Information Behaviour of the Professoriate in selected Federal Universities in South West Nigeria

By

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Submitted in fulfilment of the requirements for the degree of Doctor of Philosophy (Information Studies) in the School of Social Sciences, College of Humanities, University of KwaZulu-Natal, Pietermaritzburg, South Africa

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December 2017

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ABSTRACT

This study investigated the information behaviour of the professoriate in selected federal universities in South West Nigeria. The study was guided by Wilson (1996) Information Behaviour Model and Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh, Morris, Davis, and Davis (2003).

The study adopted the pragmatist paradigm and employed the mixed methods approach with quantitative method as dominant over qualitative method. A survey research design was employed using a structured mixed questionnaire to collect quantitative data from the professoriate and semi-structured interviews were used to collect qualitative data from the subject librarians. The population of the study comprised the professoriate and subject librarians in the faculties of social sciences and humanities drawn from the three universities purposively selected from south west Nigeria. A census survey was used to collect quantitative data from 246 professoriate, while qualitative data was collected from 28 subject librarians purposively selected in the three universities. Quantitative data was analysed using descriptive and inferential statistics with the aid of SPSS, while qualitative data was analysed using thematic analysis. Results of quantitative data analysis were presented using tables and charts, while the results of the qualitative data analysis were presented in narrative description. Reliability and validity of survey instruments were ascertained through pre-test of data collection instruments and Cronbach Alpha test respectively. Overall, 165 questionnaires were collected from the professoriate, giving a response rate of 67%, while 11 subject librarians were interviewed, returning a success rate of 42%. Ethical guidelines of the university of KwaZulu-Natal ethics policy were duly followed.

The findings showed that the professoriate needed information for developing contents for teaching, conducting research, and keeping abreast of developments in their fields. They rely heavily on journal articles and text books, and make frequent use of online databases and electronic journals for teaching and research. Interaction with colleagues and conference proceedings were their major informal sources of information. The professoriate encounters information more frequently in journal articles and text books, than in electronic journals and online databases. They use the encountered information to advance their general knowledge, for personal development and to advance their career. They share mainly academic, research information, and publish research outcomes in subscription-based and fee-based journals. The study shows that the mean scores for performance expectancy (2.90), effort expectancy

(2.76), attitude (2.69), self-efficacy (2.61), and social influence (2.60) contribute to the high mean score of behavioural intention (2.87) to use electronic information resources. The mean scores of facilitating condition (2.32) and anxiety (1.57) is low.

The originality of this study is based on the following premise: the study focused specifically on the information behaviour of the professoriate as a unique group scarcely covered in literature. It uniquely examines both active and passive information behaviour of the professoriate in using electronic information resources using two top models in behavioural research. The unique findings show how high self-efficacy and positive attitude influenced the professoriate intention to use electronic information resources.

The study makes significant contribution in the areas of policy, theory, and practice. From the policy perspective, institutional policy which takes into cognisance the observed peculiarities of the respondents, could guide the development of a service framework that uniquely meets information requirements of the professoriate. The study provides indicators that focus on improving information provisions and services specifically for the professoriate. Theoretically the study suggests the improvement of the theoretical models to include the constructs observed in the study. In practice, the study contributes to understanding of factors that influence use of electronic information resources and serves as a framework for the academic library to improve information services to benefit the professoriate.

The study makes the following recommendations based on the findings: university libraries surveyed should acquire current collections to meet the academic and research needs of professoriate; create continuous awareness of library digital resources and develop training programs to enhance the electronic information retrieval skills of the professoriate; create efficient and effective support services infrastructure to attend to the individual and technical challenges faced by the professoriate. Based on the gap identified, the study recommends the need for further studies to: examine the information behaviour of professoriate elsewhere to compare with the findings of this study; investigate in detail other aspects of human information behaviour such as serendipity, information sharing, information access, and information management of the professoriate.

ACKNOWLEDGEMENT

I am so grateful to Jesus who granted me His grace and gave me the strength to persevere all through to the end of this journey. He gave me hope when I had none and showed me the bright light at the end of the tunnel. He walked me through the dark paths until I saw the star shine so bright.

I am so grateful to my supervisor, Professor Stephen Mutula, who believed in my ability to pull through the research process in spite of my numerous challenges. I will forever remain grateful to you for being a mentor and a father to me. I thank you for your guidance, support, and your patience with me throughout the duration of my program.

I would like to extend my sincere gratitude to my mentor, Professor Wole Olatokun, who made it possible for me to come to the University of KwaZulu-Natal for this doctoral program. I really appreciate your mentorship, guidance and the direction you gave me in my academic journey. For this, I remain ever grateful.

I sincerely acknowledge the National Institute of Humanities and Social Science (NIHSS) and African Pathway for providing me with all the funding and support I needed to finish this research.

I also thank all the staff and my former classmates in Africa Regional Centre for Information Science (ARCIS), University of Ibadan, during my master degree program. My sincere gratitude goes to Professor Tiamuyi, Dr. Nwagwu, Dr. Opesade, and Dr. Funmi Ogunsola. It was their support and the tough academic program that brought out the best in me to be where I am today.

My gratitude goes to all the staff of the School of Social Sciences, University of KwaZulu-Natal (Pietermaritzburg Campus). My sincere regards to Dr. Janet Muthuki, Dr. Zawedde Nsibirwa, Nancy Mudau, Siyanda Kheswa, and Dr. Chinedu. Special thanks go to my friends and colleagues in room 351 especially Anthony, Yelusalem, Stella, and Ernest. I had a nice time with you guys. My regards goes to all my brothers and sisters from Nigeria; Teju Ajanaku, Dr. Tunde Omopupa, Mrs Nike Alabi, and Mrs Teju Fadipe Faith, Lekan Agboola, Bunmi, Quadri, Samuel and Muyiwa for your support and encouragement. My special accolade goes to my flatmates Amanda and Andile. Nice girls you are! To those close to my heart, Sli, Lillian, Terry, Smar, Lihle, Ayanda, and Cindy.

DEDICATION

I dedicate this dissertation to myself, for my hard work, my perseverance and tenacity to hold on to the end.

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS AND ABBREVIATIONS

ALA	American Library Association
BI	Behavioural Intention
CD-ROM	Compact Disc Read only Memory
CTAM-TPB	Combination of Technology Acceptance Model and Theory of Planned Behaviour
DOI	Diffusion of Innovation
DVD	Digital Versatile Disk
ER	Electronic Resources
FC	Facilitating conditions
FTP	File Transfer Protocol
HINARI	Health InterNetwork Access to Research Initiative
ICT	Information and Communication Technology
IDT	Innovation Diffusion Theory
IE	Information Encounter
ISP	Information Search Process
IT	Information Technology
KMO	Kaiser-Mayer-Olkin
LIS	Library and Information Science
MM	Motivational Model
MPCU	Model of PC Utilization
OAU	Obafemi Awolowo University
OPAC	Online Public Access Catalog
PC	Personal Computer
PDA	Personal Digital Assistant
PE	Performance Expectancy
PERI	Political Economy Research Institute
PhD	Doctor of Philosophy
PU	Perceived Usefulness
PUBMED	National Library of Medicine's Collection Database
SCT	Social Cognitive Theory
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Model

TEI	Technological Educational Institute
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TV	Television
U.I	University of Ibadan
UB	User Behaviour
UK	United Kingdom
UKZN	University of KwaZulu-Natal
UNILAG	University of Lagos
USA	United States of America
UTAUT	Unified Theory of Acceptance and Use of Technology

TABLE OF CONTENTS

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter presents the background to the study, the statement of the problem, objectives of the study, significance of the study, principal theories and models guiding the study, preliminary literature review, and summary of literature. Furthermore, it presents the research methodology, research design, population of the study, sample size, sampling techniques, data collection procedure, validity, and reliability of the study, and data analysis. The chapter concludes by providing the structure of the entire dissertation.

1.2 Background to the Study

Information behaviour is defined by Wilson (2000:1) as 'the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking and information use". Active information seeking refers to the purpose for which information is sought by individuals because of a need to satisfy goals (Kakai et al., 2004; Wilson, 2008). It is a broad term encompassing the ways individuals articulate their information needs, seek, evaluate, select, and use the needed information (Majid, Anwar & Eisenschitz, 2000). Purposeful information seeking begins by users selecting information sources and applying different criteria such as authoritativeness, trustworthiness, currency, and readability (Bronstein, 2010; Morahan, 2004) to value and prioritise such sources. On the other hand, passive information refers to opportunistic discovery of information (Erdelez, 1997; Toms & McCay-Peet, 2009).

Information plays a significant role in the professional lives of the professoriate in university environments with regard to task completion and everyday decision making (Bruce, 2005). The professoriate is a group of academics distinguished through long term intellectual contribution to teaching, research and community engagements (Carrell & West, 2010), and also means the rank or position of a university professor (Theall & Franklin, 2001). Studies (Ezeh, 2013; Ofori-Dwumfuo & Addo, 2012; Salau & Saingbe, 2008; Ugah, 2008) have shown that faculty need information mostly for teaching and research. Laila & Mumtz (2010) reports that, faculty members especially at the professoriate level heavily depend on books, journals, conferences, subject experts, and colleagues to meet their information needs. However, the World Wide Web, search engines, and electronic resources such as online databases, e-journals, e-books, e-mails, online catalogs, and web portals among others have

become important sources of information for the professoriate. With increased access to technology, factors such as self-efficacy, beliefs, attitudes toward the educational value of technology, computer anxiety, and comfort with technology have been shown to influence the ways in which the professoriate use technology (Bordbar, 2010; Chen, 2008; Ottenbreit-Leftwich, Glazewski, Newby, & Ertmer, 2010).

