ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE

SCHOOL OF INFORMATION SCIENCE

INFORMATION SEEKING BEHAVIOR OF GRADUATE STUDENTS OF THE COLLEGE OF BUSINESS AND ECONOMICS AT ADDIS ABABA UNIVERSITY

BY: TIZITA FIKADU

JUNE, 2020
ADDIS ABABA, ETHIOPIA

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A Thesis Submitted to School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master of Science in Information Science and Systems (Information Science Specialization)

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Addis Ababa, Ethiopia

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DECLARATION

This thesis has not previously been accepted for any degree and is not being concurrently submitted in candidature for any degree in any university.

I declare that the thesis is a result of my own study, except where otherwise stated. I have undertaken the study independently with the guidance and support of my research advisor. Other sources are acknowledged by citations giving explicit references. A list of references is appended.

Signature: _____
Tizita Fikadu

The thesis has been submitted for examination with my approval as university advisor.

Signature: _____
Daniel Gelaw (PHD)

DEDICATION

This work is dedicated to the glory of the Almighty God.

This study is also dedicated to my parents.

ACKNOWLEDGEMENT

First and for most, I would like to thank God for carrying me through the courses and for giving me the strength and grace I needed to press on regardless of the situation.

My great gratitude goes to my advisor, Dr. Daniel Gelaw Alemneh, for his dedicated, unreserved, and valuable comments and timely feedback. I appreciate his unlimited support and assistance.

I am very thankful for student who participated in this study by spending their time and providing useful information for the study. Without them this work would not have been possible.

ABSTRACT

The aim of this study is examine the information seeking behavior of graduate Students of the College of Business and Economics at Addis Ababa University. The study employed mixed method approach and data collected using questionnaires and semi-structured interview, quantitative and qualitative data were collected from the graduate students of the College of Business and Economics at Addis Ababa University. The Statistical Package for Social Sciences (SPSS) version 26 was used to analyze quantitative data and the qualitative data were analyzed and used for further information for the purpose of conclusion and recommendations. The findings of this research revealed that the major information seeking of graduate students included information for updating themselves, and education purpose. The most commonly consulted sources included internet and university library. An electronic information source was the most preferred information format. Moreover the findings suggested that Google search engine is the most consulted search engine to searching information for academic purpose. When seeking information, students faced various challenges such as, financial constraints, poor library facilities, insufficient ICT facilities, accessibility and quality of information, power failure, poor searching skills, lack of time, slow internet connection speed. Based on survey findings, the author makes recommendations for improving both students' information searching skill and slow internet connection to better meet the needs of users. The study concluded that challenges encountered in their information seeking are mostly technological and the challenges may pose difficulties for searching information.

Key words; Information, Information seeking, Information seeking behavior, Information behavior.

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LIST OF ACRONYMS

AAU	Addis Ababa University
CoBE	Collage of Business and Economics
CBA	Collage of Business Administration
FBE	Faculty of Business and Economics
ICT	Information communication technology
ISB	Information Seeking Behavior
ISP	Information Search Process
SPSS	Statistical Package for Social Sciences
KMO	Kaiser-Meyer-Olkin Measure of Sampling Adequacy
PCA	Principal Component Analysis

Chapter one

Introduction

1.1Background

Information has turn out to be a part of daily lifestyles of almost everyone. In the path of our each day existence and things to do we get admission to and use a range of information. There are different definitions of information as there are many discipline and scholars."Reitz (2004) quoted via Ojedokun (2007) describes the notion of information concretely as "all facts, conclusion, ideas, and creative works of the human intellect and creativeness that have been communicated formally and informally, in any form."

Information is viewed as an important resource that contributes in the direction of the improvement of a nation. It gives the core for the development of knowledge, the groundwork for innovations, the sources for knowledgeable citizenry, and as a result, will become a key commodity for the progress of society. Acknowledging the importance of data in countrywide development, Manjula et al. (2014) cited that facts is an integral resource, which human beings get hold of in the course of the day. It is the verbal exchange of know-how about an event, given condition, or the spread of knowledge derived from observation, study, journey or instruction. In order to make the statistics sources effortlessly available, services should be provided in such a way that these sources should be made handy to the right user at the proper time. It gives knowledge which in turn brings development if only one recognizes and uses it as a tool for development. The nature of information has undergone a enormous change with the creation of modern Information and Communication Technology (ICT) and their ease of use (Das and Jadab, 2016)

An information need may lead to a decision to be looking for information. Information seeking is a form of human behavior that includes searching for information by capacity of the lively examination of data sources or information retrieval structures to fulfill the information need, or to resolve a hassle (Ingwersen and Järvelin 2005). In order to collect information the user has to pick information from a unique source, system, channel or service. Information seeking refers to the way persons seek, evaluate, choose and use information by interacting with humans and all types of data systems. It is additionally the method whereby a person increases or adjustments his state of knowledge by using the thinking to examine and clear up troubles (Fatima and Ahamed, 2008)

Wilson (2000) also defines information seeking behavior as "the purposive seeking for information as a consequence of a need to satisfy some aims''. He similarly mentions that people use both manual and computer-based information systems to satisfy their information needs.

Every user wants information to undertake decisions. According to Thompson (2003) desires are what one is looking for in order to lower back his or her work (Taylor, 2008 cited in Yusuf, 2012) identified four types of needs as: formalized, compromised, visceral and conscious needs.

These needs according to Wilson (2000) are influenced by elements such as information sources which motivates use of the information and the users' characteristics. The individual consult a number of sources to meet those needs. According to Taylor (1991), the information sources that an individual may additionally need may additionally now not be totally linked with what practically exists and this might also be due to the barriers such as scarce sources available in the library or the incapacity of the person to get admission to these resources. For instance, Kakai, Ikoja-Odongo and Kigongo-Bukenya (2004) in their learn about stated that most college students do not search for information themselves but use archives advised through both their pals or lecturers who have used these sources.

Information seeking behavior is the purposive looking for of information as a result of a need to satisfy some goal. In the course of seeking, the quality may also have interaction with manual information systems such as a newspaper or a library, or with computer-based systems such as the Web. Information searching for conduct is for that reason the behavioral sample exhibited in a bid to accumulate certain information critical to bridge a gap in ones information (Wilson, 2000).The ability to obtain and use information on any issue offers the opportunity to pick out from many selections as an alternative of confined to a few choices. This study was examining the information seeking behavior of graduate Students of the College of Business and Economics at Addis Ababa University. This study specifically focuses on identify information seeking behavior of graduate Students of the College of Business and Economics, the predominant sources used by the graduate Students of the College of Business and Economics and the problems faced while seeking and using information.

Teaching and learning environment in the higher education need information that support for knowledge development. Without information teaching and learning process cannot survive. The emergence of web resources the information seeking behaviors of students are changing rapidly all over the world. This is also true in the case of graduate Students of the College of Business and Economics at Addis Ababa University.

Many studies are conducted during this area but most of them are conducted in other countries with respect to Ethiopia still there is a gap in this topic of research. This study hopes to find out the important sources employed by the students and also the factors that affect information seeking behavior of graduate Collage of Business and Economics students at Addis Ababa University.

In the course of daily life and activities one accesses and uses different information systems and services starting from communications, such as e-mail, to social networking. Each of those information systems is affect the information seeking behavior of students. Information seeking engage the need for the information, the purpose for seeking for the information, the type of

information being wanted for, the sources consulted and also the ways or methods employed in getting the information. It is a basic activity indulged in by all people and manifested through a particular behavior. Students seek information for various purposes. They make use of printed documents or e-documents to gather information (Moly, 2014).

Graduate College of Business and Economics Students have the opportunity to use the Internet to seek and obtain information and knowledge, but how effectively they make use of this channel is limited and they face different challenges while they seek information In this sense, studying the information seeking behavior of graduate Students of the College of Business and Economics at Addis Ababa University is particularly interesting.

The College of Business and Economics (CoBE) consists of the former Faculty of Business and Economics (established in November 1990) and School of Commerce (established in 1943).The previous Faculty of Business and Economics has its foundation in the introduction of the Department of Economics in 1959 under the Faculty of Art of the University College of Addis Ababa. This first pass used to be accompanied through the establishment of the College of Business Administration in 1963, which consisted of two departments, specifically the Department of Management and the Department of Accounting. In 1978 the College of Business Administration, the Faculty of Art and the School of Social Work have been merged to form the College of Social Sciences.

In 1990, the University Senate determined to reorganize the school of Social Sciences, which resulted within the arrangement of collage of Business and Economics (FBE). Following the formation of FBE, the Collage workplace moved from the most important campus to the former important campus to the Crown Price in 1992.The School of Commerce also encompasses a captivating history. The school was once first established in 1943 as a Commercial School following the 5 years of the Italian occupation. The primary coaching applications presented by means of the School were from six months to one 12 months in duration. Over time, the programs developed to lengthen to length of 4 years. This laid the idea for the 8+4 program. In 1966, students were skilled in three fields: Secretarial Studies, Accounting, and Banking and Finance. The School phased out its lower-level packages over time in its quest to reap “Junior College” status. The school was delivered the Commission for Higher Education in 1979, thus becoming one of the few tertiary-level educational establishments in Ethiopia.

In 2010, the School of Commerce, the School of Information Sciences and the Faculty of Business and Economics were merged and named as “The College of Management, Information and Economic Sciences”. In April 2012, as a result of the revised administration system of the university, the school was updated and named because the College of Business and Economics, consisting of 4 departments and 1 school.

1.2 Statement of the problem

Information-seeking behavior can be considered as a response to information needs which an information seeker performs as depicted by means of Wilson (2000) as a purposive-seeking

motion for information as a result of a need to satisfy some goals. According to Acheampong and Dzandu (2015), the need to be a knowledgeable and educated character leads to the technique of identifying information needs. This procedure does now not stand without the individuals knowing the way they articulate, seek, evaluate, choose and use the information, which is often referred to as "information-seeking behavior" being sought for. Information-seeking actions entail the moves that graduate students are willing to take in the route of carrying out their lookup tasks in order to fill their knowledge gaps. Due to the dramatic explosion in the generation of information and sophistication of information technologies, it has ended up very tough for the information seekers from each and every subject to correctly access, consider and use of facts in distinct formats. The current ambit of information atmosphere is rich, characterized through an explosion of data sources and providers, a multiplicity of techniques for accessing information, and a redundancy of content from more than one sources.

The information explosion added about by the improvement and deployment of Information and Communication Technology (ICT) has introduced about quite a number approaches of codifying information and information retrieval which has later constituted a tremendous challenge.

Shenton, A. (2008). In the process of searching for information, expertise gaps will inspire graduate college students to search for information based totally on their wishes with the purpose to make bigger their knowledge or clear up sure problems. However, some students have problem in finding the Information that meets their information needs.

There are many challenges that make access to information difficult. Uhegbu (2002) examines five such obstacles, which are economic, social, environmental, occupational and infrastructural challenges. Kamba (2008) argues that developing countries, in particular in Africa, have difficulty gaining access to substances from developed countries because of distance and monetary limitations, among other reasons. Ugah (2007) identifies limitations that make accessibility of information difficult in growing countries. They are;-

Lack of awareness- Information seekers and user may not be aware of about the availability of recourses because the position of libraries has not constantly been made clear to information seekers, in particular in developing countries. Costs for users - Many users can't manage to pay for to journey from one region to another to get information. Information that is got in either rural areas or overseas is high priced to attain and acquiring such may constitute costly logistics problem. This creates greater limitations to information access and use. Information overload is another venture it's the quantity of accessible information is more than everybody information retrieval device can index, more than any library can buy and greater than any scientist can read. The lack of central organization and indexing on the internet makes the information overload even extra puzzling because the precision of search engine outcomes is frequently low (that is, many irrelevant documents are retrieved). At the identical time, no search engine can index the entire contents of the web, so searches also have terrible recall with recognize to all applicable data on the web.

Website navigation - to retrieve electronic journal articles, users need to navigate a tremendous wide variety of websites and every publisher constructions its internet site differently. This can be very difficult due to the fact the web sites are now not continually designed for effortless navigation. Sometimes it is very challenging to determine which link on the crowded homepage leads to the proper article content. Often the links to "subscribe today" are a great deal greater prominent. Financial concerns - peer-reviewed articles are on hand on the web, but they are generally published in fee-based e-journals.

Thindwa, Chawinga, & Dube, (2019). Showed that students lack online information literacy skills and, consequently, they get overwhelmed and confused by the avalanche of information available on the Internet. The study also established that apart from limited Wi-Fi and shortage of computer laboratories, poor Internet was another notable challenge. Chaura (2014) concluded that lack of information literacy skills was the reason students fail to find relevant materials to satisfy their information needs.

These gaps affect the academic activities of the students. In light of this recognized gaps, the research was study the information seeking behavior of graduate Students of the College of Business and Economics at Addis Ababa University.

Research Questions

The following research questions are addressed by this study:

1. How do graduate Colleges of Business and Economics students at Addis Ababa University seek information to fulfill their academic purpose?
2. What are the predominant information sources used by the graduate Colleges of Business and Economics students at Addis Ababa University?
3. What are the main problems which influence information seeking behavior of graduate Colleges of Business and Economics students at Addis Ababa University?

1.3 Objective

1.3.1 General Objective

The objective of this study is to examine the information seeking behavior of graduate Students of the College of Business and Economics at Addis Ababa University.

1.3.2 Specific Objectives

In order to satisfy the above-mentioned general objective, this research aims at accomplishing the following specific objective:

- To identify information seeking behavior of graduate Colleges of Business and Economics students necessary to fulfill their academic purpose.

- To identify the predominant sources used by the graduate Colleges of Business and Economics students at Addis Ababa University.
- To find out the problem that influence information seeking behavior of graduate Colleges of Business and Economics students at Addis Ababa University.

1.4 Scope of the Study

The study was cover the College of Business and Economics (CoBE) graduate students from five departments, namely: Accounting and Finance, Economics, Management, business administration and public administration and development management at Addis Ababa University. But it was limited to the graduate students who are expected to graduate at the end of this year regular and extension students are part of the population under the study.

1.5 Significance of the study

The study has the following significance:

- It highlights the important sources used by the students and also the purpose of seeking information and the study is significant because it describes and analyses the information-seeking behavior of graduate colleges of business and economics students at Addis Ababa University.
- The finding from this study will also assist to improve the services offered to graduate colleges of business and economics students at Addis Ababa University.
- It highlights the information seeking behavior of graduate students and the challenges they face when seeking information so that the library can provide efficient information services and resources to meet their information needs.
- The study aimed to contribute to the growing literature on information-seeking behavior and to the researcher's knowledge in this area of study.

1.6 Organization of the Report

The study is made of five chapters:
Chapter one is the introductory chapter. It includes the background to the study; problem statement; the research objectives; scope of the study and significance of the study.

Chapter Two is the literature review. This contains related works on the topic under study and has been discussed under the following headings: Definition of concepts including information seeking behavior, information needs and information sources; conceptual framework of the study and summary of the literature.

Chapter Three is the methodology used for the study. It discusses the description of the research design, study area, population and sampling, data collection, and methods of data analysis. The ethical issues relevant to the study were also discussed.

Chapter Four provides analysis and interpretation of data.

Chapter Five, summary of findings, conclusion and recommendations of the study, List of references and appendices are shown at the end of the paper.

Chapter Two

Literature review

Definition of key terms

2.1 Information

Information is described as processed structured data. It is one of the fundamental commodities needed by using the mankind in all walks of life. Information means the communication of knowledge about an event of a given condition or the spread of knowledge derived from observations, study or experience. The word Information is derived from Latin word 'Information' which means to "to give form to mind', 'instruct' or 'teach' (Doraswamy, 2017)
The literature review on studies of information seeking behavior is widespread.
According to Ukachi (2011) the concept of information is very complicated and difficult than ordinarily meets the eyes, it is evident in the a variety definitions and attributes of the concept notwithstanding the fact that information is historic as old as man, and that it influence and is affected by all aspects of human activities.
There are a lot of definitions available with different approaches to information some are below:
Chen and Hernon (1982) defined information as "all knowledge, ideas, facts, data and imaginative works of mind which are communicated formally and/or informally in any format".

Information is the main component that necessitates Information need which is frequently understood in the science as evolving from indistinct awareness of something missing and as culminating in finding facts that contributes to understanding and meaning (Kuhlthau 1993).

