therefore they faced challenges in completing the research questionnaires online. However, they finally filled in the questionnaires and returned them. The other challenge was that some of the post-graduate students had returned to their countries where the network connection was slow and power supply was regulated while others returned to their rural homes and had no access to internet connection. This hindered timely receipt of questionnaires. Again some of the respondents were from non-English speaking countries and had a challenge in responding to the questionnaires effectively. The researcher solved the challenge by requesting the Adventist University of Africa program coordinators in Extension sites to administer the questionnaires to the respondents and send them back to the Main Campus

in Kenya. Again patience was exercised in this study in terms of receiving questionnaires back.

1.10 Chapter Summary

This chapter has discussed the subject under which the study falls showing how important academic libraries are in institutions of higher learning like Universities. As academic libraries spend resources in acquiring information resources, strategies should be put in place to ensure effective access and use of the resources to benefit the people who the resources are meant for. Monitoring and evaluation of library usage should be carried out to ascertain if there any challenges users face which can then be addressed appropriately. Background information of the scope and area of the study is well covered in this chapter.

1.11 Definitions of Terms

Academic Library: Shabi and Chinwe (2011) defines an academic library as a major infrastructure in any learning institution because of its rich and balanced collection and equipment that support the teaching and learning process as well as research.

Hybrid Library: Wikipedia defines a hybrid library as a library containing a mix of traditional print library resources and electronic resources.

Information Communication Technology: Haliso (2011) defines Information Communication Technology (ICT) as a diverse set of technological tools and resources used to communicate and create, disseminate, store, and manage information.

Information Literacy: Chen & Lin (2011) define information literacy as the hyper ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.

Information need: Ikoja-Odongo & Mostert (2006) define an information need as a requirement that drives people into information seeking and that it evolves from an awareness of something missing, which necessitates the seeking of information that might contribute to understanding and meaning.

Information Resources: Chimah & Nwokocha (2013) say that information resources include all forms of information carriers that can be used to promote and encourage effective research activities and developmental projects.

Information Seeking Behaviour: Baro, Onyenania & Osaheni (2010) define Information seeking behaviour can be described as an individual's manner of gathering and sourcing information for personal use, knowledge updating and development.

Information Services: Stojanovski & Paptic (2012) say that Information services encompass services through which librarians directly supply users with information but also interfaces created by librarians through which users could independently find needed information.

Online Public Access Catalogue (OPAC) – Glossary of library terms defines OPAC as a computerized catalog of books and other materials in the library.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter includes a review of relevant studies that have been conducted on access and use of information resources in academic libraries. The main purpose of conducting the literature review was to provide the researcher with more information concerning the relevant studies that have been conducted and to assist in better understanding of the thesis topic. It also enabled the researcher to understand the research methodologies that have been used by other researchers. The literature review further assisted in bringing out the research gap the study sought to bridge.

2.2 Theoretical Framework

Pickard (2013) says that the theoretical framework covers the theories, concepts and issues which surround your chosen topic. The researcher examined several models related to the topic under study. Three of the models were chosen from which the best one was selected which informed the study appropriately. The study looked at analysing access and use of information resources by post-graduate students at Adventist University of Africa. The information seeking behaviours of all the students involved was studied.

Savolainen, (2007) defines information seeking behaviour as a concept that was first introduced in the 1960s and has grown in significance over the years. During this period, a number of scholars have made attempts to define information seeking behaviour. The most widely accepted definition is that coined by Krikela (1983) who defined information seeking behaviour as a process that begins when someone realizes the existence of an

information need and ends when that need is believed to have been satisfied. Wilson (1999) also defined information seeking behaviour as something that forces someone to turn to formal and informal sources of information and is ultimately satisfied or dissatisfied with the result.

This study analyses three models of information seeking that explain the reasons people seek for information from various sources. These models include Krikella's Model of Information Seeking Behaviour, the Standard Model of Information Seeking and Ellis' Information Seeking Model. The three models provided an insight on the reasons for information access but the most relevant that informed this study is Ellis' Model of Information Seeking. However, the three models are explained below to show why Ellis' model was used to inform the study and not the other two.

2.2.1 Krikela's Model of Information Seeking Behaviour

This model was developed by James Krikela in 1983 and it was the first holistic model to be published that focused on the various sources of information including memory and observation. The model lays out the process right from the event or environment that creates the need for information through to the information gathering and giving stage. Krikela's model broke away from the traditional approach where other models focused mostly on libraries and educational settings as sources of information. Krikela's model of information seeking behaviour is believed to have laid the foundation for subsequent research on information seeking behaviour as well as other later models. The reason why it is considered important is because it provided a wider approach to information seeking

behaviour and provided an opportunity to include later developments in information sources such as electronic sources that have characterized the contemporary world.

Figure 2.1 represents Krikela's model of information seeking behaviour.

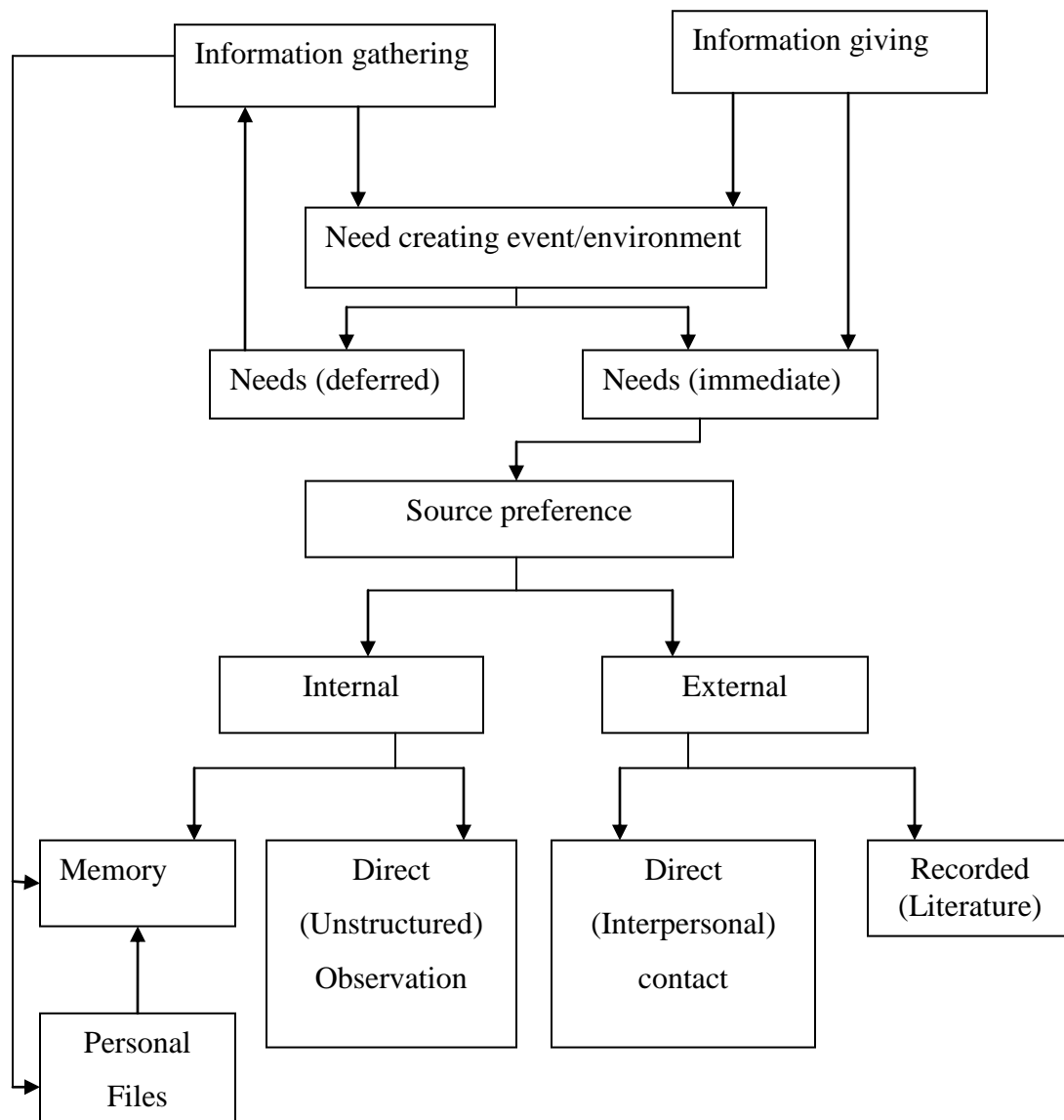


Figure 2.1: Krikela's Model of Information Seeking

Source: Krikela (1983)

Krikela's Information seeking Model was found to be relevant to this study to some extent. First it assisted to explain how library users get started as far as information access is concerned. Under normal circumstances, there has to be a need creating environment such as assignments or research activities that compel the library users to seek information. Depending of the urgency of the need, then the library users will decide on the sources of information that are relevant. It was therefore found that the model was important in explaining some key stages in information access at the Adventist University of Africa. However, the model did not comprehensively cover some of the stages that were key to this study hence the reason it could not be used to guide the study.

2.2.2 Standard Model of Information Seeking

This model was developed by Broder (2002) and it illustrates the process, in tandem with a sketch of the information access system that is used within the process. Broder's Model has a few stages of information access that were found to be relevant to this study but it was found to be highly skewed towards internet access. The study focused on all types of information from printed to electronic sources. The model was therefore found to be deficient and not able to address the various objectives of the study. Figure 2.2 below represents the Standard model of information seeking.

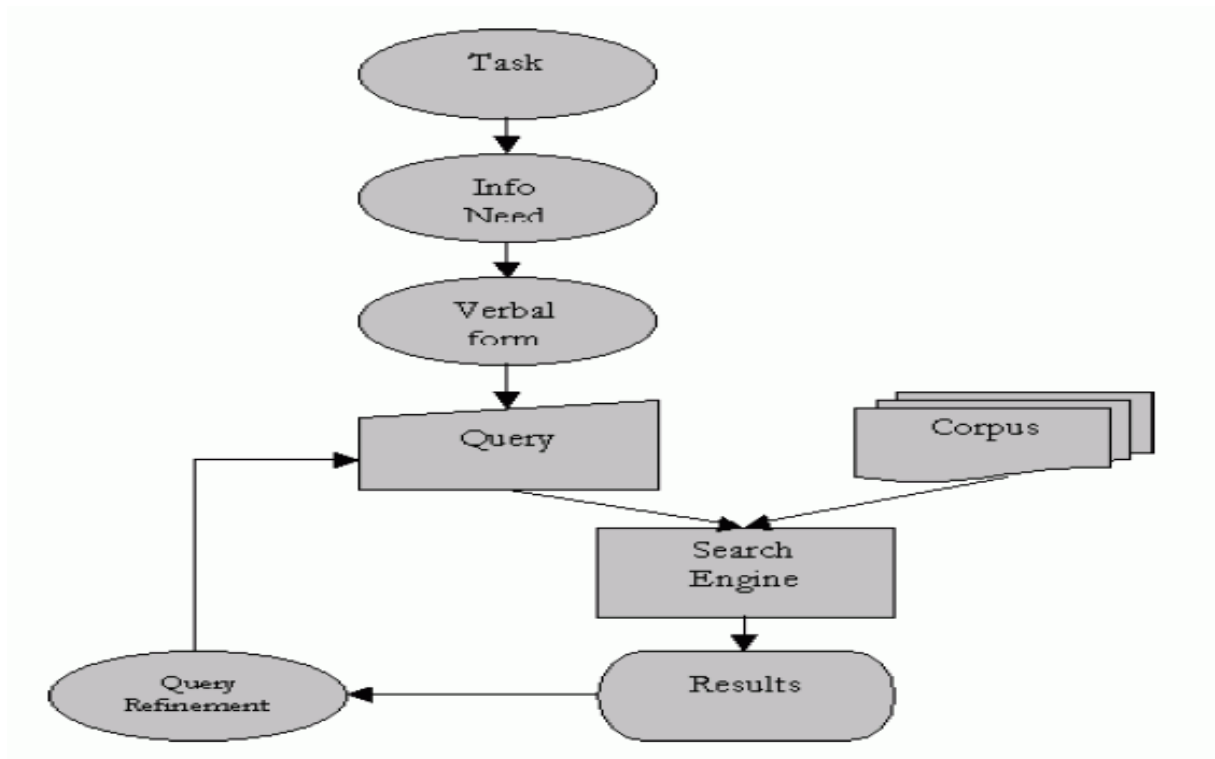


Figure 2.2: The Standard Model of the Search Process

Adapted from Broder (2002)

2.2.3 David Ellis' information seeking model

David Ellis' information seeking model identifies six actions that users follow when accessing and using information. The actions are; starting, chaining, browsing, differentiating, monitoring, and extracting. At a later stage, verifying and ending were added. Figure 2.3 demonstrates Ellis' Model of information seeking behaviour which shows that in accessing and using information there must be a starting point, activities in between and an ending point.