The professoriate in the context of Nigeria and for this study comprises the Readers (Assistant Professors), Associate Professors and Professors of a University. The professoriate, in different academic fields exhibit different information behaviours, since they have different information horizons. According to Savolainen and Kari (2004) a person's information horizons varies across contexts, situations, and social networks. For example, the professoriate in Law are likely to have different perceptions in using digital resources for research and teaching purposes, and might probably prefer textbooks and case files from the Law library to online databases (Thanuskodi, 2009). In contrast, the professoriate in science may be apt in using electronic databases, since they depend largely on current information in their field (Engel, Robbins & Kulp, 2011; Hemminger, Lu, Vaughan & Adams, 2007).

This study therefore focuses on the information behaviour of the professoriate with regard to how they seek, access, and use electronic resources in the social sciences and humanities at the University of Ibadan, University of Lagos, and Obafemi Awolowo University in Nigeria. The focus on the social sciences and humanities is because they offer interdisciplinary, cross disciplinary and transdisciplinary fields of study. Focusing on the social sciences and the humanities in this study is therefore expected to provide an in-depth understanding of information behaviour of professoriate from several fields of study (Meho & Haas, 2001; Meho & Tibbo, 2003; Al-Suqri, 2011). The social sciences and humanities has a broad range of disciplines such as geography, economics, anthropology, sociology, political science, law, history, policy studies, business administration, education, library and information studies, philosophy and linguistics. The three Nigerian universities chosen for this study are the oldest in south west Nigeria and are the three top ranked universities by the Nigeria University Commission (NUC, 2015).

While a number of studies (Thanuskodi, 2009; Majid & Anwar, 2000; Bhatti, 2010; Aforo & Lamptey, 2012; De Groote, Shultz & Blecic, 2014) have been carried out on the information behaviour of faculty in general, specific attention has not been given to the professoriate that might perhaps have different information needs and behave differently in the use of

electronic information resources. Xuemei (2010) notes that, studies on information behaviour of the professoriate remain scarce in empirical literature. Therefore, studying the information behaviour of the professoriate in the social sciences and humanities with emphasis on how they seek, access, and use electronic information resources is essential in the planning and provision of effective information services (Devadason & Lingam, 1997) to support teaching and research in the universities.

1.3 Statement of the Problem

Information behaviour remains an important research area most especially with the advent of internet and web 2.0 technologies that are consistently reshaping information seeking patterns of academic faculty. Professoriates in the academia are specific information users whose information needs are vital to effective content delivery and require current and timely information for teaching, research and scholarly engagements (Xumei, 2010; Folorunso, 2014). In spite of these observations, studies (Thanuskodi, 2009; Majid & Anwar, 2000; Bhatti, 2010; Aforo & Lamptey, 2012; De Groote, Shultz & Blecic, 2014) have focused more on the information behaviour of faculty in general with little attention given to the professoriate as a unique group. Few studies on the information behaviour of professoriates revealed the influence of demographic, environmental, and contextual factors on the use of print and electronic information resources.

Most of the studies that have professoriate in their demography focused mainly on information seeking behaviour (active information behaviour) from Western and Middle Eastern countries perspective. Adequate attention has not been given to equally important aspect of information behaviour such as information encountering and passive attention (passive information behaviour). There is dearth of empirical studies that holistically examined the active and passive information behaviour of the professoriate as a unique group. Therefore, the originality of this study spurs from looking at information behaviour from a bi-focal standpoint and from a sub-Saharan developing country context. The study would bring in a new perspective to understanding information behaviour in the contemporary digital space. The outcome of this empirical investigation would fill the knowledge gap in Library and Information Science literature. Understanding the information behaviour of the professoriate will assist the academic library to design information services to suit their information needs and re-orient their attitude in a dynamic information environment where electronic information resources are becoming more prevalent**.**

1.4 Research Questions

The study addresses the major research question**:** "What is the information behaviour of professoriates at the universities of Ibadan, Lagos, and Obafemi Awolowo in Nigeria?" The following specific research questions are addressed:

1. What are the information needs of professoriate at the University of Ibadan, University of Lagos, and Obafemi Awolowo University in Nigeria?
2. How do professoriate actively and passively seek, access, and share information electronically?
3. What are the preferred information sources by the professoriate?
4. What are the factors that influence the professoriate's use of electronic information resources?
5. What is the attitude of the professoriate towards electronic information resources?

1.5 Significance and Justification of the Study

Information behaviour has become an increasingly important research area of focus in library and information sciences since the work of Wilson in 1981. Wilson (1981) theorised that people needed and discovered information during the course of ordinary everyday activities. Increasingly, most of the world's information is digitalised and stored in databases for ease of retrieval, accessibility, convenience, and multiple and concurrent views. In addition, the development of web 2.0 associated technologies such as blogs, wikis, podcast, feeds, search engines and social media has increased the way information is searched, accessed and disseminated, thus placing a demand on information seekers to continually learn how to use these technologies to maximise benefits (Xuemei, 2010).

Folorunso (2014) observed that professors in Nigeria are vital to effective content delivery at the universities, and successful integration of technology in education is influenced by their perceptions. In addition, information-seeking patterns of professors are dynamic, and technological advancements are constantly altering the ways information is identified, acquired, and utitilized by the academic community. The importance of understanding the information behaviour of professoriate remains crucial to the academic library and information science literature. This study would explore to understand the holistic patterns of information behaviour of the professoriate with particular reference to their information

seeking and encountering experiences, as well as how they access and share information in recent times.

The outcome of the study is expected to have a significant impact on theory, practice and methods. With respect to theory, understanding the information behaviour of the professoriate would put a test on the validity of the western originated theories and models of information behaviour in the African context, with the aim of improving its validity. As regards to practice, the outcome could provide data vital to the development of institutional polices and strategies to improve library services and systems that could address the specific information needs of the professoriate. In term of methodology, the approaches used in the study would provide a yardstick for researchers to either replicate or use different methodological approaches in different context and situations. Such comparison of data with different methodological strategies would enrich understanding of knowledge of information behaviour from diverse perspectives and would be significant in increasing knowledge in Library and Information Science literature.

Furthermore, this study is significant, as it will guide the academic library in developing better ways to enhance information service delivery and the development of better information systems tailored to suit specific information requirements of the professoriate. Finally, the outcome of this study will help in the development of institutional policies, and strategies to promote access to electronic information resources by the professoriate.

1.6 Principal Theories and Models

There are various models for studying information behaviour. This study is underpinned by Wilson's (1996) model of information behaviour and the unified theory of acceptance and utilisation of technology (UTAUT) by Venkatesh et al. (2003). The reason for choosing these models is because they are the most robust models of information behaviour and user acceptance of technology respectively. Other related models also discussed include Ellis's (1989 and 1993) behavioural model of information seeking, Erdelez (2004) information encountering model, Sonnenwald's (1999, 2005) theoretical framework of information horizons.

Ellis's (1989 and 1993) models describe eight features of information seeking activities: *starting*- comprises those activities characteristic of the initial search for information such as identifying references that could serve as starting points of the research cycle. ***Chaining***-

following chains of citations or other forms of referential connection between materials or sources identified during 'starting' activities. *Browsing*- casually looking for information in areas of potential interest such as scanning of published journals and tables of content. *Differentiating*- using known differences between sources as a way of filtering the amount of information obtained. *Monitoring*- keeping abreast of development in an area by regularly following particular sources. *Extracting*- activities associated with going through a particular source or sources and selectively identifying relevant material from those sources. *Verifying* and *ending*- marks the end of the search process. According to Ellis, the interrelationship of these features depends on the circumstances of each of the information seeking activities. The strength of Ellis's model is that it is based on empirical research and has been tested in a variety of studies (Ellis & Haugan, 1997). Ellis's (1993) model describes processes in active information seeking and represents the "active" stage in Wilson's (1996) information behaviour model. Ellis's model however, does not consider passive information behaviour and other associated factors.

Erdelez's (2004) Information Encountering (IE) model assumes that information users switch from the foreground task of finding specific information to the background interest or problem-related task during the information encountering process. The IE model proposes several steps that occur during IE: noticing, stopping, examining, capturing, and returning. Each step involves a combination of cognitive, affective, and behavioural processes that may be applied to the user, who (1) sees information relevant to the background problem (noticing); (2) Interrupts (stopping) the original search process to examine the encountered information (examining); (3) saves the information that is deemed to be worth saving (capturing); and (4) returns to the initial information search for the foreground problem (returning) (Erdelez 2004). IE model can be best described as a model for examining passive information behaviour, and represents the 'passive' stage in Wilson's (1996) model.

Sonnenwald (1999, 2005) proposed the theoretical framework of information horizons to describe an individuals' information behaviour. The author contends that information behaviour may be viewed as 'collaboration among an individual and information resources' (Sonnenwald, 1999), and the information horizon map graphically represents information sources and individuals' source preferences (Sonnenwald et al.. 2001). One's information horizons vary across contexts, situations, and social networks. Savolainen and Kari (2004) further described horizon as an imaginary field and claimed that everyone has their own imaginary field upon which they position various information sources according to personal

preferences. They concluded that this mental map is the information source horizon, and that perceived accessibility and quality are two main factors that influence people's information horizons.

Venkatesh et al's. (2003) unified theory of acceptance and utilisation of technology (UTAUT) is a synthesis of eight models of user acceptance and use of technology. These are: Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behaviour (TPB), Model Combining the Technology Acceptance Model and Theory of Planned Behaviour (C-TAM-TPB), Model of PC Utilisation (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT). Venkatesh et al. (2003) synthesised the eight original models and theories of individual acceptance into a concise model with seven constructs: performance expectancy, effort expectancy, attitude toward using technology, social influence, facilitating conditions, self-efficacy, and anxiety, which are hypothesised to be fundamental determinants of the user behavioural intention of information technology. The strength of Venkatesh et al. (2003) model lies in its synthesis of the useful measures of user acceptance derived from other user acceptance and behaviour models. Gender, Age, Experience, and Voluntariness of Use are the moderating variables proffered by the author.