2.2 Information need

Information need is a complicated term that has been described differently by quite number researchers. The outstanding records scientist Wilson (1999) defines it from a historical and modern overview of the concept in data science, as a motivation people think and experience to seek information. Traditionally, information needs denote the start of nation for any one in search of information. This includes all varieties of information-seeking (purposive information behavior) and human information behavior; additionally which include non-purposive information behavior (Wilson, 1999). Additionally, Kuhlthau (1993) defined information need as evolving from a indistinct focus of something, a lack of perception and meaning as properly as uncertainty that culminates in locating information that contributes to restoration of grasp and meaning. The authors have confined the definition to information searches involving user

interplay with information systems such as search engines, for example Google, on-line databases and digital library catalogues and metadata and any of the scholarly or research-oriented retrieval systems, that are applicable and in line with the study. Information need has been difficult to outline often due to the information need is a subjective trip that takes place in the minds of persons and for this reason only the individual experiencing the want can articulate it; a researcher can only deduce people's need from their behaviors' and what they themselves report. Wilson (1997)

Chowdhury (1999) has additionally that information needs are not static but alternative with time and "vary from person to person, job to job, subject to subject and from organization to organization." In other words, "people's information needs are largely dependent on the environment, that is, the information needs for those in academic environment are exclusive from those in an industrial, business or administrative environment." "Information need is a relative concept." "It can be social, economic, political, and cultural or educational. Information needs emphasize the requirement of the detection of the appropriate need.

Information need impacts the information seeking behavior and the entire information searching process relies up on the rightly decided information need. Lack in figuring out the proper information need will create a confused state which will lead to ineffectiveness in getting the need to be satisfied. Is an individual or a group's desire to locate and obtain information to satisfy a conscious or insensible need. Information need refers to individual user needs regarding information needed by each person. Information need is understood as evolving uncertain awareness of something from missing and as culminating in locating the information that contributes for grasp and meaning. (Doraswamy, 2017)

Information need as an actual, however unexpressed need for information, or an ill-defined location of indecision which might additionally be expressed in an ambiguous, rambling statement. Information need may additionally start as indistinct kind of dissatisfaction which is characterized by confusion and perplexing reaction to a vague new idea. This confusion increases and mounts until the person may be threatened by his/her lack of understanding. (Kuhlthau, 2004)
Dervin (1983) a need implies a state that arises within a person, suggesting some kind of gap that requires filling. When utilized to information as in information need, what is cautioned is a gap that can be filled by something that the needing person calls information. She also explains that information need is making sense of a difficult or worrisome situation, or a need to make a choice or understand. In such situations many questions occurs in the person's thoughts that needs to be answered. She refers to such questions as information needs.

Information need is a term closely related to the concept of information seeking behavior. A user recognizing an information need, articulates it into a question, or, request which is conveyed through formal or causal channels of communication and information systems, in order to receive a response (verbal written, visual) which will satisfy that need. The decisions regarding

which communication channels and information systems will be used, as well as in which way and how they constitute the information seeking behavior of a user. Due to the existence of many internal factors that are concerned with the individual user, the examination of the information seeking behavior becomes very challenging and complex (Siatri, 1999).

McGarry (1981), need is the essential concept of information studies but it is hard to define it precisely and accurately. However, it implies require of something which, if given would enhance our welfare or make less complicated the attainment of whatever objectives we may have in mind. "The concept needs can be known through a range of terms such as desire (a state or fact of being without or having an insufficient, absence or deficiency of necessities), desire (an unsatisfied longing or craving), demand (to require, asking for what is due or asking for something), and requirement (a need, a component needed, essential condition)".
The information need is a accurate situation in which, there exists an indivisible interconnection with "information" and "need", information needs can therefore be said to be the amount of positive information an individual or group of users need to have for their work, recreation and many other like satisfaction. Thus, information need arise wherever individuals find themselves in a situation requiring knowledge to deal with the situation as they see fit. In other words, lack of information needed to accomplish a task results in information need which several authors have variously described and explained (Adeniji, 2007).

2.3 Information behavior

Wilson (2000) defines information behavior as "the totality of human behavior in relation to sources and channels of information, such as both active and passive information-seeking and information use". Stilwell (2010) stated that information behavior refers to a broader term that covers information seeking behavior, information needs, information searching and information use. To support this view, Fisher and Julien (2009) argue that information behavior focuses on people's information needs specifically how they seek, manage, give and use information, either purposefully or inactively, for various work-tasks related to their everyday lives.
Case (2002) defined information behavior as "Information behavior encompasses information seeking as properly as the totality of other unplanned or passive behaviors (such as glimpsing or encountering information) as well as purposive behavior that do not involve seeking such as warding off information"
Information behavior is the study that includes;

- Information Behavior: Totality of human behavior in relation to sources and channels of information.
- Information Seeking Behavior: Information seeking behavior is the purposive seeking for information as a consequence of a need to complete some goal.
- Information Search Behavior: The micro-level behavior employed by the information searcher in interacting with information system of all kind.

- Information Use Behavior; this is comprises of mental and physical acts involved incorporating information to existing knowledge base of a person.

2.4 Information sources

Case (2007) noted that "people use formal sources rarely, rather gathering and relying on informal sources, chiefly friends and family throughout their lives". Fisher and Julien (2009) stated that interpersonal and the Internet represents two types of information sources that dominate the literature in information behavior related studies. Barjak (2006) described heavy use of the Internet for scholarly communication throughout disciplines, while interpersonal information seeking has been investigated by Xu, Tan, and Yang (2006). For instance, Taylor (1991) added that "personal dialogue will help to clarify both need and response, and hence to provide more useful information". Agarwal, Xu, and Poo (2011) noted that the principle of least-effort emphasizes that people prefer sources that are easily accessible and pay less attention to source quality. Wilson (1997) indicates that there are three important characteristics of a good information source and these include:

- Accessibility: information source is expected to be easily accessible to a user.
- Credibility: information source is assumed to be reliable in the quality and accuracy of information delivered to a user.
- Channel of communication: even though it is not strictly a characteristic of source as well as the first two features (accessibility and credibility), but source can reflect the proper channel to be used in order to effectively communicate or deliver a message.

Agarwal, Xu, and Poo (2011) further identify six different types of information sources and these include face-to-face, letters/ mails, phone/online chat, email/online forum, books/manuals, and online information. For the purpose of this study, an information source is considered as something that contains information.

2.5 Information Seeking

The thought of information seeking is mostly, is the outcome of a felt information need by a user who may then make needs upon formal and informal information sources or services in order to fulfill the needs. Baodi & Letsolo (2004).

Marchionini (1995) has given a description from the point of view of problem oriented approach, which describes it 'as a process in which human beings purposefully interact in order to change their state of knowledge' and which is 'closely related to learning and problem solving'. A more restraining definition used to be presented by Johnson (1997). According to him information seeking can be defined as "purposive acquisition of information from selected information careers"

Information seeking means diverse things in different context that involves the search, retrieval, recognition and application of significant content (Kingrey, 2002). Backlund (2003), information seeking is a process in which participants can act as both receivers and senders. It is described as a purposive process, in which the individual attempts to find information through information sources in order to fulfill his or her information needs.

2.6 Information Seeking Behavior

Anwar (2007) defines information-seeking behavior of the students "as active or purposeful information seeking ensuing from the need of students to participate in class discussions, seminars, workshops, conferences or to write final year research paper". Although Wilson (1999) highlights that every individual experiences the same stages in the resolution process, moving from ambiguity to increasing certainty, he, however, has underlined the fact that, graduates' information-seeking behavior may differ amongst different regular people.

Information seeking behavior is the relevance of attitudes through set of actions in order to gain favored information need. When attitudes and moves are collaborated the performance emerges. Based on the level of performance, the satisfaction level of the acquired information is determined. Wilson (1999) defines the term information seeking behavior as 'the totality of human behavior in relation to sources and channels of information, including both active and passive information seeking and information use. Thus it includes face-to-face communication with others, as well as the passive reception of information as in, for example watching television advertisements without any intention to act on the information given.
Information searching and acquisition process have quite a few components, such as passive attention, passive search, active search and ongoing search (Aaker, Batra, and Myors, 1992). Active search and the ongoing search are very important in the educational sector, as active information handling is required for the acquisition of knowledge. Ongoing search is highly required in the teaching, learning, and research, and as this type of search includes a basic framework of ideas, beliefs, values, or any other requisites to update or expand one's knowledge. According to Niedzwiedzka (2003), passive attention is an un-purposive seeking for information from the surroundings such as watching the television or listening to the radio. Passive search is a type of behavior that outcome in the acquisition of information that happens to be relevant to the user. Active search is when a person is actively involved in seeking information. Lastly, ongoing means persistent search undertaken in order to develop or update an area of interest.

2.7 Information use

Wilson (2000) argues that information use behavior "consists of the physical and mental acts involved in incorporating the information found in the person's existing knowledge base". In different words, Case (2002) observes that "information needs and uses need to be examined within the work, organizational, and social settings of the users". Choo (2006) indicated that "the

effect of information use is a change in the individual's ability to act". Rioux (2005) described information use as a useful communicative tool to share information, and this communication process may lead to acquire other information or enable individuals to address some information needs. People search information from multiple sources and they use information received in different ways (Byström and Hansen 2005).

2.8 Information exchange or transfer

Lampert (2008) states that "access and exchange of information is almost instantaneous". This suggests that having access to information is extremely vital for users. Akpoghome and Idiegbeyan-Ose (2009) show that people use various communication channels in order to transfer significant messages from a reliable source to the particular user of the message (receiver). Therefore, Pauleen and Yoong (2001) point there to communication channels are mostly divided into three categories and these are face-to-face, conventional and Internet-based.

2.9 Models of Information Seeking Behaviors

Models are developed to suggest and to possess understandable on unique problems where theories aren't sufficient. Models cause the event of formal theories. Models completely create the content of the concept that they deal more tangible through illustrations within the sort of diagram,chart,graphetc.

Information seeking models explain how information needs happen and the way people seek and look for information. A model consistent with Wilson (1999) may be a framework for thoughts a few problems and should become a press release of the contact among theoretical propositions. Most models within the well-known field of knowledge behavior are of the previous variety: they're statements, frequently within the type of diagrams that decide to describe information searching activity, the cause and consequences of that activity, or the associations among stages in information seeking behavior.

Ellis's model

According to Ellis, information seeking involves different behaviors'. Wilson (1999) recognizes that Ellis doesn't claim that these different behaviors' structure one set of stages. Ellis‟ use of the word "features" and not "stages" affirm this reality. The strength of Ellis' model is that it's supported inquiry and has stood the test of your time. Below could also be an inventory of Ellis‟ features as cited in Wilson (1999):

Starting: the means employed by the user to start out seeking information, as an example , asking some knowledgeable colleague;

Chaining: following footnote and credentials in known material or forward chaining from known items through citation indexes;

Browsing: semi-directed or semi-structured thorough of primary and secondary information;

Differentiating: using known differences in information sources as how of filtering the number of knowledge obtained;

Monitoring: keeping up-to-date or current awareness searching;

Extracting: identifying and removing the relevant material in an information source;
Verifying: checking the accuracy of information;
Ending: concluding the search process with fulfilled or displeased results.
Wilson sees a logical pattern from the primary feature (Starting) to the last one (Ending).
He however notes that while Browsing, Chaining and Monitoring are search procedures, Extracting may be an action performed on the knowledge sources and Differentiating is a filtering process. Wilson classifies Ellis‟ features into micro-analysis of search behavior (starting, chaining, extracting, verifying, ending) and macro-analysis of data behavior (browsing, monitoring, differentiating) (Wilson, 1999).

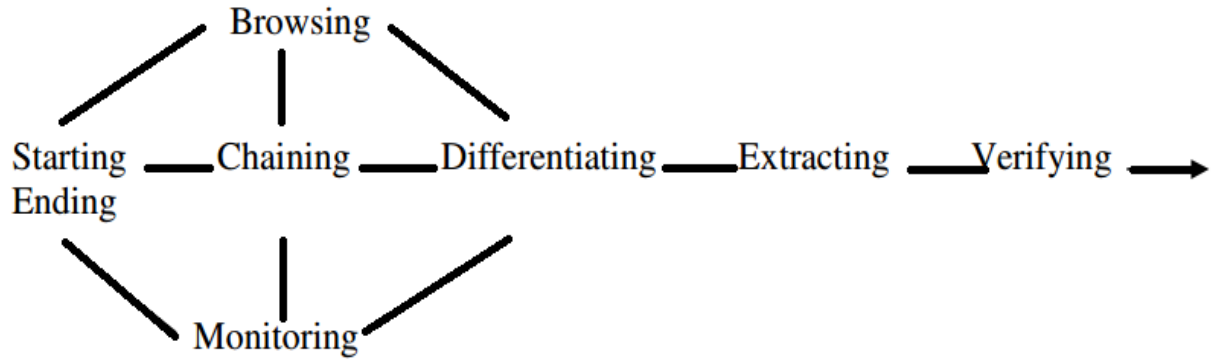

Figure 1.Diagrammatic representation of Elli's model

Elli's revealed that associated disciplines exhibited related information seeking behaviors', (Reddy 2003). Whilst Elli's model offers general insights into information seeking behavior, it has found analysis amongst human and social scientists because of its generality.

The Wilson Model (1981)

The Wilson model (1981) says that information need supposed by an information seeker gives way for information seeking behavior to occur. In order to satisfy the information need, the user s require for formal and informal information sources and systems. The demands lead him for either success or failure in getting required information. On success, the user's gets their need to be fully or partially be satisfied. On failure, the user restarts his search process.

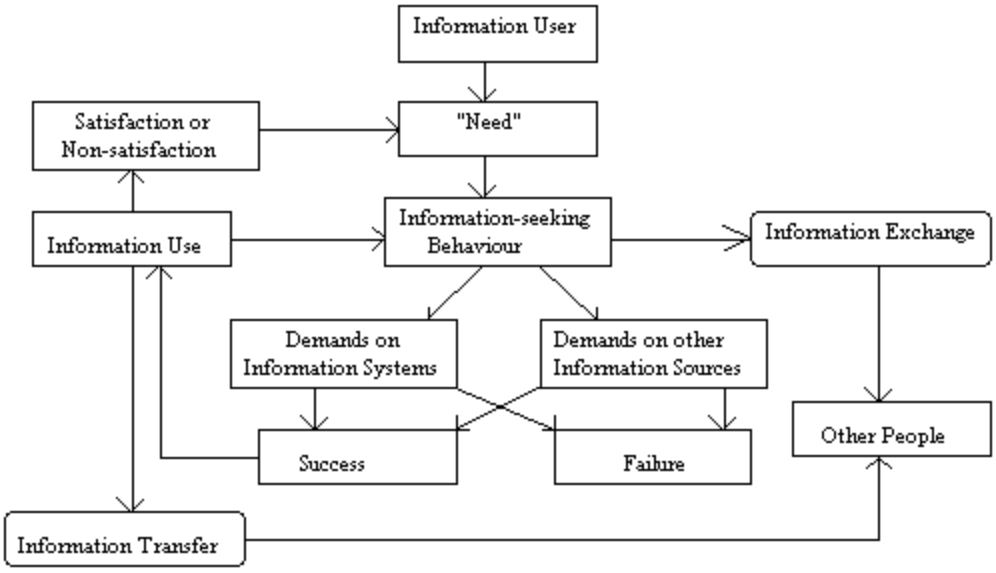

Figure 2 Wilson Model (1981)

Drawback of this kind of model is that it provides no implication of contributing issues in information behavior and as a result, it does not directly suggest hypotheses to be tested.

Wilson's 1996 model

Wilson's second model (1996) is difficult and features the following: It deals with the aspects as to why a few persons seek more prompt information than others, reason for the more usage of resources from a particular source than others and ambiguous status among people in pursuance of a goal successfully based on the perception on their own efficacy. Features of the model are Activating Mechanisms for seeking information which are affected by the Intervening variables of six types: Psychological aspects, Demographic background, Role related to social aspects, Environmental variable and Characteristics of role. This model recognizes search behaviors: Passive attention, Passive search, Active search and ongoing search. The term in the model 'information processing and use' indirect that the information is evaluated to know its effectiveness on satisfying the need.

Wilson's 1996 model is a revision of his 1981 model and was informed by research from different fields including health communication, decision-making, psychology, innovation, consumer research and Information science.

The elements of Wilson's 1996 model are: Context of information need, activating mechanism, intervening variables, information seeking behavior, information processing and use.

I. **Context of information need**

Wilson proposes that information seeking behavior starts off evolved with a need that has to be satisfied. These needs are basic human desires such as physiological (i.e., need for food, water, and shelter), affective and cognitive wants.

II. **Activating mechanisms**

Wilson (1996) identified three activating mechanisms:

- Stress/coping principle to explain why some needs will not evoke information seeking. In other words, if an individual is able to cope with a situation at hand he/she might also not look for information to resolve it. It revenue his knowledge is sufficient to deal with the situation. Such a person will be aroused to look for information if the stress levels as a consequence of the situation increases.
- A risk/reward theory that clarify why some information sources are used more than others by some individuals. For example people will pass up using sources of information that is too expensive or time consuming.
- Social learning theory which embodies the concept of self-efficacy, that is the assurance that one can productively undertake the behavior essential to produce the outcome desired.

III. **Intervening variables**

Wilson indicated that in the course of information seeking, a person may additionally come up on barriers he called intervening variables. These are

- Psychological including knowledge, preferences, emotional variables, interest, etc.
- Demographic variables including age, gender, level of education, job experience, etc.
- Role related or interpersonal what, including job condition, character, boundaries, regulations; standards and patterns of behavior established the place a person occupies in an organization, and the level of responsibility.
- Environmental variables including legislation, structure of an organization, type of organization, economic situation, IT technology, etc.
- Characteristics of the sources including accessibility and credibility.

