



**JIMMA UNIVERSITY**  
**COLLEGE OF NATURAL SCIENCE**  
**DEPARTMENT OF INFORMATION SCIENCE**

**FACTORS AFFECTING GRADUATE STUDENTS' INFORMATION-SEEKING  
BEHAVIOUR ON THE USE OF SOME SELECTED ACADEMIC LIBRARIES IN  
ETHIOPIA**

A THESIS SUBMITTED TO THE DEPARTMENT OF INFORMATION SCIENCE,  
COLLEGE OF NATURAL SCIENCE, JIMMA UNIVERSITY, IN MEETING THE  
PARTIAL FULFILLMENT FOR THE AWARD OF DEGREE OF MASTER OF  
SCIENCE IN INFORMATION SCIENCE (ELECTRONIC AND DIGITAL  
RESOURCE MANAGEMENT).

BY: AYENEW FENTAHUN

November, 2013

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## APPROVAL SHEET

This research thesis entitled “Factors Affecting Postgraduate Students’ Information-Seeking Behaviour on the Use of Some Selected Academic Libraries in Ethiopia” has been read and approved as meeting the partial fulfillment for the award of degree of Master of Science in Information Science (Electronic and Digital Resource Management) in Department of Information Science, Jimma University, and Jimma, Ethiopia.

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## **DECLARATION**

I declare that Factors Affecting Postgraduate Students' Information-Seeking Behaviour on the use of some selected Academic Libraries in Ethiopia is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

.....

Aynew Fentahun

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## **ABBREVIATIONS/ACRONYMS**

**AAU:** Addis Ababa University

**EIS:** Electronic information sources

**IT:** Information Technology

**JU:** Jimma University

**OPAC :** Online public Access Catalog

**SPSS:** Statistical package for the social science

## Table of Contents

<a href="#">APPROVAL SHEET</a> .....	ii
<a href="#">DECLARATION</a> .....	iii
<a href="#">ACKNOWLEDGMENS</a> .....	iv
<a href="#">ABBREVIATIONS/ACRONYMS</a> .....	v
<a href="#">LIST OF TABLES</a> .....	x
<a href="#">LIST OF FIGURES</a> .....	xi
<a href="#">LIST OF APPENDICE</a> .....	xii
<a href="#">ABSTRACT</a> .....	xiii
<a href="#">CHAPTER ONE</a> .....	1
<a href="#">1.0 INTRODUCATION</a> .....	1
<a href="#">1.1 Background of the study</a> .....	1
<a href="#">1.2 Statement of problems</a> .....	2
<a href="#">1.3 Research questions</a> .....	3
<a href="#">1.4. Hypotheses</a> .....	3
<a href="#">1.5 General objective</a> .....	3
The specific objectives were: .....	4
<a href="#">1.6 Significance of the study</a> .....	4
<a href="#">1.7 Scope and Limitation of the study</a> .....	5
<a href="#">1.8 Definition of the terms</a> .....	5
<a href="#">CHAPTER TWO</a> .....	7
<a href="#">2.0 REVIEW OF THE LITERATURE</a> .....	7
<a href="#">2.1 Historical background of the selected libraries</a> .....	8
<a href="#">2.1.1 Addis Ababa University Academic Library</a> .....	8
<a href="#">2.1.2 Jimma University Academic Library</a> .....	9

<a href="#">2.2 Theoretical background of Studies on Information Seeking</a>	9
<a href="#">2.3 The role of academic libraries for postgraduate students</a>	10
<a href="#">2.4 Electronic information sources in academic libraries</a>	11
<a href="#">2.5 Historical Background of Studies on Information-seeking</a>	13
<a href="#">2.6 Models of information-seeking behaviour</a>	14
<a href="#">2.7 Information-seeking behaviour of postgraduate students</a>	15
<a href="#">2.8 Summary</a>	17
<b>CHAPTER THREE</b>	18
<b><a href="#">3.0 METHODOLOGY</a></b>	18
<a href="#">3.1 Research Method</a>	18
<a href="#">3.2 Population</a>	18
<a href="#">3.3. Sample size and sampling technique</a>	18
<a href="#">3.4 Sample Size Determination</a>	19
<a href="#">3.5 Data Collection</a>	20
<a href="#">3.5.1 Instrumentation</a>	20
<a href="#">3.5.1.1 Questionnaire</a>	20
<a href="#">3.5.1.2 Interview</a>	20
<a href="#">3.5.1.3 Observation checklist</a>	21
<a href="#">1.6 Data collection procedure</a>	21
<a href="#">3.7 Method of data collection and presentation</a>	21
<b>CHAPTER FOUR</b>	22
<b><a href="#">4.0 DATA ANALYSIS, RESULTS AND DISCUSSION</a></b>	22
<a href="#">4.1 Introduction</a>	22
<a href="#">4.1.1 Response rate</a>	22
<a href="#">4.1.2 Gender post graduate student members or respondents</a>	23
<a href="#">4.1.3 Degree sought</a>	23
<a href="#">4.1.4: Distributions of respondents of by year of study</a>	24
<a href="#">4.1.5: Distributions of respondents Discipline</a>	24



4.2	<u>Characteristics of Information-seeking Behavior of postgraduate Students</u>	25
4.2.1	<u>Descriptive statistics on the characteristics of information-seeking behaviour of postgraduate students on table 4.6a.</u>	25
4.2.2	<u>Inferential statistics on the characteristics of information seeking behaviour of postgraduate students on table 4.7b.</u>	26
4.3	<u>Types of information resources for access by Ethiopian postgraduate students from Academic Libraries</u>	27
4.3.1	<u>Descriptive statistics on the proportional distribution of respondents on access to types of information resources as in table 4.8a.</u>	27
4.3.2	<u>Inferential statistics on access to types of information resources as in table 4.8b</u>	28
4.4	<u>Factors that influence information-seeking behaviour of postgraduate students on the use of their academic libraries electronic resources.</u>	30
4.4.2	<u>Inferential statistics on factors affecting information-seeking behaviour of graduate students as table in 4.9b.</u>	31
4.5	<u>Use of Information resources by postgraduate students</u>	32
4.5.1	<u>Use of Information resources</u>	32
4.5.2	<u>Observation schedule on use of Information resources in academic libraries of Jimma and Addis Ababa Universities</u>	34
4.5.2.1	<u>Catalogue use</u>	35
4.5.2.2	<u>Journal Use</u>	36
4.5.2.3	<u>Borrowing and Returning of Books</u>	36
4.5.2.4	<u>Browsing e-resources</u>	36
4.5.2.5	<u>Newspaper Reading</u>	37
<u>CHAPTER FIVE</u>		38
5.0	<u>SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS</u>	38
5.1	<u>Summary of findings</u>	38
5.2	<u>Conclusion</u>	39
5.3	<u>Recommendations</u>	40
5.3.1	<u>Recommendation for Future Research</u>	41

<a href="#">REFERENCE</a> .....	42
<a href="#">APPENDICES</a> .....	46
<a href="#">Appendix A</a> .....	46
<a href="#">Post graduate students' questionnaire</a> .....	46
<a href="#">Appendix B: Interview</a> .....	49
<a href="#">Appendix C</a> .....	50
<a href="#">Observation Checklist</a> .....	50
<a href="#">Appendix c1- Observation schedule</a> .....	50
<a href="#">Appendix c2 - Observation schedule</a> .....	50

## LIST OF TABLES

Table 4.1: Percentage responses from each university .....	22
Table 4.2: Gender of respondents .....	23
Table 4.3: Frequency distributions of respondents by degree sought.....	23
Table 4.4: Distributions of respondents by year of study .....	24
Table .4.5:Discipline-wise Distribution of Respondents .....	24
Table 4.6a: Characteristics of respondents for information-seeking behaviour .....	25
Table 4.6b: Inferential statistics on Characteristics of information-seeking behaviour .....	26
Table 4.7a: Proportional distribution of respondents by frequency and percentages on access to types of information resources.....	27
Table4.7b. T-Test inferential statistics on access to types of information resources. ....	28
Table 4.8a: Factors that influencing information-seeking behaviour of graduate students .....	30
Table 9b: T-Test on factors affecting information-seeking behaviour of graduate students .....	31
Table 4.9a: Frequency of use of information sources by graduate students.....	33
Table4. 10: Researchers' observation of the activities in Jimma and Addis Ababa Universities	35

## LIST OF FIGURES

Figure 2.0: Structure of the areas covered by the literature review.....	6
Figure 2.1: A nested model of the information seeking and information searching research.....	14

## LIST OF APPENDICE

<b>Appendix A:</b> Post graduate students' questionnaire.....	48
<b>Appendix B:</b> Post graduate students Interview.....	51
<b>Appendix C:</b> Observation Check list.....	52
<b>Appendix C1:</b> Observation Schedule.....	52
<b>Appendix C2:</b> Observation Schedule .....	68

## ABSTRACT

The subject of this research are some selected Ethiopian higher education post graduate studentes. The study aims to investigate the factors affecting graduate students' information-seeking behaviour on the use of some selected academic libraries in Ethiopia. The population studied was drawn from post graduate students of two selected Higher Education Institutions or Universities. The research was followed survey research method, using a cross-sectional research method. Data was collected using self-administered questionnaires, personal interview and an observation check list. The Statistical Package for the Social Sciences (SPSS) version 16 was used to analyze the data collected from the questionnaires. As for the interviews, important and relevant comments or suggestions were collated and incorporated in the research.

Of the 400(100%) study population, the study had a response rate of 358(89.5%) on the study of factors affecting information-seeking behaviour of postgraduate students (Masters and PhD) in Addis Ababa and Jimma Universities.