Wilson's 1996 model is a major revision of the Wilson (1981) model. The model draws upon research from a variety of fields other than information science, including decision making, psychology, innovation, health communication and consumer research. Wilson's 1996 model also incorporates three relevant theoretical ideas: stress/coping theory (Folkman, 1984), which offers possibilities for explaining why some needs do not invoke information-seeking behaviour; risk/reward theory (Murray, 1991), which may help to explain which sources of information may be used more than others by a given individual; and social learning theory, which embodies the concept of 'self-efficacy' (Bandura 1977). Therefore, Wilson's (1996) model is a rich model that takes cognisance of several dimensions of information behaviour.

For this study, Wilson (1996) and Venkatesh et al. (2003) will be used to investigate the information behaviour of professoriate in seeking and using electronic information resources. The reason for choosing these two models is that Wilson's (1996) is a rich model of information that considers other theories of human behaviour. Venkatesh et al. (2003) on the other hand is an integral of eight models of user acceptance and use of technology which makes it very suitable for examining the factors that influence the use of electronic

information resources by professors. Shifique and Mahmood, (2013) used Wilson's (1996) model to study the information needs and seeking behaviour of educational administrators in Pakistan. Kumar, Salmani, and Baweja (2014) used Wilson's model to study the information seeking behaviour of life science research scholars and faculty members in Kurukshetra University in India. The findings of the studies are consistent with Wilson's description of human information behaviour. Oye, Lahad and Rabin (2011) used UTAUT model to examine acceptance and use of ICT by faculty in University of Jos in Nigeria, and found that performance expectancy is the most influential factor for the acceptance and use of ICT. Table 1.1 below is a mapping of research questions to theoretical models.

Table 1.1: Mapping research questions to theoretical models

No	Research questions	Theoretical model	Variables addressed
1.	What are the information needs of professoriate for teaching and research?	Wilson's 1996 model	Information needs
2.	How do professoriate actively and passively seek, access, and share information electronically?	Wilson's 1996 model	Active/passive information seeking, access, sharing
3.	What are the preferred information sources by the professoriate?	Wilson's 1996 model	Information sources preferences
4.	What are the factors that influence the professoriate's use of electronic information resources?	Venkatesh et al. (2003) UTAUT model	Information use
5.	What is the attitude of the professoriate towards electronic information resources?	Wilson's 1996 model and Venkatesh et al. (2003) UTAUT model	Attitudes, intentions, perceptions

1.7 Preliminary Literature Review

The literature discussed in this section were identified following a search on scholarly databases and search engines such as Library and Information Science Abstract (LISA), EBSCO host, Google Scholar, Emerald Insight, Wiley Online Library, Science Direct, and google. Scholarly databases were used as they contain peer reviewed and current researches on the subject of information behaviour, while search engines such as google was used to capture literature that are peer reviewed but published on open source journals. In searching these databases combinations of keywords that describe the main subjects of the study were used, such as 'information behaviour + professors + digital age', 'information behaviour + faculty + ICT', 'information behaviour + professor + electronic information resources, 'information source preferences, 'information need' and 'information encountering'. Since the focus of this study is to examine the information behaviour of the professoriate with respect to how they access, seek, and use electronic information resources, attention was given to studies that have professoriate in their demography.

Xumei (2010) used a qualitative approach to investigate the information behaviour of eight professors, five associate professors, eight assistant professors, and nine doctoral students in social science and humanities in the US. The result revealed that while social scientists tend to rely heavily on periodicals, humanities researchers rely more on books and primary sources. Overall, the researchers used electronic resources to satisfy 58% of their research needs and print sources to satisfy 42% of their research needs. In spite of the general preference for electronic information resources, individual differences exist amongst the professorial ranks and discipline. A professor in the Teaching and Learning department accustomed to using print resources for most of his academic career was unfamiliar with new technologies and found electronic information resources difficult to understand and manage. A full professor in history department was concerned about the availability of older materials in the discipline, justifying the relevance of print sources to his discipline. A professor in Africa Studies department was not familiar with the library's electronic information resources and found it hard to evaluate electronic resources on the web, since the nature of his research relied more heavily upon field studies and preferred the print data to the digitised. The study also shows usage of electronic resources in accordance to academic rankings. Assistant professors were more enthusiastic users of electronic resources, relying on electronic resources more heavily for their research than associate and full professors. This shows that

age influences information seeking behaviour, with younger professoriate having more inclination to electronic information resources than older professoriate. A similar study by Marouf and Anwar (2010) investigated the information seeking behaviour of ten professors, twenty five associate professors, and nineteen assistant professors in Kuwait using a quantitative approach. The results show that majority of the professoriate were heavily depended on books and journals for teaching and research purposes. Since the language of teaching in Kuwait is Arabic, the professoriates in the university were constrained to using print sources written in Arabic due to scarcity of online databases that offer scholarly information in Arabic.

Hemminger, Lu, Vaughan and Adams (2007) investigated quantitatively the information behaviour of scientist that comprises ninety seven professors, sixty four associate professors, eighty six assistant professors, and ninety nine doctoral students in University of North Carolina in USA. The result reveals that majority of the researchers had easy access to internet in their offices leading to increased usage of electronic resources, and their preferred information sources are online journals, web pages, databases, and personal communication. Their preference for electronic information sources could be hinged on the fact that professoriate in the sciences require current information and are more comfortable with technology for their research. In a similar study of engineering professoriates, Engel, Robbins and Kulp (2011) found that engineering professoriates relied heavily on online scholarly journals and internet resources. Their reliance on electronic information sources is largely because engineering professoriate, similar to their counterparts in the sciences require up-to-date information and innovations in their field. The author did not show analysis of data based on professorial rank, to see if older professoriates in engineering differ from other groups in their information seeking behaviour.

Thanuskodi (2009) used a quantitative approach to study the information behaviour of Law faculty at Central Law faculty in Salem India. Amongst the 56 respondents were five professors. The result showed that professoriate relied more on text books and law reports for information seeking, while the use of online databases was significantly low, indicating that professoriate in Law relied more on print resources than electronic sources.

Folorunso's (2014) study on information-seeking behaviour of social sciences scholars in a research institute in Nigeria demonstrates diverse usage patterns for electronic information resources among users of different academic ranks. Junior research fellows, research fellows,

senior research fellows, and associate professors are more enthusiastic users of electronic information resources, relying on electronic resources more heavily than print resources. In particular, junior research fellows use electronic resources about twice (70%) as much as research professors (36%) to satisfy their research needs. Presumably, these junior researchers are younger and more comfortable with emerging technologies. The result revealed that scholars not more than 50 years approached electronic information resources much more than their older counterparts.

1.8 Summary

Studies on information behaviour with regards to the professoriate's use of electronic resources are found to differ along discipline, age, geographical boundaries, context (teaching/research), access to information and communication technology (ICT) and individual orientation and disposition towards print and electronic information resources. The preliminary review of literature shows that more studies (Akinola, 2009; Al-Suqri, 2011; Bhatti, 2010; Hannah, 2005; Hemminger et al., 2007; Khan & Shafiq, 2011; Kadli & Kumbar, 2011; Lumande & Mutshewa, 1999; Meho & Haas, 2001; Meho & Tibbo, 2003; Nnadozie & Nnadozie, 2008; Shahzad, 2013; Wang, 2006) have focused on the general information behaviour of university faculty with little (Folorunso, 2014; Marouf & Anwar, 2010; Xuemei, 2010) focusing on the information behaviour of professoriate as a unique group with particular emphasis on their use of electronic information resources. In addition, researches relating to active and passive information behaviour with regard to the professoriate are a few. Moreover, studies on the factors that influence the use of electronic resources by the professoriate are difficult to come by. Finally, there is paucity of studies that have used pragmatist approach (mixed method) to study information behaviour of the professoriate in the Nigerian environment.

1.9 Research Methodology

This study applied a pragmatist paradigm. Tashakkori and Teddlie (2003) identify pragmatism as one of the paradigms that provides an underlying philosophical framework for mixed methods research. The ontology of pragmatism proffers that all individuals have their own unique interpretations of the world (Tashakkori & Teddlie, 2003). In terms of methodology, pragmatists emphasise on the importance of using mixed methods and avoid being constrained by a single, monolithic method (Maxcy, 2003). Qualitative and quantitative

methods are compatible with the pragmatic paradigm. Rupp-Serrano and Robbins (2013) used a pragmatist paradigm to study the information seeking behaviour of education faculty professoriate in US; and Engel, Robbins and Kulp (2011) used it to study the information behaviour of professoriates in engineering faculty in the US.

1.9.1 Research design

A pragmatic parallel mixed methods design was used in this study to investigate the information behaviour of professoriate. This method involves the parallel collection of quantitative and qualitative data to provide answers to the research questions. The quantitative data was collected from the professoriate, while semi-structured interview was used to collect qualitative data from the subject librarians. Bhatti (2010) used a mixed method approach to study information needs and information-seeking behaviour of forty lecturers and sixty professoriates in humanities at the Islamia University of Bahawalpur, Pakistan. Findings reveal that professoriates in that university rely heavily on print sources for teaching and research.

1.9.2 Population

The population of the study comprised the professoriates and the subject librarians in the faculties of social sciences and humanities in the three universities. The population of professoriates and subject librarians in the three universities is 246 and 28 respectively. The distribution of the population in the three universities is shown in the table 1.2 below.