IV. **Information seeking behavior**

Information searching and acquisition process have different components, such as passive attention, passive search, active search and ongoing search (Aaker, Batra, and Myors, 1992). Active search and the ongoing search are very important in the educational sector, as active information handling is necessary for the acquisition of knowledge. Ongoing search is highly required in the teaching, learning, and research, and as this type of search involves a basic

framework of ideas, attitude, values, or any other basics to update or expand one's knowledge. Passive attention is an un-purposive seeking for information from the environment such as watching the television or listening to the radio. Passive search is a type of behavior that results in the acquisition of information that happens to be relevant to the user. Active search is when a person is actively involved in seeking information. Lastly, ongoing means constant search undertaken in order to develop or update an area of interest. (Niedzwiedzka, 2003).

V. Information processing and use

Information by the individual can then be procedure and becomes part of a person's knowledge, and is used directly or indirectly to impact the environment or, consequently, may be used to create new information needs (Niedzwiedzka, 2003)

Wilson‟s model begins with the "person in context", in which information needs arise. The needs are seen as secondary needs caused by primary needs, which are of a physiological, cognitive or affective nature. The rise of a particular need is subjective by the context, which can be the person himself/herself, or the role the person plays in work, life or the environment. Intervening variables such as psychological factors (tending to be curious, or averse to risk), demographic background (age or education), factors related to one's social role (manager or mother), environmental, and information source characteristics (accessibility and credibility), might motivate or hinder information seeking. The risk or reward involved may lead to an active or passive information seeking behavior. The information gained is then processed and becomes an item of the user knowledge, and is used directly or indirectly, to influence the environment and, as a result, create new information needs (Case, 2002).

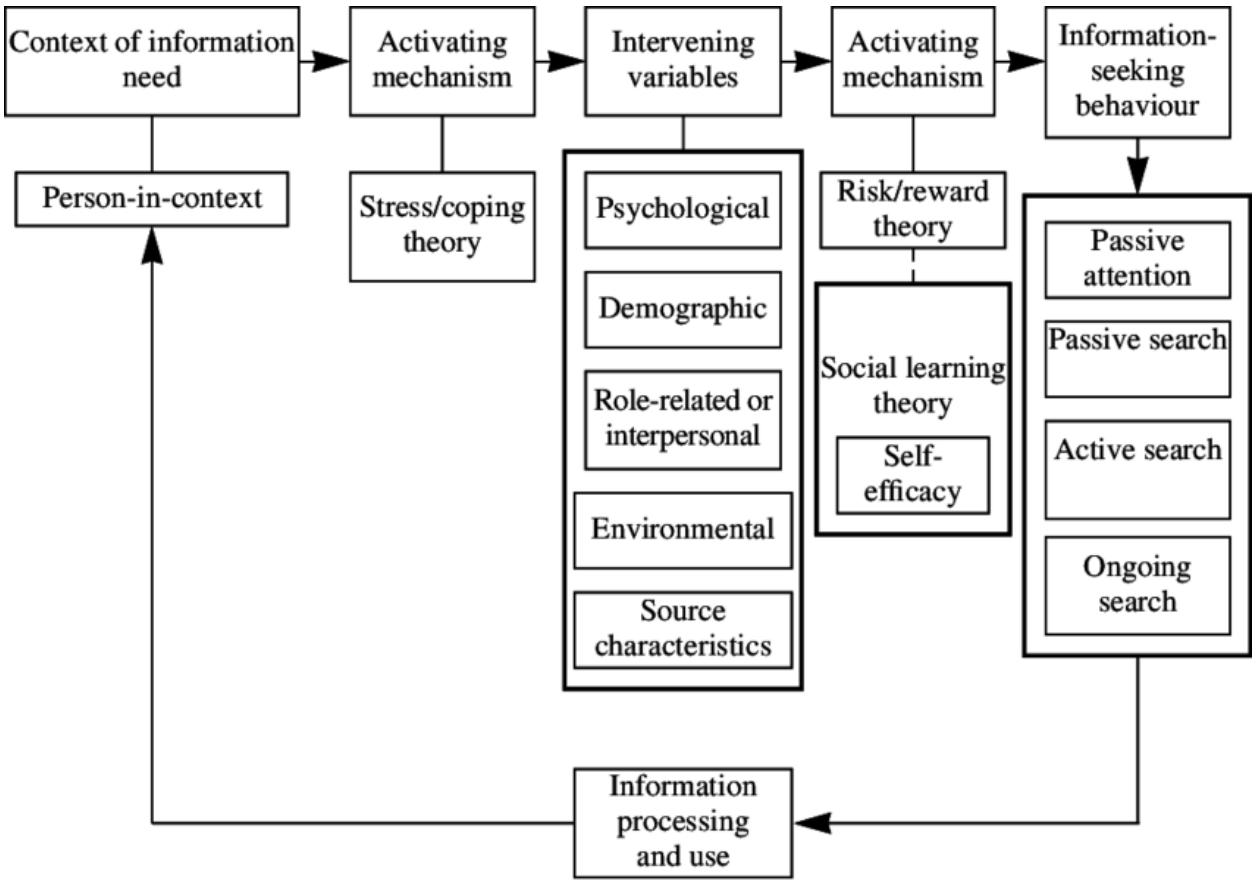

Figure 3 Wilson Model (1996)

Case (2007) observes that Wilson's (1996) model clarify three aspects of information seeking and these include: (1) Why information seeking is more likely to occur in response to some needs more than others (stress/ coping theory); (2) why some information sources get more use than others (risk/ reward theory); (3) why people's perceptions of their own efficacy influence their success in meeting an information goal (social learning theory). Therefore, Wilson's (1999) model is a general model and can assist in better understanding the more vital features of human behavior including international students. From their viewpoints Ingwersen and Järvelin (2005) noted that "Wilson's model is a general summary model". Wilson (2005) indicated that Wilson's (1999) general model involves three main views of information seeking and these include: the context of the seeker, the system utilized (manually or electronically) and then information resources that might be drawn upon. In other words, Cool (2001) highlights that "when people interact with information resources, an interaction situation is constructed".

Case (2002) asserts that "a model describes a relationship among concepts but is tied more closely to the real world". In this model, information need, information seeking, information exchange, and information use, amongst other attributes, are clearly integrated (shown in a flow diagram). It is important to note that, as Chowdhury, G. G. and Chowdhury, S. 2011.Argued, an

“information need is not a primary need, but a secondary need that arises out of another need”. Wilson’s (1999) model is initially based upon two key points. First, the model considers an information need as a secondary need that arises out of a more basic or primary need; and second, during the process of discovering information to satisfy a need, the information seeker tends to meet with barriers of different kinds and these barriers include: personal, interpersonal, and environmental barriers (Wilson 1999).

Wilson’s (1999) model suggests how information needs arise and it identifies the factors that can prevent the genuine search for information. Some factors are aid based and these include: availability of information, awareness of availability, issues related to the ease of use of information resources (Kaniki 2001). Ikoja-Odongo and Mostert (2006) briefly identified two main factors that may create barriers to obtaining useful information such as internal actors (personal) and external factors (environmental), and these factors were also underlined in Wilson’s (1999) model. According to Aina (2004), there are other factors such as high cost, illiteracy and lack of information and communication technology (ICT) infrastructure especially in the current technology age.

Case (2002) notes that “theories and models are simplified versions of reality, yet models typically make their content more concrete through a diagram of some sort”. In this context, Wilson (1999) indicates that:“Most models in the general field of information behavior are of the former variety: they are statements, often in the form of diagrams that attempt to describe an information-seeking activity, the causes and consequences of that activity, or the relationships among stages in information-seeking behavior”. The diagram of Wilson’s (1999) model provided below (Figure 4) helps to show how the core variables or attributes of this model have been applied.

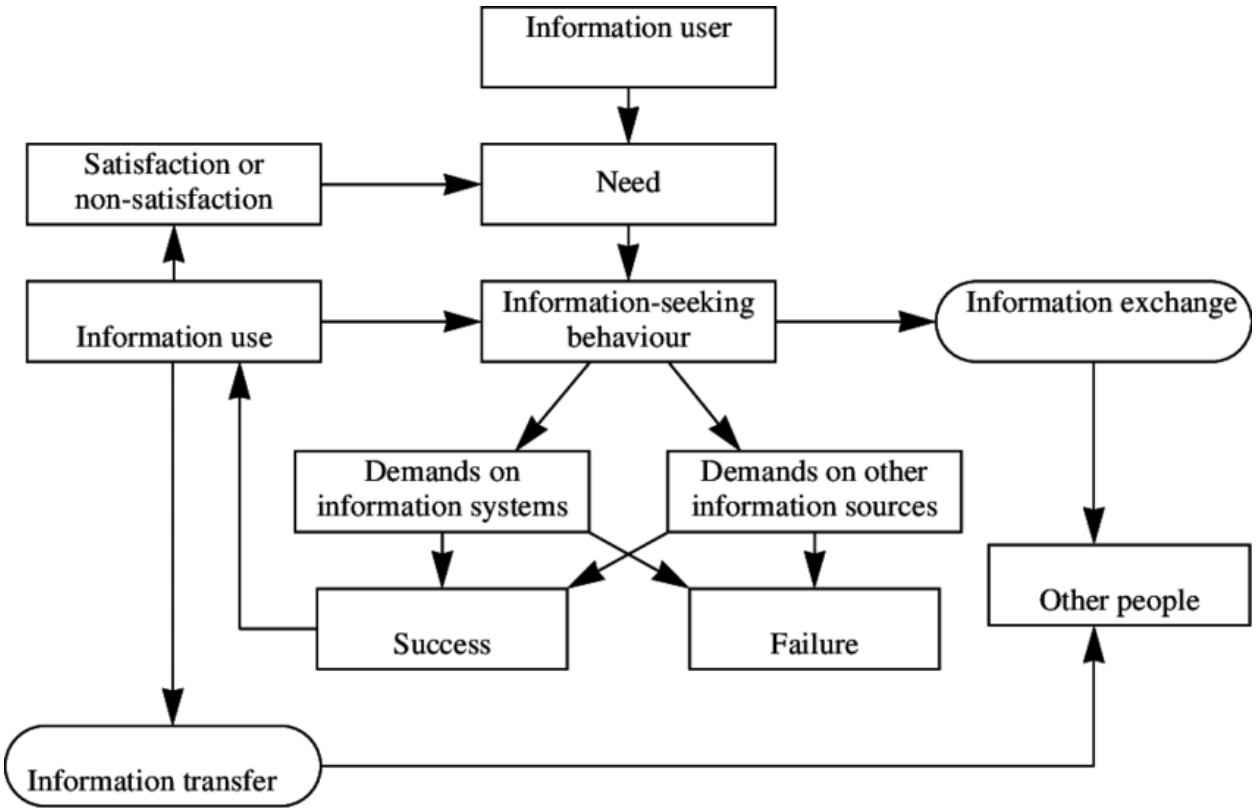

Figure 4 Wilson's (1999) model of information behavior

Wilson (1999) points out that the scope of the diagram is much greater than simply about the concept of information needs and it is intended to cover all vital elements involved in the information behavior process. The strength of this model is concerned with the fact that Wilson's model does not simply designate a sequence of events, but it goes beyond and it depicts a sequence of human behavior by referring to relevant variables. The model has twelve attributes: information user, information need, information seeking behavior, demands on information systems and other information sources, success or failure, information use, information exchange or transfer, other people, and satisfaction or non-satisfaction.

Wilson's (1999) model indicates that an information user often has different needs of which many information seeking patterns are involved in the process of consulting various sources of information. It is evident that according to Wilson's (1999) model, information needs determine the information systems and sources to be used and needs also influence the ways in which the information would be used (information use) or exchanged (information exchange). According to Wilson (1999), the success of the information seeking process explains the use of information and it then justifies the satisfaction of a perceived need. Therefore, an information user may personally utilize information or he/she may exchange information received with other people

(information transfer). On the other hand, Wilson (1999) adds that the failure of the seeking process basically leads to a new research process (re-initiate) regardless the stage/step at which the information seeker has experienced the failure while seeking information in order to satisfy a perceived need.

Wilson (1999) notes that an individual makes use of the information found and may either fully or partially satisfy the perceived need. According to Case (2012), the need or the problem may be acknowledged, but an attempt may not necessarily be made to answer it or to solve the recognized problem. In other words, "recognition of uncertainty does not always lead to action" (Case 2012). In this regard, Adams (2010) considers uncertainty as "a cognitive condition that can lead to an affective state of anxiety and lack of confidence". In the early stage of information seeking, Wilson (1977) maintains that an interest or a concern may be passive and it might not necessarily cause an individual to seek information. At this point it is the possession of a need which often defines a user. Case (2012) considers that an information need is a recognition that your knowledge is inadequate to satisfy a goal that you have. It is commonly understood that the need varies amongst the population and is not homogenous.

Wilson (1999) further notes that formal and informal information sources can fundamentally be consulted by an information user for the purpose of getting to the point of satisfaction (success) of the expressed need. Coming from the environmental scanning perspective, Choo (2002) distinguishes between a formal search and an informal search. A formal search entails systematically retrieving information which is pertinent for a specific purpose or particular issue, while an informal search is comparatively unstructured and it has different forms. Wilson's (1999) model indicates that information users have a need and this need may originate from the previous level of satisfaction or non-satisfaction with acquired information. Wilson's model shows that once a user recognizes a need for information, the next action involves different seeking activities. Basically, a user consults or demands numerous information systems or other sources of information (Wilson 1999). The result of these demands leads either to success/satisfaction due to the useful information received or to failure/dissatisfaction due to unhelpful information or poor service

Wilson (1999) indicated that the information user may or may not be successful at finding relevant information. If successful, the individual then makes use of the information found that may either fully or partially satisfy the need. Although schematically there was lack of a direct arrow key from the 'failure' component to the 'need' component but it has textually acknowledged that crash to satisfy the perceived need generally leads to repeating the search process and the current study then considered this point of view. Wilson's (1999) model also highlights the information seeking process and provides a feedback loop where the information seeking is thought of as 'iterative 'at numerous phases, rather than 'successive'.

Leckie Et Al's (1996) Model

According to Leckie et al this model is a general model, the research scholar decided to group the model with task performance and task based models in work related contexts. Leckie et al focused on how the professional's work roles and tasks influence his or her information seeking behavior. The study was conducted to examine the information-seeking behavior of librarians, academics, researchers, doctors, nurses, engineers, lawyers, and many others. She notes that these studies examine how information practices embedded within professional work, how those information-related practices function to contribute to the professional's work, and whether or not those practices can be improved or changed for the better.

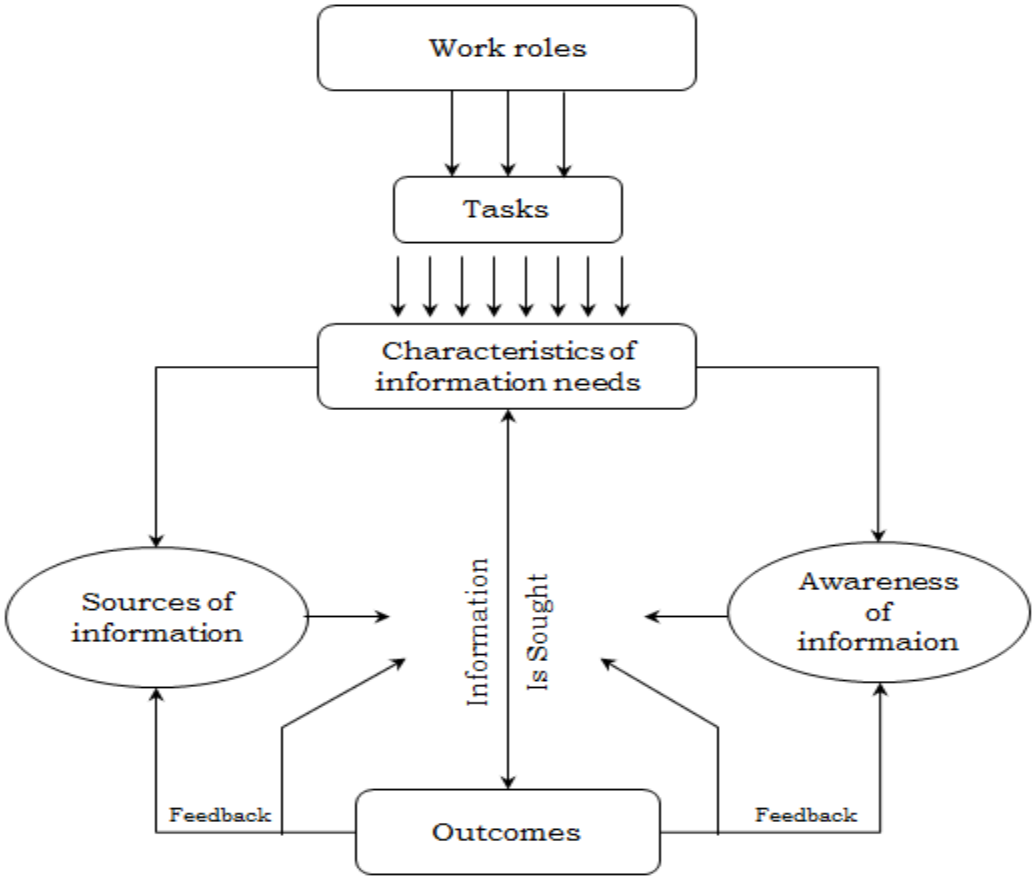

Figure 5 Leckie et al's (1996) model

Kuhlthau's (1993) information search process model

Kuhlthau's (1993) model of information search process is similar to Ellis's model, in that it is made up of six stages, namely: initiation, selection, exploration, formulation, collection and presentation. The difference is that Kuhlthau's model accounts for the initial feelings of uncertainty, confusion, frustration and doubts when one has to look for information. These

feelings progressively change to that of confidence, relief, and satisfaction as the search process gradually becomes successful.