Postgraduate students in Jimma and Addis Ababa University face nine factors affecting them in the use of the electronic information resources in their academic libraries. These include: irrelevant information, outdated information, time-consuming in using the resources, difficulty in using OPAC, lack of library instruction, lack of library materials and difficulty in finding resources. Other include overwhelming amount of information and difficulty in using electronic resources.

The study concludes that postgraduate students are not getting the full benefit of academic libraries resources of information. The major causes or reasons for this problem are the lack of knowledge and the low state of awareness of certain academic library electronic resource of information.

# CHAPTER ONE

## 1.0 INTRODUCTION

### 1.1 Background of the study

The constant stream of developments in the current information age means that patterns of searching, locating and identifying information resources will continue to change. Therefore, information-seeking behaviour will always warrant further research. Within the information environment, human information behaviour comprises two main aspects: interactions with information systems; and information processing and use. Exploring such behaviour can contribute to efficient information use in academic and scientific contexts, and to the design of new systems and tools for knowledge organization (Steinerova and Susol, 2005).

In Ethiopia, education is placed on a high priority since it is an essential tool for rapid modernization. Hereupon education institutions by definition must also receive a high priority and within them academic libraries have an important role to play. Their services apply to both research and teaching and therefore make a significant contribution (Hashim, 2000).

There has been much concern in academic libraries in recent years about the implications of the adoption of various kinds of electronic information services on to the university campus. One reason for this is that campus-wide users need to use this advanced technology to get instant access to information from any place, at any time, and in any format they want. Therefore, the academic library infrastructure is becoming a collection of multiple technologies, including OPAC, online database and Internet (Joanne, 2005).

Academic institutions play major roles in the manpower development of any nation since they provide the high as well as middle level manpower needed for the social, economic and political advancement of a nation. This is done through their programmes of teaching, learning, research and community services. The central place of academic libraries is called into play because it is

the duty of these libraries to provide the necessary information to the lecturers, students and higher education communities to achieve their teaching learning and research needs in the easiest, fastest and most comprehensive way. This central place of the library in academics has resulted over the years in the necessity for academic libraries to continue to evolve and move with the times so that they can deliver on the requirements of academic libraries in meeting the academic needs of their clientele in the tertiary institutions (Vathi, 2011).

Academic libraries are now offering a vast amount of access to searching information to support their users when such services had not previously been possible. The development of electronic information has accelerated more than is imaginable. Academic libraries can access many library databases around the world via the Internet. Today, it is impossible for libraries to provide services without using IT. Therefore, academic libraries today emphasize not only the need to save user time and effort in obtaining information, but also the need to improve the quality of search results by providing an optimal approach to training (Bruce, 2004).

## **1.2 Statement of problems**

In Ethiopia, higher institutions have undergone a transformation since their early establishment in the 1961s. The increase in the number of students has been accompanied by the establishment of more universities and colleges, be it government or private, especially in the field of science and technology. This study focuses factors affecting postgraduate students' information seeking behaviour on the use of some selected academic libraries in Ethiopia. University libraries (academic Libraries) in Ethiopia have already embraced new information technologies to support research, teaching and learning in their respective institutions. However, since these technologies are still new, many students are unaware of them and unfamiliar in using them. Some of the user studies pertaining to academic libraries carried out in Ethiopia earlier. It is not enough to provide new technologies without providing proper information on the use of academic libraries to students.

In order to ensure the success of any strategy or initiative, it is important for the academic institution concerned to identify and recognize the factors affecting postgraduate students' information-seeking behaviour on the use of academic libraries on their user groups. In



particular, the main purpose is to examine the factors affecting information-seeking behaviour of graduate students in the context of electronic information resources in academic libraries such as electronic resources and online databases.

### **1.3 Research questions**

- 1.3.1 What are the characteristics of the information-seeking behaviour, in an academic context, of graduate students enrolled in various fields?
- 1.3.2 What types of information resources do graduate students of Ethiopia Universities access from their academic libraries?
- 1.3.3 What are the factors that affect the information-seeking behavior of the graduate students and use of their academic libraries?
- 1.3.4 How often do graduate students use academic libraries information sources?

### **1.4. Hypotheses**

- 1.4.1 There is no difference in the characteristics of the information-seeking behaviour, in an academic context, of graduate students enrolled in various fields.
- 1.4.2 There is no difference in the types of information resources of the graduate students of Universities for access from their academic libraries.
- 1.4.3 There is no difference in the factors that affect the information-seeking behavior of the graduate students and use in their academic libraries.
- 1.4.4 There is no difference in the how often do graduate students use academic libraries information sources.

### **1.5 General objective**

The general objective of this study was investigating factors affecting post graduate students' information-seeking behaviour on use of some selected academic libraries within the context of Public Universities in Ethiopia.

### **The specific objectives were:**

- 1.5.1 To find out characteristics of the graduate students' information-seeking behaviour in the selected Ethiopian academic libraries.
- 1.5.2 To identify the types of information resources that graduate students of selected Ethiopian Universities access from their academic libraries.
- 1.5.3 To assess how often the graduate students use the university libraries in the selected Ethiopian academic institutions.
- 1.5.4 To identify the factors that affects the information-seeking behavior of the graduate students and use of their academic libraries.

### **1.6 Significance of the study**

There is a need for studies that links on the use of academic libraries source of information to achieve greater understanding of the factors influencing the information-seeking behaviour of graduate students.

Electronic information resources (EIS) are becoming the dominant environment within which information seeking takes place in the context of higher education. So, this study helps for graduate students to engage an intensive research oriented environment which requires keeping up-to-date with the latest developments in access to information resources.

In Ethiopian higher education, graduate students are involved in a greater number of information retrieval activities than are undergraduate students, and are therefore more likely to be affected by advances in information technology. This study is first study in Jimma University which explores the factors influencing the information-seeking behaviour of graduate students. The study also discusses the important resources and frequently searched by graduate students.

The determination of information-seeking behavior of graduate students will be a key factor in determining the appropriateness of academic libraries' sources.

## 1.7 Scope and Limitation of the study

The study will be confined some of the selected academic libraries in Ethiopia and limited to post graduate students of Jimma and Addis Ababa universities. The university environment is of a heterogeneous group comprising post graduate students, Research Scholars and teaching colleges in the purview of information-seeking channel and instead of covering all the groups of users, only post graduate students will be taken for this research study.

The limitation of the study to the two government-supported higher Institutions in Ethiopia such as Jimma University and Addis Ababa Universities is informed by the representative view of the tertiary institutions in Ethiopia. This is based on their having well-established libraries, geographical locations, and their establishments at different times. Also, the excellent existence of ICT infrastructure, short run time to conduct survey since shortage of time make difficulties to conduct survey in thirty-two (32) public universities in Ethiopia due financial constraints. The two higher institutions are leading the other nation higher institutions and those institutions are listed 100 top African universities.

## 1.8 Definition of the terms

Certain terms will often be used in this thesis proposal. They are defined below for clarity and consistency.

**Academic Library:** An academic library is a library that is attached to an academic institution above the secondary level, serving the teaching and research needs of students and staff. These libraries serve two complementary purposes: to support the school's curriculum, and to support the research of the university faculty and students.

**Electronic Information Resources:** Electronic resources are defined as those resources that users access automatically via a computing network from inside the library or remote from the library. They include online databases, Electronic journals, E-books and OPAC (Shim, 2001).

**Graduate Students:** Those students who are studying for degrees beyond the bachelor stage (MA/ Sc., PhD, and higher diploma).

**Information-seeking Behaviour:** Case (2007) defines information-seeking behaviour as "a conscious effort to acquire information in response to a need or gap in one's knowledge". For the purpose of this research, Information seeking behavior is a broad term, encompassing the ways individuals articulate their information needs, seek, select, and use information. In other words, information – seeking behavior is a purposeful seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with people, manual information systems, or with computer-based information systems" (Wilson, 2000).