Table 1.2: Population of Professors in University of Lagos, Ibadan and OAU (Sources: Planning department (university of Ibadan); www.unilag.edu.ng;www.oauife.edu.ng)

Faculty	Population of Professors in University of Lagos, University of Ibadan and Obafemi Awolowo University			Population of Subject Librarians in the three universities	Total No. of Professors and Librarians in the three universities
	Male	Female	Total no of professoriates	Subject Librarians	Total
Social Science and Humanities (Unilagos)	64	22	86	12	98
Social Science and Humanities (Unibadan)	78	13	91	10	101
Social Science and Humanities (OAU)	58	11	69	6	75
TOTAL	**200**	**46**	**246**	**28**	**274**

Population includes full professors, associate professors, and assistant professors.

1.9.3   Sample Size

The study sampled all the professoriates and subject librarians of social science and humanities in the faculties of social science and humanities in the three universities. The sample size of professoriates for university of Lagos is 86, university of Ibadan 91, and Obafemi Awolowo University 69; while the sample size for the subject librarians in social science and humanities in university of Lagos is 12, university of Ibadan 10, and Obafemi Awolowo University 6, making a total sample size of 28. See table 1.2.

1.9.4   Sampling Techniques

The study aimed at sampling all the professoriates in the faculties of social science and humanities and their subject librarians at the three universities. A census survey technique which ensures the complete enumeration of the study participants was used to collect the required quantitative data from the 246 professors, and qualitative data from the 28 subject librarians in social science and humanities in the three universities. A census survey was used because the number of professors in faculty of social sciences and humanities in each of the universities of study is not statistically large. Another reason is that professors are usually not apt in responding to questionnaire due to their busy schedules. Therefore, sampling all the professors will improve the response rate to a statistical significance. The opinion of subject librarians is vital since they are the custodians of information needed by the professoriates for teaching and research.

1.9.5   Data Collection

A questionnaire containing both open and close ended questions was used to collect the quantitative data from the professoriate in social science and humanities in the three universities. Some of the items in the questionnaire were self-structured while others were adapted from previous empirical studies. Items on information seeking, access, sharing and use of electronic information sources (research questions 2 & 3) was adapted from Xuemei (2010); Items on information source preferences (research question 3) was adapted from Singh and Satija (2007); Items on passive information behaviour (research question 2) was taken from Palsdottir (2010); Items on attitude (research question 5) were from Larbi-Apau and Moseley (2012). Items on information needs (research question 1) was taken from Ezinwanyi and Opeke (2013). Adapting questions from previous empirical studies give credence to the external validity (generalizability of the quantitative data to other settings) of

the instrument (Shadish et al., 2002). The questionnaire was structured such that each segment captures the items that address the research questions.

To collect the quantitative data, 86 questionnaires were given to the university professors in social science and humanities in University of Lagos; 91 questionnaires were given to those in University of Ibadan, while 69 were given to those in Obafemi Awolowo University. Semi-structured interviews were used to collect qualitative data from 28 subject librarians in social science and humanities in the three universities.

The questionnaire had six segments, with each segment containing questions related to each research question. Mapping questionnaire items to research questions is depicted in Table 1.3 below.

Table 1.3: Mapping questionnaire items and interview questions to research questions

Section	Research Questions	**Questionnaire Items**
A	Demographic characteristics of the professoriates	Appendix I: Item Nos. 1-8
B	Research Question 1: What are the information needs of professoriate at the University of Ibadan, University of Lagos, and Obafemi Awolowo University in Nigeria?	Appendix I: Item Nos. 9-27
C	Research Question 2: How do professoriate actively and passively seek, access and share information electronically?	Appendix I: Item Nos. 28-109
D	Research Question 3: What are the preferred information sources by the professoriate?	Appendix I: Item Nos. 110-140
E	Research Question 4: What are the factors that influence the professoriate use of electronic information resources?	Appendix I: Item Nos. 141-176
F	Research Question 5: What is the attitude of the professoriate towards electronic information resources?	Appendix I: Item Nos. 177-187

1.9.6 Validity

Validity for quantitative data is the ability of an instrument to represent the constructs they were designed to capture (Lincoln & Guba, 1985: p.296). The instrument was also subjected to construct, content, and face validity. This was done through a careful assessment, correction and verification of the questionnaire items by the researcher to ensure the instrument measures what it is intended to measure (Teddlie & Tashakkori, 2009).

1.9.7 Reliability

Reliability is the ability of an instrument to measure the constructs under examination consistently and accurately (Teddlie & Tashakkori, 2009). To establish the reliability of the instrument, a pre-test was done on 30 professors in social science and humanities in University of Benin. University of Benin was chosen for the pilot study because it has similar characteristics with the University of Lagos, Ibadan and O.A.U. Reliability of the pre-test quantitative instrument was measured using the Cronbach's coefficient alpha. Cronbach's coefficient ranges from 0 to 1, items with high Cronbach value (0.7 and above) were retained and items with low Cronbach coefficient were reformulated and retested.

1.9.8 Data Analysis

A parallel mixed design data analysis was used. This approach involves the analysis of the quantitative data using descriptive/inferential statistics for the appropriate variables. The quantitative data was encoded and analysed using statistical package for social sciences (SPSS) version 18. SPSS is commonly used for descriptive and inferential analysis of data. The qualitative data was analysed using thematic content analysis. Thematic content analysis involves identifying and describing both implicit and explicit ideas within the data, that is, themes (Bernard, 2010). These approaches have been used in similar studies (Khan & Shafique, 2011; Bhatti, 2010).

1.10   Structure of Dissertation

This dissertation is divided into seven chapters as illustrated below:

Chapter One: Introduction

Chapter one presents the introduction to the study. It provides a background on information behaviour and the underlying concepts embedded in it namely, active and passive information behaviour, information sources and preferences, media preferences, and use of electronic information resources by university professoriates. The chapter also highlights the statement of the problem and the research questions, as well as the justification to the study.

Chapter Two: Theoretical framework

This chapter focuses on the theoretical framework for the study. It reviews the several models of information behaviour and presents the major models that underpin the study, namely: Wilson's (1996) information behaviour model and Venkatesh et al. (2003) UTAUT model.

Chapter Three: Literature review

This chapter reviews the empirical and theoretical literature on information behaviour of the professoriate with particular attention to their active and passive information seeking, their information source preferences, criteria for source selection, and use of electronic information sources. Gaps in literature are identified and how they are addressed by this study outlined.

Chapter Four: Research methodology

Chapter four presents research methodology. It covers the research paradigm, research approach, the research design, the population of study, sampling procedure data collection procedure, data analysis, validity, and reliability of research instruments and ethical considerations.

Chapter Five: Data presentation and analysis

This chapter's focus is on data analysis and presentation of findings. It presents the findings on the research questions under the following segments: information needs of professoriate, professoriate active and passive seeking, accessing and sharing information, preferred information sources by the professoriate, factors that influence the professoriate's use of electronic information resources, and the attitude of the professoriate towards electronic information resources.

Chapter Six: Discussion of findings

Chapter six discusses the findings of the study. It relates the findings to other related empirical findings in existing literature. The discussion of the findings is guided by the research questions and theoretical framework. The originality of the study is also provided.

Chapter Seven: Summary, conclusion and recommendations

This chapter presents the summary, conclusions and recommendations, contribution of the study to theory, policy, and practice. Finally, the chapter provides suggestions for further research.

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1 Introduction

This chapter presents the theoretical framework and models for the study. It began with an introduction which encompasses the rational and definitions of theoretical framework and models from the perspective of different authors. The chapter is divided into two major segments. The first segment covers theories and models of information behaviour, while the second segment covers theories and models of user's acceptance of technology.

A theoretical framework provides a well-supported rationale for the study and helps the reader understand the researcher's perspective. A good theoretical framework assures that the type of investigation proposed is not based on personal instincts or guesses, but rather informed by established theory and empirical facts obtained from credible studies (Simon, 2011). Broadly speaking, a theoretical framework refers to that part of a research proposal or study that sets out to describe the research questions and the line of inquiry and methodology used to answer it. A theoretical framework thus refers to the agenda, outline, and theoretical construct of a research approach and normally precedes the literature review (Ocholla & Le Roux, 2011).

Trochim (2006) argues that there are two domains in research, which are theory and observation. Trochim refers to theory as what is going on inside the head of the researcher, while observation is what goes on in the real world where data are collected. A good theory or set of theories can guide every aspect of study from formulation of the research questions and problem statement, through discussing the findings of your data analyses and writing the conclusions.

Coreil, (2008) defined theory as a set of interrelated concepts and propositions that explains events by specifying relations among variables, while (Welman, et. al., 2005:21) views theory as a set of interrelated constructs, statements, definitions and propositions that present a systematic view of a phenomenon by specifying relations among variables, with the purpose of explaining natural phenomenon. A theory may be viewed as a system which orders concepts in a way that produces understanding or insights. A theory includes more than one concept and links the concepts together (Welman, et. al., 2005:21). Bell (I999) states that a theory is acceptable if it accurately depicts observations, is not ambiguous, can be used

for predicting, as well as explaining, lends itself to practical applications, is consistent rather than self-contradictory, is not based on numerous assumptions, and is thought provoking and provides good explanations.

A model, on the other hand, is a heuristic framework for organising components of a domain of phenomena to show relationships between the parts and the outcome of interest (Coreil, 2008). A model is frequently described as a symbolic representation of reality. It provides a schematic representation of certain relationships among phenomena, and it uses symbols or diagrams to represent an idea. A model helps us to structure the way we can view a situation, event, or group of people (Brink, van der Walt, & Van Rensburg, 2012:26). A model can be simple, and sometimes a simplistic representation to help grasp the more difficult properties of a real life situation, or to explain or interpret a phenomenon (Shava, 2008). A good model enables us to view a phenomenon which we do not understand, because in the model it can be seen from different viewpoints not depicted in reality; it is this multidimensional replica of reality that can trigger insights which we might not otherwise develop (Barnes & Mercer 2004:3).