Kuhlthau's information search process (ISP) model focuses on the affective and cognitive aspects of the information search process. The different stages identified by Kuhlthau in the Information Search Process model are task initiation, topic selection, exploration, search formulation, information collection, search closure, and starting writing.

Initiation: The user becomes aware of an information need. Uncertainty and apprehension are the common feelings at this stage. When a person comes to know the lack of knowledge or understanding, uncertainty is felt. Thoughts would be vague and action for seeking information would be initiated.

Selection: The user identifies and selects the general topic for seeking information. The user experiences a brief sense of optimism and a readiness to begin the search. In this stage the uncertainty on the area, topic or problem is not cleared and the people with a brief optimism get readies for exploration of the information.

Exploration: This stage includes the seeking an examination of information on the general topic. Feelings of uncertainty, confusion and doubt frequently increase during this stage. While exploring for information people will get doubt on the consistency of the information, confused on the compatibility and get frustrated in the process.

Search Formulation: The user is currently able to structure the problem which needs to be solved. Feelings of uncertainty diminish as user confidence increases. In this stage the person gets focused perception which leads to clarity and the process of seeking for information gets continued.

Collection: pertinent information for the focused topic is gathered. Uncertainty subsides as the user's interest and involvement in the project deepens. The process of information seeking, senses the right direction, information related to the focused perspective is gathered and it minimizes the ambiguity of the information.

Presentation: After the completion of the search the seeker gets new knowledge which the person can present to others and put the knowledge to use.

Assessment: When the information seeker attains the required knowledge, seeker gets a sense of accomplishment and the self-awareness increases.

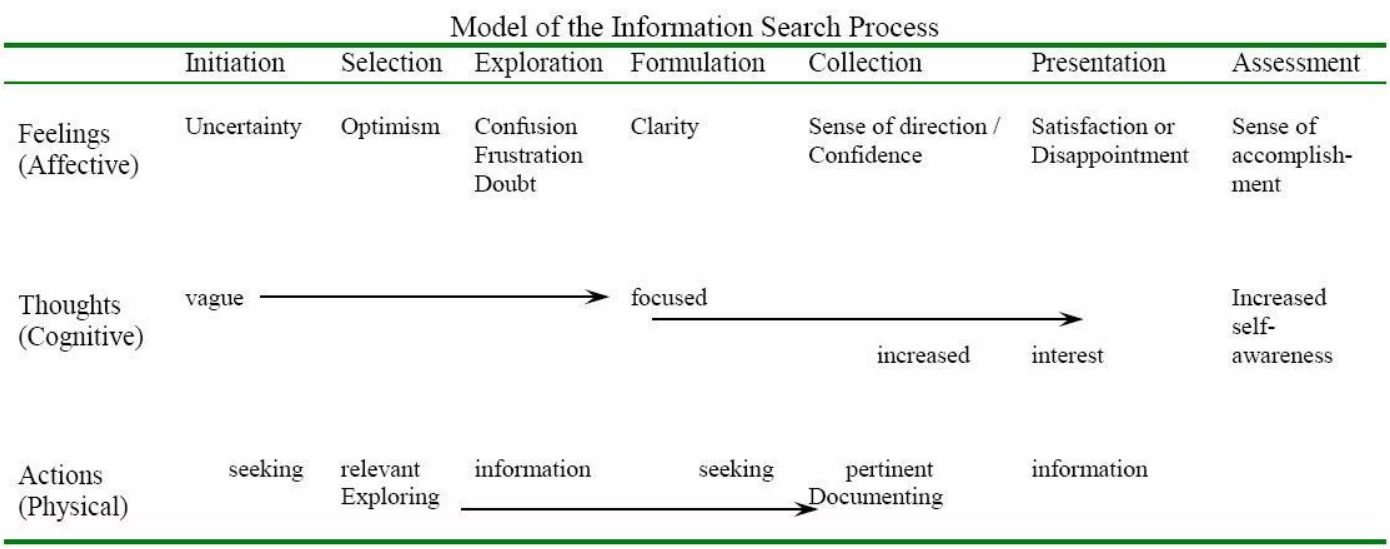

Figure 6 Kuhlthau Model (1992)

Kirkelas's Model of Information Seeking

The Krikelas model (1983) is an early model and was cited widely. The model contains thirteen components. It is a general model that is applicable to ordinary life. In the model the twin actions namely information gathering and information giving are given at the top. The information gathering process is carried out based on the deferred needs which are kindled by an event or environment of the person who seeks information. The model shows that the gathered information is directed to memory or personal files.

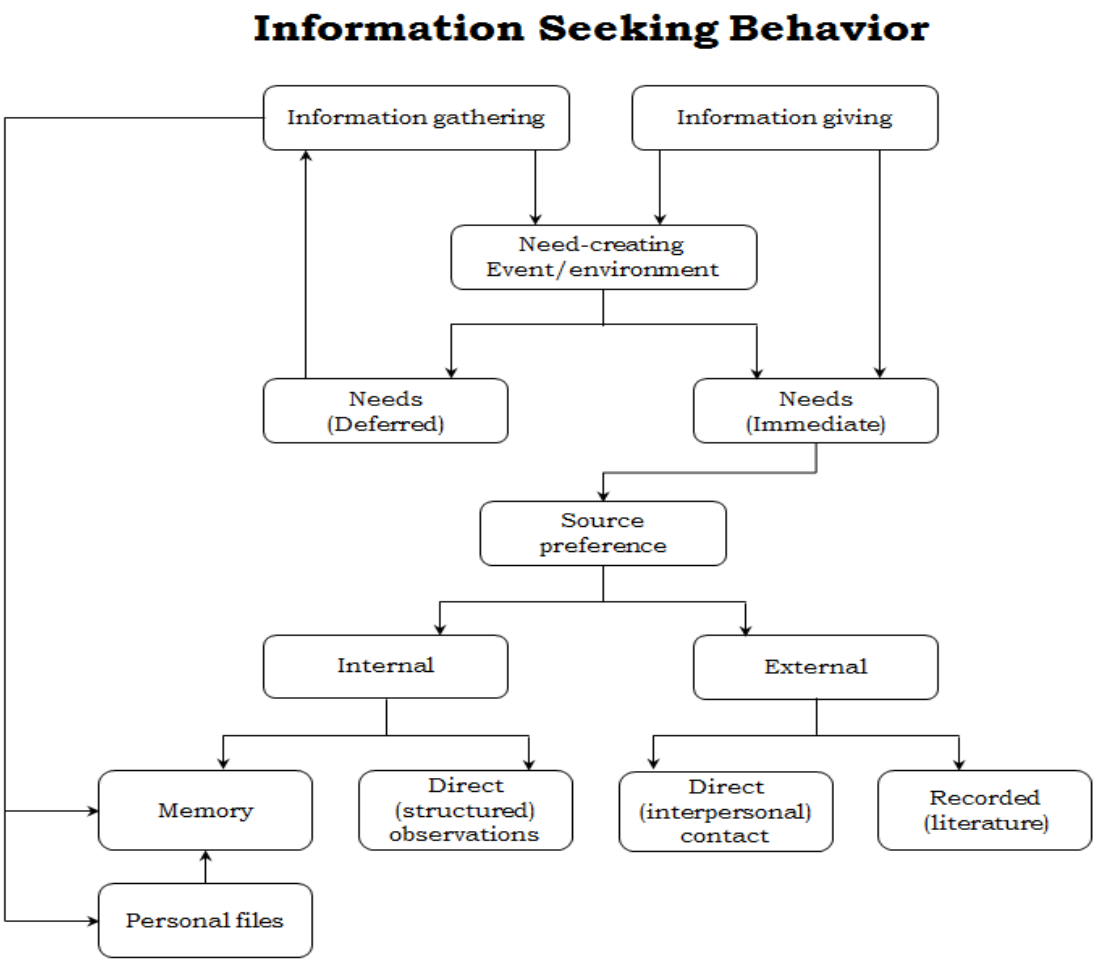

Figure 7Kirkelas's Model of Information Seeking

The other kind of action termed as 'information giving' which is carried out based on the immediate needs for which the information seeker assumed to select either internal or external source of preference. When the internal source leads to memory and personal files, the external source makes it to direct (interpersonal) contact and recorded material. One attractive aspect of the Krikelas's model is its simplicity. The model is a simple; one dimensional flowchart in which all of the arrows travel in one direction and no one part of the process encompasses another (Case 2002).

Johnson's Model

There are seven factors under three headings given in the Johnson's model (1987). The fundamental process flows from left to right. The four factors under the heading antecedent are grouped under two sub headings which are termed as background factor and personal relevance.

The background factor includes the factors of demographics and personal experience and the personal relevance factor includes salience and beliefs. The second heading Information carrier factors include characteristics and utilities of the information channels selected and used by the seekers. The last heading is information seeking actions.

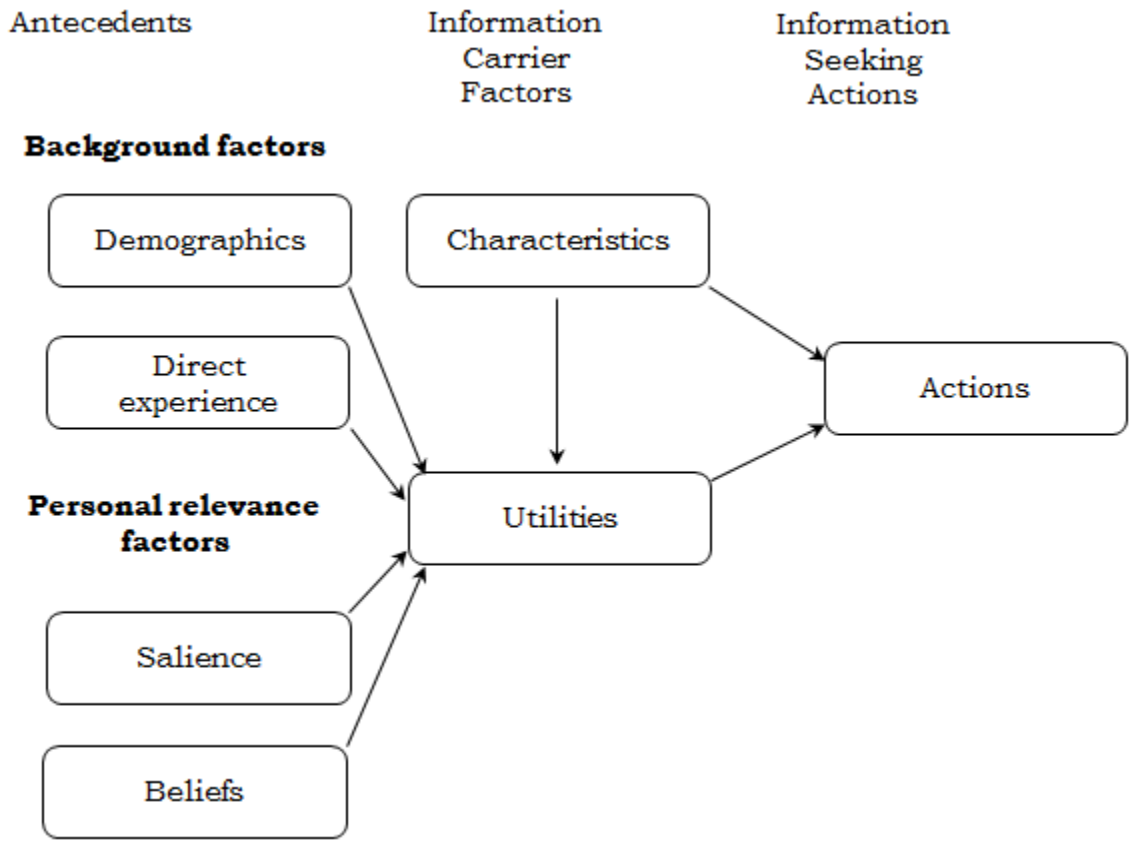

Figure 8 Johnson's Model (1987)

Information seeking behavior of graduate students

When searching at the information seeking behavior of students, it appears that is has been subject of changes due to the influence of the internet. Where students used to be bounded by the capabilities of their universities collection, the internet has given them a much larger searching area and information quantity. The opportunities and the risk to search for literature whenever and wherever, combined with its quantity, has made the internet the number one information resource available, however, the internet seems to have drawbacks as students appear to be easy in technological resources, but struggle with finding the right information, how to use certain tools and find the right, credible, source students, who seem to be easy in the usage of the technology, (Nkomo, 2009).

2.10 Related studies

Adetola and Simeon (2016), the study examined the Information needs and seeking behavior of master's student at the University of Ilorin, Nigeria The motive of this study is to describe the masters students' information needs and information seeking behavior to support their method of inquiry and scholarly activities using Elis information seeking behavior model. The outcome indicated that major information needs of masters students at the faculty of Communication and Information Sciences, University of Ilorin, is for academic purpose and the masters and their major purpose of seeking for information is for their reading activities. They also acknowledged that makes use of fellow students and internet as their first point of call whenever needs for information arises. Overall, the respondents are satisfied with the information sources consulted when searching for information even as they majorly use the credibility of the author to evaluate the information sources consulted. But they have incompleteness of the materials as their major problem in their seeking process. The result for this study correlates with Elis information seeking behavior model.

In a study carried out by Abdullahi and Magnus (2015), on Assessment of information needs seeking behavior of graduates in university of Ilorin, study showed that the information resources available to the respondents include books, periodicals (e.g. journals, magazine and newspaper etc) and internet services provided at the e-library. The information sources available to them are formal and informal which consists of print, electronic, multimedia and audiovisual. Respondents decided on information materials with appropriate titles during their visit to the library and they adopt self-help to locate information they need as they infrequently use the catalogue to retrieving information materials the results also finds out that internet sources and books were the major sources that fulfill their information needs as they prefer formal sources of information (Books, journal, reference sources, online databases etc) to informal sources of information (e-mail, discussion with teachers, seminars, discussion with librarians etc) sources of information. And also graduate students make use of information to prepare for examination test and to do their assignments. Many of the respondents purpose for seeking for information is for general awareness, preparing reading and for carrying out research.

In a study carried out by Agarwal (2011), on information source and its relationship with the context of information seeking behavior, describes an information source as a 'carrier of information' which entails both traditional sources such as books and people, and modern sources including predominantly digital libraries and search engines (such as Google, Yahoo, etc.) involving the use of electronic resources. Likewise, Ingwersen and Järverlin (2005) describe information sources as physical (or in digital format) entities in a variety of media providing potential information, information sources as entities that facilitate communication over time and space in a society with these entities conveying information about what they represent. Yusuf (2012) emphasizes that for any significant information to be provided, certain relevant

information sources have to be consulted and it is only through such sources that information seekers can gain information that is ideal for meaningful decision making.

In a study carried out by Demmelash, **(**2018), Information Seeking Behavior of Academic Staff in Wachemo University, the main objective of the study was to examine the information seeking behavior of academic staff in Wachemo University. Simple random sampling and Stratified sampling in which academic staffs were divided into different strata according to the faculty they belong to was adopted. The study adopted a descriptive survey design and data was collected using a questionnaire, interview and observation from the findings Most of the academic staff did no longer used library because of unavailability of internet connection and absence of updated information sources and internet connection was not available in their office.

In a study carried out by Chawinga, Dube and Thindwa (2019), on Information-seeking behavior of security studies students: the main objective of this study was to analyze information needs, sources and seeking patterns of security studies at Mzuzuand the result correlates with Kuhlthau's information processing model. The study has demonstrated that the Internet is the most popular form of information sources amongst security studies students. The study in addition finds that most students need information mainly for academic activities, accomplishing assignments, preparing examinations and completing research projects. Most students favored the search engines as the starting point for an information search. Feelings projected by Kuhlthau's information search process model, which include anxiety, optimism, uncertainty and excitement, were experienced by most of the students as they started an information search for completing an assignment. The study established that apart from limited Wi-Fi and shortage of computer laboratories, poor Internet was another notable challenge and also there is a need to design information interventions that would enhance their information search experience based on some of the pointers provided by Kuhlthau's model.