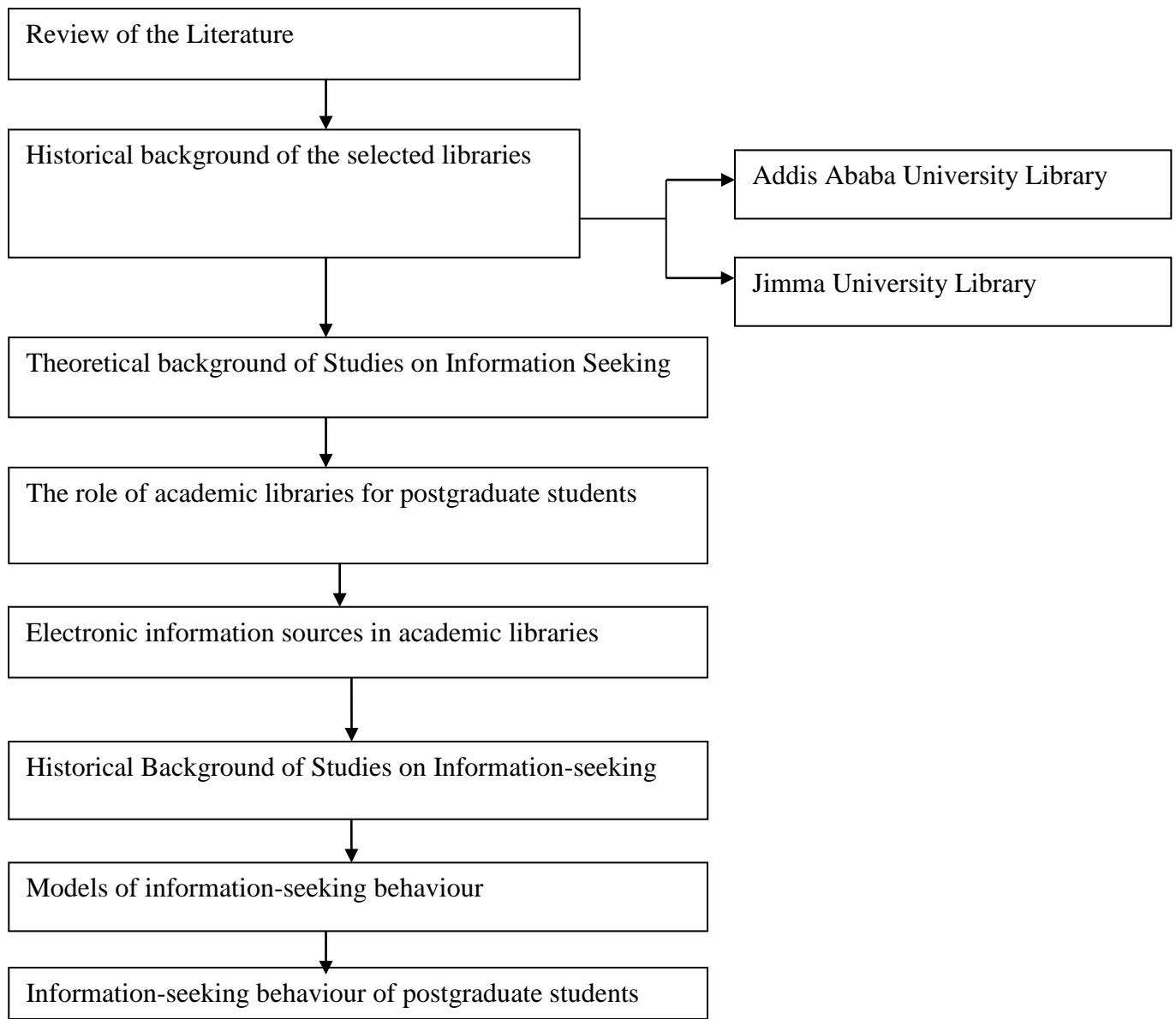
**Information-Seeking:** Information-seeking is a conscious effort to acquire information in response to a need or gap in his or her knowledge.

## CHAPTER TWO

### 2.0 REVIEW OF THE LITERATURE

This chapter will present an overview of general studies in the area of information-seeking behaviour, particularly in the field of higher education academic lib. It sets the scene for the literature survey of the theories underpinning studies of information-seeking behaviour.

Figure 2.0 illustrates areas covered by the literature reviews in Chapter two



**Figure 2.0 Structure of the areas covered by the literature review**

## **2.1 Historical background of the selected libraries**

### **2.1.1 Addis Ababa University Academic Library**

Addis Ababa University is recognized as the primary academic library resource in Ethiopia. The University was founded in 1961 when the University College of Addis Ababa, founded in 1950, merged with a number of existing institutions of higher learning, each with its own book collection. Library collections and services were gradually centralized. The result is a central library with six branch libraries in Addis Ababa, and subject specialty libraries focusing on areas such as agriculture, law, medicine, and technology on campuses in four other cities (Ademasu, 2011).

The Kennedy Library is reserved for use by staff and students beyond their first year; incoming students are relegated to special reading rooms, and graduate students have their own library. Complicated lending restrictions are enforced, depending on a student's year of study (Pankhurst 1988). Since textbooks are not readily available, the library's reserve section maintains multiple copies of textbooks for heavy in-house use by students. The library offers reference services and user education (Pankhurst, 1988). Library services for the visually handicapped have been available since 1976 (Tsadik, 1992). The Library supports its own bindery and microfilm production facilities.

Since 1974, enrollment at the tertiary education level in Ethiopia has tripled, and 10 institutions of higher learning have been established (Pankhurst, 1988). Some of these institutions may have libraries or reading rooms, but complete information is not available. Well established institutions such as the Alemaya University of Agriculture, the Polytechnic Institute, and the Jimma Junior College of Agriculture all have modest book and periodical collections; library service is minimal with "no reference services and user education limited to an initial library tour" (Pankhurst, 1988). However, now days there are thirty-two (32) public universities in Ethiopia.

### **2.1.2 Jimma University Academic Library**

Jimma University (JU) is one of the public universities in Ethiopia, and is located in Oromiya Region in Jimma Zone. It is the Ethiopia's first innovative community-oriented education institution of higher learning, with teaching centers for health care students in Jimma, Omo, Shebe, Agaro, and Asendabo. It offers academic programs, which lead to the award of degrees in different fields of studies. It was established in December 1999 with the amalgamation of the Jimma College of Agriculture (founded in 1952) and the Jimma Institute of Health Sciences (founded in 1983). The main campus of JU is next to the former palace of the Kings of Jimma Kingdom. The university campus is located in the city of Jimma 352 kilometers southwest of Addis Ababa covering 167 hectares (Gojeh, Getachew, &...etal, 2011)

The Jimma University Library System (JULS) was established in 1999 and commissioned to promote the Instructional Research, and Public Service goals of the entire university community. Electronic full-text journals, articles, abstracts, reviews and database resources are subscribed by the library on open (free) access and available online and off-line. These resources are acquired mainly through HINARI, NLM, EIFLENET, e-Granary, and CD-ROM databases in collaboration with PERI, WHO programs and other scientific communities. To exploit e-resources in the system the web-site: [www.ju.edu.et](http://www.ju.edu.et) has to be visited ((Gojeh, Getachew, &...etal, 2011).

## **2.2 Theoretical background of Studies on Information Seeking**

The term "information seeking" has been broadly taken to mean the approach to searching for information to satisfy research needs, there have been various attempts to define the term more specifically. Case (2007) has briefly defined the interrelated concepts of "information need", "information seeking" and "information behaviour" as follows: An information need - is recognition that user knowledge is inadequate to satisfy a goal that user have; Information seeking - is a conscious effort to acquire information in response to a need or a gap in user knowledge; Information behaviour encompasses information seeking as well as the totality of other unintentional or passive behaviours (such as glimpsing or encountering information by chance), as well as purposive behaviours that do not involve seeking, such as actively avoiding information.

In an attempt to set the current research in context, it is important first to look at the broad theories underpinning research in the multidisciplinary field of Information Science and Library and Information Science (LIS), in order to identify the broad theoretical context of research in information seeking (Bates, 2005). In order to grasp how models are constructed in accordance with theories, it is essential that the researcher understands the distinction between the terms "metatheories", "theories", and "models" (Bates, 2005), which Bates defines as follows: Metatheory: a theory concerned with the investigation, analysis, or description of theory itself; Theory: the body of generalizations and principles developed in association with practice in the field of activity; A system of assumptions, accepted principles, and rules of procedure devised to analyze, predict, or explain the nature of behaviour of a specified set of phenomena; Model: a tentative ideational structure used as a testing device.

### **2.3 The role of academic libraries for postgraduate students**

The academic library is an organization, which serves the educational process as a learning and information centre. Its aim is to support the information needs of all members of academic institution, and play an essential role in support of teaching and learning processes of academic institutions. It is impossible to imagine any university or college functioning effectively without a good library service. The traditional image of the library as a quiet place of study, housing mostly print collections, is changing. "In the last decade, academic libraries have faced new and changed demands as a result of: Substantial growth in student numbers and greater diversity of students, changes in teaching and learning methods, and requirement for customer-oriented, high quality services, trend towards lifelong learning, development of information technology and communication.

All of these factors have changed the nature of libraries to become a means of access to information wherever it is held" (Wildhardt, 2000).

Aguolu and Aguolu, (1997), observe that a university or special library cannot be expected to fulfill its role and carry out its responsibilities effectively if its parent institution fails to provide it with adequate funds, physical facilities and personnel. They suggest that the role of the library in research is to serve as an information system that is flexible and which allows researchers to



shift and explore the parameters of their research. It is important too that the flexibility is available over time so that researchers can follow leads at different stages in the research cycle. They argue that the progress of scientific research in developing countries is reflected in the high rejection rate of papers sent for publication in foreign international journals. They say that the main reason for this rejection rate is that scientists in the Third World suffer poor levels of current awareness of recent literature. This is blamed on the poor collections of local libraries. Nonetheless, positive measures are being taken to remedy the situation. This is illustrated in that the African Academy of Sciences and the Third World Academy of Sciences are collaborating to promote local scientific publication with the establishment of Academy Science Publishing in Nairobi, Kenya.

Apart from establishing what the role of libraries is, it is also important to know the reasons for use of the library if an effective service is to be offered. Kwang and Ballantyne (1992) found that agricultural researchers in Mauritius use personal contacts for current information and libraries and book collections for retrospective information. They argue that a documentation centre to be effective needs to be as close as possible to researchers if they are to use it. Given the problems experienced with literature, they suggest that personal contacts rather than the library would be the best way to keep abreast of research in progress.

Other authors have stressed the value-added role libraries can play to make their services more attractive and relevant to researchers. Vieira and Faraino (1997) for instance, observe that few health science libraries maintain databases or produce bibliographies of the publications of faculty in their institutions. They argue that by offering such services, libraries can provide faculty members with a qualitative analysis of where and how their research is cited and the impact of their research in the fields of biomedicine and related health sciences.

## **2.4 Electronic information sources in academic libraries**

One of the major development in libraries and information services in the last 20 years has been the introduction and spread of electronic information sources (EIS). Progress in information technology has offered today's information seekers different opportunities to access to information resources in an increasing array and format. The commonly available EIS, namely, CD-ROMs, online databases, OPACs, the Internet, and other networked information sources, are

competing with, and in some instances replacing, the print-based information sources as the primary media for the storage and communication of recorded information content (Hajar,2007).