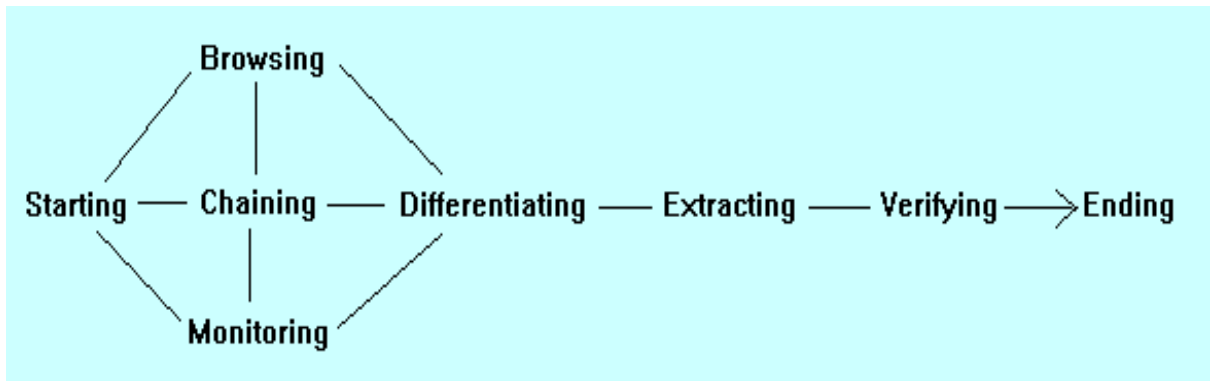


Figure 2.3: Ellis' Model of Information Seeking Behaviour

Source: Ellis (1989)

The first step of the model is referred to as “starting” and it involves identification of relevant resources where the learner seeks to get information that can satisfy the need or gap that exists. The second step is that of “Browsing” where the learner utilizes references to go through open book shelves to locate the resources. The third step is “chaining” which involves extracting the relevant information resources already identified. “Monitoring” involves keeping up to date with the topic to ensure relevant resources are browsed. The next step is “differentiating” which involves ranking the resources depending on the experience the learner has with the resources. The other step is “extracting” which implies obtaining the required information from the resources whereas “verifying” implies ascertaining whether the information is complete and adequately covers the knowledge gap that existed. The last stage is ending information seeking.

Ellis (1989) explains what all the six components mean.

- (i) **Starting** means identifying the initial materials to search through, selecting and starting points for the search. This activity is usually undertaken at the beginning of the information seeking process to learn about a new field. In accessing information the user has a starting point. Starting includes identifying sources of interest that could serve as starting points of the search for information. Identified sources often include familiar sources that have been used before as well as less familiar sources that are expected to provide relevant information. The likelihood of a source being selected depends on the perceived accessibility of the source, as well as the perceived quality of the information from that source.
- (ii) **Chaining** is explained as following leads from the starting source to referential connections to other sources that contribute to new sources of information. According to Ellis (1989) there are two kinds of chaining; backward chaining which is following a pointer or reference from the initial source, for example going to an article mentioned in the initial sources. The other one is forward chaining which is looking for new sources that refer to the initial source for example using a citation to find other sources that reference the initial source. In accessing information, users of the library use references quite often.
- (iii) **Browsing** is casually looking for information in areas of interest. This may involve going through the table of contents, lists of titles, topic headings, etc. Browsing is being open to finding new information and learning which can cause information needs to change.

- (iv) **Differentiating** is explained as selecting among the known sources by noticing the distinctions of characteristics and value of the information. The activity could be ranking and organizing sources by topic, perspective, or level of detail. The differentiation process is likely to depend on the individual's prior or initial experiences with the sources, word-of-mouth recommendations from personal contacts, or reviews in published sources.
- (v) **Monitoring** is keeping up-to-date on a topic by regularly following specific sources while extracting is methodically analysing sources to identify materials of interest.

Ellis' model is quite relevant and applicable in this study because the six actions are relevant to information access and use. Starting is to begin looking for information from information sources which post graduate students do at Adventist University of Africa Library. The students use references to extract information which according to Ellis is chaining. Browsing includes going through open book shelves to check for relevant information resources or going through the Online Public Access Catalogue (OPAC), which is a common occurrence among students. Monitoring is to ensure that one is using relevant and up-to-date information resources.

- (vi) **Extracting** is getting information from the information resources and using the same to do their assignments or write their projects. This is a very important stage in research. Differentiating is being able to tell the difference between the many

documents identified by the user and select the most appropriate for use to satisfy the identified information need.

- (vii) Verifying and ending** Verifying means checking for accuracy of information that is obtained by the user from the various sources. Ending means a final search, checking all material covered. It also means tying up loose ends through a final touch. Here the task of information seeking is complete and the user has obtained all the required information, thus satisfying his/her needs.

The characteristics proposed by Ellis' model continue to play vital roles in accessing and using information. These characteristics take place in both traditional research environments which rely on print-based and electronic information environment.

Ellis' Model is equally applicable in a digital environment where, an individual could begin surfing the Web from one of a few favourite starting pages or sites (starting); follow hypertextual links related to information resources, both backward and forward linking directions (chaining); scan the web pages of the sources selected (browsing); bookmark useful sources for future reference and visits (differentiating); subscribe to e-mail based services that alert the user of new information or developments (monitoring); and search a particular source or site for all information on that site on a particular topic (extracting).

This study was therefore guided by David Elli's Model of Information Seeking. When compared with the other two models explained above, the model was considered most appropriate since it outlines a process that matches well with information seeking in a

library environment. The model identifies six actions that users follow when accessing and using information in the library. The actions are; starting, chaining, browsing, differentiating, monitoring, and extracting. At a later stage, verifying and ending were added. The relevance of the theory to access and use of information made it more applicable to this study.

2.3 Review of Related Literature

2.3.1 Academic Libraries

Abubakar (2011) sees academic libraries as the heart or nerve centres of institutions of higher learning where all academic activities revolve. The author further states that academic libraries are the forefront of providing information services to their respective communities which comprise of students, lecturers, and researchers in order to support their teaching, learning and research needs. An academic library as a service institution should provide the right information, to the right person and at the right time for which a number of efforts have been made from time to time. In addition, academic libraries provide information resources and services to support teaching, learning, research, publishing and community services.

The Kenya Universities Act of (2012) states that the quality of an academic library should be determined on the basis of how well the library contributes to the achievement of the vision, mission, and values of the university, and also in developing and supporting information literate learners to discover access and use information effectively for academic success and lifelong learning. The success of learning and research activities

are embedded in the quality of library services and resources offered by the academic library which makes it very central in institutions of higher learning.

2.3.2 The Role and Functions of an Academic Library

Makori (2009) asserts that in the current digital age, academic libraries in general have become complex institutions with multiple roles. In the past, libraries were the sole custodians of information, which was predominantly in print but technology advances has brought new changes leading to new information needs and demands among the user community. Anunobi, Chinwe & Okoye (2008) say that academic libraries are faced with managing hybrid information resources (analogue and digital) and are challenged to acquire the necessary skills.

Interestingly, electronic information is eroding the monopoly of libraries as the sole access points to information and so academic libraries must endeavour to maintain their place by serving as access points to both analogue and digital resources. Numerous creative and useful services have evolved within academic libraries in this digital age and these include: providing quality learning spaces, creating metadata, offering virtual references services, teaching information literacy skills, choosing resources and managing resource licenses, collecting and digitizing archival materials, and maintaining digital repositories. Subsequently, academic library clientele and their expectations have changed to face these new roles.

Makori (2009) argues that, although the primary role of academic libraries is to deliver information to its users, they are losing the supremacy in carrying out this fundamental

role due to the changing information environment and media landscape, technological innovations, user expectations, and various economic issues. The same author continues to say that the academic libraries have no option other than to adopt business-like approaches in information management if they have to have a competitive advantage.

2.3.3 Information Resources in Academic Libraries

Information resources form the scope of an academic library which, Borin & Yi (2011) define as locally owned and housed resources; resources physically owned by other libraries but available through inter-library loan; electronic resources the library has subscribed to; and open access electronic resources. The success of learning and research activities and ultimate award of degrees to students in institutions of higher learning are embedded in the quality of the information resources offered by the academic library and how easily they are accessed and used.

Shabi and Chinwe (2011) observe that an academic library is a major infrastructure in any learning institution because of its rich and balanced collection and equipment that support the teaching and learning process as well as research. This enables a learning institution to meet the main objective of encouraging, promoting scholarship and conducting research in all fields of learning and human endeavour.

It is true that academic libraries are complex institutions with multiple roles. They provide not only books and space for students to study but also facilitate research activities. They provide bibliographies, reference services, and information literacy

classes. Similarly, Anunobi and Okoye (2008) argue that, a well-established library is essential for an academic institution.

As a focal point for teaching, learning and research, an academic library is expected to provide standard information resources. However, in this digital age, academic libraries are struggling to keep their place as the major source of inquiry in the face of emerging digital technology. Anunobi and Okoye (2008) continue to say that the role of academic libraries is two-fold, namely, traditional and modern. Traditional roles include: collection development; cataloguing and classification; circulation and reference services; current awareness services; and selection dissemination of information while modern roles include: providing quality learning spaces; creating metadata; offering virtual reference services; teaching information literacy; choosing resources and managing resource licenses; collecting and digitizing archival materials; and maintaining digital repositories.

A review of the literature continues to support the roles enumerated above and these include, provision of universal access to both traditional and electronic resources. Tebetts (1991) says that, for academic libraries to maintain a prominent position in their institutions, they must move from limited or local access to universal access. For this to be achieved, the academic library requires expandability, flexibility, and compatibility. The author further says that this involves standard hardware, sufficient capacity, networking capabilities, flexible software, and standards such as, MARC for information storage and retrieval, local expertise, and a plan for the next system. It is for sure true that in any academic institution, a library serves as an access point to information. Academic

libraries acquire and disseminate electronic portals and databases. Du & Evans (2008) also state that the most important service provided by the academic library is to offer training programs to improve users' information literacy skills, and assist them to find and use resources and other information.

2.3.4 Access of Information Resources

Borin and Yi (2011) ascertain that accessing of information resources means reaching the resources to read and satisfy an information need. They further emphasize that, access to information can be verified through gate counts, shelving statistics, library catalogues logins, or searches, database/web hits, vendor database statistics, reserve statistics, circulation statistics, interlibrary loan reports, etc.

The rapid strides in the field of Information, and Communication Technologies (ICTs), libraries are getting completely metamorphosed into information access centres holding information resources in traditional and electronic forms. Traditional resources are print based books and journals while electronic forms of information are full text databases, electronic journals, e-books, image collections, multimedia products, etc. Information resources meet the information needs of users and therefore effective access to the same is imperative. Information needs are cognitive while information resources are externally located and need to be accessed and used.

Nwagwu (2012) says that, Information resources are useful to the extent that they help the information user meet his or her information need. The information resources are books, journals, e-journals, web-pages, e-resources, internet, colleagues, newspapers,

search engines, etc. Once an information user recognizes the information he/she needs, they identify, access, evaluate and use the relevant information to satisfy the information need.