Evans and Saponaro (2005) maintain that people usually look for information from both formal and informal sources/systems. Case (2012) argues that one big difference that is made in the literature on information seeking is between formal and informal sources of information. Formal sources mostly involve books and reference materials whereas informal sources involve family, friends and colleagues. The major information sources are journals, books, papers presented at conferences, theses/dissertations, abstracts and indexes. Anwar (2007) list the purposes of using these sources which include: personal development, keeping up-to-date, research activities and consultation work.

Hoggan (2016) recalls that high-quality information may be difficult to access because of poorly designed websites or associated fees and each web-based resource seems to hold such a vast quantity of information that it is easy to assume that one has conducted a comprehensive search, when, in fact, other resources contain unique, relevant information. Hoggan (2016) lists some of the major challenges that when accessing web-based information. They are:

Information overload - the volume of available information is more than anyone information retrieval system can index, more than any library can purchase and more than any scientist can

The lack of central organization and indexing on the web makes the information overload even more confusing because the precision of search engine results is often low (that is, many irrelevant documents are retrieved). At the same time, no search engine can index the entire contents of the web, so searches also have poor recall with respect to all relevant information on the web.

Website navigation - to retrieve electronic journal articles, users must navigate a vast number of websites and each publisher structures its website differently. This can be very challenging because the websites are not always designed for easy navigation. Sometimes it is very difficult to determine which link on the crowded homepage leads to the right article content. Often the links to "subscribe today" are much more prominent.

Financial concerns - peer-reviewed articles are available on the web, but they are usually published in fee-based e-journals.

Loss of brows ability - another challenge for researchers is the loss of brows ability of today's electronic journals. Electronic journals are not as brows able as print journals and this may have a marked impact on the range of articles read by researchers, who have traditionally depended on browsing to find most of the articles they read.

Reliability - print journals do not experience technical difficulties. However, when a publisher's server goes down, access to digital content material is temporarily lost. Compounding the problem is the fact that access to many electronic resources is rented rather than owned, so if the institution cancels a subscription - access to back files is lost. With a print journal, on the other hand, the previous volumes of the journal would still be available after a subscription has been cancelled. Because of these issues, librarians and researchers cannot depend absolutely on electronic resources.

In a study carried out by Gyesi,(2016), on Information seeking behavior of graduate students of the University of Professional Studies, Accra. The purpose of the study is to examine the information needs, information sources, information seeking behaviors, and challenges to information seeking behavior of graduate students of the University of Professional Studies, The study employed the survey methodology. Stratified random sampling was used to pick out 121 graduate students from a population of 804 to participate in the study. The key data collection instrument was the questionnaire. The data was analyzed descriptively by using the Statistical Package for the Social Sciences (SPSS) software. The major information needs of students identified in the study include career information, self-development, employment, course information, health, entertainment, sports, and religion. They use five main categories of information sources: interpersonal, internet, mass media, electronic and print. The internet was the main source of information even though they also indicate the use of the library. Their information seeking behaviors include active search, passive search, and ongoing search. The challenges they encountered in seeking information are mostly technical, which are, unstable internet connection, low internet speed, issues regarding accessibility using password, and inadequate computers.

Moly (2014), Surveyed Information needs and information seeking behavior of Information Science students in Haramaya University. The study reveal that majority of the students visited the library every day. Students mainly used reference services from the library and for which they depended on reference sources. Main purpose of visiting library was for writing assignments/research and study. The students used of the library resources including books and journals and internet to meet their information needs. Majority of students felt that there was a need for training for the proficient access and use of library materials. Information science students also state that the number of books and journals available in their field of study were not sufficient. It was recommended that The Haramaya University library should organize the information sources and automate the library and also digitalization of information resources.

In a study carried out by Jip Jonker (2016), on the impact of access problems on the information seeking behavior of graduate students the main objective of this study was to find what the information seeking behavior of graduate students is, what effect access problems have on this behavior and how graduate students can deal with these access problems and the study uses a qualitative, empirical research which is based on the results of 11observations, adjacent interviews and four in-depth interviews. The information seeking behavior of the participants have been mapped using the seven stages of the Ellis (1989) model. The results of this study indicate that graduate students have to deviate from their normal, ideal, path when confronted with access problems and the outcome suggest that the knowledge and capabilities of the graduate students are limitations on the information seeking behavior. The universities are though in the position to teach and guide graduate students in better, more effective, ways to seek for information. Universities can therefore make the students more aware of the possible sources of information that could be used, as well as provide the know-how and capabilities to work with them.

Factors affecting the information-seeking behavior of postgraduate students at the University of South Africa Ethiopia Regional Learning Centre University of South Africa, Addisalem and Madely, (2019), The purpose of this study was to investigate some of the factors affecting the information-seeking behavior of postgraduate students registered at the University of South Africa (Unisa) as represented by its Ethiopia Regional Learning Centre, with exacting emphasis on their use of electronic information resources. A qualitative case study approach was adopted. In semi-structured interviews, eight conveniently selected postgraduate students shared their information-seeking experiences. The result identified contextual and personal factors which gave rise to the respondents' information needs and in turn prompted information activities such as information seeking. From these, a lack of ICT infrastructure, frequent interruptions in electricity supply, old computers and the location of the Akaki Branch Library proved to be the main factors affecting postgraduate students' electronic information-seeking behavior.

In a study carried out by Dattatraya (2019), on the Information Seeking Behavior of DrBabasaheb Ambedkar Marathwada University, The major purpose of this study was to examine the Information Seeking Behavior of Babasaheb Ambedkar Marathwada University.

Information seeking behavior is expressed in a range of forms, from studying printed material to research and experimentation. Information seeking behavior take part in the essential role for developing library collections, upgrading facilities, and improving services to effectively meet the information needs of users. A questionnaires survey was carried out to gather the information regarding the use of library, online resources, and motive of using online resources, satisfaction stage of student. All the respondents are in the habit of using the library and more than half of them visit the library everyday and one-fifth visits the library every alternate day and a very negligible portion does not use the library and they are having their personal book collection. The observation of all results Male is the maximum respondents, the age group of respondents is majority of the users or students are 22-23. More than 90% researchers are within the age group of20-25. The purpose of seeking information, 54 (32.93%) students sought information for doing their dissertation. The quite fairly internet is used mainly for fill up Face book 40 (24.39%) than for research Project 38 (23.17%). the frequency of accessed E-resources 20 (43.47%) students used e-journals. 68 (41.47%) students use Search Engines as source of Accessing e-resources. About (19.52%) of respondents' purpose of visiting the library is to again current awareness. The increase in availability of information on the Web has affected Information seeking behavior.

In the study carried out by Vighnarajah (2018), on Profiling information-seeking behavior of distance learning students in Wawasan Open University, the essential aim of this study was to explore and profile information-seeking behavior among distance learning students in Wawasan Open University it's based on the Wilson's revised model of information behavior (1999), the study used the survey research design by using random sampling method. A total of 550 questionnaires were dispatched to undergraduate and postgraduate students, and 435 completed questionnaires were returned with a success response rate of seventy-nine per cent. The result indicated that there is significant difference between first-year and post-first-year students in using internet search engines as part of their information-seeking process. Findings also indicated that most significant problem they face is the failure to decide the appropriateness of the information they obtained. The end result for this study correlates with Wilson's revised (1999) information seeking behavior model.

Aondoana (2016), the study examined information Seeking Behavior of Masters Students: Affective and Behavioral Dimensions" the aim of the research is to check out the emotions and behavior at the diffrent stages in the information seeking of Master's students at Manchester Metropolitan University. Emotions and behavior also have a direct or indirect effect on the style of learning that students use. The study follows a descriptor-explanatory design the data collected through interviews with participants. Semi-structured interviews were concluded with a convenience sample of Masters Student in one United Kingdom University. A finding of the study affirms that the information seeking behavior among masters students is organized, and in some cases, random. The randomness of the searching behavior happens throughout the planning stage. the finding confirm that many students follows Kuhlthau's model in which at the planning

stage the search lacks a clear focus. The findings more indicate that emotional reaction to search causes anxiety, apprehension and confusion.

In the study carried out by Glenrose, Olayinka and Tinashe, (2019), on Factors and challenges affecting the information-seeking behavior of science and technology researchers, the motive of this study was to investigate factors and challenges affecting the information seeking behavior of science and technology researchers of a federal research institute in Nigeria. A questionnaire consisting of both closed-ended and open-ended questions was used as the data collection instrument in order to generate quantitative responses. One hundred sixty five researchers were given questionnaires of which responses of one hundred fourteen questionnaires has been finally analyzed. Based on the questionnaire results, the respondents supplied suggestions on how certain factors and challenges have influenced their information-seeking behavior. The lack of electrical power stability problem as discourage to accessing electronic resources. Thus, this affected the information-seeking behavior of researchers. The lack of electrical power stability discouraged searching web resources because it affected internet connectivity in terms of timeliness and brought about extra cost, lack of internet connectivity at the institute and its library will negatively affect the way researchers behave when they seek research information. The author's formulate hints on how these factors and challenges can be adequately tackled in order for researchers to optimally derive lasting benefits from their information-seeking method as they engage in research.

In the study carried out by Shabir and Sumaira (2019), on Information seeking Behavior of Faculty Members and Students in Colleges of Kashmir Region, the key objective of the study is to identify Information seeking Behavior of Faculty Members and Students in Colleges of Kashmir Region, In order to achieve set objectives a questionnaire based on Ellis behavioral model was drafted to collect data for the study. The questionnaire consists of 6 sections- Starting, Chaining, Browsing, Monitoring, Differentiating, Extracting containing open ended, closed ended, and scaled form questions to study the root cause and the reasons responsible for information seeking behavior of College users (teachers and students). The questionnaires were distributed among 120 respondents, out of which 93 responded making an overall response rate of 77.5%. The finding identified internet provides, most consulted sources among the plethora of sources listed in this study, representing that E-Resources have become the vital part of information dissemination. It is clear from the user's perspective that they accepted the digital reading culture and use of E-Resources. But there is still limitation in terms of access to leading online resources. Therefore, a well-articulated and sustained effort is required to provide ICT facilities in the colleges (that has been surveyed) and make the same (ICT facilities) more accessible to the faculty members/students.

Stefan (2017),the study observe Factors relating to problems experienced in information seeking and use: findings from a cross-sectional population study in Finland, The aim of this study is to examine how people experience difficulties in relation to different phases of purposive information seeking. The data were collected through distributing a questionnaire to a representative cross-section consisting of one toothed five hundred populations. The result indicated that there was a clear division between concrete, distinct problems and abstract, unclear problems in different phases of people's purposive information seeking. The former problems were perceived to be much easier to handle with compared to the latter. Socioeconomic status was associated with concrete, distinct problems: advanced education and throwaway income, as well as being currently employed, correlated with fewer reported troubles. There are some obvious limitations of the study; the instrument used to measure the respondents' difficulties in relation to purposive information seeking is quite indistinct and insensitive to the possible importance of the particular issue at stake.

In a study carried out by Makinde (2018), on Information needs and information seeking behavior of researchers in an Industrial Research Institute in Nigeria, The aim of the study was to investigate the information needs and information-seeking behavior of researchers at the Federal Institute of Industrial Research Oshodi, Nigeria. This study used both quantitative and qualitative research approaches and the study used the positivist paradigm. Wilson's 1999 model of information behavior was used as the theoretical framework. The questionnaire, interview and observation data collection tools were the chosen tools used to collect data from researchers from the six departments of the Federal Institute of Industrial Research and five professional librarians of the institute's library. Out of one hundred sixty five questionnaires that were administered to researchers, a total of one hundred twenty one were returned. This study published that both formal and informal sources had been consulted with the aid of researchers and internet was the information source most commonly used by the researchers to obtain information. The institute's library used to be poorly used because it contained outdated library materials and was no longer geared up with an internet facility.

Yahay (2019), the study examined the Information needs and Information seeking Behavior of postgraduate Students of kwara state University, Malete. The purpose of the study to identify the information needs and seeking behavior of Post Graduate Students in Kwara State University. The Post Graduate Students were stratified on the basis of the disciplines of their study: Humanities and Social Sciences and Educations Out of the nine hundred thirty four Post Graduate Students hence selected, six hundred thirty students returned. The sample for the present study is composed of 630 students. Questionnaires and interview methods were used in this study for data collection method. The results indicated that all the respondents of the study commence information searching on their own to meet their favorite educational needs. More than **1/2** of the respondents have passed through formal training in information searching,

Browsing website and search engines are the mainly favored methods for finding information on the internet.

In a study carried out by Biddy and Susan (2019), on an exploration into the information seeking behaviors of engineers and scientists. The objectives of this study were to establish where engineers and scientists look for information, believe their search preferences and determine the understanding they have of online search engine operation. The research was undertaken using a mixed methods research methodology. A survey was conducted with engineers and scientists working in the UK, using an online questionnaire and interviews to obtain quantitative and qualitative data. The study showed both similarities and differences between engineers' and scientists' information seeking behaviors. The most popular property used by both engineers and scientists were online search engines, specialist databases and scholar search engines; and the most used sources were from within their own organization (colleagues and documents). Electronic versions of sources were favored over print because of their search ability.

In a study carried out by Asma (2018), on Information Seeking Behavior of Post Graduate Students in Lahore, Pakistan, the study was planned to identify the information seeking behavior and the related problems faced by post graduate students while seeking relevant information. The study was exploratory research and used mixed method approach, Total sample size of the study was one hundred seventy six postgraduate students of different departments from public and private universities. The result indicated that all the students seek information for career development, solve direct academic problems, write research articles, making notes for assignment, to update their present knowledge, preparation for examination, and to read latest articles. But there are some dilemma such as poor internet facilities, inadequacy of the materials, lack of relevant materials and non-cooperative behavior of library staffs were faced by students. These factors created many problems for these two universities students to seek the current or relevant information.

In a study carried out by Horsfall, Orubebe & Nsirim on Information Needs and Seeking Behavior of Library and Information Science Students of Rivers State University in Digital Age (2020). Descriptive research survey method was used with a population of three hundred twenty four undergraduate students of the Department of Library and Information Science, Rivers State University from which a sample of 245. The data were collected using a structured questionnaire and analyzed using descriptive statistics, frequency distribution and Percentages. The result discovered that the information needs of students were academics, ICT and Internet. Examination and assignment were the motivating factors and they consulted lecturers and lecture notes, personal collections, internet and colleagues when seeking for information. They were using the information for academic and personal development and decision making. However, the factors that militated against the information seeking behavior of undergraduate students were inadequate internet search skills, lack of computer and information overload. The study recommended that libraries should be equipped with the latest technologies and online databases

as well as get better their orientation programs to educate students about Online Public Access Catalogue and digital information seeking training to encourage students utilize library electronic information resources.

2.11Conceptual Framework

The conceptual framework of the study shows literature under different topics suggests that an information user engages in information seeking behavior in order to satisfy their need. The main principle in this revised model is that if information needs are to be satisfied, 'information processing and use' becomes an essential part of the feedback loop shown at the bottom of the model. The 1996 model also presents four relevant standards as information seeking behavior to explain users' behavior. In the second and fourth group of concepts in figure these mechanisms are represented as and the stress/coping, risk/reward, social learning theory and 'self-efficacy'. The variables in context of information need, these needs are affective (feeling or emotions) and cognitive needs (needs to learn or acquire skills). The other variables in this model are Intervening variables these are psychological factors (tending to be curious, or averse to risk), demographic background (age, gender and educational level), factors related to one's social role environmental and information source characteristics (accessibility and credibility), might motivate or hinder information seeking. The risk or reward involved may lead to an active or passive information seeking behavior. The information obtained is then processed and becomes an item of the user knowledge, and is used directly or indirectly, to influence the environment and, as a result, create new information needs.