Compared to traditional print-based sources, EIS provide a number of advantages. They are faster than accessing printed materials, especially for retrospective searching. EIS are straightforward when users use a combination of keywords to search for information. Further, more than one file can be searched at one time, which enables researchers to find more updated information. In addition, electronic information resources can be printed and searches saved to be repeated later. For those library users with limited time or distance learners, EIS provide ability to access the library resources from outside the library. These advantages contribute to the effective use of library material and facilities (Ray and Day, 1998).

University is viewed as one of many places where a distinct mixture of students from different cultures and ethnicities coexist. In Ethiopia, higher institutions have undergone a transformation since their early establishment in the 1950s. The increase in the number of students has been accompanied by the establishment of more universities and colleges, be it government or private, especially in the field of science and technology. It appears that, they are trying to make the collection bigger and at the same time creating more library services. There can be shortcomings students' information seeking behaviour in academic library services in Ethiopia Higher Institutions, which can detract from the contribution and again much less attention has been given to factors affecting students' information seeking behaviour on the use of academic libraries in Ethiopia.

Many academic libraries today provide a wide range of electronic information resources within and beyond the library. Besides the more established electronic information resources such as online databases, online catalogues (OPACs), CD-ROMs and the Internet, there are other resources like electronic journals.

## **2.5 Historical Background of Studies on Information-seeking**

The history of research in information seeking can be divided into three main periods each with its different focus: the sixties to the mid-eighties, the mid-eighties to the mid-nineties, and the period from the mid-nineties until now (Feather and Sturges, 2002). In the first period, the focus was on information service provision and quality; the second period was rich in empirical studies and activity models of information-seeking processes, while the most recent period has been characterized by attempts to design comprehensive models integrating information seeking and information retrieval (Feather and Sturges 2002).

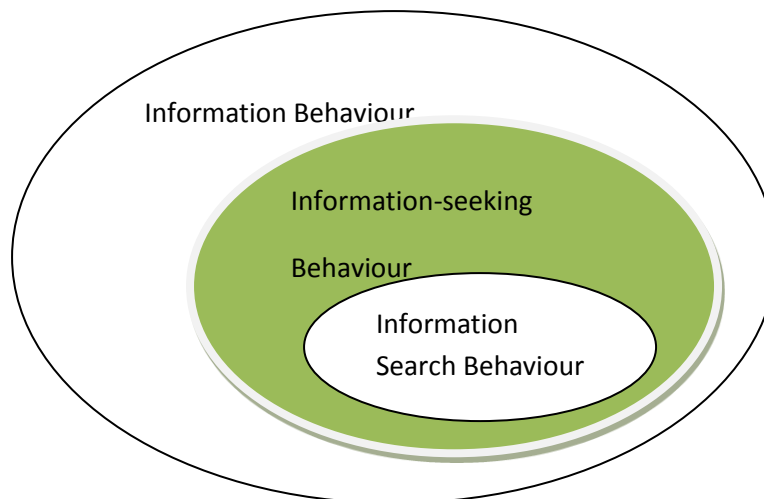
With the beginning of the second millennium, the increasingly technology-based academic workplace began to offer scholars and other stakeholders in higher academia a dynamic and interactive digital environment facilitating constant and instant connectivity via the networked computers at their university workstations. Consequently, students in higher education today have a choice of new information delivery systems and a wide array of information sources and channels, and are also able to obtain information at anytime and anywhere. However, such ease of access does not imply that all information retrieved is either relevant or of sufficient quality information. The range of information resources greatly compounds the need to identify and select those which are most appropriate. Given the rapidly changing scenario of information technologies, it is important for universities to understand how students make use of the information-rich environment available in their academic fields, as this can impact on the performance of the university. Such impact is evident in the quality of research produced by the graduate community. Wilson (2008) reiterates the importance of research in information-seeking area by stating: "It seems likely that the need to understand how people search for and use information services continue to develop, the understanding gained may become more and more important for the effective design of systems and services. "

Many models to describe information-seeking behaviour have been developed by researchers in various disciplines. Barrett (2005) found that the first information-seeking models were document-oriented, that is, they were concerned with the retrieval of documents from abstracting and indexing services, Later, and information seeking became seen as role-oriented and focused on the information needs of the individual in relation to their role in an organization and the

needs of that organization. Barrett (2005) went on to suggest that the latest trend in information seeking "views the individual as a person with fundamental physiological, affective, and cognitive needs (the self) who operates within a role which is part of an environment with socio-cultural and politico-economic concerns".

## 2.6 Models of information-seeking behaviour

User studies as a research front have developed and become more sophisticated over the years to the point that today, not all of these studies investigate the same phenomena. To all intents and purposes, the term 'user studies' has been abandoned and replaced by several more specific terms. Wilson (1999) discusses these and makes a distinction between information behaviour, information seeking behaviour and information search behaviour studies. He believes these three terms capture the essence of what used to be called user studies. He suggests that the three are related and nested one into the other with information behaviour defined as the more general field of investigation (Figure 2.0)



**Figure 2.1: A nested model of the information seeking and information searching research areas, (Source: Wilson, 1999).**

On the other hand Wilson says, information-seeking behaviour investigates the methods people use to discover and gain access to information resources. Finally, information search behaviour is concerned with the interplay between an information user (with or without an intermediary),

and computer-based information systems, of which textual information retrieval systems are an example.

In order to provide a theoretical background for the current study, this section of the review presents a number of selected information seeking models. Of models developed during the 1990s, the review focuses on Kulthau's model (Kulthau,2004), Ellis's information-seeking model (Ellis 1989), Leckie et al. 's general model of the information seeking of professionals (Leckie, Pettigrew & Sylvain, 1996),Wilson's information-seeking model (Wilson, 1999 ), and Urquhart & Rowley's information behaviour model (Urquhart & Rowley, 2007).

These models have been chosen for discussion for several reasons. First, they adopt a user-centered rather than a system-based approach, consistent with the approach of the current study. Then, these are the studies most often cited in information seeking studies in the higher education sector. Finally, these models explain factors or variables associated with the information-seeking behaviour process, which is consistent with the objectives of the current research. The models are discussed below.

## **2.7 Information-seeking behaviour of postgraduate students**

When looking at a student's information-seeking behavior, it is important to place the student in the perspective of the total academic community that exists on college and university campuses. Students move through school with the goal of graduating. Their extracurricular commitments, employment, sports, social lives are just as important to them personally as their academic ones (Valentine, 2001).

There are more information resources available, but also more technologies to master. It is now more difficult determine that students in any given class will have uniform skill levels in using the complex and varied resources of academic libraries to produce a research paper (Leckie, 1996). Another important factor affecting student information-seeking success is the domain knowledge that a student brings to the process. The term domain expert is used to identify individuals who have expert knowledge in a subject domain or field of study. The term non-domain expert is applied to individuals who do not yet have expert knowledge in a subject domain or field of study (Drabenstott, 2003). Because of the nature of undergraduate

coursework, students often find themselves completing writing assignments that required the use of information resources in areas for which they have no domain knowledge. This lack of domain knowledge has an impact on the way in which students go about seeking information. Faced with the overwhelming task of conducting well-developed and well-cited information sources, students tend to approach the topic for a writing assignment by using identified information-seeking behaviors. Historically, there have been several attempts to identify those behaviors or those factors affecting behavior. Stoa (1984) determined that undergraduate students especially did not know the names of researchers active in particular areas, did not know the journals that publish research relevant to their interests and, except for their instructors, they had no knowledgeable colleagues to consult for suggestions. Students then resorted to searching by subject in the library's literature. Once a book was located, students would supplement their searching by using area scanning to locate materials shelved together nearby.

When searching online databases regardless of topic, novice searchers (i.e., searchers with no previous training in online searching) displayed no differences in their use of search tactics. A possible explanation could be that searchers need to have a certain amount of search experience for subject knowledge to have any effects on them (Hsieh-Yee, 1993).

Fatima, Nishat and Ahmad, (2008) investigated the information seeking behaviour of college students to find out the awareness and usage of library resources. The findings of the survey indicated the need to increase the usage of library resources and services. Kakai et al (2004) observed that the information seeking behaviour of students involved active or purposeful information as a result of the need to complete course assignment, prepare for class discussions, seminars, workshops, conferences, and for writing final year research papers.

Fidzani (1998) investigated students to determine the information seeking behaviour and use of information resources by graduate students at the University of Botswana. The purpose of the study was to find out what their information requirements were and determine their awareness of library services available to them. The findings of the study indicated that the guidance in the use of library resources and services was necessary to help students meet some of their information requirements.

## **2.8 Summary**

This chapter has provided an overview of the historical background of the two selected academic libraries and theoretical background of information-seeking studies. Various themes emerged from the review related to the information-seeking behaviour of graduate students in an academic setting, where they are required to perform diverse tasks and are subject to time pressures. Graduate students are also subject to a set of complex influences ranging from personal to environmental in the using information for learning. These issues are compounded by the proliferation of ICT in higher education and the emergence of digital information resources. One conclusion common to the majority of the studies reviewed is that information-seeking behaviour in the new electronic age should not be investigated in isolation

## CHAPTER THREE

### 3.0 METHODOLOGY

#### 3.1 Research Method

The research method was cross-sectional survey research, since the study was examined at a single point in time or taking a one-time snapshot approach. It is the simplest and least costly, Neuman (2007).

#### 3.2 Population

Addis Ababa University has 225 postgraduate programs (i.e. 69 PhD and 156 Masters Programs respectively), with 11,500 graduate students as at 2011 (Tsegaye, 2011). While Jimma University has 62 postgraduate programs, with about 1155 postgraduate students (Lemessa, 2011). This brings the total population for the study to 12, 655.