2.3.5 Use of Information Resources

More than before, universities have started paying greater attention to research by developing appropriate policies, making funds available for research and encouraging their students and faculty to do research. This endeavour can be cushioned by use of quality library resources only. Singh & Amir (2010) state that academic libraries now have taken the key role of providing a competitive advantage for the university and they are positioning themselves to be the learning and research centres of universities. University libraries have the responsibility of ensuring that the information resources are used appropriately by facilitating easy access and use. This can be achieved by automating the library services and equipping the users with the necessary information literacy skills.

2.3.6 Digital Information Resources

In recent times, the term ‘social networking services’ in libraries is featuring quite often. Gerolimos and Konsa (2011) state that in academic libraries, there is increasing popularity of social tools and software popularly known as ‘social networking services.’ These terms refer to web-based services like; Really Simple Syndication (RSS), instant messaging, streaming media, weblogs, social media, Facebook, twitter, YouTube and other browser tools.

The other concept that is featuring commonly is ‘Information Commons.’ Macwhinniee (2003) noted that in order to meet the new demands of users, libraries are developing new models, for providing access to electronic resources and digital information and assisting students to accommodate the changing needs and the demands for technology. One model for providing integrated technology and information resources is the ‘Information Commons (IC).’ This has been defined as a new type of physical facility specifically designed to organize workspace and service delivery around an integrated digital environment. However, it will not be an overstatement to say that, although there is a fundamental shift from traditional information environment to an e-environment, in developing countries, traditional library and information services and functions are still relevant and therefore the concept of ‘hybrid-library’ is here to stay.

2.3.7 Accessibility and Usage of Digital Information Resources

Abubakar (2011) asserts that with the advent of Information and Communication Technologies (ICTs), the role and position of libraries has dramatically changed. The author further observes that, today, the contemporary practice in academic library services in the 21st century is being propelled with an information explosion, and the inclusion of ICTs in all aspects of library services. It is therefore evident that the rapid development in the field of information technology has resulted into networked information services in libraries which have prompted a comprehensive review of the Library and Information Sciences (LIS). It is therefore imperative that the ICT Literacy concept in academic libraries be embraced to enable all the stakeholders to acquire the required knowledge to use ICTs in accessing and retrieving information.

To emphasize this idea of change in academic libraries due to technology, Association of College and Research Libraries (ACRL) (2010), team formulated the top ten trends in current academic libraries now and in the near future. These are summarized below: academic library collection growth is driven by patron demand and will include new resource types; budget challenges will continue and libraries will evolve as a result; changes in higher education will require the librarians to possess diverse skills sets; demands for accountability and assessment will increase; digitization of unique library collections will increase and require a larger share of resources; explosive growth of mobile devices and applications will drive new services; increased collaboration will expand the role of the library within the institution and beyond; libraries will continue to lead efforts to develop scholarly communication and intellectual property services; academic libraries to provide value-added intellectual property services; technology will continue to change services and requires skills; the definition of the library will change as physical space is repurposed and virtual space expands. The format of information resources has continued to evolve over time due to ICTs and this has improved access and usage.

2.3.8 Information Services in Academic Libraries

Ying & Johanna (2007) assert that academic libraries assume an important responsibility of facilitating student's education by providing services, programs and resources to assist them in being more effective and efficient in their academic career. Therefore information services in academic libraries form an integral part of the academic experience.

Information services in academic libraries include the following; library resources charging and discharging of both print and electronic resources; library orientation programs; interlibrary loan services; reservation of library resources both online and in person; reference and research assistance at the reference desk; online reference and research assistance; provision of library group study rooms; in-library wireless connection; and off-campus electronic access to library resources. These services and many more directly and positively impact on academic success of an academic institution.

The library needs to demonstrate to its patrons exactly how utilizing academic library services, readily accessing its resources, and taking advantage of its programs will improve academic success. The Association of Seventh-day Adventist Librarians (2012) states that “libraries and information services exist to provide equitable access to information”. This means that academic libraries have a responsibility to facilitate access and use of the information resources for academic success and excellence. This will justify sufficient budget allocation.

2.3.9 Information Needs

From the general point of view an information need is a desire to locate and obtain information to satisfy a need that one is aware or unaware of. Wilson (1981) says that such needs may be related to educational activities, to research activities, to professional activities to recreation activities, to cultural activities or to personal development.

Miranda & Tarapanoff (2008) define information needs 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. The basic assumption behind the discussion of information needs is that people need information and that is why Faibisoff & Ely (n.d) emphasize that the question is not whether men need information for they do. Rather the issue is whether the information available to them is of the right kind, and quantity, of acceptable accuracy, or of appropriate timeliness. Information needs can be fulfilled by accessing and using information in an academic library.

2.3.10 Information Needs of Postgraduate Students

The main scholarly work of postgraduate students in academic libraries is carrying out research to be able to produce quality research output in order to contribute to the institutional repository of an institution. For academic librarians to provide relevant and quality resources to post-graduate students, they need to know what they require from the library and how the library can help them effectively access and use the information resources hence meet their information needs. Fidzani (1998) says that information needs of post-graduate students depend on the discipline of the study and level. George(2006) states that for academic libraries to adequately address the changing needs of its students, they need to know more about the information that the students use and value and what influences their information searching, obtaining and use. This same study indicates that graduate students rely heavily on the internet for online resources, print-based books from the University library and other libraries. It is the duty of academic librarians to

study and understand the information needs of postgraduate students if they have to help them access and use the right information effectively.

2.3.11 Information Seeking Behaviour

Lin & Che (2011) observed that there is a growing consensus that the chief function of an academic library is not storage but is an important centre for learning with academic librarians now becoming ‘educators’ and inculcators of information literacy helping readers stay afloat on the navigation of the ocean of information now available to them.

A lot of literature reveals that information seeking behaviours have been the subject of many studies in the recent past. Information seeking behaviour is the ways individuals, seek, evaluate, select and use information. Ahmed and Vinayagamoorthy (2013) define information seeking behaviour as that which is concerned with determining user’s information needs, information searching behaviour and finally the use of information. They continue to say that information seeking behaviour is a process and form of problem solving that goes through problem recognition, problem articulation, source selection, query formulation, search execution, examination of results, extraction of required information and reflection. In simple terms, information seeking behaviour is the way people or researchers search for information and utilize it.

El-Maamiry, (2017) say that information seeking behaviours (ISB) is information seeking behavior is considered as a human behavior to search for information in purposeful way to find the gap. ISB is basically the behaviour pattern of various scholars, researchers and students in collecting information according to the needs of their subjects. ISB differs

from person to person and ethnic groups to other ethnic groups. Access and use of information in academic libraries can be evident if the users have the right attitude towards the services and the resources.

2.3.12 Information Seeking Behaviour of Academic Researchers

Information seeking behaviour involves the seeker and the information. It is a process with which human beings engage to purposely change their state of knowledge. Okonoko (2015), describes information seeking behaviour as an individual's way and manner of gathering and obtaining information for personal use, knowledge, updating and development. The authors further indicate that, information seeking behaviour entails the totality of human behaviour in relation to sources and channels of information including active and passive information seeking.

In searching for information, different researchers behave differently because they have different reasons for wanting information, different levels of information search skills and prefer different types of information resources. Researchers often look for the fastest way to get information and this is from electronic resources.

Researchers need information for fact-finding, current awareness, for research, briefing function, and for stimulus function. Researchers consult books and journals more than anything else.

Niu & Hemminger (2011) assert that more and more resources have become available online and therefore researchers have changed their information behaviour, information

they are using, how and when. They continue to say that academic researchers have convenient and easy access to an unprecedented amount of electronic scholarly resources while also facing a dizzying array of different types of content delivery, including books, journals, web pages, and online databases.

Ellis (1993) states that increased knowledge of information seeking behaviour of researchers is crucial to meeting their information needs. Social media which are a result of emerging technologies are likely to change the ways that researchers access and use information. Academic libraries must integrate technology and traditional services making libraries the gateways to the vast wealth of print and electronic information now available which will encourage usage and enhance researchers' satisfaction.

2.3.13 Impact of ICT on Access of Information Resources

Haliso (2011) defines Information Communication Technology (ICT) as a diverse set of technological tools and resources used to communicate and create, disseminate, store, and manage information. These technologies are making it possible for libraries to provide a variety of library and information services to users. Use of ICTs has made operation easier and faster in academic libraries. This statement has been justified by Rasul and Singh (2011) who confirm that library automation is one of the major applications of ICTs in libraries and that it has helped to change the libraries' in-house activities (acquisition, cataloguing, indexing, serial control, circulation etc.) from manual to automated systems. Application of information technology in academic libraries has transformed information storage and delivery mechanisms and has provided user friendly

interfaces. In most libraries Online Public Access Catalogues have almost replaced card catalogues. This has enhanced search capabilities for accessing the collection of the library.

Naik & Mallapur (2009) observe that the convergence of technologies, international communications protocols, and increasingly flexible web-based services have taken the 'hybrid library' from concept to reality. This new reality has forced academic libraries to give serious thought to how they can best realign resources to meet challenges of the library in the 21st century. In academic libraries, ICT has brought about changes in information repackaging, management of hybrid resources (print and electronic) and new personnel skills. The same authors add that the paradigm shift in libraries has been brought about by the advent of web-enabled information resources such as e-journals, e-books, and e-reference sources, and their access through networks. This has taken the library to the users instead of the users coming to the library hence a significant amount of information access is now taking place beyond the four walls of the library. Effective use of ICTs has facilitated easy and wider access to all kinds of information resources.

Sigh and Kaur (2009) say that, there is a paradigm shift from standalone libraries to library and information networks; from printed publication to digital documents; and from ownership to access. This observation is unchallengeable because many academic libraries are putting emphasis on e-resources as well. Therefore academic librarians have no option but to respond positively in all facets of the library services they offer if they have to remain relevant in the 21st century. The changes in libraries are so absolute and

have changed the information needs of users drastically hence, changed their information seeking behaviours.

McGuigan (2012) also observes that change has impacted on academic libraries from many dimensions. For example the web has altered the process of library acquisitions, collection development and reference services delivery. The same author continues to say that academic libraries exist in an unprecedented environment of change arising from internal and external technological factors impacting on scholarly publishing and academic librarianship. The overall observation is that Information Communication Technology has impacted positively on the library and information management landscape which has resulted into faster, efficient and effective access and use of information resources, especially in academic libraries.

2.3.14 Impact of ICT on Use of Information Resources

Abubakar (2011) argues that with the advent of Information and Communication Technologies (ICTs), the role and position of libraries has dramatically changed. He further observes that, the contemporary practice in academic library services in the 21st century is being propelled with an information explosion, and the inclusion of ICTs in all aspects of library services. It is therefore evident that the rapid development in the field of information technology has resulted into networked information services in libraries which have prompted a comprehensive review of the Library and Information Sciences (LIS). It is therefore imperative that the ICT Literacy concept in academic libraries be

embraced to enable all the stakeholders to acquire the required knowledge to use ICTs in accessing, retrieving and using information.

In addition, Sarah (2012) says that library users and their expectations for services and collections have changed. She continues to say that factors driving change include: Networked technologies; powerful search engines available to all; social technologies; and digitization of everything. These factors have made access to library and information services move beyond local and geographical locations to universal or global platform where technology has helped to solve and mediate the problems clients face in using electronic materials.

2.3.15 Information Literacy

Technological developments have transformed access and use of information resources and raised awareness of information literacy which has also diversified in this dynamic and networked world. There are many definitions of information literacy which vary in wordings and length but there is a shared understanding of the concept.

The Leichner, N. et al. (2014) defines information literacy as knowing when and why you need information, where to find it and how to evaluate, use and communicate it in an ethical way. For users of academic libraries to use information resources effectively, they ought to be information literate. Academic College and Research Libraries (ACRL) (1998) also defines information literacy as a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use

effectively the needed information.' ACRL further develops Information Literacy Standards for Higher Education as follows:

- (i) The information literate student determines the extent of the information needed.
- (ii) The information literate student accesses needed information effectively and efficiently.
- (iii) The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
- (iv) The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
- (v) The information literate student understands many of the economic, legal and social issues surrounding the use of information and accesses and uses information ethically and legally.