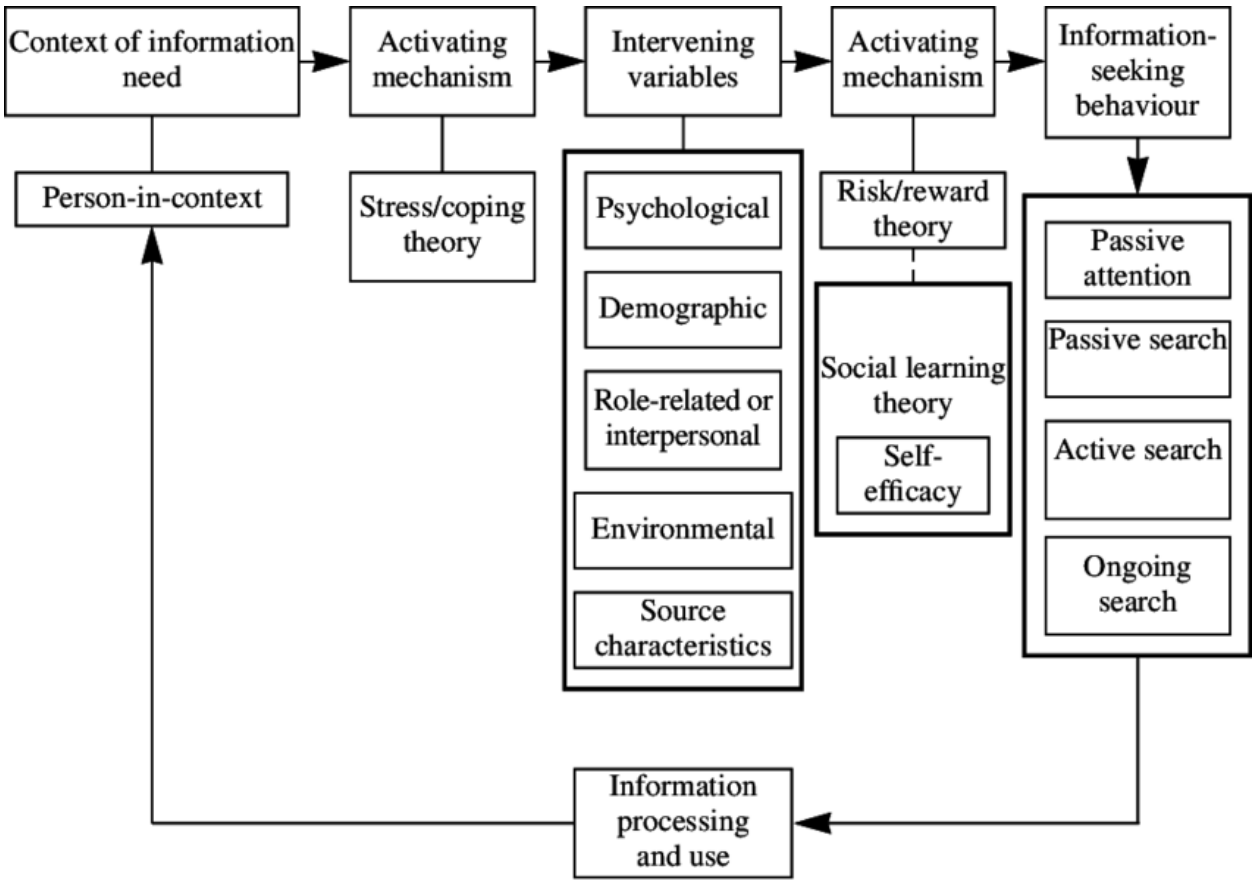

Figure 9Wilson's (1996) model of information behavior of information behavior

2.12 Summary of the Chapter

The review of related literature shows that there are more issues to be studied in order to get more on information seeking behavior. The studies revealed that information seeking begins with a need that has to be satisfied (Wilson, 1999). Wilson stated that these needs are basic and can be physiological, affective and cognitive. The information needs of the students were academically correlated, as well as academic information for courses of study, coursework, writing theses/dissertations and lectures. In order to ascertain the information seeking behavior, the literature also revealed that people were satisfied and highly satisfied in using the sources of information, literature revealed some of the challenges including lack of access to the internet, online resources, unavailability of information sources, lack of time to use the resources, lack of awareness of the availability of materials, language difficulty. The literature under different topics suggests that an information user engages in information seeking behavior in order to satisfy their need. The user searches information from information systems or other information sources, which may result in success or failure in finding relevant information. If successful, the

user may make use of the information. Otherwise, the user may be fully or partially satisfied, or may fail to fulfill the perceived need, and repeat the search process.

Chapter Three

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Methodology

3.1Introduction

This chapter discusses how the research was conducted and consists of five sections. The chapter consists of description of the research design, study area, population and sampling, data collection, and methods of data analysis.

3.2 Research Design

This study employed a survey research methodology. Survey research used to be chosen due to the fact it is a quicker mode of information collection than other methods, exceptionally less expensive information series method, access to a wide range of participants; and it uses the methods, materials and placing of the find out about of the real-life situation which is under investigation to make sure validity (Mathiyazhagan and Nandan, 2010). Surveys also gather information by asking respondents about their experiences, attitudes, or knowledge (Graziano and Raulin, 2007). Utilizing the survey method, this study used the graduate Students of the College of Business and Economics at Addis Ababa University to provided detailed information on their information seeking behavior.

For the purpose of this study, mixed method approach, which uses both qualitative and quantitative methods, was used. mixed method research is used as a research design (methodology) where the researcher collects, analyzes, and mixes both quantitative and qualitative data in a single study or a multiphase program of inquiry (Cresswell, 2003).Johnson et al. (2007) generally defines it as the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches for the main purposes of breadth and depth of understanding and validation.

3.3 Study Area

The study was conducted at Addis Ababa University in the College of Business and Economics (CoBE) consists of the former Faculty of Business and Economics (established in November 1990) and School of Commerce (established in 1943).it consists of five departments, namely: Accounting and Finance, Economics, management, School of Commerce, and public administration at Addis Ababa University. The department of Economics is one of the core departments of the College of Business and Economics and is to be found on the second floor of the main building of the college at sadist kilo about a hundred meters away from the Main Campus of the university. The Department was once opened in 1953 and is committed to excellence in the core activities of instructing and search for in the field of economics. It is one of the major departments both in terms of faculty size and student intake.

The former Faculty of Business and Economics has its origin in the formation of the Department of Economics in 1959 under the Faculty of Art of the University College of Addis Ababa. This first move was way by the establishment of the College of Business Administration in 1963, which consisted of two departments, namely the Department of Management and the Department of Accounting.

The Department of Management is one of the oldest departments in Addis Ababa University, established under the College of Business Administration of Addis Ababa University. The Department is at this instant under the College of Business and Economics located on the former Faculty of Business and Economics campus.

The Department of Accounting and Finance has been contributing towards gathering the country's demand for trained human resource in the areas of accounting, auditing and finance since its establishment in 1962 in the name of the Department of Accounting. Since its establishment, the current Department of Accounting and Finance has existed under different umbrellas. Originally it was under the College of Business Administration (CBA), followed by the College of Social Sciences, and then the Faculty of Business & Economics (FBE), followed by the School of Business and Public Administration. Now it is under the College of Business & Economics (CoBE).

The Department of Public Administration was opened in the early 1950s under the then University College of Addis Ababa. In 1961, when Haile Selassie I University, now Addis Ababa University, was inaugurated, the department was made to operate within the Faculty of Arts as the Department of Public Administration. From 1977 to 1981 the department was organized first under the Department of Political Science and Government, and subsequently under the Department of Management of the College of Business Administration.

3.4 Population and sampling

Addis Ababa University College of Business and Economics (CoBE) has 4320 students in accordance Addis Ababa University (AAU) enrollment report 2019/20 year. However, the target population for this study used to be Addis Ababa University graduate regular and Extension College of Business and Economics (CoBE) students from five departments, namely: Accounting and Finance, Economics, management, business administration and Public administration and Development management at Addis Ababa University. According to the data obtained from the registrar office of the University, the total population of graduate College of Business and Economics (CoBE) students consisting of 440 students who are expected to graduate at the end of this year. A convenience sample of students was taken from graduate Students of the College of Business and Economics (CoBE) at Addis Ababa University. Census method was used its method of statistical enumeration where all members of the population are studied. A population refers to the set of all observations under concern.

3.5 Data collection

In order to obtain the required data a self-administered survey questionnaire is selected as the primary instrument. The survey is a widely used quantitative research which will enable an individual to get the required current data (Creswell, 2003). Among the many data collection tools, this study has applied the interview and questionnaire method as the main tool to collect all the relevant data from the reference population. The interview was conducted to five graduate students by telephone interview. The researcher used a semi structured in-depth interview with the selected interviewees.

3.5.1 Pilot Testing

The questionnaire is tested in order to ensure to capture the required data as expected by the researcher. The test was conducted mainly to find out whether the questionnaire was easily-understandable as well as whether there were any vague and confusing questions in the questionnaire. Five students were approached to answer the questionnaire in the presence of the researcher. All the respondents reported that they have no difficulty in answering the questions. As a result of that no major changes were made in the questionnaire making it more reliable.

3.5.2 Questionnaire

The questionnaire was mainly contains closed-ended questions and some open-ended questions. Questionnaires are prepared after extensive review of literatures in this field, those questions in the questionnaires focused on the research problems objective and questions rose in the statement of the problem. The questionnaires were developed in English.

The Survey questionnaire contained 46 questions (see appendix A). It has three sections which were measured by a combination of nominal, ordinal and scales.

In the first Section, demographic information was collected with closed-ended questions (gender, age and educational level).
In the second Section, Information seeking behavior and access of the respondents were collected with closed-ended questions (Computer access, information format, internet access and purpose of internet).

In the third Section, measured the Communication channels and factors that affect accessing of information, ranking scale was used. These section questionnaires were adopted from (Gyesi, 2016) to determine the communication channels that most frequently used and the factors that affect the access of information.

The data collection was conducted by data collectors before commencing the actual primary data collection, four data collectors were recruited from experienced people and they were trained on how to help the subjects while filling the questionnaires and responsible for collecting back the questionnaires that were distributed.

3.5.3 Interview

The interview is important data gathering technique involving verbal communication between the researcher and the subject. Interviews are commonly used in survey designs and in exploratory and descriptive studies. There is a variety of methods to interviewing, from totally unstructured in which the subject is allowed to talk freely about whatever they wish, to highly structure in which the subject responses are limited to answering direct questions. The quality of the data collected in an interview will relay on both the interview design and on the skill of the interviewer. Abad interviewer may consciously or unconsciously convince the responses that the problem makes. In either circumstance, the research findings will be influenced detrimentally (Nick, 2014).

In this study, semi-structured interview was used in-depth with graduate college of business and economics students. The researcher would be interviewed 5 respondents to gain in-depth data about information seeking behaviour and problem that influence information seeking behaviour of graduate colleges of business and economics students at Addis Ababa University.

3.6 Data Collection Procedure

To collect data from the respondents the researcher got a written letter from school of information science. After that the researcher went to the registrar to find out list of departments, and number of students. The data collection was conducted by data collectors or with the presence and supervision of the researcher. Before commencing the actual primary data collection, four enumerators were recruited from experienced people and brief orientation would be given to the data collectors. They were oriented on the objectives of the study and trained on how to approach students, how to ask questions and apply survey questionnaire techniques before commencing the work. . At the end of each day, the questionnaire was checked for completeness and consistency by the researcher. The questionnaires were administered from March 9 to March 30, 2020. Out of the four hundred fourteen (440) questionnaires distributed, three hundred fifty-one (351) were returned, giving a response rate of 79.8%.

3.7 Methods of data analysis

Data from the questionnaires were analyzed using the Statistical Package for Social Sciences 26 (SPSS) such as frequency tables and pie and bar charts for the analysis of the data and the results interpreted by descriptive statistics and factor analysis. The data gained through interview was used for further information for the purpose of conclusion and recommendations.

3.8 Reliability

Reliability is assessed in terms of Cronbach's alpha coefficient. A scale is considered reliable if the alpha coefficient is greater than 0.70 (Sekaran, U.2005). In the case of this research, the reliability for all questionnaire items was satisfactory as values for Cronbach's alpha is 0.713.

3.9 Ethical consideration

To ensure confidentiality, any person identifying information on participants was not being collected. Benefits, compensation mechanisms were strictly respected for all participants equally for the time they was expend with us during interview and intervention implementation. Data were collected for this study will not be used for other study without approval of each participant.

3.10 Limitation of the study

This study was conducted at Colleges of Business and Economics graduate students at Addis Ababa University. The study did not include schools of commerce graduate students and distance students. The time and budget constraints were the major challenges that limit the depth of coverage of the research work.

Chapter Four

Data analysis and results

The study aims to examine the information seeking behavior of graduate Students of the College of Business and Economics at Addis Ababa University.
This chapter starts by showing the Quantitative results in a simple descriptive statistics using frequency and percentage to answer the research questions. Principal component analysis was undertaken in order to reduce components and to show how much the variables explained each factor.

4 .1 Descriptive Statistics

4.1.1 Profiles of Respondents

Out of the 440 questionnaires distributed, 351 responses were received. Among returned questionnaires, three hundred fifty-one (351) were completed, giving a response rate of 79.8% were used for analysis of this study. The rest 89 (20.2%) were non responses for the mentioned reasons of unavailability after receiving the questionnaire for long time, lack of time on the respondents side, and lack of interest after taking the questionnaire.

Table 1profile of respondents

Variables	Categorization	Frequency	Percent
Gender	Male	246	70.1%
	Female	105	29.9%
Age	21-30	133	37.9%
	31-50	218	62.1%
Educational level	Masters	346	98.6%
	PhD	5	1.4%

Table 1 shows the frequency and percentage distribution of respondents by gender, age and educational level. The result shows that the total numbers of respondents male and females were (246, 70.1%) and (105, 29.9%) respectively. Educational levels of the respondent's between 21-

30 years are 37.9% (133) and between 31-50 years are62.1 % (218) and majority of the respondents were 31-50 years.

4.1.2 Information seeking behavior and access

Information seeking behaviors of graduate students were seen in the following categories of discussions which are related to the ways of searching information to meet their needs. Computer application and access, preference of information needs, methods of internet access and purpose of seeking information, communication channel of respondents and factors of accessing information are presented in the following sections.

4.1.3 Computer access

All the students had computer access and the finding show that among the total participants, Majority of the respondents267 (76.1%) access computer at work area,60 (17.1%) at both home and working area and only 24 (6.8%) had computer access at home.

Table 2 computer access

Computer access	Frequency	Percent
At home	24	6.8%
At work area	267	76.1%
Both home and work area	60	17.1%

4.1.4 Usage of computer

The findings (Table 3) show that the respondents use computer for several purposes. The majority of the respondents 348 (99.1%) use computer for the purpose of writing and reading. Others use computers for internet 334(95.2%), keeping files 327(93.7%) and entertainment 292 (83.2%) in descending order.

Table 3usage of computer

Usage of computer	Frequency	Percent
Writing and reading	348	99.1%

Keeping files	327	93.7%
Entertainment	292	83.2%
Using internet	334	95.2%

4.1.5 Information format to satisfy information need.

The findings (Table 4) shows that out of the three formats of information (printed, electronic; and both printed and electronic sources), the most preferred format of information as indicated by the 216 (61.5%) was electronic source, followed by both print and electronic sources 100 (28.5%) of respondents. Some students 35 (10.0%) showed a preference for printed sources when searching for information.

Table 4 Information format to satisfy information need

Information format	Frequency	Percent
Print sources	35	10.0%
Electronic sources	216	61.5%
Both print and electronic sources	100	28.5%

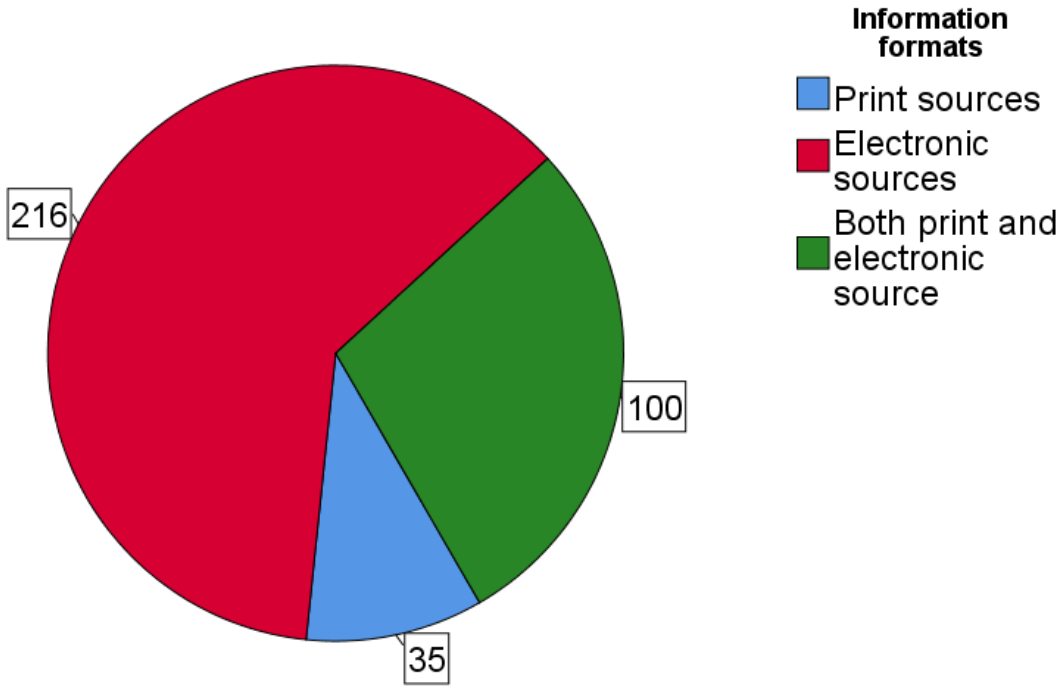

Figure 10Information formats to satisfy information need

4.1.6 Method of internet use

All the students had access to the internet. The findings (Table 5) show that most of the respondents use internet when they need 280 (79.8%), some also use it daily 68 (19.4%) whilst 3 (0.9%) use internet at least once a week.