#### 3.3. Sample size and sampling technique

Of the 12, 655 population of postgraduate students from Addis Ababa and Jimma University, 363 subjects are from AAU and 37 from JU; bringing the sample size to 400 postgraduate students.

A purposive sampling technique was employed to get the postgraduate students involved in the study from the Colleges and Departments offering the postgraduate programs from both AAU and JU. In AAU, of the 363 postgraduate subjects were involved in the study, 10% (37 students) were allocated to Students from the PhD program. While the remaining 327 students, were from the Master programs of the AAU. However, at Jimma University, of the 37 postgraduate students were involved in the study, 10% (4 students) were allocated to the PhD programs.

However, the 400 sample size was derived based on Walpole's formula for proportional allocation of subjects (Walpole, 1982).

$$i.e. n_i = (N_i/N)n$$

Where:  $n_i$  represents sample size required,



$N_i$  represents Number of students in each University

$N$  represents Total study population,

$n$  represents Total sample size used.

### 3.4 Sample Size Determination

With a graduate students' population of the 12,655 students (Addis Ababa and Jimma University), a representative sample of postgraduate students from the colleges and Departments were used. This sample size was derived using proportional sampling of the study population to the total graduate student population in the 2012- 2013 academic year. Proportions were used to arrive at the sample size based on the postgraduate students' populations in each of the two Universities (AAU and JU). The number in each University (i.e. AAU and JU) was derived using Walpole's formula for proportional allocation of sample size (Walpole, 1982) as shown in table 1 on Computed sample of graduate students by universities of study from the study population

**Table 3.1: Computed sample of graduate students by universities of study from the study population.**

Universities				
Jimma		Addis Ababa		Total
Sample	Population	Sample	Population	
$[1155/12655]*400=37$	1155	$[11500/12655]*400=363$	11500	400
Total sample	$[12,655/12655]*400=400$			

**Source:** Walpole (1982)

## **3.5 Data Collection**

The data collection for this study was the use of questionnaire, interview and observation checklist. The self-administered questionnaire and interview as well as observation were the main research instruments selected for this research thesis.

### **3.5.1 Instrumentation**

#### *3.5.1.1 Questionnaire*

The questionnaire was chosen as the main data collection method for this study because it enabled the researcher to get responses from a relatively large number of post graduate students across all colleges at Addis Ababa University and Jimma University within a short period time. The questionnaire also allowed respondents to answer at their own leisure or free time. It was perhaps the most familiar tool used in getting responses. Also it facilitates for easy categorization and tabulation of results. In this study the questionnaire was made up two parts. Part One was structured to elicit the following demographic information about the respondents: their gender, their major fields and their degree required. Part Two of the questionnaire, comprising 7 (seven) multiple choice questions and one open-ended question.

Multiple questions in this part focused on the following areas: ranked information sources, type of information sources used, important information sources, characteristics of information seeking behaviour on post graduate students and Likert scale question and factors in meeting electronic information sources. The questionnaire required 10-15 minutes to complete. A copy of this research questionnaire is attached as Appendix A at the end of this thesis.

#### *3.5.1.2 Interview*

The use of interviews was chosen as the second data collection method for this study because they provide an effective way to find useful information about graduate students information seeking behaviour, The research plan was to interview Postgraduate students' members in Jimma University and Addis Ababa University. Numbers of postgraduate students' were selected purposively for interviews.

### *3.5.1.3 Observation checklist*

Observation was the third data collection technique used for this study. The researcher prefers to use participant observation. Since Participant observation, as the name indicates, is when the researcher participates in the environment he/she is observing.

## **3.6 Data collection procedure**

The Researcher was employed data collectors to distribute questionnaires. Then data was collected in April 2013 during second ((2<sup>nd</sup>) semester. Prior to the start of the data collection, in Addis Ababa University and Jimma University supervisors were assigned in administering the questionnaires appropriately and collecting data from the 400 respondents in each of the Universities. In order to save time and ensure better response rates, the researcher personally visited Addis Ababa University and Jimma University that were held in different days in two universities, and cross-sectional distributed questionnaires among those post graduate students. Out of 400 questionnaires given out, 358 completed questionnaires were returned.

## **3.7 Method of data collection and presentation**

The data was collected from Addis Ababa and Jimma University postgraduate students' (respondents). The collected data was coded and fed into the Statistical Package for Social Science (SPSS) version 16.0. Demographic data and close ended data was tabulated and summarized as percentages and frequencies. Prior to the actual analysis, data screening and cleaning was undertaken in order to check for errors where values fell outside the range of possible values for variables. Qualitative data were recorded, transcribed and analyzed.

Tabulation was mainly used to find out relationship between different variables. Tabulation was used, and then discussions were done after each table to answer the research questions. Important and significant comments from the open-ended questions were noted down and included to support and elaborate appropriate findings.

Because of these advantages, it was decided to use observation as the third data collection method.

## CHAPTER FOUR

### 4.0 DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This section describes and analyses the data collected from the two selected government-supported universities. It was collected through Questionnaires, Interviews and Observation check lists. Frequency tables were used to illustrate the distributions. Several statistical tests were undertaken with the aid of the Statistical Package for the Social Sciences (SPSS) version 16. Analysis of variance (ANOVA) and T- test were conducted on several variables to determine the major variables that were related to research questions.

##### 4.1.1 Response rate

The total number of distributed questionnaire was recorded, together with the number distributed to individual college members. It was important to know how many had been distributed and how many had been collected. In total, 400(100%) questionnaire were distributed and 358(89.5%) questionnaires were returned. This gave a satisfactory overall response rate of 89.5%. The response rate from each university is shown in Table 4.1 below.

**Table 4.1: Percentage responses from each university**

<b>Universities Name</b>	<b>No. issued</b>	<b>No. returned</b>
Jimma University	37(9.25%)	37(9.25%)
Addis Ababa University	363 (91.75%)	321 (80.25%)
Total	400 (100%)	358 (89.5%)

#### 4.1.2 Gender post graduate student members or respondents

The results of the gender respondents' indicated that, there were 259(72.3%) male graduate students and it represents the largest respondents as compared to 99(27.7%) female graduate student respondents as indicated on table 4.2 on gender respondents.

**Table 4.2: Gender of respondents**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	259	72.3
Female	99	27.7
Total	358	100

#### 4.1.3 Degree sought

Masters' degree respondents seemed to be the largest number of respondents with 320(89.4%). The PHD is next with 38(10.6%) respondents as shown in table 4.3 on frequency distributions of respondents on Degree sought below. However, a master's degree seems to be the entry qualification for the PhD program. And in Ethiopia, most of the higher institutions are just springing up with the dire need for man power with master's degree and above to teach or work in such environments. In which case, it may be right to see the largest number of graduate students at the master's degree program.

**Table 4.3: Frequency distributions of respondents by degree sought**

<b>Degree Enrolment</b>	<b>Frequency</b>	<b>Percent</b>
Master	320	89.4
PHD	38	10.6
Total	358	100.0

#### 4.1.4: Distributions of respondents of by year of study

Respondents were requested to indicate the total number of years they had been in universities. The respondents' answers were then categorized into three (3) groups as, shown in Table 4.4. The most respondents were from Year 2 (two) with 211(58.9%) that comprise master and PHD students. Next was Year 1 (one) with 110(30.7%) respondents for Master and PHD students. The lowest were from Year 3 with 37(10.3%) respondents.

**Table 4.4: Distributions of respondents by year of study**

<b>Year of Study</b>	<b>Frequency</b>	<b>Percent</b>
First	110	30.8
Second	211	58.9
Third	37	10.3
Total	358	100

#### 4.1.5: Distributions of respondents Discipline

The results of the respondents by discipline on table 4.5 indicated that of 358(100%) respondents', 67(18.7%) were Public health and medical science, 68 (19.0%) Business and Economics, 45(12.6%) Social Sciences, 50 (14.0%) were Agriculture and veterinary medicine, 64(17.9%) were Engineering and 64 (17.9%) were sciences.

Of the 358 respondents, the highest proportion was 68(19.0%) that came from Business and economics, while social sciences students made up the lowest proportion, with only 45(12.6%).

**Table .4.5:Discipline-wise Distribution of Respondents**

<b>College Members</b>	<b>Frequency</b>	<b>Percentage</b>
Public Health and Medical Science	67	18.7
Business and Economics	68	19.0

Social Sciences	45	12.6
Agriculture and Veterinary Medicine	50	14.0
Engineering	64	17.9
Science	64	17.9
Total	358	100.0

## 4.2 Characteristics of Information-seeking Behavior of postgraduate Students

Respondents were requested to indicate the characteristics of information-seeking behavior of postgraduate students on items provided in their questionnaire. Table 4.6a and b, shows the analysis of the responses.

### 4.2.1 Descriptive statistics on the characteristics of information-seeking behaviour of postgraduate students on table 4.6a.

**Table 4.6a: Characteristics of respondents for information-seeking behaviour**

Characteristics	Total responses and Percentages
Previous search experience	248(69.3%)
Friends/colleague suggestion	248(69.3%)
Course materials	227(63.4%)
Library website	209(58.4%)
Librarian	249(69.6%)

Table 4.6a above indicates that majority of respondents 249 (69.6%), start their information seeking through the librarian for materials on their fields. Next are their previous search experience with 248 (69.3%) as well as friends/colleagues suggestion with

248(69.3%), while course materials and library website were responded with 227(63.4%) and 209(58.4%) respectively. However, the postgraduate students were interviewed and their responses were: *“there is problem of network”, “lack of computer in academic libraries for accessing journal databases on library website” and “there is the issue of passwords that they have to provide before accessing the databases, which the libraries did not provide to the individual users”*.