Scholars from different disciplines distinguish between theories and conceptual models in contrasting ways; however, common distinctions emphasise the degree of generality formalisation, coherence, and causality involved. Theories tend to encompass broad classes of phenomena, while models are applied to more narrowly defined domains, have less formalisation, and make more tentative claims about causality (Coreil, 2008). Theories possess five different characteristics, namely: levels of analysis, boundaries, specificity, a construct relationship statement and assumptions. Krishnaswami and Ranganatham (2010:16) describe a conceptual or theoretical model as a simplified systematic conceptual structure of the interrelated elements of a body of knowledge in some schematic form such as a narrative statement or mathematical equation. It describes relationships between and among concepts and variables.

In Wilson's (1999) perspective, a model is a conceptual diagram used for understanding a problem and could be represented using a statement that depicts relationships amongst theoretical propositions. The majority of models of information behaviour are statements in the form of graphic representation which describe an information seeking task, the reason and result of such task, and can include the relationships between stages in the event of information seeking (Wilson, 1999). However, Wilson observed that information seeking

models are more than information behaviour models (Wilson, 1981). Creswell (1994) provides guidelines on how a theoretical framework chapter should be organised. The theoretical framework illustrates the relationships between the variables of the study, issues surrounding the theories, and scholarly literature that used the underlying framework.

This study investigates the information behaviour of the professoriate in the Nigerian academic environment. The theoretical perspectives that guided this study are drawn from information science literature. The major theory that underpinned this study is Wilson's (1996) information behaviour theory. Other models relevant to the study are Ellis's (1989 and 1993) information seeking behaviour, Erdelez (2004) information encountering model, Sonnenwald (2005) theoretical framework of information horizons, and Venkatesh et al. (2003) unified theory of acceptance and use of technology (UTAUT). The details of these models are discussed in this chapter.

Two major sections underlie this chapter. Section 2.1 covers theories and models of information behaviour, while section 2.2 covers theories and models of user's acceptance of technology. The theories and models in the major sections are discussed. Section 2.1.1 discusses Ellis's (1989, 1993) model. Section 2.1.2 discusses on Kahlthau's (1991) model. Section 2.1.3 examines Erdelez's (2004) model, while Section 2.1.4 discusses Leckie's (1996) Model. Section 2.1.5 highlights Sonnenwald's (2005) Theoretical Framework of Information Horizons, and Section 2.1.6 discuses Dervin's (1983) Sense-Making Theory. Section 2.1.7 elaborates on Wilson's 1981 Information Behaviour Model, while Section 2.1.8 discuses Wilson's 1996 information behaviour model, and its justification as the main model to guide the research. In sequel, theories and models of user acceptance of technology are discussed. Section 2.2.1 discusses TAM, followed by Section 2.2.2 which elaborates on the combined TAM and TPB models (CTAM & TPB). Section 2.2.3 discusses the Motivational Model (MM). Section 2.2.4 explains Theory of Planned Behaviour TPB, while section 2.2.5 discusses the Model of PC Utilisation and Section 2.2.6 covers the Innovation Diffusion Theory. The next section, 2.2.7 explains the Social Cognitive Theory. The last section, 2.2.8, focuses on the UTAUT model and justification of its choice as a complimentary model to Wilson's (1996).

2.1.1   Ellis (1989, 1993) General Model of Information Seeking Behaviours

Ellis (1989), Ellis, Cox and Hall (1993) and Ellis and Haughan (1997) proposed and elaborated a general model of information seeking behaviours (Fig. 2.1) based on empirical research on the information seeking patterns of social scientists. The model was subsequently tested on other groups, including academic researchers (Ellis, 1993), physicists and chemists (Ellis et al., 1993), and engineers and scientists in an oil company (Ellis & Haugan, 1997). It has also been tested by other researchers studying social scientists (Meho & Tibbo, 2003), web users in industry (Choo et al., 2000) and lawyers (Makri, 2008).

Ellis used Glaser and Strauss's grounded theory approach to derive six generic features of the information seeking patterns of social scientists. Ellis's analysis of the different behaviours involved in information seeking was not depicted as a diagrammatic model. The model uses features rather than stages to represent the different behaviour in information seeking process and emphasised that these features do not represent sequential stages in an information seeking process. These features are named and defined below:

Starting – connotes the beginning of information seeking, for instance, asking someone you think knows about the information you are looking for. It entails the preliminary tasks that begin the search for information, which may entail identifying sources that could serve as a starting point for the search. Identified sources are usually familiar to the information seeker. A source is often selected based on the perceived accessibility, relevance, and quality, of the information from that source. Perceived accessibility, which connotes the amount of effort and time needed to make contact with and use a source, is a strong predictor of use for many groups of information seekers like the professoriate. Accessibility to information by the professoriate is propounded in this study as a factor that could influence their information behaviour and ultimately in their use of electronic information resources. This hypothetical assumption is captured in research question two of this study: *"how does the professoriate access information electronically?"*

Chaining - refers to following up on fresh leads from an initial source which can be backward or forward. Backward chaining takes place when pointers or references from an initial source are followed and is a well-known routine. On the other hand, forward chaining identifies and follows up on other sources such as footnotes and citations of the initial source or document. It is less commonly used because people are unaware of it or the required bibliographical tools are unavailable.

Browsing - is the activity of 'semi-directed or semi-structured searching' in the areas of potential search (Ellis, 1989:187). Chang and Rice (1993) define browsing as "the process of exposing oneself to a resource space by scanning its content (objects or representations) and/or structure, possibly resulting in awareness of unexpected or new content or paths in that resource space. Browsing takes place in many situations in which related information has been grouped together according to subject similarity.

Differentiating - implies using known criteria to filter the quantity of information obtained. In this process, the individual filters and selects from among the sources scanned by noticing differences between the nature and quality of the information offered. The differentiation process is likely to depend on the individual's prior or initial experiences with the sources, word-of-mouth recommendations from personal contacts, or reviews in published sources.

Monitoring - is the activity of keeping abreast of developments in a subject area by regularly following particular sources. The individual monitors by concentrating on a small number of core sources which vary between professional groups, but usually include key personal contacts and publications. For example, professoriate in social science and humanities track development in their field through journal, textbooks, conferences, and online search.

Extracting - is the activity of systematically working through a particular source or sources in order to identify material of interest. It selectively identifies the relevant material in an information source. As a form of retrospective searching, extracting may be achieved by directly consulting the source, or by indirectly looking through bibliographies, indexes, or online databases. Retrospective searching tends to be labour intensive, and is more likely when there is a need for comprehensive or historical information on a topic.

Verifying - involves checking the accuracy of information that is obtained by the user from the various sources.

Ending - can be defined as 'tying up loose ends' through a final search. Here the task of information seeking is complete and the user has obtained all the required information, thus satisfying his information need.

Concerning the features, Ellis pointed out that the detailed interrelation of the features in any instance of an individual information seeking pattern will depend on the unique circumstances of the information seeking process of that individual at that point in time (Ellis, 1989, p.178). However, Ellis noted that 'starting' must mark the beginning of the

process of information seeking and that 'ending' signals the termination of that process. "Verifying" according to him is the penultimate stage in the process and 'extracting' sequels 'browsing' in the search process. Making inference to this fact leads to the conclusion that 'extracting' is not the same as 'browsing', or 'chaining' or 'monitoring', and further posits that 'differentiating' is a different type of information behaviour. Ellis emphasised that browsing, chaining and monitoring are search procedures, while differentiating is a filtering process and extracting could be regarded as an action performed when information has been retrieved.

Ellis noted that the subsequent information behaviours do not necessarily take place in a particular order and may start at different times and in different sequences during a search process. Therefore, in terms of the types of features that encompass Ellis's model, it appears to fit between the micro-analysis of search behaviour (starting, chaining, extracting, verifying, ending) and macro-analysis of information behaviour generally (browsing, monitoring, differentiating). It must be reiterated that Ellis et al. (1989 & 1993) model does not present the features as stages but as elements of behaviour that could happen in different sequences and varies with different individuals, and could occur with the same person at different times. This suggests that these behavioural characteristics as sequences may vary depending on the individual and in a different context. It highlights the fact that these features described in the model could occur at different levels in the entire information seeking process. The strength of Ellis's model is that it is based on empirical studies and has been tested in several studies across different disciplines.
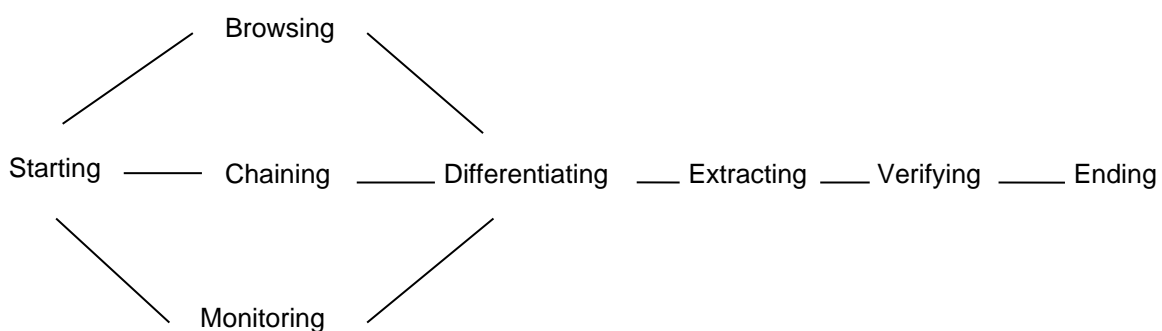
Fig 2.1 : Ellis General Model of Information Seeking Behaviour (Source: Ellis, 1989, 1993)

Many studies have applied Ellis's model to investigate information behaviour mostly amongst users in the academic community. It should be noted that though Ellis's model was carried out on studies of academics and researchers, it can as well be applied to different groups of users.