Table 5frequency of internet access

Variables	Categorization	Frequency	Percent
Use of internet	Daily	68	19.4%
	When we need of	280	79.8%
	At least once a week	3	0.9%

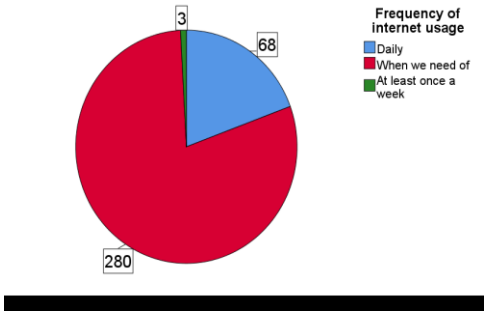

Figure 11 Frequency of internet usage

4.1.7 Purpose of internet

The findings (Table 6) show that the respondents use internet for several purposes. In response to a multiple response question regarding the uses of the internet, the majority of the respondents 347(98.9%) use internet for the purpose of academic information. Others are use internet for communication 255(72.6%), news 244(69.5%), entertainment 197(56.1%) and job updates 40(11.4%) in descending order.

Table 6 purpose of internet

Purpose to use internet	Frequency	Percent
Academic information	347	98.9%

Job updates	40	11.4%
Communication	255	72.6%
Entertainment	197	56.1%
News	244	69.5%

4.1.8 Place of internet access

The findings (Table 7) show that the respondents accessing internet from the following areas majority of the respondents prefer internet access at work area 290 (82.6%), some respondents preferred internet café 171 (48.7%) and at home 120(34.3%).

Table 7place of internet access

Place of internet access	Frequency	Percent
At home	120	34.3%
At work	290	82.6%
Internet café	171	48.7%

4.1.9 Browser and search engine

Based on information obtained from the respondents, they were used only Google chrome, Internet explorer and Mozilla Firefox to searching relevant information from the web and other browser are not used. The findings (Table 8) show that 192 (54.7%) respondents were using Google chrome browser, followed by 105 (29.9%) were using Mozilla Firefox, 18 (9.4%) prefer to use Google chrome, 14 (7.3%) were using Google chrome, Mozilla Firefox, 54(15.4%) were using internet explorer.

According to their finding, respondents were used only Google and Yahoo to searching their relevant information from the web for getting their information. The most preferred search

engine used by respondents were Google; while Yahoo was the second preferred search engine. Similarly, the respondents used only Google and Yahoo search engines and other search engines are not used to searching purpose for getting their information. The finding in Table 8, showed that 277 (78.9%) of respondents were using Google search engine and 74 (21.1%) respondents were using Yahoo search engines for accessing required information sources from the web and none of use opera.

Table 8 Browser and search engine

Browser and search engine		Frequency	Percent
Browser	Google chrome	192	54.7%
	Mozilla Firefox	105	29.9%
	Internet Explorer	54	15.4%
	Opera	0	0.0%
Search engine	Google.com	277	78.9%
	Yahoo.com	74	21.1%

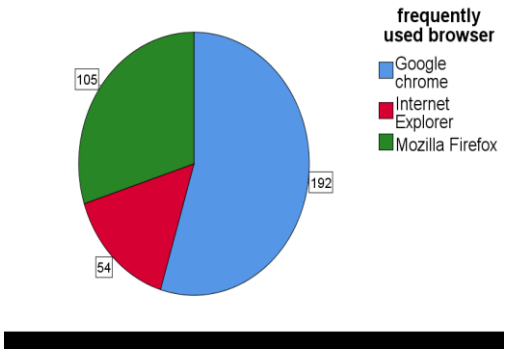

Figure 12 frequently used browsers and search engine

4.1.10 Training on how to access internet and satisfaction level of internet access

All the respondents had not been trained on any formal training. In order to investigate the respondent satisfaction with internet access in terms of meeting information needs, respondents were asked to indicate their overall satisfaction with their internet access at university. The finding in (Table 9) indicate that the majority 268 (76.4%) of respondents reported as least satisfied, 45 (12.8%) partially satisfied, 34(9.7%) fully satisfied and only 4 (1.1%) had no comment to the internet access provided by university.

Table 9satisfaction level of internet access

Satisfaction level of internet access	Frequency	Percent
Fully	34	9.7%

Partially	45	12.8%
Least satisfied	268	76.4%
I have no comment	4	1.1%

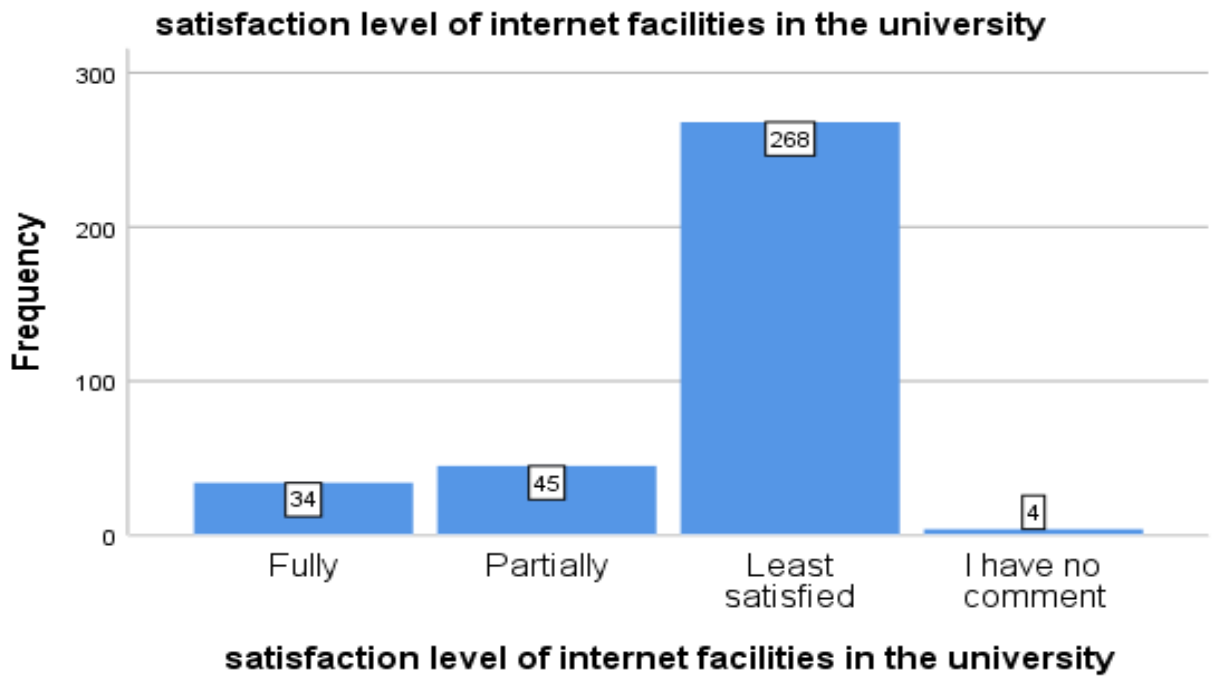

Figure 13 Satisfaction levels of internet facilities

4.1.11 Problems encountered when using internet

Students those who had access to internet encountered to problems while searching information on internet. From those problems, 339(96.6%) poor internet connection, 254 (72.4%), High cost of internet, 237 (67.5%) too much information and 64 (18.2%) too much information (Table 10).

Table 10 problems encountered when using internet

Problems of internet access	Frequency	Percent
Poor internet connection	339	96.6%
High cost of internet	254	72.4%

Too much information	237	67.5%
Electric power fluctuation	64	18.2%

4.1.12 Attempts to improve the quality of internet

The respondents were also asked about the efforts they made to have internet and to improve the quality of their internet connection. They were using different mechanisms to solve encountered problems: from 351 participants, who had faced problem on their university, 137(39.0%) of participants were reported to the mentors, followed by 124 (35.3%) reported using another computer, 45 (12.8%) checking another time and leaving it as it is. (Table11).

Table 11 Attempts to improve the quality of internet

Attempts to internet access problems	Frequency	Percent
Reporting to the mentors	137	39.0%
Checking another time	45	12.8%
Leaving it as it is	45	12.8%
Using another computer	124	35.3%

4.1.13 Purpose of information seeking

The findings indicate that most of the respondents' seek information for updating knowledge 350 (99.7%) and for research work 348(99.1%) as shown in (Table 12). The next largest purposes are for communication/networking like (email, meeting and chatting) 347(98.9%) and entertainment 251(71.5%). This is followed by teaching/education 219(62.4%) and carry out administrative work 34(9.1%).

Table 12 purpose of information seeking

Reason of seeking information	Frequency	Percent
Research work	348	99.1%
Teaching/education	219	62.4%
Updating knowledge	350	99.7%
Carry out administrative work	34	9.7%
Entertainment	251	71.5%

Communication/networking	347	98.9%

4.1.14 most frequently used communication channel in the university

Respondents were requested to indicate seven main communication channels in order of priority and then number 1, 2, 3, 4, 5……7 the findings summarized in Table 13.

Table 13 most frequently used communication channel

Communication channel	Frequency /%	1	2	3	4	5	6	7
Internet	N	181	107	45	9	6	2	1
	%	51.6%	30.5%	12.8%	2.6%	1.7%	0.6%	0.3%
University library	N	110	154	71	10	3	2	1
	%	31.3%	43.9%	20.2%	2.8%	0.9%	0.6%	0.3%
Meeting/colleagues	N	2	27	239	37	25	12	9
	%	0.6%	7.7%	68.1%	10.5%	7.1%	3.4%	2.6%
Personal collection	N	57	54	68	30	115	16	11
	%	16.2%	15.4%	19.4%	8.5%	32.8%	4.6%	3.1%
Media(TV/Radio)	N	30	64	26	33	51	20	127
	%	8.5%	18.2%	7.4%	9.4%	14.5%	5.7%	36.2%
Telephone	N	36	48	89	53	18	19	88
	%	10.3%	13.7%	25.4%	15.1%	5.1%	5.4%	25.1%

The findings showed that the respondents used various sources of communication channel for their information needs. Majority of the respondents used the internet as the first communication channel when seeking for their information needs, followed by university library and Some of the students seek information from personal collection ,media and television and Two of the respondents also seeks information from colleagues to enhance their knowledge in concerned subject

4.1.15 Major sources for obtaining academic information in the university

Analysis of the findings show that the students in the study use several and varied sources of information to satisfy their information needs. The finding indicated that majority of respondents 306(87.2%), internet, 210(59.8%), books, 204(58.1%), thesis/dissertation/project report, 149(42.5%), discussion with colleagues and senior staffs, 88(25.1%) journals, 84(23.9%),

reference sources (e.g. encyclopedias, dictionaries), 82(23.4%), conference/workshops/seminars reports and 65 (18.5%), newspapers respectively.

Table 14 major sources for obtaining academic information

Major information sources	Yes		No	
	Frequency	%	Frequency	%
Books	210	59.8%	114	40.2%
Internet	306	87.2%	45	12.8%
Journals	88	25.1%	263	74.9%
Newspapers	65	18.5%	286	81.5%
Thesis/dissertation/project report	204	58.1%	147	41.9%
Reference sources (e.g. encyclopedias, dictionaries)	84	23.9%	267	76.1%
Discussion with colleagues and senior staffs	149	42.5%	202	57.5%
Conference/workshops/seminars reports	82	23.4%	269	76.6%

4.1.16 Factors that affect accessing of information in the university

Students those who had access to internet encountered to problems while searching information on internet. The findings in (Table15) showed that the respondents used encountered by different problem, Based on their first choice,112(31.9%) poor searching skill, 79(22.5%) financial constraints, 49(14.0%) accessibility of information sources, 24(6.8%)poor library facilities,23(6.6%) availability of information sources, 13(3.7%) power failure, 10(2.8%) shortage of time, 7(2.0%) quality of information sources and 6(1.7%) poor ICT facilities. the second choice, 37(10.5%) poor searching skill,37(10.5%) accessibility of information sources, 34(9.7%) poor library facilities,28(8.0%) poor ICT facilities, 22(6.3%) availability of information sources,19(5.4%) power failure, 17(4.8%) shortage of time, 16(4.6%) quality of information source and 14(4.0%) financial constraints. The third choice, 156(44.4%) accessibility of information sources, 104(29.6%) quality of information, 100(28.5%) poor library facilities, 74(21.1%) financial constraints, 48(13.7%) poor searching skill, 40(11.4%) power failure, 36(10.3%) shortage of time, 34(9.7%) poor ICT facilities and 28(8.0%) availability of information sources. The fourth choice, 112(31.9%) power failure, 99(28.2%) shortage of time, 61(17.4%) financial constraints, 49(14.0%) poor library facilities, 47(13.4%)poor searching skill, 34(9.7%) accessibility of information source, 24(6.8%) availability of information source, 24(6.8%) poor ICT facilities and 19(5.4%) quality of information source. The fifth choice,

112(31.9%) poor ICT facilities, 63(17.9%) shortage of time, 46(13.1%) power failures, 45(12.8%) poor library facilities, 40(11.4%) quality of information sources, 37(10.5%) poor searching skill, 33(9.4%) financial constraints, 25(7.1%) availability of information sources and 14(4.0%) accessibility of information sources. While the other 51(14.5%) shortage of time, 50(14.2%) quality of information source, 42(12.0%) power failure, 39(11.1%) availability of information sources, 37(10.5%) poor library facilities, 29(8.3%) financial constraints, 25(7.1%) poor ICT facilities, 25(7.1%) poor searching skill and 23(6.6%) accessibility of information sources. The other factors representing 126(35.9%) availability of information sources, 47(13.4%) quality of information source, 37(10.5%) shortage of time, 33(9.4%) power failure, 25(7.1%) poor library facilities, 23(6.6%) financial constraints, 18(5.1%) poor searching skill and 12(3.4%) accessibility of information sources. The other factors representing 45(12.8%) quality of information source, 44(12.5%) poor ICT facilities, 31(8.8%) availability of information sources, 25(7.1%) power failures, 23(6.6%) financial constraints, 23(6.6%) shortage of time, 18(5.1%) both poor searching skill , poor library facilities and 10(2.8%) accessibility of information source. The other 36(10.3%) poor ICT facilities, 33(9.4%) availability of information sources, 23(6.6%) Quality of information sources, 21(6.0%)Power failures, 19(5.4%) poor library facilities, 16(4.6%) accessibility of information sources, 15(4.3%) financial constraints and Shortage of time as seventh, eighth and ninth respectively.

Table 15 Factors that affect accessing of information

Factors of accessing information	Frequency /%	1	2	3	4	5	6	7	8	9
Availability of information sources	N	23	22	28	24	25	39	126	31	33
	%	6.6%	6.3%	8.0%	6.8%	7.1%	11.1%	35.9%	8.8%	9.4%
Accessibility of information sources	N	49	37	156	34	14	23	12	10	16
	%	14.0%	10.5%	44.4%	9.7%	4.0%	6.6%	3.4%	2.8%	4.6%
Quality of information sources	N	7	16	104	19	40	50	47	45	23
	%	2.0%	4.6%	29.6%	5.4%	11.4%	14.2%	13.4%	12.8%	6.6%
Financial constraints	N	79	14	74	61	33	29	23	23	15
	%	22.5%	4.0%	21.1%	17.4%	9.4%	8.3%	6.6%	6.6%	4.3%
Shortage of time	N	10	17	36	99	63	51	37	23	15
	%	2.8%	4.8%	10.3%	28.2%	17.9%	14.5%	10.5%	6.6%	4.3%
Poor ICT facilities	N	6	28	34	24	112	25	42	44	36
	%	1.7%	8.0%	9.7%	6.8%	31.9%	7.1%	12.0%	12.5%	10.3%
Power failures	N	13	19	40	112	46	42	33	25	21
	%	3.7%	5.4%	11.4%	31.9%	13.1%	12.0%	9.4%	7.1%	6.0%
Poor searching	N	112	37	48	47	37	25	18	18	9
	%	31.9%	10.5%	13.7%	13.4%	10.5%	7.1%	5.1%	5.1%	2.6%

skill										
Poor library facilities	N	24	34	100	49	45	37	25	18	19
	%	6.8%	9.7%	28.5%	14.0%	12.8%	10.5%	7.1%	5.1%	5.4%

4.2 Factor analysis

Factor analysis is a statistical technique used to classify a comparatively small number of underlying dimensions, or factors, which can be used to represent relations among interrelated variables. The emphasis in factor analysis is the identification of basic "factors" that might explain the dimensions associated with data variability. Factor analysis can be best described as a tool to help identify the underlying factors that might explain the dimensions associated in large data variability. (Bartholomew, D. and Knott,M.1999)

4.2.1 Principal Component Analysis

The first step in principal component analysis is determining the number of components to be identified. These components are likely the ones that have been control the factors that affect accessing of information.