We can conclude therefore, that the characteristics of information seeking behaviour of postgraduate students include: information seeking through the librarian, previous search experience, friends/colleagues suggestion, and course materials as well as library website. But information-seeking through librarians 69.6% seem to be the major means; with the least 58.4% from library websites. Additionally internet databases were found to be a means; as pointed out by the respondents during the interview session.

#### 4.2.2 Inferential statistics on the characteristics of information seeking behaviour of postgraduate students on table 4.6b.

**Table 4.6b: Inferential statistics on Characteristics of information-seeking behaviour**

Characteristics		T-Test for Equality of means		
		T	Df	Sig. (2-tailed)
Previous search experience	JU=Equal variances assumed	-.491	356	.624
	AAU=Equal variances not assumed	-.475	45.432	.637
Friends/colleague suggestion	JU=Equal variances assumed	-.491	356	.624
	AAU=Equal variances not assumed	-.475	45.432	.637
Course materials	JU=Equal variances assumed	-.745	356	.457
	AAU=Equal variances not assumed	-.721	45.487	.474
Library website	JU=Equal variances assumed	-3.235	356	.001
	AAU=Equal variances not assumed	-3.273	46.524	.002
Librarian	JU=Equal variances assumed	.957	356	.339
	AAU=Equal variances not assumed	1.015	47.800	.315

Based on the results of the independent T-Test on table 4.6b above, the study found that there is significant difference between postgraduate students (Masters and PhD) on library website at p-value less than  $p=0.05$ , where JU had  $p=0.001$  and AAU had  $p=0.002$ . Other characteristics



showed no significant at  $p=0.05$ , all the variables were greater than  $p=0.05$  at 2-tailed. The variables included: previous search experience, friend/colleague suggestion, course materials and librarian with their  $p=0.624$  Vs  $.637$ ;  $.624$  Vs  $.637$ ;  $.457$  Vs  $.474$  and  $.339$  Vs  $.315$  respectively. It is therefore necessary to reject the null hypothesis and conclude that that there was significant difference one of the characteristic (i.e. Library website) between the Masters and PhD students of Jimma and Addis Ababa Universities. But accept the  $H_0$  and conclude that there was no difference in the following characteristics: previous search experience, friend/colleague suggestion, course materials and information-seeking behavior through librarians.

### **4.3 Types of information resources for access by Ethiopian postgraduate students from Academic Libraries**

The Ethiopian postgraduate students were requested to freely response on the questionnaire item that asked of their access to the types of information resources. Table 4.8a and b are descriptive and inferential statistics on the proportional distribution of respondents' on access to types of information resources.

#### **4.3.1 Descriptive statistics on the proportional distribution of respondents on access to types of information resources as in table 4.7a.**

**Table 4.7a: Proportional distribution of respondents by frequency and percentages on access to types of information resources**

<b>Type of information resources</b>	<b>Frequency</b>	<b>Percentage</b>
E-books from the open web	438	13%
Electronic journal	398	11%
Open web sources	370	10%
Library e-books	358	9.8%
Electronic and digital databases	354	9.7%
Print journals	352	9.7%
Online database	340	9.4%
Print books	332	9.2%
Library catalog	330	9.2%

Library tutorials	328	9%
<b>Total</b>	<b>3600</b>	<b>100%</b>

Of the 3600(100%) total responses on the types of information resources they access in their academic libraries, the proportional distribution shows that e-books from the open web are the most accessed with 438(13%) and then followed by electronic journal with 398 (11%), open web sources with 370 (10%), library e-books with 358 (9.9%), electronic and digital databases with 354(9.7%) and the least accessed information resources were library catalog and library tutorials respectively.

It is therefore pertinent to conclude and to answer the research question on types of information resources that were accessed by postgraduate students in Ethiopian academic libraries to include: e-books from the open web, print books, library e-books, electronic and digital databases, print journals, online database, electronic journals, library catalog, Library tutorials and open web sources. But the most accessed information resources was from e-books from the open web with 438(13%).

#### 4.3.2 Inferential statistics on access to types of information resources

**Table4.7b. T-Test inferential statistics on access to types of information resources.**

Types of information resources		T-Test for Equality of means			
		Sig.	T	Df	Sig. (2-tailed)
E-books from the open web	JU=Equal variances assumed	.033	1.796	356	.073
	AAU=Equal variances not assumed		2.318	55.525	.024
Open web sources	JU=Equal variances assumed	.829	1.514	356	.131
	AAU=Equal variances not assumed		1.597	47.651	.117
Print books	JU=Equal variances assumed	.026	-1.761	356	.079
	AAU=Equal variances not assumed		-2.224	54.411	.030
Library e-books	JU=Equal variances assumed	.380	-3.431	356	.001
	AAU=Equal variances not assumed		-4.054	51.460	.000
Electronic and digital databases	JU=Equal variances assumed	.057	-.902	356	.368

	AAU=Equal variances not assumed		-1.088	52.326	.281
Print journals	JU=Equal variances assumed	.025	-3.309	356	.001
	AAU=Equal variances not assumed		-4.039	52.819	.000
Online database	JU=Equal variances assumed	.055	.000	356	1.000
	AAU=Equal variances not assumed		.000	52.253	1.000
Electronic journals	JU=Equal variances assumed	.007	-.987	356	.324
	AAU=Equal variances not assumed		-1.289	56.151	.203
Library catalog	JU=Equal variances assumed	.535	.205	356	.838
	AAU=Equal variances not assumed		.225	48.866	.823
Library tutorials	JU=Equal variances assumed	.615	.320	356	.749
	AAU=Equal variances not assumed		.361	49.766	.719

The result of the T-Test at 2-tailed at the level of significance of  $p=0.05$  in table 4.7b above showed that there is significant difference between postgraduate students (Masters and PhD) of Jimma and Addis Ababa University respondents on the types of information resources accessed. Such includes: E-books from the open web, Print books, Print journals and Electronic journals at less than  $p=0.033$ ;  $0.026$ ;  $0.025$  and  $p=0.007$  respectively. They were not different on items that include: Open web source; Library e-books; Electronic and digital databases; Online databases; Library catalog and Library tutorials at  $p$ -value greater than  $p=0.829$ ;  $0.380$ ;  $0.057$ ;  $0.055$ ;  $0.535$  and  $0.615$  respectively.

However, based on the item analysis on the items that were significantly different, the results shows that between postgraduate students (Masters and PhD) on E-books from the open web, library e-books and print journal at  $P$ -value less than  $p=0.05$ , the difference was shown by JU, which had  $p=0.001$  and  $.001$  respectively on the mentioned types of information resources. But AAU showed its difference on print books, library e-books and print journals at  $p$ -value less than  $p=0.024$ ,  $0.030$ ,  $0.000$ ,  $0.000$  respectively.

It is therefore necessary to reject the null hypothesis and to conclude that there is difference on some of the types of information resources accessed by the postgraduate students (Masters and PhD) of Jimma and Addis Ababa University. And that the difference is shown on E-books from

the open web, Print books, Print journals and Electronic journals at less than  $p=0.033$ ;  $0.026$ ;  $0.025$  and  $p=0.007$  respectively.

#### **4.4. Factors that influence information-seeking behaviour of postgraduate students on the use of their academic libraries electronic resources.**

This section provides a detailed analysis of the factors that affect information seeking-behaviour of postgraduate students in Ethiopian academic libraries. Table 4.8a and 4.8b shows the analysis of responses

**Table 4.8a: Factors that influencing information-seeking behaviour of graduate students**

<b>List of factors that influencing to use electronic resources</b>	<b>Respondents</b>
Time-consuming to use	267(74.6%)
Difficulty in using OPAC	234(65.4%)
Lack of library instruction	265(74.0%)
Lack of library materials	265(74.0%)
Overwhelming amount of information	233(65.1%)
Difficulty in using electronic resources	256(71.5%)
Difficulty in finding resources	259(72.3%)
Irrelevant information	280(78.2%)
Outdated information	284(79.3%)

Table 4.8a above showed that most respondents (masters and PhD postgraduate students) faced problems during information-seeking in the use of academic libraries electronic resources. Such problems identified include: irrelevant information with 280(78.2%), outdated information with 284 (79.3%), time-consuming to use information resources 267(74.6%), difficulty in using OPAC with 234 (65.4%), lack of library instruction 265 (74.0%), lack of library materials with

265(74.0%) and also difficulty in finding resources with 259(72.3%). Other areas in which they also faced difficulties are: Overwhelming amount of information with 233(65.1%) and difficulty using electronic resources with 256(71.5%).

It is pertinent to conclude therefore that the postgraduate students in Jimma and Addis Ababa University face nine factors affecting them in the use of the electronic information resources in their academic libraries. These include: irrelevant information, outdated information, time-consuming in using the resources, difficulty in using OPAC, lack of library instruction, lack of library materials and difficulty in finding resources. Other include overwhelming amount of information and difficulty in using electronic resources. However, the most critical of the factors was outdated information 284 (79.3%) and irrelevant information 280 (78.2%), but the least felt factor was the overwhelming amount of information with 233(65.1%).

However, in the interviews, “participants were asked about the barriers and problems they had faced when using for electronic information resources, in addition to any other factors that had influenced their information-seeking behaviour. Analysis of the interview discussions showed that the majority of students across disciplines faced problems in terms of their searches. Barriers to effective searching included: *“knowledge of the resources, access, and availability”*. Another problem raised was *“the reliability of the information resource”*. Some of the students in the interview noted that they *“found it difficult to determine the reliability of sources”*. For example, some of the interviewer public health and medical science said, *“We cannot be sure that the information from the Internet is reliable; we need authentic, reliable scientific resources to back up our work”*.