Xumei (2010) used Ellis's model which includes six characteristics: starting, chaining, browsing, differentiating, monitoring, and extracting, to find out how the model is applicable to the information behaviour of eight professors, five associate professors, eight assistant professors and nine doctoral students in social science and humanities in the US. The study found that the characteristics proposed by Ellis's model continue to play viable roles in research activities. These characteristics take place in both traditional research environments which rely on print and the electronic information environment. As the researchers progress from one activity to another, their use of the characteristics will depend on their individual needs and situations. In addition to the six characteristics described by Ellis, the study suggests two new characteristics, preparation and planning, and information management.

Wang (2006) examined the information seeking characteristics identified by Ellis (1989) and extended by Meho and Tibbo (2003) of academic researchers in computer science, engineering, information science, journalism, and humanities in US and China. The study modified the information seeking activities that emerged from Ellis and Meho and Tibbo studies and submerged the information seeking activities into two broad categories which are general information system (IS) behaviour and task based IS behaviour. The general task behaviour includes monitoring, browsing, and managing, while the task based behaviour are starting, searching, accessing, chaining and ending. The findings of the study show that information seeking behaviour of the researchers is consistent with patterns identified in Ellis and Meho and Tibbo.

Al-Suqri, (2011) used the Ellis model to study the information behaviour of 30 professors and 20 lecturers in social science in US, UK, Germany, Canada, Australia, France, Italy, Netherlands, Switzerland, and Turkey. It was found that the information seeking practices of the scholars could be readily matched to the stages of the model, suggesting that, in general terms, information-seeking behaviour follows universally applicable stages, and that the model can be applied to current day information seeking despite changes in the information environment. The findings also provided support for the inclusion in the model of additional dimensions relating to the format and location of information resources, since these

contextual factors were found to have an important influence on the process of information-seeking among the study participants.

Meho and Tibbo's (2003) study used Ellis's model to exemplify the information seeking behaviours of social scientists. Although the study confirmed Ellis's model, it found that a fuller description of the information-seeking process of social scientists studying stateless nations should include four additional features besides those identified by Ellis. These new features are accessing, networking, verifying, and information managing. In view of that, the study develops a new model, which, unlike Ellis's, groups all the features into four interrelated stages: searching, accessing, processing, and ending.

Meho and Haas (2001) used Ellis's model to study the information seeking behaviour of social science faculty studying stateless nations. Results show that accessing the needed materials is a major information seeking activity that should be added to Ellis' behavioural model, and that faculty examined here employ somewhat a more elaborate "differentiating" information seeking activity than the one described in the model. Results also suggest that the information seeking behaviour of social scientists studying the Kurds is also influenced by factors similar to those influencing other social science faculties.

More recently, studies have applied Ellis's model to understand the information seeking behaviour of scholars and researchers (which includes the professoriate). While applying the information seeking characteristics described by Ellis, some studies (Wang, 2006; Meho & Tibbo, 2003; Al-Suqri, 2011) have also suggested the inclusion of more behavioural features based on their findings, and in other cases these features have been converged to reflect the information behaviour of the study group better.

Ellis's model is widely used since it focuses on active information behaviour; however, in spite of its wide applicability, Ellis' exclusion of the possibility of encountering information (or passive search) during an active search accounts for its major weakness. While the model is intended to describe the information-seeking activities of individuals, it does not consider the individual's information needs or the context, such as work environment, in which those needs arise. Neither did the model put in perspective behavioural dimensions associated with information seeking. The Ellis model only addresses a segment of research question two *"How do professoriate actively seek information?"* and cannot be used to answer the majority of our research questions. This visible shortcoming accounts for its weakness for

studying the totality of human behaviour and explains its inappropriateness and exclusion as the main model for this study.

2.1.2   Kuhlthau (1991, 1993) Information Search Process (ISP)

Kuhlthau's Information Search Process (ISP) was developed on the basis of research in library users, initially school students (Kuhlthau, 1991, 2004). It has since been used in other studies, of students (Hyldegard, 2006, 2009; Kuhlthau et al., 2008), lawyers (Kuhlthau & Tama, 2001) and security analyst (Kuhlthau, 1999). Kuhlthau's ISP model represents information seeking as a process with consecutive stages. Kuhlthau's work (Kuhlthau, 1991 and 1994) complements that of Ellis (1991) by attaching to the stages of the 'information search process' the associated feelings, thoughts and actions, and the appropriate information tasks. This association of feelings, thoughts, and actions clearly identifies Kuhlthau's perspective as phenomenological, rather than cognitive. The stages of Kuhlthau's model are Initiation, Selection, Exploration, Formulation, Collection, and Presentation. As an example, the Initiation phase of the process is said to be characterised by feelings of uncertainty, vague and general thoughts about the problem area, and is associated with seeking background information; the 'appropriate task' at this point is simply to 'recognise' a need for information. The remaining appropriate tasks are: Identify, that is, fix the general topic of the search; Investigate, or search for information on that general topic; Formulate, focus on a more specific area within the topic; Collection, that is, gather relevant information on the focus; and Complete, end the information search.

Kuhlthau acknowledges her debt to Kelly's 'personal construct theory' (Kelly, 1963) which describes the affective experience of individuals involved in the process of constructing meaning from the information they encounter. The fundamental proposition is that the feelings of uncertainty associated with the need to search for information give rise to feelings of doubt, confusion and frustration; and that, as the search process proceeds and is increasingly successful, those feelings change, as relevant material is collected, confidence increases and is associated with feelings of relief, satisfaction and a sense of direction. Kuhlthau posits stages on the basis of her analysis of behaviour.

The difference between Kuhlthau and Ellis is that Kuhlthau's ISP model represents information seeking as a process with consecutive stages, whereas the activities represented in the Ellis model do not have to occur in the order shown. Another important difference

between the two models is that Ellis's focuses on the information seeker's activities, while the ISP model also considers affective and cognitive aspects (feelings and thoughts) at each stage. The weakness of Kuhlthau ISP model, like that of Ellis, is that it does not include the role of information providers, nor does it consider the individual's information needs or the context in which they arise. Though developed in 1991, more current research continues to validate the basic tenets of the model (Kuhlthau et al., 2008). Taylor (2012), in a longitudinal study of undergraduate students who were termed the millennial generation, used Kuhlthau (1991, 1993) ISP to investigate their information search behaviour. Findings suggest that millennial generation web searchers proceed erratically through an information search process and make only a limited attempt to evaluate the quality or validity of information gathered. Kuhlthau (2001) used her ISP model to gain a better understanding of the variety of tasks that involve lawyers as a particular group of information workers; how they use information to accomplish their work; and the role mediators play in their process of information seeking and use. Findings revealed that these lawyers frequently were involved in complex tasks that required a constructive process of interpreting, learning, and creating. To accomplish these complex tasks, they preferred printed texts over computer databases primarily because computer databases required well-specified requests and did not offer an option for examining a wide range of information at one time.

Hyldegard (2008) used Kuhlthau's (1991) ISP model to investigate collaborative information behaviour in a group-based educational setting. It was found that contextual and social factors seem to affect group members' physical activities and their cognitive and emotional experiences during a project assignment with relevance to information behaviour. Though group members to some extent demonstrated similar cognitive experiences as the individual in the ISP model, these experiences did not only result from information seeking activities but also from work task activities and intragroup interactions.

Kuhlthau's (1991, 1993) model addresses only the segment of research question two, "How do professoriate actively seek information electronically? Kuhlthau's model, just as Ellis only addresses active information search behaviour. The model did not delve into passive behaviour of information seekers; neither did it address factors that influence information seeking. These shortcomings make the model not suitable as the predominant model for the study.

2.1.3 Erdelez (2004) Information Encountering (IE) Model

Erdelez (2004) Information Encountering (IE) model assumes that information users switch from the foreground task of finding specific information to the background interest or problem-related task during the information encountering process. The IE model proposes several steps that occur during IE: noticing, stopping, examining, capturing, and returning. Each step involves a combination of cognitive, affective, and behavioural processes that may be applied to the user, who (1) sees information relevant to the background problem, (2) Interrupts the original search process to examine the encountered information, (3) saves the information that is deemed to be worth saving, and (4) returns to the initial information search for the foreground problem (Erdelez, 2005). Erdelez's (2004) IE model can be best described as a model for examining passive information behaviour, and represents the 'passive' stage in Wilson's (1996) model. Erdelez's IE model addresses research question three of this study: How do professoriate passively seek information electronically. Despite the role of accidental information discovery in satisfying information needs of users, the role of information accidentally acquired has been neglected in the study of information-seeking behaviour (Williamson, 1998). This invariably explains the limited number of studies that have used Erdelez (2004) passive information behaviour model.

Williamson's (1998) study on the role of incidental information acquisition in an ecological setting reported the occurrence of incidental information acquisition in mass media. The study further reveals that older people both purposefully seek information for their everyday lives and acquire it incidentally as they monitor their world. The notion of people "being informed" rather than "seeking information" often seems to be appropriate. The model which emerged from the study is an ecological one in that it sets information seeking, acquisition, and use in the context of the variables which may have an influence. This includes personal characteristics, socio-economic circumstances, values, lifestyles, and physical environments. The model shows that, while respondents purposefully sought information in response to perceived needs, they also monitored their world, at least to some extent, and acquired information which they were not always aware that they needed. The majority of respondents indicated a strong desire to "be informed' about a wide range of information topics for everyday life. How they monitored their world and the extent to which they did so was mediated by their social-cultural backgrounds and values, their physical environments, and their personal characteristics (such as their states of health, their socio-economic situations,

and their lifestyles). The model also shows that, with intimate personal networks (family and friends), wider personal networks (clubs, churches, and voluntary organizations), and the mass media (newspapers, television, radio, and magazines), both purposeful information seeking and incidental information acquisition took place. With the exception of magazines which ranked ninth, it was these sources which were most used by respondents. In the case of less accessible institutional sources of information (professionals, government departments, other organisations, Citizens Advice Bureaus, and libraries), mostly, purposeful information seeking occurred. This was sometimes in response to information incidentally acquired from another source. While there were occasional examples of serendipitous findings from institutional sources, mostly they were used by respondents with the intention of finding an answer for a specific need. Although there were some exceptions according to topic, it was these sources which were the lesser used ones.