A Kaiser-Meyer-Olkin (KMO) test is used in study to determine the sampling adequacy of data that are to be used for Factor Analysis. The KMO test permit us to ensure that the data we have are appropriate to run a Factor Analysis and therefore determine whether or not we have set out what we deliberate to measure. The statistic that is computed is a measure of 0 to 1. Interpreting the statistic is relatively simple; the closer to 1, the better, first, the Kaiser–Meyer–Olkin (KMO) measure of sampling competence was calculated for a test of fitness. Kaiser, (1974) argued if the KMO is less than 0.5, factor analysis is inappropriate.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.781
Bartlett's Test of Sphericity	Approx. Chi-Square	2536.423
	Df	561
	Sig.	.000

Table 16 KMO and Bartlett's Test

Normally, $0 < KMO < 1$

If $KMO > 0.5$, the sample is adequate.

Here, $KMO = 0.781$ which indicates that the sample is adequate and we may proceed with the Factor Analysis.

Bartlett's Test of Sphericity

Taking a 95% level of Significance, $\alpha = 0.05$

The p-value (Sig.) of .000 < 0.05, therefore the Factor Analysis is valid

The Kaiser-Meyer Olkin (KMO) and Bartlett's Test measure of sampling adequacy was used to check the appropriateness of Factor Analysis. The approximate of Chi-square is 2536.423 with 561 degrees of freedom, which is significant 0.05 level of significance.

According to (Table 17), the initial components are the numbers of the variables used in the Factor Analysis. However, not all the 19 variables were retained. In this research only the 6 factors were extracted by combining the relevant variables. The Eigen values are the variances of the factors. The total column contains the Eigen value. The first factor always accounts for the majority variance and hence has the highest Eigen values. The subsequent component account for as much of the left over variance as it can and equal used to be continuing till the last factor. The percentage of variance represents the percent of total variance accounted by each factor and the cumulative percentage gives the cumulative percentage of variance account by the current and the previous factors.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.078	9.035	9.035	2.078	9.035	9.035
2	1.650	7.172	16.207	1.650	7.172	16.207
3	1.433	6.231	22.439	1.433	6.231	22.439
4	1.312	5.705	28.143	1.312	5.705	28.143
5	1.143	5.405	33.548	1.243	5.405	33.548
6	1.075	5.111	38.659	1.175	5.111	38.659
7	.999	5.074	43.732			
8	.906	3.941	65.943			
9	.897	3.900	69.843			
10	.860	3.737	73.580			
11	.851	3.699	77.279			
12	.811	3.526	80.805			
13	.731	3.178	83.983			
14	.700	3.042	87.025			
15	.685	2.980	90.005			
16	.656	2.854	92.858			
17	.589	2.560	95.418			

18	.549	2.386	97.804			
19	.505	2.196	100.000			

Extraction Method: Principal Component Analysis.

Table 17 total variance explained

In order to decrease the natural stand of variables being correlated to some extent in spite of the varying nature of concept they represent, oblique rotation method with var-max was employed in order to reduce the natural effect and oblique rotation method was used.

	Component					
	1	2	3	4	5	6
Writing and reading	.248					
Keeping files	.429					
Entertainment	.465					
using internet	.525					.331
Academic information	.243			.182		
Job updates						
News						
Communication		.219				
Poor internet connection		.280				
High Cost of internet		-.228				
Too much information		-.157				
Electric power fluctuation						
Research work			-.141			
Teaching/education	.259		.387			
Updating knowledge	.178		-.182			
Carry out administrative work	-.213		.			
Meeting/Colleagues	-.021					
University library	.166			.386		
Personal collection	.195				.235	

Extraction Method: Principal Component Analysis.

Table 18 Component Structure Matrix (Before)

	Component					
	1	2	3	4	5	6
Writing and reading	.466					
Keeping files	.372					
Entertainment	.142					
using internet	.095					
Academic information						0.54
Job updates				-.160		
News				.269		
Communication				-.085		
Poor internet connection		-.145				
High Cost of internet		.338				
Too much information		.176				
Electric power fluctuation		.473				
Research work			-.049			
Teaching/education			-.070			
Updating knowledge			.071			
Carry out administrative work						
Meeting/Colleagues					.245	
University library					-.248	
Personal collection						

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Table 19 Component Structure Matrix (after)

4.2.2 Component Inter Correlations

Table18 presents the component correlation matrix. It is a matrix that shows the inter correlations among components. This shows that there is a weak correlation between the components.

Component	1	2	3	4	5	6
1	.661	.623	.157	.353	.130	.089
2	.072	-.024	.753	.344	-.543	.123
3	.215	-.259	.130	.468	.585	.555
4	-.468	-.059	-.339	.731	-.023	-.359
5	.156	.376	.516	-.042	.588	.470

6	-.518	.632	-.102	-.050	-.004	.565

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Table 18 Component Correlation Matrix

4.3 Qualitative results

The qualitative approach was conducted by interviews with different graduate Students of the College of Business and Economics at Addis Ababa University.

In this study, semi-structured interview was used in-depth with graduate college of business and economics students. The researcher would be interviewed 5 respondents to gain in-depth data about source of information seeking behaviour and problem that influence information seeking behaviour of graduate colleges of business and economics students at Addis Ababa University.

In the process of data collection, the researcher first explained the purpose of the study and got the respondents‟ agreement to participate in the study. Five students were interviewed by telephone, for between 10 and 15 minutes. All interview responses were short noted.

This section presents findings of qualitative data analysis related to the source of information, factors affecting access of information and what can be done to address the factors you have stated from respondents of view to generalize the findings of survey results.

The interview processes were started with major sources of information for obtaining academic information in the university The findings of interview results showed that the Internet was a main tool used to actively search online resources when students were writing their thesis and course work, while relevant resources were also found passively on the Internet especially when using social networks. Students also used social media for personal information needs, mainly for interacting with relatives, colleagues and friends. Also poor internet connection and poor searching skills often created a barrier when searching online resources and many surveyed students suggested more training sessions should be provided by the university. There is also the need for the improvement of internet bandwidth to facilitate easy access and retrieval of relevant information from the web.

Chapter Five

Summary, Conclusions and Recommendations

5.1 Introduction

This chapter presents the summary of findings, draws conclusion from the key findings and offers a set of recommendations based on those findings.

5.2 Summary of findings

The study investigated to the information seeking behavior of graduate Students of the College of Business and Economics at Addis Ababa University and makes recommendations based on the findings for effective information provision for them. The specific objectives of the study was to identify information seeking behavior of graduate colleges of business and economics students necessary to fulfill their academic purpose, identify the predominant sources used by the graduate colleges of business and economics students at Addis Ababa University, and problems that graduate students encounter in seeking information. Data were collected from all graduate regular and extension students of college of business and economics at Addis Ababa University.

All the respondents had computer access and the finding show that among the total participants, Majority of the respondents 267 (76.1%) access computer at work area,60 (17.1%) at both home and working area and only 24 (6.8%) had computer access at home. Respondents use computer for several purposes, the majority of the respondents use computer for the purpose of writing and reading, others use computers for internet, keeping files and entertainment.

The Factor Analysis was applied for the identification of the core factors affecting information seeking behavior of graduate students of the College of Business and Economics at Addis Ababa University. This technique was considered appropriate as it requires no pre-existing of functional relationships and is a well known for data reduction. It is used to reduce large number of variables into a few numbers of core factors.

The Factor Analysis has thus identified 6 core factors and labeled as purpose of computer, purpose of internet, problems encountered during searching information, purpose of seeking information, communication channels and major source of information. The first factor suggests purpose of computer and first factor explains10.012% of the variability that affect the seeking of information. The second factor relates to the purpose of internet with 8.126% of the variability. The third factor explains 6.144 % of the variability was problems encountered during searching information. The fourth factor purpose of seeking information explains 5.310 % of the variability

that affect the seeking of information. The fifth factors explain 5.111% of communication channels. The sixth factor major source of information explains 3.956 % of the variability that affect the seeking of information.

On the other hand the factor analysis results used to show how much each variable explained the studied factor and to reduce many individual items into a fewer numbers of dimensions.

From the analysis it was realized that respondents use printed, electronic and both print and electronic resources, the most preferred format of information as indicated by the 216 (61.5%) was electronic source, followed by Both print and electronic sources 100 (28.5%) of respondents. Some students 35 (10.0%) showed a preference for printed sources when searching for information.

All the respondents had physical access to the internet. From the finding majority of the respondents use internet when they need 280 (79.8%), some also use it daily 68 (19.4%) whilst 3 (0.9%) use internet at least once a week and the respondents accessing internet from the following areas majority of the respondents prefer internet access at work area, some respondents preferred internet café and few students accessed internet from their home. According to the respondents they use internet for several purposes. In response to a multiple response question regarding the uses of the internet. The majority of the respondents 347(98.9%) use internet for the purpose of academic information. Others are use internet for communication 255(72.6%), news 244(69.5%), entertainment 197(56.1%) and job updates 40(11.4%)

Based on information obtained from the respondents, they were used only Google chrome, Internet explorer and Mozilla Firefox to searching relevant information from the web and other browser are not used. According to their finding, respondents were used only Google and Yahoo to searching their relevant information from the web for getting their information. The most preferred search engine used by respondents were Google; while Yahoo was the second preferred search engine. Findings indicate that most of the respondents' seek information for updating knowledge and for research work. The next largest purposes are for communication/networking like (email, meeting and chatting) and entertainment. This is followed by teaching/education and carryout administrative work. They include looking different communication channels for information majority of the respondents use internet and university library. Few of the respondents use personal collection, meeting, media and telephone.

Analysis of the findings show that the students in the study look several and varied sources of information to satisfy their information needs. The finding indicated that majority of respondents 306 (87.2%), internet, 210 (59.8%), books, 204 (58.1%), thesis/dissertation/project report, 149 (42.5%), discussion with colleagues and senior staffs, 88 (25.1%) journals, 84 (23.9%), reference sources (e.g. encyclopedias, dictionaries), 82 (23.4%), conference/workshops/seminars reports and 65 (18.5%), newspapers.

The majority of the respondents demonstrated in less level of information seeking skills. They did not seem to be well familiar with information retrieval activities or information source evaluation techniques.

The challenges encountered in their information seeking are mostly technological. They include unstable internet connection, financial constraints, inadequate ICT facilities, poor library facilities, power failure, availability, accessibility and quality of information sources, lack of searching skills, and lack of time.

5.3 Conclusions

The study conducted to examine the information seeking behavior of graduate Students of the College of Business and Economics at Addis Ababa University. Information sources are basic for students for academic activities. The findings revealed that majority of the respondents use the Internet as their main source of information for their research and course work. The information seeking behavior of the surveyed students involved the active or purposive seeking behavior for academic studies. It is obvious that the students have a preference for electronic resources, especially Internet sources, considering the fact that most of challenges they articulated are technologically related. Major information sources that graduate students used included internet, colleagues, book, reference sources, journal, thesis, dissertation, project report, conferences, workshops, seminars reports and newspapers. Electronic source was the most preferred information format followed by printed sources and the combination of the two and the Internet was a main tool used to actively search online resources when students were writing thesis, Students also used internet for personal information needs, mainly for interacting with relatives, colleagues and friends. It was found that poor searching skills, a slow internet connection and frequent power outages often created a barrier when searching online resources.

5.4 Recommendations

Based on the findings of the study, the following recommendations are made:

- The university should pay high attentions for the Technological/ IT infrastructural issues especially for internet access and power supply in the university.
- Regularly update the collection of the library with current materials to meet the information needs of students.
- Well-organized training on search skill program should be organized and printed tutorials should be made available for students.
- The library should be fully automated and necessary information resources should be digitalized for preservation and easy access.

5.5Future Work

This study however has weaknesses. First, the use of descriptive analysis did not produce many significant findings. Second, the sample size of the study was limited to only regular and extension students in collage of business and economics and further research should be done on this topic that can bring higher learning culture and strengthen institutions in Ethiopia.
Instead of using Descriptive statistics, perhaps future research should consider the regression and correlation analysis between each factor.

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Appendix; A

Questionnaire

Questionnaire for the research that will be conducted in "Information needs and information seeking behavior of graduate Students of the College of Business and Economics at Addis Ababa University ".

General Instruction

First and for most, I would like to thank you for your willingness to fill these questionnaire format.

- All pieces of information will be used only for the research purpose. You do not have to write your name. I assure that your response will be kept in secret.
- Each of your response is very useful for the studies therefore please go through each question patiently and give genuine answer.
- Fill the blanks and put thick (✓) sign, where it is necessary for the questions adequately in the space provided.
- You can give more than once choice when it is necessary.

A. Demographic profile

1. Gender

☐ Male ☐ Female

2. Age

☐ 21-30 ☐ 31-50 ☐ 51-65 ☐> 65

3. Educational level

☐ Masters ☐ PhD☐Other [Please, specify]……

B. Section Two

Information seeking behavior and access

1. Do you have computer?

☐Yes ☐No

2. If your answer is **yes** to question 1, then where do you have computer access?

☐At home ☐At work area ☐Both home and work area

3. If **yes** for question 1, for what purpose do you use it? (You can choose more than one).

☐Writing and reading ☐Entertainment

☐Keeping files ☐Using internet

4.Which information format do you prefer to satisfy your information needs?

☐Print sources ☐Electronic sources ☐Both print and electronic source

5. Do you use internet for seeking information?
☐Yes ☐ No

6.How often do you use internet?

☐Daily ☐When we need of

☐At least once a week ☐Rarely

7. For what purpose do you use the internet?

☐Academic information ☐Entertainment

☐Job updates☐News

☐Communication ☐any other (please specify) ……

8. Where do you usually access internet? (Can tick as many as appropriate)

☐At home ☐At work ☐Internet café

9. Which browser do you use frequently for internet access?

☐Google chrome ☐Internet Explorer

☐Mozilla Firefox ☐Opera ☐Any other (please specify) ……

10. Which search engine do you use frequently to internet access?

☐Google.com ☐Yahoo.com

☐MSN.com ☐Any other (please specify) ……

11. Have you ever received any formal training on how to access web/internet?

☐Yes ☐ No

12. To what extent are you satisfied with the internet facilities provided in your university?

☐Fully ☐Partially

☐Least satisfied ☐ I have no comment

13. What major problem did you encounter during searching information on the internet? (*You can choose all possible answers***).**

☐Poor internet connection ☐Too much information

☐High Cost of internet ☐Electric power fluctuation ☐Any other (please specify) ……

14. What attempts did you make to improve the quality of internet connection in the university?

☐Reporting to the mentors ☐Leaving it as it is ☐Using another computer

☐Checking another time ☐Any other (please specify) ……

15. What are the reason/ purposes of seeking information? Mark ✓ if you use and **x** if you do not use.

Reason/ purpose of seeking information		Response
15.1	Research work	
15.2	Teaching/education	
15.3	Updating knowledge	
15.4	Carry out administrative work	
15.5	Entertainment	

15.6	Communication/Networking (e.g. email, meeting, chatting)	
Other……		

16. What are the major sources for obtaining academic information in the university? Mark ✓ if you say **yes** and **x** if you say **not**.

Major information sources		Response
16.1	Books	
16.2	Internet	
16.3	Journals	
16.4	Newspapers	
16.5	Thesis/dissertation/project report	
16.6	Reference sources (e.g. encyclopedias, dictionaries)	
16.7	Discussion with colleagues and senior staffs	
16.8	Conferences/workshops/seminars reports	
Other……		

C. Section Three

Communication channels and factors that affect accessing of information.

17. The communication channel that you use most frequently in the university (Rank as 1st, 2nd, 3rd.....)

Communication channel		1	2	3	4	5
17.1	Internet					

17.2	University library					
17.3	Meeting/Colleagues					
17.4	Personal collection					
17.5	Media (TV/ Radio etc…)					
17.6	Telephone					
Other……						

18. What are the factors that affect accessing of information? (Rank as 1st, 2nd, 3rd .....);

Factors of accessing information		1	2	3	4	5
18.1	Availability of information sources					
18.2	Accessibility of information sources					
18.3	Quality of information sources					
18.4	Financial constraints					
18.5	Shortage of time					
18.6	Poor ICT facilities					
18.7	Power failures					
18.8	Poor searching skill					
18.9	Poor library facilities					
Any other (please mention)……						

Thank you very much for taking the time to fill in this questionnaire. I also plan to carry out short interviews related to this survey. If you are willing to take part in these, please provide contact details below.

Name----------, E-mail address---------- Contact number----------

-

Appendix; B

Interview questions

1. What are the major sources of information for obtaining academic information in the university?
   ……
   ……
   ……
   ……

2. What the major factors that affect accessing of information in the university?

   ……
   ……
   ……
   ……

3. What can be done to address the factors you have stated above?

   ……
   ……
   ……
   ……

4. How could your information seeking or obtaining experience be improved?

   ……
   ……
   ……
   ……

5. Is there anything you would like to add?

   ……
   ……
   ……
   ……
   ……