To be prepared for academic study, life, and work, students must become critical consumers and users of information. Burkhardt and MacDonald (2010) affirm that although majority of the students know how to use technology, they do not know how to make use of the best of the information they find. Hence these students need training in information literacy to be able to;

- (i) determine the extent of the information needed;
- (ii) access the needed information effectively and efficiently;
- (iii) evaluate information and its sources critically;

- (iv) incorporate selected information into one's knowledge base
- (v) use information effectively to accomplish a specific purpose and
- (vi) Understand the economic, legal and social issues surrounding the use of information, and access and use information ethically and legally.

Those students who have poor ICT skills need information literacy training as well. Academic librarians have long been dedicated to the teaching and learning of information literacy to increase students' academic success.

2.3.16 Challenges Post-Graduate Students face while Accessing and Using Information Resources

Beatty & Ryan (2003) assert that academic libraries are facing major threats in the global digital environment and on increasingly competitive environment and must improve the quality of their services in order to survive. In addition, Atkinson & Morgan (2000) note that the climate in academic institutions is one in which the quality of the learning experience is placed under rigorous scrutiny. Indeed institutions are now subjected to a whole battery of inspections, reviews, audits and assessment and, clearly libraries are an integral part of this process.

In Kenya, Commission for University Education produced a document setting standards and guidelines governing university libraries and officials visit universities for quality assurance. A number of experts have identified various obstacles that students face while accessing and using information in academic libraries. Ugah (2007) summarizes some of these challenges as the following:

- (i) Lack of awareness of the information resources;
- (ii) Inaccessibility of the resources;
- (iii) Information explosion;
- (iv) Bibliographic obstacles;
- (v) Environmental obstacles;
- (vi) Poor infrastructure;
- (vii) Declining budgets and rising crisis costs for users; and
- (viii) Staff attitude towards users and crime.

Due to lack of awareness, seekers and users may not know about the information resources. Users need to be made aware of the information resources available in the library. Even when the information resources are available, it is possible that they are not accessible and this can pose a challenge to access and use. Ugah (2007) cites the following reasons among others as the ones that can be attributed to inaccessibility:

- (i) Users do not know their information needs and if they know then, the library staffs do not understand them.
- (ii) Poor indexing of the library catalogue or the library collection itself.
- (iii) Inefficient circulation policy or poor shelving methods and guides.
- (iv) Unnecessary physical and administrative barriers by the library management.
- (v) Missing resources even when indicated as available in the catalogue.

Information explosion is a very common phenomenon now and this is due to the proliferation of information. When users do not possess search strategy skills, this poses a challenge to them in accessing and using information effectively.

Although these challenges seem overwhelming, there are mitigation strategies that can be applied to counter them and enable academic library users to access and use information smoothly. Examples of these strategies are; acquiring, relevant, adequate, and up-to-date information resources, providing appropriate information retrieval devices, equipping the users with information literacy skills, providing a good library infrastructure, and equipping library staff with good interpersonal relationship skills for them to have a positive attitude and help their users.

2.3.17 Chapter Summary

In this chapter, the researcher has described the theoretical framework which has informed this study. Sub-themes on academic libraries and usage of information resources have been outlined and some of these themes include; The role of academic libraries; Information needs and seeking behaviours of users; access and use of information resources; Use and impact of Information Communication Technologies; information literacy skills among others. The chapter ends with challenges faced by post graduate students in accessing and using information resources.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides information in relation to the research methods utilized in the study. Research methodology is the description of the methods to be used in carrying out the study. and these include, research approaches, research design, area of study, population study, sampling methods and techniques, data collection methods and approaches, data collection tools, issues of validity and reliability and ethical considerations.

3.2 Research Approach

Chetty, (2016) describes research approach as a plan and procedure that consists of the steps of broad assumptions to detailed method of data collection, analysis and interpretation. It is therefore based on the nature of the research problem being addressed and research approach is essentially divided into two categories, quantitative research and qualitative research. Quantitative research approach often translates into the use of statistical analysis to make the connection between what is known and what can be learned by research, consequently analyzing data with quantitative strategies requires an understanding of the relationship among variables by either descriptive or inferential statistics. On the other hand, a qualitative approach is a broad approach encompassing many research methods, it is a systematic collection, organization and interpretation of textual information (including images/videos).

In this study the researcher used a quantitative research approach. A quantitative approach was necessary to enable the researcher use measures of central tendency and dispersion as well as frequencies and percentages in data analysis based on the nature of the study. The study therefore generated data in a quantitative form which was subjected to rigorous quantitative analysis.

3.3 Research Design

Gray (2009) describes a research design as the overarching plan for the collection, measurement and analysis of data, The author continues to say that a research design will describe the purpose of the study and the kinds of questions being addressed, the techniques to be used for collecting data, approaches to selecting samples and how the data is going to be analysed.

This study used questionnaires to collect data from the postgraduate students in relation to access and utilization of information resources in the library. The respondents and the unit of study were from the same research environment. Another author, Kothari (2009) says that a research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purposes with economy in procedure.

3.4 Area of Study

The research study was conducted at the Adventist University of Africa library situated in Ongata Rongai, Kajiado County, Kenya. The respondents were mainly the students of the university who normally access and use the available information resources. For data

collection purposes respondents were drawn from all programs studied so as to provide in-depth and comprehensive information in relation to access and use of information resources in the library.

3.5 Study Population

Pickard (2013) describes a research population as the entire set of individuals about which inference will be made. It is a complete set persons or objects that possess some common characteristic defined by the sampling criteria established by the researcher.

The study population for this study was postgraduate students at Adventist University of Africa. According to the current data a total of 473 who have been admitted to various courses at the University. These programmes include: Master of Arts in pastoral theology; Master of Arts in leadership; Master of Arts in missionary; Master's in Business Administration and Doctor of Ministry.

3.6 Study Sample

According to Wikipedia a study sample is a set of objects from a parent population that includes all such objects that satisfy a set of well-defined selection criteria.

According to Mugenda and Mugenda (2003) a minimum of ten percent of the target population is enough for a sample size when small populations are involved but in this study the researcher used thirty percent of the study population. The study sample was picked from postgraduate students at the university. Sample size of 142 respondents,

comprising of students pursuing postgraduate programs in different fields was used in the study.

3.7 Sampling Methods

According to Kumar (2005), sampling methods are ways used in selecting a few respondents (sample) from a bigger group (the sampling population) to become the basis for estimating or predicting the prevalence of unknown pieces of information, situation or outcome regarding the bigger group. Pickard (2013) adds that sampling is used when it is not possible or practical to include the entire research population on your study, which is usually the case. Sampling is therefore the process of selecting a few from the many in order to carry out empirical research. The method of sampling plays a major role in any research investigation.

3.7.1 Probability Sampling Method

Pickard (2013) alludes that probability sampling is used in order to provide a statistical basis for generalising from a research study to a wider population. The author continues to say that a rather simplistic rule of the thumb is to assume that quantitative research will tend to use probability sampling techniques and qualitative research will tend to use purposive sampling. In this study the researcher used probability sampling method because it involved randomization where all members in the sampling frame had equal opportunity of being selected for the study. This method helped the researcher to select a sample size that represented respondents from all the programmes offered at the

university. Out of 473 students, 142 participated in the research and using the probability sampling method, there was representation from all the programmes.

3.8 Sampling Techniques

Kombo & Tromp (2006) say that sampling techniques are ways used in selecting and organizing a sample frame during the data collection process from respondents. There are many types of sampling techniques but the researcher used stratified sampling technique.

3.8.1 Stratified Sampling Technique

According to Pickard (2013), very often research population will have recognized groups or strata within the population. Stratified random sampling allows for random selection within each group or strata. This is a two-stage process and the groups are identified and the research population is listed within the groups.

The researcher used stratified sampling technique where the respondents were divided into strata according their program of study and then randomly selected from each stratum. The strata included students pursuing Doctor of Ministry, Master of Arts Pastoral Theology, Master of Arts in Leadership, and Master of Arts in Missiology as well as Master of Business Administration. Each of these fields of study was treated as a stratum. Stratified sampling was appropriate because it enabled the researcher to simplify the study population and thus made it easier to select the participants without bias. It also ensured fair representation from all the programs.

3.9 Data Collection Methods

3.9.1 Administration of Questionnaires

Gary (2009) describes questionnaires as research tools through which people are asked to respond to the same set of questions in a predetermined order. The advantages of using questionnaires are that; you can reach a large and geographically dispersed community at a relatively low cost, data can be harvested from a larger sample than would be possible using any other technic, respondents can complete the questionnaires at a time and place that suits them, and anonymity can be maintained as well as confidentiality.

Pickard (2013) also says that questionnaires are without doubt the single most popular data collection tools in any research involving human subjects.

In this study, pre-arranged questionnaires were used to collect data because these allowed raw and original data to be collected. Questionnaires were easy to use because they constituted a permanent record. The questionnaires were analysed and data presented in an understandable report that assisted the researcher draw a helpful conclusion that provided a way forward in enhancing access and use of information resources at Adventist University of Africa library.

3.9.2 Document Analysis

Document analysis involved studying documents like library usage statistics and reports. These formed primary sources of data. Some of these documents may not be published information and so may not be authoritative sources of information.

3.10 Data Collection Instruments

3.10.1 Questionnaire

According to Gatara (2010), a questionnaire is an orderly listing of questions that one would like to put to would be respondents to solicit particular type of information. The researcher used a well-structured questionnaire to collect data from the respondents. The respondents read the questions, interpreted what was expected and responded to the questions. The questionnaires were pre-tested before they were administered.

3.11 Validity and Reliability of Data Collection Instruments

3.11.1 Validity of Data Collection Instruments

Selvam, (2017) says that validity is the confidence that a given finding shows what it purports to show. That is it is close to reality. This refers to the degree of accuracy and meaningfulness of inference based on the study results. The validity of the research instruments used in this study were reviewed by information professionals and other stakeholders. Research instruments contained evidence that the items and domains of the study were appropriate and comprehensive relative to its intended measurement concepts and use. The questions contained in the instrument conformed to the study objectives as per the theories regarding use and access of information. This validation was important in ensuring that the instrument was subjected to the best criterion for data collection, analysis and presentation.

3.11.2 Reliability of Data Collection Instruments

Selvam, (2017) says that reliability is the confidence that a given empirical finding can be reproduced. When a study is repeated under the same circumstances with the same population, using the same methods, if it yields the same results then it is reliable. A pilot study was conducted to assist in determining reliability of the research instruments in this study. Pretesting of questionnaires with a small group of postgraduate students drawn from different courses was done for the purpose of rectifying inconsistencies, grammatical errors, coherence of the questions, and relevance of the questions to the research.

3.11.3 Pre-testing Data Collection Instruments

In this study, the questionnaires were pretested on a sample of respondents to ascertain their effectiveness, clarity; and the time the respondents may take to answer the questions. In other words this assessed the validity and reliability of the data collection tools. A pre-test checklist was used to evaluate the validity and reliability of the data collection instruments and these included the following; legibility of the font size, spellings, use of vocabulary, clarity of questions, coherence of the questions, and coverage of research objectives. The pre-testing of data collection instrument was done at Adventist University of Africa library where a sample of 15 postgraduate students and 5 staff members were picked to evaluate the tool. Among the changes that were made after the pre-test included use of vocabulary for a few questions, change of language to enhance clarity of the questions. A few questions were also amended in order to achieve consistence with others.

3.12 Ethical Considerations

Creswell (2009) describes ethical considerations in research as the moral principles guiding research, thus conducting research in a way that goes beyond merely adopting the most appropriateness research methodology but conducting research in a responsible way and morally defensive way. The ethical considerations under this research included confidentiality and anonymity of the respondents. The researcher made sure that ethical behaviour is fostered throughout and every precaution was taken in the design of the instruments for data collection purposes. The researcher explained the purpose of the research to the respondents and also had their full consent. Acknowledging of all sources of information was done to give credit to the work of authors cited in this work.