Haly, Weisnner and Robinson (2009) examined how people interact and engage with conference content with the new information they encounter in conference context. Engagement and intention to act emerged as two categories that represent two major reactions conference participants reported in response to new information. Respondents in the inquiry included conference coordinators, university faculty researchers, doctoral students, and conference attendees. Marshall (2004) investigated how people encounter and save published material in the form of paper and electronic clippings. The study also found that sharing forms a significant use for encountered materials. The model addresses a segment of research question two; How do professoriate passively seek, access and share information electronically? The limitation of Erdelez's model is obvious. It addresses only passive information behaviour, and is not sufficient to answer other research questions of the study.

2.1.4 Leckie et al. (1996) Model of Information Seeking of Professionals

Leckie, Pettigrew and Sylvain's (1996) model of information seeking of professionals is a general model (Fig. 2.2) of how different individuals from different professions search for and use information on their job. The model suggests that only through a thorough understanding of complex work roles and their associated tasks we will be able to understand why, how and when information seeking may occur.

The model assumes that the work prompting the roles and tasks takes place within some context which is specific to a particular work position. The larger context was deliberately

left unidentified, and it was anticipated that contextual factors such as the ideology and power relations of the organisation, which might have an impact upon the work would be sketched in for the particular sites and workplaces being studied. Leckie et al., (1996) argued that the social norm guiding an organisation would most likely have an impact on the roles undertaken by the people working within the organisation, and this in turn could have a bearing on the types of information required and the ways in which such information was sought and used. To keep the model general enough to cover a variety of different professions and different types of work, the components of the model were kept slightly vague.

Leckie et al., (1996) are of the opinion that there are certain factors shaping the individual's information need such as his/her status in the organisation, years of experience, area of specialisation, and that these characteristics act as a filter in the information seeking process. Once the information-seeking process had begun, other factors became important in the eventual success or failure of the seeking event. These include all potential sources of information available; whether the individual had some knowledge of those sources and their likely usefulness. It was intended that these three components should be rather open-ended so that future researchers could fit a variety of factors into them. The end result of the seeking event was some sort of outcome, either moving the work forward, such as in the production of a report or provision of service, or requiring further information seeking for greater clarification via the feedback loop.

Since the model was first published, it has been both praised and criticised, but nonetheless cited quite widely. In particular, two studies that have attempted to test and refine the model are noted here. Kwasitsu (2003) examined the information seeking of design and process engineers engaged in microchip design and manufacturing. The most comprehensive use of the model to date is by Wilkinson (2001) who tested it in her study of the information seeking of lawyers. In that study, Wilkinson proposed an extensive and important enhancement of the model to accommodate the particular ways in which her participants conducted their work. The author's main refinements to the model were to make the organisational context and the demographic characteristics of the user more explicit and more directly linked to awareness of information and selection of sources.

The strength of the model lies in its ability to take into cognisance the context under which information is sort, the work role of the information seeker and the factors that shape their

information need. Its major weakness is its failure to account for unintended but useful information encountered during an information search.

Leckie et al.'s (1996) model addresses research question one, "What are the information needs of professoriate at the University of Ibadan, University of Lagos, and Obafemi Awolowo University in Nigeria" and research question two, "How do professoriate actively seek, access, and share information electronically". The model is limited since it does not address other research questions to the study and therefore will not be used as the main model to guide the research.
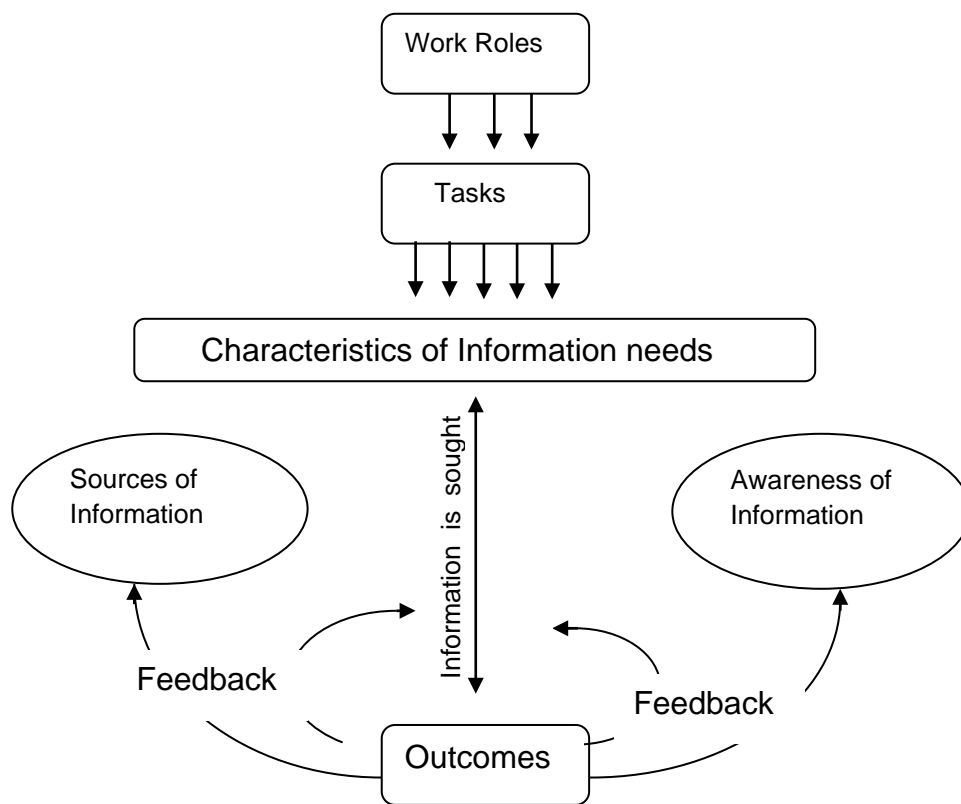
Fig 2.2: Leckie et al. (1996) Model of Information Seeking of Professionals (Source: Leckie et al., 1996)

2.1.5 Theoretical Framework of Information Horizons (Sonnenwald, 2005)

Sonnenwald (1999, 2005) proposed the theoretical framework of information horizons to describe individuals' information behaviour. Sonnenwald contends that information behaviour may be viewed as 'collaboration among an individual and information resources' (Sonnenwald, 1999), and the information horizon map graphically represents information sources and individuals' source preferences (Sonnenwald et al., 2001). One's information horizons vary across contexts, situations, and social networks; therefore, the study of individuals' information horizons may help researchers understand their information seeking, filtering, use, and dissemination.

Savolainen and Kari (2004) further described horizon as an imaginary field and claimed that everyone has their own imaginary field upon which they position various information sources according to personal preferences. The authors concluded that this mental map is the information source horizon, and that perceived accessibility and quality are two main factors that influence people's information horizons.

There are various ways to examine individuals' information horizons. Sonnenwald asserted that using critical incident to conduct in-depth interviews and to facilitate information horizon map drawings can help effectively discern users' information horizons (Sonnenwald et al., 2001; Sonnenwald, 2005). This may help researchers not only to understand the information sources individuals' use, but also to explain the role of these information sources in the users' information seeking process. Furthermore, Sonnenwald and her colleagues indicated that surveys can be used as a triangulation in information horizon research.

Sonnenwald et al. (2001) used a survey to investigate eleven college students' information horizons. When analysing information horizons, Sonnenwald et al. (2001) used a matrix to illustrate students' preferred order of information resources. The resources were presented in the matrix and were sorted by the number of students who mentioned a resource and the total number of times a resource was mentioned by the students. Savolainen and Kari (2004) used three concentric circles to illustrate how users prioritise information sources according to their preferences. Huvila (2009) argued that drawing an analytical information horizon map based on interview data gathered by the researcher, instead of by the informants, may be more effective because such a map avoids the problem of informal and inconsistent notations among informants.

Studies on the information horizons of graduate and undergraduate students indicated that the two groups have markedly different information seeking behaviour. Sonnenwald et al. (2001) examined the information horizons of eleven college students of low socio-economic status, finding that the library was not a preferred information source for them, and was not placed on their information horizon maps. Studies of graduate students, however, shows that library resources appeared to be an important information source in their information horizons (Tsai, 2010; Chen & Tang, 2011). Sonnenwald et al.'s (2001) framework can be used to answer research question three: *What are the preferred information sources by the professoriate*?

Studies that applied Sonnenwald et al.'s (2001) theoretical framework of information horizons to examine source preferences of professoriates remain scarce in library and information science literature. Sonnenwald et al.'s (2001) theoretical framework is limited in addressing the information behaviour of professoriate, since it only deals with information source preference of users in an imaginary airspace. However, the strength of the framework lies in its ability to focus on a particular aspect of human information behaviour which could provide an in-depth understanding on user behaviour with respect to source preferences.