#### 4.4.2: Inferential statistics on factors affecting information-seeking behaviour of graduate students

**Table 9b: T-Test on factors affecting information-seeking behaviour of graduate students**

Factors that affect information-seeking behavior	T-Test for Equality of means			
	Sig.	T	Df	Sig. (2-tailed)

Time-consuming to use	JU=Equal variances assumed	.324	-.527	356	.598
	AAU=Equal variances not assumed		-.503	45.180	.617
Lack of library instruction	JU=Equal variances assumed	.257	-.661	356	.509
	AAU=Equal variances not assumed		-.639	45.446	.526
Lack of library materials	JU=Equal variances assumed	.405	-.440	356	.660
	AAU=Equal variances not assumed		-.423	45.320	.674
Overwhelming amount of information	JU=Equal variances assumed	.921	-.050	356	.960
	AAU=Equal variances not assumed		-.049	45.921	.961
Difficulty in using electronic resources	JU=Equal variances assumed	.057	.815	356	.416
	AAU=Equal variances not assumed		.843	47.098	.404
Difficulty in finding resources	JU=Equal variances assumed	.129	.693	356	.489
	AAU=Equal variances not assumed		.723	47.341	.473
irrelevant information	JU=Equal variances assumed	.098	-.954	356	.341
	AAU=Equal variances not assumed		-.896	44.821	.375
outdated information	JU=Equal variances assumed	.869	.082	355	.935
	AAU=Equal variances not assumed		.081	46.227	.935

Based on the results of the independent T-Test on table 4.9b above, indicated that all the variables showed no significance at  $p=0.05$ , all the variables were greater than  $p=0.05$  at 2-tailed. The variables included: time-consuming to use, lack of library instruction, lack of library materials, overwhelming amount of information, difficulty using electronic resources, difficulty finding resources, irrelevant information and out dated information ( 0.598, 0.617, 0.509, 0.526, 0.660, 0.674, 0.960, 0.961, 0.416, 0.404, 0.489, 0.473, 0.341, 0.375, and 0.935. 093) respectively. It is therefore necessary to reject the null hypothesis and conclude that there were no differences in the responses by the postgraduate students on the nine factors affecting them on the use of electronic information resources in their academic libraries.

#### ***4.5 Use of Information resources by postgraduate students***

##### **4.5.1 Use of Information resources**

In this section, graduate students were asked to indicate the frequency with which they use the information resources from their academic libraries. They were asked to choose the frequency from a five-point Likert scale ranging from "never" to "always".

According to Gojeh, et. al (2013) converting nominal scale on a five point Likert scale to interval scale, suggested the use of 0.80 to serve as the values between the intervals. In this case, the items were measured on a five point scale, using an equal interval of 0.80, thus the guideline below was used for interpreting the attitude scores of respondents on frequency of use of information resources by postgraduate students. A mean score was considered Never, if it falls within the range of 1.00 - 1.80; a mean score within the range 1.80 - 2.60 was taken as Once; a mean within the range 2.60 - 3.40 was considered Sometimes, while a mean score within the range 3.40 - 4.20 was taken as Regularly; and a mean score within the range 4.20 - 5.00 was considered Always. Table 4.10a shows Frequency of use of information resources by graduate students, as well as the mean and standard deviation for decision making column

**Table 4.9a: Frequency of use of information sources by graduate students**

<i>Information resources</i>	<i>Frequency of use of Information resources</i>					<i>Mean</i>	<i>SD</i>	<i>Decision</i>
	AW	RE	ST	ON	NE			
<b>Library catalog</b>	133(37.2%)	199(33.4%)	73(20.4%)	20(5.6%)	13(3.6%)	<b>1.82</b>	<b>1.170</b>	<b>ON</b>
<b>Library tutorials</b>	130(36.3%)	115(32.1%)	63(17.6%)	39(10.9%)	11(3.5%)	<b>1.63</b>	<b>1.146</b>	<b>NE</b>
<b>Online database</b>	84(23.5%)	117(32.7%)	80(22.3%)	48(13.4%)	29(6.1%)	<b>1.90</b>	<b>1.155</b>	<b>ON</b>
<b>Electronic journals</b>	65(18.2%)	141(39.4%)	82(22.9%)	37(10.3%)	33(9.2%)	<b>2.07</b>	<b>1.185</b>	<b>ON</b>
<b>Library e-books</b>	72(20.1%)	103(28.8%)	100(27.9%)	51(14.2%)	32(8.9%)	<b>2.47</b>	<b>1.173</b>	<b>ON</b>
<b>Electronic and digital resources</b>	57(15.9%)	101(28.2%)	95(26.5%)	59(16.5%)	46(12.8%)	<b>2.37</b>	<b>1.208</b>	<b>ON</b>
<b>Print books</b>	34(9.5%)	72(20.1%)	120(33.5%)	87(24.3%)	45(12.6%)	<b>2.50</b>	<b>1.216</b>	<b>ON</b>

<b>Print journals</b>	46(12.8%)	83(23.2%)	122(34.1%)	64(17.9%)	43(12.0%)	<b>2.18</b>	<b>1.253</b>	<b>ON</b>
<b>Open web sources</b>	38(10.6%)	60(16.8%)	104(29.1%)	112(31.3%)	44(12.3%)	<b>2.88</b>	<b>1.113</b>	<b>ST</b>
<b>E-books from the open web</b>	22(6.1%)	60(16.2%)	108(30.2%)	101(28.2%)	67(18.7%)	<b>2.95</b>	<b>1.061</b>	<b>ST</b>

**Key**

**NE= Never**

**ON= Once**

**ST= sometimes**

**RE= Regularly**

**AW= Always**

Table 4.9a above shows that most respondents on the frequency of use of the information resources in their academic libraries was “once” on items such as: library catalog, online database, electronic journal, library e-books, electronic and digital resources, print books and print journals with the Mean score between 1.80 – 2.60. The respondents also indicated the use at “sometimes” on items that include: open web sources and e-books from the open web with the Mean score 2.60 - 3.40. On library tutorial, the responded as “never” with the Mean 1 - 1.80

We can answer the research question on how often the postgraduate students use the information sources in the academic libraries as being once, sometimes and never.

**4.5.2 Observation schedule on use of Information resources in academic libraries of Jimma and Addis Ababa Universities**

As part of the data collection by the researcher on the use of Information resources in academic libraries of Jimma and Addis Ababa Universities, an observation schedule on some activities provided by the libraries and supposed to be used by the postgraduate students were observed to establish how information seeking behavior were performed. Table4.11 shows the researchers’



observation of the activities that include the catalogue use, journal use, borrowing of books, returning of books, browsing of e-resources and newspaper reading for five days in both universities.

**Table4. 10: Researchers’ observation of the activities in Jimma and Addis Ababa Universities**

Activities	Addis Ababa					Jimma University				
	D1	D2	D3	D4	D5	D1	D2	D3	D4	D5
Catalogue use						X			x	X
Journal use	X	X	X	X	X		X		x	
Borrowing books	X	X	X	X	X	X	X	X	X	
Returning books	X	X	X	X	X	X	X	X	X	X
Browsing e- resources	X	X	X	X	X		X	X		X
Newspaper reading	X	X	X	X	X	X	X	X	X	X

From table 4.10 above, the analysis of the observation of activities by the researcher is according to the items observed in the respective universities as reported.

#### **4.5.2.1. Catalogue use**

In the five days of observation at Addis Ababa University, no use was made of the catalogue at all as can be seen from Table 4.10. It is difficult to make a judgment as to why this should be the case. It might have something to do with the fact that there is an OPAC at Addis Ababa University library and this encourages use.

However, Catalogue use at Jimma University was low. This is not surprising though because an inspection of this catalogue revealed that it was out-of-date, incomplete, could not be considered in any way as a representation of the stack shelf and stack shelf is closed system at Jimma University.

As regards to use of the catalogue at different times of the day, it was used at Jimma University and was not used at Addis Ababa University in the month of April 2013.

#### **4.5.2.2. Journal Use**

Journal use can mean different things. For this study, a distinction was made between browsing the current serials and actual use of a journal. Use was considered to be activities such as carrying the journals to a desk or seating area from where it was read. Alternatively, taking photocopies of an article was also considered 'use'. Merely standing at the current journal display and flipping through was considered to be browsing.

It can be seen from Table 11 that the post graduate students' at Addis Ababa University made the most use of current journals, followed by those at Jimma University post graduate students.

#### **4.5.2.3. Borrowing and Returning of Books**

As researchers observed, books were recorded being borrowed or returned at Addis Ababa and Jimma Universities for the simple reason that there is formal system of book-lending in the library. An arrangement exists whereby books are borrowed in a formal manner. This consists in the borrower's name and title of books, accession number of books and date borrow and return of books being borrowed being recorded in a record system.

It can be seen from Table 4.10 that there is much more book borrowing at Addis Ababa University than at Jimma University. This is because Jimma University is a younger university and so the collection is newer. However, Addis Ababa University has the advantage of being a better collection for retrospective uses as it has a lot of old materials.

#### **4.5.2.4 Browsing e-resources**

No single observation was made of e-resources use.

Browsing for purposes of this study was defined as any activity in which a subject of observation wandered round the library, using material in a casual or leisurely way. Most of the browsing activity at all three sites took place either at the current journal display or at the books and social network like face book.

#### **4.5.2.5 Newspaper Reading**

Of all reasons for visiting the academic library, newspaper reading was by far the most common. At Addis Ababa University, almost all use made of the library seems to be for reading the daily and weekly papers. This can be seen quite clearly when the newspaper reading statistics are compared with the statistics for other activities. Newspaper reading at Jimma University is also high and this is perhaps more to do with the fact that the library is situated within the academic colleges.