3.13 Data Presentation, Analysis and Interpretation

Greswell (2009) says that the process of data analysis involves making sense out of the text and image data. The author continues to say that this process involves preparing the data for analysis, conducting different analysis, moving deeper and deeper into understanding the data, representing the data and making an interpretation of the larger meaning of the data. Data gathered and collected was analysed and presented in tables, figures, and graphs and percentages which addressed whether the research questions were supported or refuted. The researcher ensured that the tables, figures and graphs representing the derived data were accurate and that they reflected the data variation clearly. Data was processed, coded and analysed using the Statistical Package for Social Sciences (SPSS) software. Data analysis process involved manually transferring of the responses from the questionnaires into SPSS software and spreadsheet.

3.14 Chapter Summary

This chapter deals with research methodology the researcher used in conducting the research. It begins with a description of research methodology and why it is a very crucial part of any research. The researcher lists the components of research methodology with their definitions, and also specifies which ones were applied in this research. In this chapter the researcher justifies the methods and instruments used to collect data. The researcher mentions the validity and reliability of data collection instruments and says that these were pretested before the actual study began. Ethical considerations; confidentiality; plagiarism were emphasized to produce a quality paper.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

The purpose of this study was to analyse access and use of information resources by post-graduate students at Adventist University of Africa library in Kenya. The study sought to achieve five objectives: examine the information resources in the library, establish how the information resources are accessed by the students, establish how the information resources are used, identify the challenges students face while accessing and using the information resources and finally propose ways on how access and use of the information resources can be enhanced. The results from the study are presented next based on the research objectives.

4.2 Response Rate

The study had a sample study of 142 respondents who were selected from among the students pursuing different postgraduate courses at the Adventist University of Africa. A total of 142 questionnaires were administered to the respondents out of which 109 were successfully completed and returned. The results on response rate are presented on Table 4.1.

Table 4.1: Response rate

Response	Frequency	Percentage (%)
Returned questionnaires	109	82%
Non-returned questionnaires	33	18%
Total	142	100

The findings presented on Table 4.1 reveal that 109 (82%) questionnaires were returned. This response rate was considered sufficient enough to enable generalization of the findings of access and use of information resources by post-graduate students at Adventist University of Africa library.

4.3 Demographic Information

The study sought some information concerning the respondents. This was important in understanding the background and the needs of the respondents. The demographic information was divided into personal information concerning Nationality and the program of study as well as user information needs which included the frequency of visiting the library and the purpose for the visit.

4.3.1 Nationality of Respondents

The respondents were requested to indicate their country of origin. The results concerning the distribution of respondents in terms of country of origin are presented on Table 4.

Table 4.2 (a): Nationality

Country	Frequency	Percentage (%)
Kenya	44	40.4
Tanzania	11	10.1
Uganda	10	9.2
Rwanda	8	7.3
S. Sudan	6	5.5
Malawi	6	5.5
Congo	5	4.6
Zimbabwe	5	4.6
Zambia	3	2.8
Ethiopia	3	2.8
Democratic Republic of Congo	4	3.7
Malagasy	3	2.8
Burundi	1	0.9
Total	109	100.0

The research findings from Table 4.2 reveal that 44 (40.4%) of the students at Adventist University of Africa are Kenyans. 11(10.1) % are from Tanzania, 10 (8.3 %) are from Uganda, 8 (7.3 %) from Rwanda, 6(5.5 %) from Malawi, another 6(5.5 %) from South Sudan, 5 (4.6 %) from Congo, another 5 (4.6 %) from Zimbabwe, 3 (2.8%)Zambia, 3 (2.8) Ethiopia, 4 (2.8%) Democratic Republic of Congo and Malagasy had 3 (2.8 %) each whereas the other African countries had a student population of less than one percent studying at the University. This is a clear indication that majority of the students taking postgraduate courses at the university are from the East African Region.

Table 4.2 (b): Students' Official Languages

Country	Language	Percentage (%)
Kenya	English/Kiswahili	44 (40.4%)
Tanzania	Swahili/ English	11 (0.1%)
Uganda	English	10 (8.3%)
Rwanda	Kinyarwanda/English	8 (7.3%)
S.Sudan	English	6 (5.5%)
Malawi	English	6 (5.5%)
Congo	French	5 (4.6%)
Zimbabwe	English	5 (4.6%)
Zambia	English	3 (2.8%)
Ethiopia	Amharic/English	3 (2.8%)
Democratic Republic Congo	French	4 (2.8%)
Malagasy	French	3 (2.8%)
Burundi	Kirundi/French	1 (0, 9%)
Total	109	100.0

The results from Table 4.2 (b) reveal that majority of the students were from countries with English as the National language. These countries included Kenya, Uganda, Rwanda, South Sudan, Malawi, Zimbabwe, Zambia, and Burundi. There were students from countries where Swahili is well spoken. For example Tanzania and Kenya. There were also students from French speaking countries such as Congo, DRC and Malagasy, Rwanda among others. There were also students from Ethiopia whose official language is Amharic. This showed great language diversity which meant that policies on information access has to carefully address this challenge.

4.3.2 Program of Study

The respondents were further required to state the postgraduate course they were pursuing at the Adventist University of Africa. The results on the program of study of the respondents are presented on Table 4.3.

Table 4.3: Programme of Study

Program	Frequency	Percentage (%)
Doctor of Ministry	38	34.9
MBA	36	33.0
MA Pastoral Theology	21	19.3
MA Leadership	14	12.8
Total	109	100.0

It was established that 38 (34.9 %) of the postgraduate students at the university were pursuing Doctor of Ministry, 36 (33 %) of the postgraduate students were pursuing a Master of Business Administration program, and 21 (19.3 %) were studying Master of Arts in Pastoral Theology whereas 14 (12.8 %) were pursuing Master of Arts in Leadership. This is an indication that there are students pursuing different courses and they do require varying information resources that are commensurate with their course requirements.

4.3.3 Frequency of Visiting the Library

The study sought to establish the number of times the postgraduate visited the library. This was particularly important in ascertaining whether the students could provide

reliable information concerning access and use of the information resources at Adventist University of Africa. The results on frequency of visiting the library are illustrated on Table 4.4.

Table 4.4: Frequency of Visiting the Library

Response	Frequency	Percentage (%)
Daily	40	36.7
Once a week	40	36.7
2-3 times a week	21	19.3
2-3 times a month	8	7.3
Total	109	100.0

The research findings on Table 4.4 above indicate that 40 (36.7 %) of the students accessed the library daily, 40 (36.7 %) accessed the library at least once a week, 21 (19.3 %) of the students accessed the library two to three times a week and 8 (7.3 %) of the students accessed the library two to three times a month. This is a confirmation that majority of the postgraduate students have access to the library several times in a week hence could be able to provide reliable information concerning access and use of information resources in the library.

4.3.4 Purpose of Visiting the Library

The respondents were also asked to indicate the purpose for visiting the library each time they did so. They were provided with eleven possible reasons for visiting the library and were expected to tick those that were applicable to them. The results were analysed using percentages and are presented in Table 4.5 and Figure 4.1.

Table 4.5: Purpose of Visiting the Library

Purpose	Frequency	Percentage (%)
To use reference materials	25	23
To do assignments	23	21.1
To do research	18	16.5
To study	15	13.8
To access electronic resources	10	9.1
Access internet	7	6.4
To read newspapers	5	4.6
To borrow books	5	4.6
Read journals	1	0.9
Total	109	100.0

It was established from the study results on Table 4.5 that majority of the postgraduate students at the Adventist University of Africa visit the library to use reference materials as indicated by 25 (22.9 %) of the respondents, 23 (21.1 %) of the students visit the library to do assignments, 18 (16.5 %) of the students visit the library for research purposes, 15 (3.8 %) visit the library to study. 10 (9.2 %) to access electronic resources, 7 (6.4 %) to access internet, 5 (4.6 %) to read newspapers, 5 (4.6 %) to borrow books and 1 (0.9 %) to read journals. This is an indication that the students have diverse information needs hence the need for them to be able to access the information.

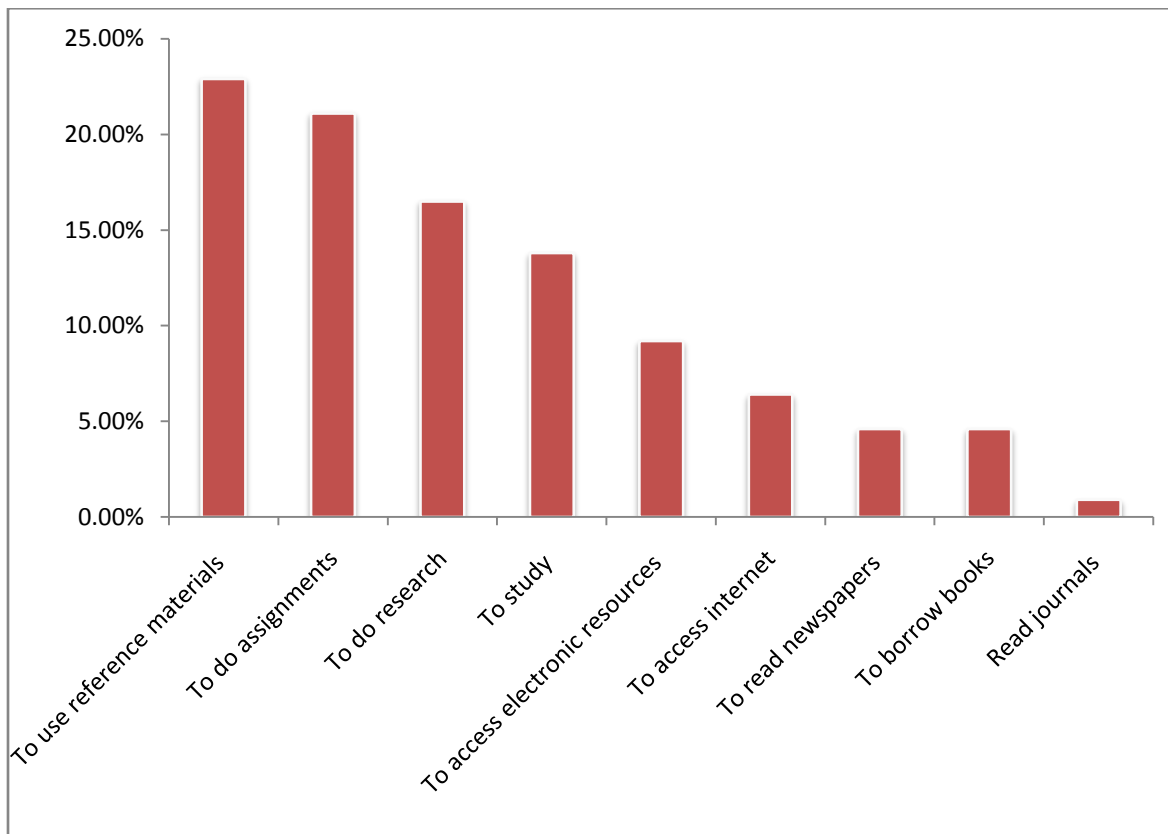


Figure 4.1: Purpose of Visiting the Library

Further, as shown on Figure 4.1 the major purposes of visiting the library were to use reference materials, to do assignments, and to do research. The least purposes were to read newspapers, to borrow books, and to read journals. Other purposes of visiting the library were to electronic resources and to access internet.

4.4 Information Resources available in the Library

The first objective of this study was to identify the information resources that are available at the Adventist University of Africa library. The students were asked different sets of questions to assist in identifying the information resources available.

4.4.1 Resources found in the Library

The respondents were provided with a number of information resources that are likely to be found in an academic library and were required to tick the ones that are found at the Adventist University of Africa library. The results are presented on Table 4.6.

Table 4.6: Resources found in an Academic Library

Resources	Frequency	Percentage (%)
Books	53	48.6
E-journals	14	12.8
Research Projects	11	10.1
Newspapers	10	9.2
Journals	7	6.4
Theses and Dissertations	5	4.6
Conference proceedings	5	4.6
Government publications	4	3.7
Total	109	100.0

From the research findings illustrated on Table 4.6, it is revealed that majority of the respondents indicated that books form the highest percentage of resources found in the library as represented by 53 (48.6 %), E-journals represent 14 (12.8 %) of the information resources in the library, 11 (10.1 %) of the resources in the library are research projects, 10 (9.2 %) are newspapers, 7 (6.4 %) are Journals, 5 (4.6 %) are theses and dissertations, another 5 (4.6 %) are conference proceedings and 4 (3.7 %) are government publications. The results therefore reveal that most of the information resources that need to be found in an academic library are available in the library. The results also show that students are aware of the information resources that are in the library.

4.4.2 Rating of Information Resources

After indicating the various information resources that are available at the university library, the respondents were asked to rate these resources. They were provided with a scale of one to five where five represented excellent and one poor. The mean and standard deviation of the data was obtained and the results are presented on Table 4.7.

Table 4.7: Rating of Information Resources

Resource	N	Minimum	Maximum	Mean	Std. Deviation
Rating of books	109	3	5	4.34	.697
E-journal ratings	109	2	5	3.94	.768
Journal ratings	109	2	5	3.93	.920
Rating of Newspapers	109	1	5	3.58	1.227
Conference proceedings ratings	109	1	5	3.16	.884
Research projects	109	1	5	3.14	1.273
Theses and Dissertation rating	109	1	4	2.96	1.122
Government publication ratings	109	1	4	2.92	.924
Valid N (listwise)	109				

The results on Table 4.7 reveal that books were rated highest with a mean of 4.34 which is an indication that respondents considered them to be very good. They were followed by E-journals with a mean of 3.94 which is also considered very good. In the third position were journals with a rating of 3.93 which is also considered as very good. In the fourth position were newspapers with a mean of 3.58 meaning they are rated as good. In

the fifth position were conference proceedings with a mean of 3.16 meaning they were rated as good. The sixth position was taken by research projects with a mean of 3.14, an indication that they were rate as good. Theses and dissertations as well as government publications had mean of 2.96 and 2.92 respectively. This was a confirmation that they were rated as good. The results therefore revealed that most of the information resources had good ratings and could be accessed and used by the students for their academic research.

4.4.3 Most Preferred Formats of Information Resources

Library information resources are normally presented in different formats. The respondents were required to state the format they preferred most. They were provided with four possible formats of information resources and requested to tick the most preferred option. The results are presented on Figure 4.2.

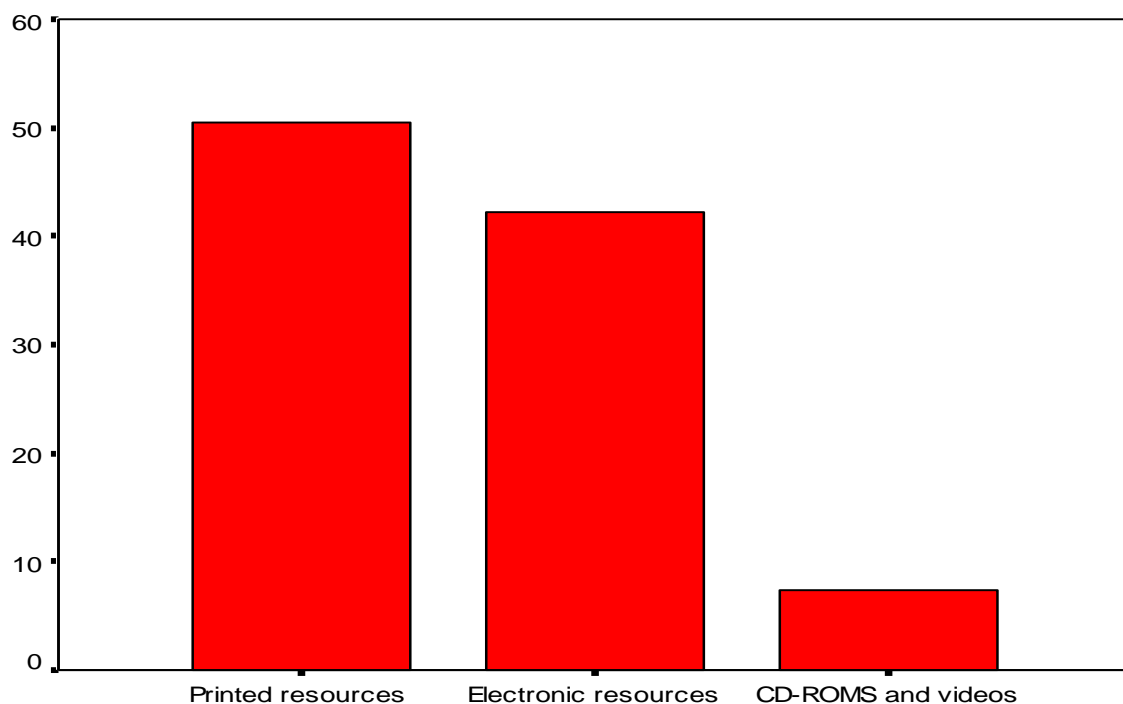


Figure 4.2: Most Preferred Formats

It was established that 50 % of the postgraduate students at Adventist University of Africa prefer printed information resources, 42 % of the students prefer electronic resources and eight % of the students prefer CD ROMS and videos. No student was found to prefer word of mouth information resources.

4.4.4 Adequacy of the Information Resources

It was further necessary to find out the views of the students on the adequacy of the information resources in the library. In order to achieve this, the respondents were provided with a scale to rate the adequacy of the resources. The scale ranged from one to five where one represented “inadequate” and five represented “extremely adequate”. The results are presented on Table 4.8.

Table 4.8: Adequacy of Information Resources

Resource	N	Minimum	Maximum	Mean	Std. Deviation
Adequacy of Books	109	2	5	4.11	.906
Adequacy of E-Journals	109	2	5	3.72	.973
Adequacy of Newspapers	109	2	5	3.62	1.034
Adequacy of Research Projects	109	2	5	3.60	.747
Adequacy of Journals	109	1	4	3.17	1.023
Adequacy of Conference Proceedings	109	1	4	3.03	1.221
Adequacy of Government Publications	109	1	4	2.86	.799
Valid N (listwise)					

It is evident from the research findings that books were considered to be very adequate as reflected by a mean of 4.11. E-journals were also found to be adequate with a mean of 3.72, newspapers with a mean of 3.62, Research Projects with a mean of 3.60, Journals with a mean of 3.17 and theses and dissertations with a mean of 3.03. Those considered as somewhat adequate were conference proceedings with a mean of 2.94 and government publications with a mean of 2.86. This implies that most of the resources were adequate except conference proceedings and government publications.

4.4.5 Frequency of Finding Information Resources

The respondents were required to provide information on how often they access the various information resources available in the library. They were provided with a scale of responses ranging from one to five where one represented never and five represented always. The findings are on Table 4.9.

Table 4.9: Frequency in Accessing Resources

	N	Minimum	Maximum	Mean	Std. Deviation
How often do you find books?	109	3	5	4.48	.618
How often do you find E-Journals	109	3	5	4.18	.669
How often do you find Journals?	109	2	5	3.93	.857
How often do you find Newspapers?	109	2	5	3.74	.865
How often do you find Research Projects?	109	1	5	3.60	1.010
How often do you find Theses and Dissertations?	109	1	5	3.33	1.072
How often do you find Conference Proceedings?	109	1	5	3.11	.956
How often do you find Government Publications?	109	1	5	2.98	1.045
Valid N (listwise)	109				

The study results revealed that books and E-journals were often found by the students when they wanted to access them. This is supported by a mean of 4.48 and 4.18 respectively. The information resources that could sometimes be found in the library

include: journals with a mean of 3.93, newspapers with a mean of 3.74, research projects with a mean of 3.60, Theses and dissertations with a mean of 3.33 and conference proceedings with a mean of 3.11. Government publications had a mean of 2.98, an indication that they were rare in the library.

4.5 Access to Information Resources

The second objective of this study was to establish how the information resources are accessed by the students. The respondents were asked three different types of questions in order to achieve this objective.

4.5.1 Means of Accessing Information Resources

The respondents were requested to indicate the means through which they are able to access information resources at the Adventist University of Africa library. They were provided with seven possible means and were required to tick all the means they use to access the resources. The results are presented on Table 4.10.

Table 4.10: Means of Accessing Information Resources

Means of access	Frequency	Percentage (%)
Information Literacy Training	53	48.6
Library webpage	21	19.3
Library staff	17	15.6
Library brochures	17	15.6
Faculty	1	0.9
Total	109	100.0

It was established that 53 (48.6 %) of the postgraduate students at the university access the information resources through the information literacy training that is offered to them. 21 (19.3 %) of the students access information resources through the library webpage, 17 (15.6 %) of the students access the information resources through library staff, another 17 (15.6 %) access the information resources through library brochures while 1 (0.9 %) through the Faculty. This implies that most of the students are able to access the information resources using the means provided by the university Library.

4.5.2 Mode of Accessing Information Resources

The respondents were required to indicate the mode through which they were able to access the information resources at the Adventist University of Africa. They were provided with four different modes and were requested to tick the most common modes they used. The results are presented in Table 4.11.

Table 4.11: Mode of Accessing Information Resources

Mode of access	Frequency	Percentage (%)
Through the Online Public Access Catalogue (OPAC)	59	54.1
Browsing the library stacks	26	23.9
Seeking help from librarians	17	15.6
Seeking help from other students	7	6.4
Total	109	100.0

The research findings as illustrated in Table 4.11 reveal that 59 (54.1 %) of the respondents access the information resources through the Online Public Access Catalogue, 26 (23.9 %) of the respondents access the information resources through browsing the library stacks, 17 (15.6 %) of the students access the information resources through seeking help from the library staff whereas 7 (6.4 %) of the students access the information resources through seeking for help from fellow students. This implies that the library management provides enough and appropriate support to students as far as access to information resources is concerned.

4.5.3 Accessibility of the Library Information Resources

The researcher sought to find out from the postgraduate students pursuing various courses at the Adventist University of Africa on how accessible the various information resources were. To answer this question, the respondents were provided with a scale ranging from one to five where one represented inaccessible and five represented highly accessible. The results are presented on Table 4.12.

Table 4.12: Accessibility of Library Information Resources

	N	Minimum	Maximum	Mean	Std. Deviation
Accessibility of Books	109	4	5	4.66	.476
Accessibility of journals	109	3	5	4.39	.622
Accessibility of E-Journals	109	3	5	4.07	.778
Accessibility of Newspapers	109	3	5	4.01	.739
Accessibility of Research Projects	109	1	5	3.80	1.120
Accessibility of Theses and Dissertations	109	1	5	3.59	1.271
Accessibility of Conference Proceedings	109	1	5	3.39	1.210
Accessibility of Government Publications	109	1	5	3.18	1.047
Valid N (listwise)	109				

It was established that a number of resources were considered accessible by the students. They include books with a mean of 4.66, journals with a mean of 4.39, E-journals with a mean of 4.07 and Newspapers with a mean of 4.01. The respondents further considered the following information resources as moderately accessible: Research projects with a mean of 3.80, Theses and dissertations with a mean of 3.59, Conference proceedings with a mean of 3.39 and government publications with a mean of 3.18. This is an indication that all the information resources can be accessed by the students although some sources are more preferred than others.

4.6 Use of Information Resources

The third objective of this study was to establish how the information resources are used. In order to achieve this objective, the respondents were asked three questions. The first question required them to indicate the information resources they frequently used, the second question the frequency of use and the last question their level of satisfaction with the information resources they used.

4.6.1 Information Resources Frequently Used

The study sought to find out from the postgraduate students the type of information resources they frequently used. Each respondent was required to tick one resource that he or she frequently used. The results are presented on Table 4.13.

Table 4.13: Resources Frequently Used

Resource	Frequency	Percentage (%)
Books	42	38.5
E-resources	38	34.9
Journals	15	13.8
Theses and Dissertations	7	6.4
Projects	7	6.4
Total	109	100.0

It was evident from the research findings that 42 (38.5 %) of the students used books frequently, 38 (34.9 %) of the students used E-resources, 15 (13.8 %) of the students accessed journals frequently, 7 (6.4 %) accessed theses and dissertations frequently

whereas another 7 (6.4 %) accessed projects frequently. This implies that most of the students use books and E-journals frequently at the Adventist University of Africa library.

4.6.2 Frequency of Use of Library Resources

The frequency with which the post graduate students access and use the library resources was also investigated. The respondents were required to state on a scale of one to five how frequently they accessed the library resources in the University library. One represented never accessed the resources and five represented always accessed the library resources. The results are presented on Table 4.14.