## CHAPTER FIVE

### 5.0 SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Summary of findings

Of the 400(100%) study population, the study had a response rate of 358(89.5%) on the study of factors affecting information-seeking behaviour of postgraduate students (Masters and PhD) in Addis Ababa and Jimma Universities. The followings are the summary of findings from the study: The results of the demographic information showed that gender respondents' indicated that, there were 259(72.3%) male graduate students and it represents the largest respondents as compared to 99(27.7%) female graduate student respondents. Masters' degree respondents seemed to be the largest number of respondents with 320(89.4%). The PHD is next with 38(10.6%) respondents. The most respondents were from Year 2 (two) with 211(58.9%) that comprise master and PHD students. Next was Year 1 (one) with 110(30.7%) respondents for Master and PHD students. The lowest were from Year 3 with 37(10.3%) respondents. The highest proportion was 68(19.0%) that came from Business and economics, while social sciences students made up the lowest proportion, with only 45(12.6%).

The findings on the characteristics of information seeking behaviour of postgraduate students include: information seeking through the librarian, previous search experience, friends/colleagues suggestion, and course materials as well as library website. But information-seeking through librarians 69.6% seem to be the major means; with the least 58.4% from library websites. Additionally internet databases were found to be a means; as pointed out by the respondents during the interview session. The  $H_1$  was rejected; hence, there was significant difference one of the characteristic (i.e. Library website) between the Masters and PhD students of Jimma and Addis Ababa Universities. But accept the  $H_0$  and conclude that there was no difference in the following characteristics: previous search experience, friend/colleague suggestion, course materials and information-seeking behavior through librarians.

It was found that the types of information resources that were accessed by postgraduate students in Ethiopian academic libraries to include: e-books from the open web, print books, library e-books, electronic and digital databases, print journals, online database, electronic journals,

library catalog, Library tutorials and open web sources. But the most accessed information resources was from e-books from the open web with 438(12%). there is difference on some of the types of information resources accessed by the postgraduate students (Masters and PhD) of Jimma and Addis Ababa University. And that the difference is shown on E-books from the open web, Print books, Print journals and Electronic journals at less than  $p=0.033$ ;  $0.026$ ;  $0.025$  and  $p=0.007$  respectively.

Postgraduate students in Jimma and Addis Ababa University face nine factors affecting them in the use of the electronic information resources in their academic libraries. These include: irrelevant information, outdated information, time-consuming in using the resources, difficulty in using OPAC, lack of library instruction, lack of library materials and difficulty in finding resources. Other include overwhelming amount of information and difficulty in using electronic resources. However, the most critical of the factors was outdated information<sup>284</sup> (79.3%) and irrelevant information<sup>280</sup> (78.2%), but the least felt factor was the overwhelming amount of information with 233(65.1%). There were no differences in the responses by the postgraduate students on the nine factors affecting them on the use of electronic information resources in their academic libraries.

It was also found that postgraduate students vary on the use information sources in the academic libraries on variables such as: once, sometimes and never. But observations by researcher on the varieties of activities and acted by the respondents showed varying use to catalogue, journals, borrowing of books, returning of books, browsing of e-resources and newspaper reading observed for five days in both Jimma and Addis Ababa Universities.

## **5.2. Conclusion**

This study has attempted to investigate factor affecting post graduate students information-seeking behaviour and academic resource usage in two selected Higher Education Institutions (such as :Addis Ababa and Jimma University) in Ethiopia. From the findings, valuable information has been obtained about what students felt towards academic libraries information resources. The findings also reveals that post graduate students were partially getting the full benefit of the academic libraries electronic information and that some of the electronic

information were underutilized. The major causes or reasons for this problem were contain out dated information, contain irrelevant information and time-consume in using resources. In addition, this study has shown that a majority of postgraduate students were never, once and sometimes use of academic library resources.

Eventually, this research study may contribute to helping students become life-long independent learner or critical thinkers. This, in turn, would promote information competency, improve their searching experience.

### **5.3 Recommendations**

The aim of these recommendations is to suggest means of avoiding factor affecting postgraduate students' information seeking behaviour on the use academic library electronic resources. These are discussed in chapters four.

Access to electronic information is the most important for postgraduate students. Academic library need to encourage post graduate students to use the updated electronic information resources. Therefore, university academic libraries, instructors and academic departments need to liaise in order to find the means to provide these information resources and in order to make all postgraduate students capable of accessing national and international electronic information sources.

Providing fully online resources to post graduate students, without doubt, would encourage them to use electronic information resources such as the OPAC, online databases, e-books from the open web, electronic journal and electronic and digital resources in their libraries. These can be postgraduate students to ensure effective and efficient access to data whether in the present or the future.

Greater accessibility to academic libraries electronic information resources in demand, as was the necessity for these electronic information resources to be faster and more efficient. The researcher recommends that academic libraries should deliver electronic information through server based collection. The researcher, in addition, feels that academic libraries should cooperate with each other by improving providing online information resource to allow postgraduate students to gain more information effectively, quickly and in a timely fashion.

### **5.3.1 Recommendation for Future Research**

This study was limited to postgraduate students who were registered at Addis Ababa University and Jimma University. Future research should consider students from graduate programmes at other Public Universities and private Universities in Ethiopia

This study has provided merely a cross-sectional view of the factors affecting in information-seeking behaviour on the use of academic libraries electronic information. Further longitudinal studies would be required to investigate changes in factors affecting post graduate students information-seeking behaviour over time.

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## APPENDICES

### *Appendix A*

#### **Post graduate students' questionnaire.**

This confidential survey questionnaire will take approximately 15 minutes to complete. The questions have been designed to collect information about factors affecting post graduate students information seeking behaviour on the use of academic libraries. Answer each question as it relates to your current university library. Please answer as accurately as possible. Your participation is greatly appreciated.

#### **Part I. General Information**

Please tick (✓) in the appropriate box:

1. Name of university-----

2. Please indicate your gender.

Male

Female

3. What degree are you studying for now?

Masters

PhD

4. At what stage of the programme are you currently?

1<sup>st</sup> year

2<sup>nd</sup> year

3<sup>rd</sup> year

5. Which of these fields' best describes your major? (Please tick (✓) one answer only)

Public Health and Medical Science

Engineering

Science

Business and Economics

Social Sciences

Agriculture and Veterinary Medicine

#### **Part II: - Searching information for Research**

For the purpose of this survey, electronic resources are defined as library resources that may be accessed electronically from within the library or from a remote location online.

Examples include databases and electronic journals.

6. What are characteristics of information seeking behaviour of postgraduate students? (Please circle all that apply)

- i. Previous search experience
- ii. Friend/colleague suggestion
- iii. Course materials
- iv. Library website
- v. Librarian
- vi. Other, please give details.....

7. Which of the following problems or factors have you experienced when trying to use electronic resources? (Circle as many as are appropriate).

- i. Time-consuming to use
- ii. Difficulty to use OPAC
- iii. Lack of library instruction
- iv. Lack of library materials (e.g. research guides)
- v. Overwhelming amount of information
- vi. Difficulty using electronic resources
- vii. Difficulty finding resources
- viii. Contain irrelevant information
- ix. Contain outdated information
- x. Other, please specify.....

8. Please indicate the type of information resources that you have ever accessed. (Circle as many as are appropriate).

- i. E-books from the open web
- ii. Open web sources
- iii. Print books
- iv. Librarye-books
- v. Electronic and digital database
- vi. Print journals
- vii. Online database
- viii. Electronic journals

- ix. Library catalog
- x. Library tutorials
- xi. Other, please specify.....

9. In general, how often do you use the following information resources for your studies?

Resources	Never(0 times)	Once(1 times)	Sometimes (3-9 times)	Regularly (10-29 times)	Almost always (30 times or more)
Library catalog					
Library videos/tutorials					
Library databases					
Library electronic journals					
Library e-Books					
Library Electronic dictionaries					
Library print books					
Library print journals					
Open web sources (e.g. Google, Wikipedia)					
e-Books from the open web (e.g. Google Books)					
Other, please specify.					

10. What is the single most important tool you use when seeking or searching for information?

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Thank you for your participation in this survey!!!

## *Appendix B: Interview*

Semi-structured interviews with post graduate students at Addis Ababa and Jimma universities.

These interview questions from the qualitative part of the master (second degree) research conducted by Ayenew Fentahun from Jimma University and Addis Ababa University. The interview is related to the factors affecting post graduate students' information seeking behaviour on the use of academic libraries. In this thesis the critical incident technique is applied by asking the interviewees to tell about a very specific situation where they experienced problems or factors while using electronic information resources or print sources where they gained new knowledge.

Your contribution will highly be appreciated as it would add depth to the research.

### RESEARCH TOPIC

What resources do you most use when searching for information?

What factors played the most important role in your information-seeking process?

What is your personal view of the role of the academic library in your information seeking process?

## ***Appendix C***

### ***Observation Checklist***

During investigating period the researcher will be

Observed graduate students sources of information during their information seeking behaviour.

The research shall be observing post graduate students' information-seeking behaviour frequently use of the following academic library resource.

### ***Appendix c1- Observation schedule***

Mornings	Day18/08/2005-22/08/005
----------	-------------------------

Activities	Hours				
	8am-9am	9am-10am	10am-11am	11am-12pm	12am-1pm
Catalogue use					
Journal use					
Borrowing books					
Returning books					
Browsing e-resources					
Newspaper reading					

### ***Appendix c2 - Observation schedule***

Afternoon	Day18/08/2005-22/08/005
-----------	-------------------------

Activities	Hours
------------	-------



	8am-9am	9am-10am	10am-11am	11am-12pm	12am-1pm
Catalogue use	1pm-2pm	2pm-3pm	3pm-4pm	4pm-5pm	5pm-6pm
Journal use					
Borrowing books					
Returning books					
Browsing e-resources					
Newspaper reading					