Table 4.14: Frequency of use of Information Resources

	N	Minimum	Maximum	Mean	Std. Deviation
How Frequently do you use books?	109	4	5	4.53	.501
How Frequently do you use E-Journals?	109	2	5	4.10	.902
How Frequently do you use Journals?	109	3	5	3.91	.674
How Frequently do you use Research Projects?	109	1	5	3.59	1.203
How Frequently do you use Newspapers?	109	1	5	3.07	1.007
How Frequently do you use Theses and Dissertations?	109	1	5	3.06	1.133
How Frequently do you use Government Publications?	109	1	5	2.64	1.014
How Frequently do you use Conference Proceedings?	109	1	4	2.58	.885
Valid N (listwise)	109				

The study results on Table 4.14 indicate that books and e-journals were often used by the postgraduate students at the university. This is evident considering the mean of 4.53 for books and 4.10 for E-journals. The journals that were sometimes used by the students include journals with a mean of 3.91, research projects with a mean of 3.59, newspapers with a mean of 3.07 and theses and dissertations with a mean of 3.06. Those rarely used by the students included government publications with a mean of 2.64 and conference proceedings with a mean of 2.58.

4.6.3 The Level to which Information Resources Satisfy Users' Information Needs

The study sought to find out the extent to which the use of the information resources satisfied the information needs of the postgraduate students at the university. The respondents were given a satisfaction scale of one to five where one represented unsatisfied and five represented highly satisfied. The results are presented on Table 4.15.

Table 4.15: The Level to which Information Resources Satisfy Users' Information Needs

Level of satisfaction	Frequency	Percentage (%)
Satisfied	50	45.9
Highly satisfied	30	27.5
Moderately satisfied	15	13.8
Slightly satisfied	14	12.8
Total	109	100.0

It was revealed from the study results that 50 (45.9 %) of the students indicated that their information needs were satisfied by using the information resources at the university, 30 (27.5 %) of the students indicated that their information needs were highly satisfied by using the information resources, 15 (13.8 %) indicated that their information needs were moderately satisfied and 14 (12.8 %) indicated that they were slightly satisfied. This implies that most of the students are satisfied with the information resources available at the university library.

4.6.4 Information Literacy Skills

The researcher wanted to establish from the respondents how they rate the information literacy skills training programme provided by the university. They were provided with a scale of one to four where one represented not useful and four represented very useful. Results are presented in Table 4.16.

Table 4.16: Information Literacy Skills

	Frequency	Percentage (%)
Useful	66	60.6
Very useful	43	39.4
Total	109	100.0

From the research findings on Table 4.16 it is evident that 66 (60.6 %) of the respondents rate the literacy skills training as useful while 43 (39.4 %) of the respondents rate the training as very useful. This implies that most of the students find the literacy training programme useful in accessing information resources available at the library.

4.6.5 Support from the Library Staff

The respondents were asked to state how often the library staff spoke to them concerning the use of library resources. They were required to rate this using a scale of one to four where one represented not at all and four represented very often. The results are presented on Table 4.17.

Table 4.17: Support from the Library Staff

Response	Frequency	Percentage (%)
Very often	37	34
Seldom	37	34
Often	35	32
Total	109	100.0

From the research results it is was evident that 37 (34 %) of the students indicated that the library staff seldom spoke to them concerning use of library resources, another 37 (34%) of the students indicated that the library staff spoke to them very often on the use of library resources. 35 (32.%) of the respondents indicated that the library staff spoke to the respondents quite often.

4.6.6 Student Computer Literacy Skills

The students were requested to rate their computer literacy skills. On a scale of one to five they were to indicate whether their skills were poor or excellent. The findings are presented on Table 4.18.

Table 4.18: Student Computer Literacy Skills

Response	Frequency	Percentage (%)
Good	51	46.8
very good	36	33.0
Fair	15	13.8
Excellent	7	6.4
Total	109	100.0

It was revealed that 51 (46.8 %) of the students considered their computer literacy skills as good, 36 (33 %) of the students considered their computer literacy skills as very good, 15 (13.8 %) of the students considered themselves fair in computer literacy skills whereas 7 (6.4 %) considered their computer literacy skills as excellent. This was an indication that students had knowledge of computers though some of them were not good hence may require further training.

4.6.7 Rating of Computer Based Information Facilities

The study sought to establish how the students rated the computer based information facilities at the university. They were provided with a scale of one to five where one represented poor and five excellent. Table 4.19 contains the results.

Table 4.19: Rating of Computer Based Information Facilities

	N	Minimum	Maximum	Mean	Std. Deviation
Rating of Internet access	109	3	5	4.35	.699
Rating of Online Public Access Catalogue	109	3	5	4.17	.650
Rating of Library Management System	109	2	5	3.80	1.052
Rating of computers for document processing	109	2	5	3.53	.968
Valid N (listwise)	109				

The study results reveal that Internet access was rated highest with a mean of 4.35 indicating that it was very good; the online public access catalogue was rated second with mean of 4.17 an indication that it was also very good. The library management system had a mean of 3.80 indicating it was considered good and computers for document processing had a mean of 3.53 indicating they were considered good.

4.7 Challenges of Access and Use of Information Resources

The fourth objective of the study was to identify the challenges students face while accessing and using the information resources. The respondents were provided with a comprehensive list of possible challenges and were required to tick the ones they considered critical to them. The results are presented on Table 4.20.

Table 4.20: Challenges of Access and Use of Information Resources

Challenge	Frequency	Percentage (%)
Inadequate library opening hours	11	10.1
Lack of adequate Information Technology skills	63	57.8
Lack of awareness of the information resources	5	4.6
Lack of guidance from library staff	5	4.6
Language barrier	25	22.9
Total	109	100.0

The greatest challenge based on the research results was lack of adequate information technology skills among the students as supported by 63 (57.8 %) of the respondents. 25 (22.9 %) of the respondents also considered language barrier a challenge faced by students in accessing and using the library resources. Inadequate library opening hours were also considered a challenge by 11 (10.1 %) of the respondents. Lack of awareness of the information resources was considered a challenge by 5 (4.6 %) of the respondents whereas another 5 (4.6 %) of the respondents considered lack of guidance from library staff as a challenge.

4.8 Chapter Summary

In this chapter, the results of the data analysis and interpretation have been presented. The chapter has seven main sections that present the results in a systematic manner. The first

section presented the introduction, the second section presented analysis and interpretation of response rate, the third section presented demographic information results such as Nationality and Language of the participants, the fourth section information resources available in the library, the fifth section access to information resources, the sixth section use of information resources and finally the challenges of accessing the information resources. The data analysis presented in this chapter is very crucial to this study because it will produce results that will address the research problem.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study was carried out to analyze access and use of information resources by post-graduate students at Adventist University of Africa library in Kenya. This chapter presents the summary of findings, conclusions and recommendations on how access and use of the information resources can be enhanced.

5.2 Summary of Findings

The study sought to achieve the following four objectives: examine the information resources in the library, establish how the information resources are accessed by the students, establish how the information resources are used, identify the challenges students face while accessing and using the information resources and propose ways on how access and use of the information resources can be enhanced. The findings on each of the objectives are summarized in section 5.2.1 to 5.2.4.

5.2.1 Information Resources Available in the Library

It was revealed from the research findings that the Adventist University of Africa Library has a variety of information resources that are available to the post-graduate students. These resources include books which form the largest portion of the resources available, followed by electronic journals. Research projects took the third position in terms of availability whereas Newspapers took the fourth position. Journals, conference

proceedings and government publications were also available though it seems that they are not adequate compared to the other resources.

The results concerning rating of the available information resources indicated that books had the highest rating since majority of the students considered the available books to be very good. This is an indication that most of the books available in the library are very good and relevant in terms of content. The following information resources were rated as being good by the students: Electronic journals, journals, newspapers, conference proceedings and research projects. However, it was established that theses and dissertations as well as government publications were considered fair. This is an indication that these information resources are inadequate in the library.

Concerning the adequacy of the information resources, it was established that books were considered to be adequate by majority of the respondents. The information resources that were found to be moderately adequate were journals, newspapers, E-journals, research projects, as well as theses and dissertations. Conference proceedings and government publications were found to be rarely adequate in the library. The study further revealed that most of the information resources were highly accessible in printed and electronic formats in the library. On the access of information resources it was revealed that students were able to access books and E-journals quite often. Those information resources that sometimes were found in the library include journals, research projects, newspapers, theses and dissertations and conference proceedings. Government publications were found to be rare in the library.

5.2.2 Access to Information Resources

The objective here was to establish how the students accessed the information resources in the library. Concerning the means of accessing the information resources in the library, it was established that most of the students used the skills acquired from the information literacy training. A good number of students also used the library webpage to be able to access the information resources. The library staff and library brochures also were found to assist students in accessing the resources. The faculty played a minor role in assisting students to access the information resources. With regard to the mode of accessing the information resources, it was evident from the research findings that majority of the students accessed through the Online Public Access Catalogue (OPAC). Another significant percentage of students accessed through browsing the library stacks and seeking for assistance from library staff.

The study further established that students considered a number of information resources to be very accessible when required. They include books, journals, E-journals and Newspapers. Research projects, theses and dissertations, conference proceedings, and government publications were considered as moderately accessible.

5.2.3 How Information Resources are used

The third objective was to establish how the information resources are used by the postgraduate students at Adventist University of Africa library. The study results revealed that the most frequently used information resources were books, followed by E-resources. The third frequently used information resources were journals followed by theses and

dissertations and lastly projects. However, conference proceedings and government publications were rarely used by the students at the university. Concerning the extent to which the use of the information resources satisfies the information needs of the students, it was established that most of the students indicated that their needs were satisfied or highly satisfied. However, there was significant percentage of students who indicated that their needs were slightly satisfied and some indicated they were moderately satisfied.

The study further revealed that the information literacy skill training offered by the library was useful in the access of the information resources in the library. The support from library staff was often or very often available to the students. However, a significant percentage of students indicated that they seldom got support from the library staff. This means that the library staff seldom spoke to them concerning access and use of the information resources in the library. The study also established that internet access and online public access catalogue were very good hence functioned as required. The library management system and computers for typing documents were rated as good indicating that improvement in this area is required.

5.2.4 Challenges to Access and Use of Information Resources

One of the biggest challenges to access and use of the information resources was found to be lack of adequate computer literacy skills by some students. Only a few students were found to have excellent computer literacy skills that could enable them access the information resources without any problem. The other challenge was inadequate library opening hours. The students thought that there was need to have more library opening

hours to provide them with enough time for access and use. Language barrier was also found to be a challenge towards use and access of the information resources. This is attributed to the diversity of the student population and language multiplicity. It was also established that lack of awareness of the information resources available was also a challenge to some students whereas other students mentioned lack of support from library staff as a slight challenge.

5.3 Conclusion

The Adventist University of Africa library has a variety of information resources available. The highest percentage of information resource available is the books, followed by e-journals, journals, newspapers, theses and dissertations and research projects. Conference proceedings and government publications are however not many compared to other information resources. The avenues provided by the university to access the information resources seemed to be sufficient for the students hence few students sought support from the library staff concerning access to information resources. Books and electronic sources of information were the most frequently used and accessed. However, conference proceedings and government publications were rarely accessed due to their limited availability in the library. Students indicated that a number of challenges such as insufficient information technology skills, language barrier, lack of awareness of the information resources and lack of support from library staff affected their use and access to the resources. The summary of the finding has brought very salient points that will assist improvement of information provision in the library.

5.4 Recommendations

This study analysed access and use of information resources at Adventist University of Africa library by post-graduate students and out of the findings, the researcher enumerated recommendations that need to be implemented to enhance the student's optimal use of the library's information resources. These recommendations are categorized into both short and long term.

(a) Recommendations for Short Term Implementation

- (i) All students ought to use the library. 27% of the students use the library services occasionally. This will be effected by the library staff who ensure that all the students know all the stock in the library that can address their information needs.
- (ii) Information resources need to be constantly kept up-to-date, relevant and sufficient to serve the students well. This will be effected by the librarian in partnership with faculty.
- (iii) Devise promotional strategies to popularize information resources available to the students. This will improve access and usage of the information resources. The library marketing team will apply the marketing strategies to ensure that students are familiar with the library information resources.
- (iv) Encourage students to access and use information resources to carry out their research. The librarian will work with faculty in encouraging students to effectively use the information resource in their learning and research activities.
- (v) Library staff be encouraged to interact more with students and assist them in accessing and using information resources more effectively. The librarian to

organize workshops for library staff members to acquire new strategies of serving the students who come to the library more effectively.

- (vi) Staff members to establish reasons behind why some of the student's information needs were not met since the core business of the library is to meet the information needs of the University community. The librarian in charge of user services to carry out a study to establish the information seeking behaviour of the students and their information needs. This will facilitate better information provision to the students.

(b) Recommendations for Long Term Implementation

- (i) A study should be done to establish why 46% of the students do not use the Online Public Access Catalogue. The system librarian will train the students on how to use OPAC more effectively and also develop more tutorials for them to consult when they are in need.
- (ii) More print-based journals need to be subscribed to cover all the programs. The dean of the schools and the librarian to work together and subscribe to the print-based journals that will assist the students.
- (iii) Computers to be added for those students who do not have laptops. The librarian to work with the finance office to purchase computers that will assist the students who lack laptops or those who delay in purchasing the laptops.
- (iv) Develop an effective information literacy programme. The librarian will work with the Deputy Vice Chancellor, Academic Administration and deans of the schools to develop an information literacy curriculum that will be incorporated

into the mainstream curriculum to equip all the students with the necessary information literacy skills to enable them access and use information resources effectively.

- (v) The University to ensure that all students are computer literate. The librarian will work with the deans of the schools to formulate ways of improving the information communication technology skills of those students who face challenges in using the current technology to access and use information.
- (vi) The University to ensure that information resources in a languages like French are available to address the needs of those students who understand French better than English. The librarian to work with faculty to purchase some core books in French.

5.5 Suggested Further Research

- (i) There is need to replicate this study after a duration of approximately five years in order to establish whether the issues arising as a result of this study have been addressed and the recommendations implemented in order to enhance information access and use at Adventist University of Africa Library.
- (ii) It will be necessary to carry out a comparative study focusing on information access in other related institutions that have multi-diversity of student population in terms of languages and find out the similarities and differences that may exist. This will also assist in finding best practices that may be beneficial to the Adventist University of Africa Library.

- (iii) A study to be carried out among the students of Adventist University of Africa to establish how the library has contributed to their academic success and professional growth.
- (iv) It was observed that some of students do not use the electronic resources of information and the Online Public Access Catalogue. It will be necessary to carry out a study to establish the reasons behind this trend.

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APPENDICES

APPENDIX I (A): SELF INTRODUCTION LETTER

Dear Respondent,

I am an MSc (Information Sciences) student at Moi University carrying out a study on **‘ANALYSING ACCESS AND USE OF INFORMATION RESOURCES BY POSTGRADUATE STUDENTS AT ADVENTIST UNIVERSITY OF AFRICA LIBRARY, KENYA**. I have chosen you to be one of my respondents and the purpose of this letter is to kindly request you to assist me in providing and sharing with me your knowledge, ideas, opinions, thoughts and any other relevant information useful to this study. Your contribution and participation in answering this questionnaire sincerely and truthfully will be appreciated.

The information you provide will only be used for the purpose of the study and will be treated with uttermost confidentiality. Please do feel free to provide any other information that you think is important with regard to this area of study.

Thank you for your support and cooperation. I will appreciate receiving the questionnaire back as soon as possible to enable me carry out data analysis.

Yours Sincerely,

Norah Mauti
Moi University
E-mail: mautin@aua.ac.ke
Phone: 0722791112

APPENDIX I (B): INSTITUTIONAL INTRODUCTION LETTER



MOI UNIVERSITY
SCHOOL OF INFORMATION SCIENCES

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Our Ref: MU/NRB/SIS/SA/24

16th December, 2016

THE SECRETARY/CEO,
NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY,
P.O. BOX 30623-00100,
NAIROBI

Dear Sir/Madam,



RE: NORAH OSEBE MAUTI - REG. NO. IS/MPHIL/064/011

The above named person is a bona fide student of Moi University, School of Information Sciences, pursuing a Master of Philosophy degree in Library and Information Studies.

Ms. Mauti has requested for a research permit to allow her collect data for her Thesis entitled: *Evaluating Access and Use of Information Resources by Post-graduate Students at Adventist University of Africa Library, Kenya*. We support her application.

Any assistance accorded to her will be highly appreciated.

For more information, please do not hesitate to contact the undersigned.



 EVANS MUNGE
 SCHOOL OF INFORMATION SCIENCES
 NAIROBI PROGRAMME COORDINATOR
 EM/cro.

APPENDIX II: STUDENTS' QUESTIONNAIRE

SECTION A: PERSONAL INFORMATION

1 Nationality: Kenyan Others, Please specify: -----

2. Indicate under which program you are studying.

MA Pastoral Theology MA Leadership MA Missiology Master
of Business Administration Doctor of Ministry

SECTION B: USER INFORMATION NEEDS

3. **How frequently do you visit the library?**

Daily 2-3 times a week Once a Week 2-3 times a month

4. **What is the purpose for visiting the library?**

You can tick more than one purpose

To study To borrow books To browse the shelves

To use reference materials To read journals To collect course textbooks

To do research for project work To access Internet

To access electronic resources To prepare for exams

To read newspapers To check the latest arrivals General reading

SECTION C: INFORMATION RESOURCES

5. **Which of the following resources are available in the library?**

Please tick as many as possible in the boxes provided

Books E-resources journals Theses and dissertations

projects Newspapers Conference proceedings

Government publications

6. How would you rate the following information resources?

Please use the following likert -type scale where 5 means excellent and 1 means poor

Excellent =5 Very good =4 Good =3 fair = 2 Poor = 1

Resources	Excellent	Very Good	Good	Fair	Poor
General Circulation Books					
Reference Books					
Journals					
E-resources					
Projects					
Dissertations & Theses					
Newspapers					
Conference Proceedings					
Government Publications					

7. What format of information resources do you prefer most?

Please tick as appropriate in the boxes provided

Printed Resources Electronic Resources CD-ROMS
&Videos Word of mouth

8. How adequate are the information resources?

Please use the likert-type scale below where extremely adequate equals 5 and inadequate equals 1

Extremely Adequate =5 Very Adequate =4 Adequate=3
Somewhat Adequate = 2 Inadequate = 1

Resources	Extremely Adequate	Very Adequate	Adequate	Somewhat Adequate	Inadequate
General circulation Books					
Reference books					
Journals					
E-resources					
Projects					
Dissertations & Theses					
Newspapers					
Conference Proceedings					
Government Publications					

9. How often do you find the following information resources?

Please use the Likert-type scale below where always equals 5 and never equals 1

Always =5 Often= 4 Sometimes=3 Rarely=2 Never=1

Resources	Always	Often	Sometimes	Rarely	Never
General circulation Books					
Reference books					
Journals					
E-resources					
Projects					
Dissertations & Theses					
Newspapers					
Conference Proceedings					
Government Publications					

SECTION D: ACCESS TO INFORMATION RESOURCES

10. Through what means do you get to know about the existence of different information resources?

You can tick more than one means

Library webpage Library training Library staff library alerts

Library brochures Faculty Classmates

11. How do you access the information resources in the library?

Through the Online Public Access Catalogue (OPAC) Asking librarians for help Browsing the library stacks Asking help from the faculty

12. How accessible are the following information resources?

Please use the likert-type scale below where highly accessible equals 5 and inaccessible equals 1

Highly accessible =5 Accessible =4 Moderately accessible =3 Slightly accessible=2 Inaccessible=1

Resources	Highly accessible	Accessible	Moderately Accessible	Slightly accessible	Inaccessible
General circulation Books					
Reference books					
Journals					
E-resources					
Projects					
Dissertations & Theses					
Newspapers					
Conference Proceedings					
Government Publications					

SECTION E: USE OF LIBRARY RESOURCES

13. Which of the following library resources do you frequently use?

You can tick more than one resource

Books Journals E-resources Theses and dissertations

projects Newspapers Conference proceedings

14. How frequently do you use the following library resources?

Please use the likert-type scale below where daily equals 5 and once a month equals 1

Daily =5 Twice a week=4 Once a week=3 Once in two weeks=2 Once a month

Resources	Daily	Twice a week	Once a week	Once in two weeks	Once a month
General circulation Books					
Reference books					
Journals					
E-resources					
Projects					
Dissertations & Theses					
Newspapers					
Conference Proceedings					
Government Publications					

15. To what level does the use of information resources satisfy your information needs?

Please use the scale below where 5 means highly satisfied and 1 means unsatisfied

**Highly satisfied =5 Satisfied=4 Moderately satisfied = 3 Slightly
satisfied=2 Unsatisfied =1**

Highly satisfied Satisfied Moderately satisfied
 Slightly satisfied Unsatisfied

SECTION F: INFORMATION LITERACY SKILLS

16. How would you rate the information literacy skills program?

Very useful Useful Somewhat useful Not useful

17. How often do library staff members speak to you about use and access of the information resources?

Very often Often Seldom Not at all

SECTION G: COMPUTER LITERACY SKILLS AND IT -BASED RESOURCES AND FACILITIES

18. How would you rate yourself in computer literacy skills?

Excellent Very good Good Fair Poor

19. How would you rate Information Technology-based resources and facilities?

Please use the likert-type scale below where very adequate equals 5 and very inadequate equals 1

Very adequate=5 Adequate=4 Somewhat Adequate=3 Inadequate=2
Very inadequate=1

Resources /Facilities	Very adequate	Adequate	Somewhat adequate	Inadequate	Very inadequate
Computers					
OPAC					
Internet Access					
KOHA					
E-resources					

SECTION H: CHALLENGES FACED IN ACCESSING AND USING INFORMATION RESOURCES

20. What challenges do you face in accessing and using the information resources?

You can tick more than one challenge

- | | |
|---|--|
| <input type="checkbox"/> Lack of awareness of the information resources | <input type="checkbox"/> Lack of information retrieval devices |
| <input type="checkbox"/> Unavailability of relevant information resources | <input type="checkbox"/> Inadequate information resources |
| <input type="checkbox"/> Delay in getting information | <input type="checkbox"/> Poor internet connection |
| <input type="checkbox"/> Poor library staff attitude | <input type="checkbox"/> Poor library infrastructure |
| <input type="checkbox"/> Unfriendly library environment | <input type="checkbox"/> Language barrier |

APPENDIX III: QUESTIONNAIRE PRETEST CHECKLIST

1. Is the font size used in the questionnaire legible?

Yes No

If no, please provide suggestions

2. Are there any words that are spelt incorrectly?

Yes No

3. Is the vocabulary used appropriate for the different categories of respondents?

Yes No

If no, give suggestions

4. Are there any questions in the questionnaire that are not clear?

Yes No

If yes, mark in and provide suggestions to improve clarity

5. Is the sequence of questions flowing?

Yes No

If no, provide suggestions

6. Are all the objectives adequately covered in the questions?

Yes No

If no, please indicate the specific objectives not adequately covered and give suggestions on kind of questions to ask?

7. Are the research questions framed correctly?

Yes [] No []

If no, please provide suggestions.

8. Do the themes reflect the objectives of the research?

[] Yes [] No

If no, please provide suggestions.

Thank you

APPENDIX IV: RESEARCH PERMIT



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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NAIROBI-KENYA

Ref. No. **NACOSTI/P/17/92798/15369**

Date:
14th February, 2017

Norah Osebe Mauti
Moi University
P.O. Box 3900-30100
ELDORET.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Evaluating access and use of information resources by post-graduate students at Adventist University of Africa Library, Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Kajiado County** for the period ending **13th February, 2018**.

You are advised to report to the **Vice Chancellor, Adventist University of Africa, the County Commissioner and the County Director of Education, Kajiado County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

**BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The Vice Chancellor
Adventist University of Africa.

The County Commissioner
Kajiado County.