2.1.6 Dervin's (1983) Sense-Making Theory

Dervin's (1983) Sense-Making theory (Fig. 2.3 and 2.4) cannot be seen simply as a model of information-seeking behaviour, but rather a set of assumptions, a theoretical perspective, a methodological approach, a set of research methods, and a practice designed to cope with information perceived as a human tool for making sense of a reality. However, Sense-Making is implemented in terms of four constituent elements: a situation in time and space, which defines the context in which information problems arise; a gap, which identifies the difference between the contextual situation and the desired situation (e.g. uncertainty); an outcome, that is, the consequences of the Sense-Making process; and a bridge, that is, some means of closing the gap between situation and outcome (Fig. 2.3). Dervin presents these elements in terms of a triangle: situation, gap/bridge, and outcome, which can be represented as in Figure 2.3. However, it may be preferable to use the bridge metaphor more directly and present the model as in Figure 2.4. The strength of Dervin's model lies partly in its methodological consequences, since in relation to information behaviour, it can lead to a way of questioning that can reveal the nature of a problematic situation, the extent to which information serves to bridge the gap of uncertainty, confusion, or whatever, and the nature of the outcomes from the use of information (Dervin, 1986 and 1992). However, in the context of this study,

Dervin's methodological approaches do not make a good fit in addressing any of the research questions. Its methodological approaches inform its weakness within the context of our study; therefore, will not be used as the main model to guide this study of information behaviour of the professoriate.

Situation

Gap   Outcome
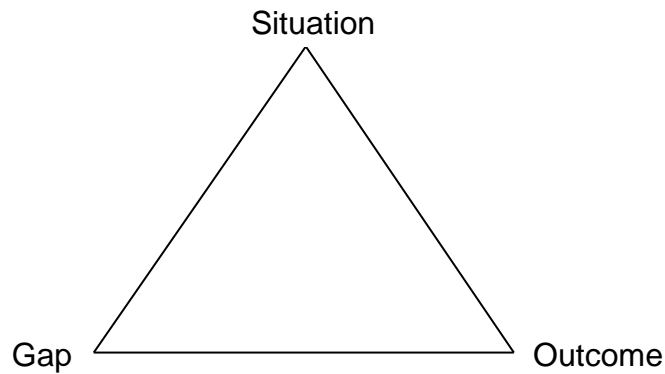
Fig 2.3a: Dervin's (1983) Sense-Making Theory (Source: Dervin 1983)

Bridge

Time/space

Situation   Gap   Outcome
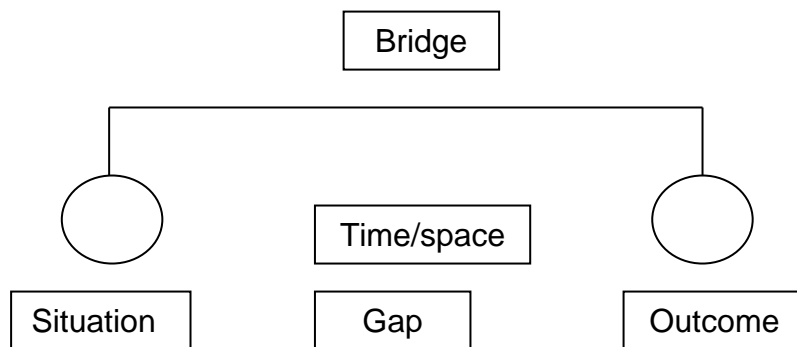
Fig 2.3b: Dervin's (1983) Sense-Making Theory (Source: Dervin 1983)

2.1.7   Wilson's 1981 Information Behaviour Model

Wilson's 1981 information behaviour model depicts that information-seeking behaviour arises as a consequence of a need perceived by an information user who, in order to satisfy that need, makes demands upon formal or informal information sources or services which result in success or failure to find relevant information. If successful, the individual then makes use of the information found and may either fully or partially satisfy the perceived need or fail to satisfy the need and have to reiterate the search process. The model also shows that part of the information seeking behaviour may involve other people through information exchange and that information perceived as useful may be passed to other people, as well as used by the person himself or herself. Wilson's information behaviour model falls short of

capturing other traits of information behaviour such as the possibility of a user encountering useful information in the event of a purposeful search of information resources. The model also did not take cognisance of variabilities that might occur at the individual level of analysis capable of influencing information seeking and use. These shortcomings limit the model's ability in measuring the totality of information behaviour, and form the basis for its exclusion as the main model guiding this study.

2.1.8   Wilson's Second Model of 1981

Wilson's second model of 1981 (Fig. 2.4) is based upon two main propositions: first, that information need is not a primary but a secondary need that arises out of needs that are more basic; and second, that in the effort to discover information to satisfy a need, the enquirer is likely to meet with barriers of different kinds. Drawing upon definitions in psychology (Eysenck, 1972), Wilson proposes that the basic needs can be defined as physiological, cognitive or affective. He goes on to note that the context of any one of these needs may be the person or the role demands of the person's work or life, or the environments (political, economic and technological) within which that life or work takes place. He then suggests that the barriers that impede the search for information will arise out of the same set of contexts. This model is shown in a simplified version (which also shows the search behaviours defined by Ellis (Ellis, 1989).

Wilson's model is clearly what may be described as a macro-model or a model of the gross information-seeking behaviour and it suggests how information needs arise and what may prevent (and, by implication, aid) the actual search for information. It also embodies implicitly, a set of hypotheses about information behaviour that are testable: for example, the proposition that information needs in different work roles will be different, or that personal traits may inhibit or assist information seeking. Thus, the model can be regarded as a source of hypotheses, which is a general function of models of this kind. The weakness of the model is that all of the hypotheses are only implicit. Moreover, there is no indication of the processes whereby context has its effect upon the person, or the factors that result in the perception of barriers, nor whether the various assumed barriers have similar or different effects upon the motivation of individuals to seek information. The barrier imposed on the model makes its adoption insufficient as the main model guiding the study. However, the very fact that the model is lacking in certain elements stimulates thinking about the kinds of elements that a more complete model ought to include.

Kumar, Salmani, and Baweja, (2014) used Wilson's (1991) model to examine the information seeking behaviour of research scholars and faculty members in life sciences. Results show that faculty use information for teaching, research, writing research papers and updating knowledge. The use of online journals was found to be prominent among the faculty members.
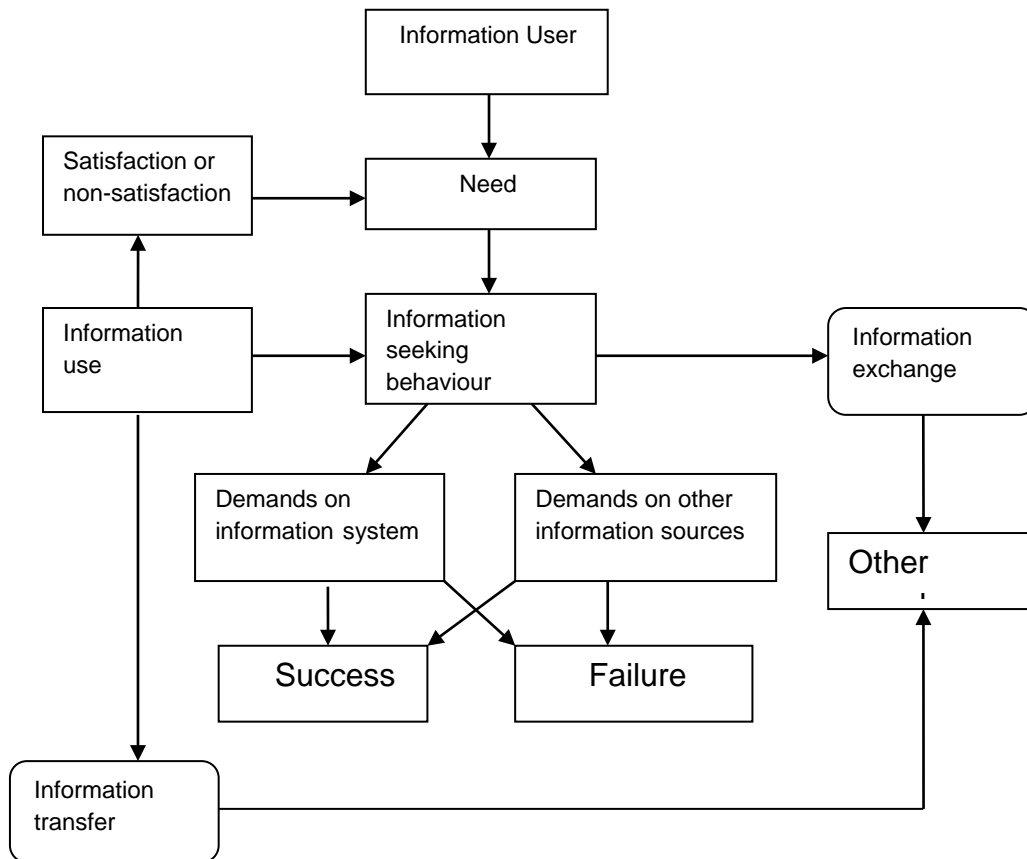
Fig. 2.4: Wilson 1981 Information Behaviour Model   (Source: Wilson, 1981)

2.2   Theories on User Acceptance

This section of the study examines theories on user acceptance of technology. Information behaviour of the professoriate can be hypothesised to be influenced by the digital information environment, where younger professoriate use digital resources more than their older counterparts. The unified theory of acceptance and utilisation of technology (UTAUT) was the dominant model to measure professoriate use of digital information resources. UTAUT is a composite of other eight user acceptance models. These eight models alongside with

UTAUT model are reviewed in this section. The models that are discussed along with UTAUT include:Technology Acceptance Model (TAM); Theory of Reasoned Action (TRA); Motivational Model (MM); Theory of Planned Behaviour (TPB); a combination of Technology Acceptance Model (TAM) and TPB model (CTAM &TPB); Model of PC Utilisation (MPCU); Innovation Diffusion Theory (IDT); and Social Cognition Theory (Oshlyansky, Cairns & Thimbleby, 2007).

2.2.1 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) (Davis, 1989; Davis, Bagozzi & Warshaw, 1989) derived from the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) is one of the most popular research models to predict use and acceptance of information systems and technology. The model proposed that system use is a response that can be explained or predicted by user motivation, which in turn, is directly influenced by an external stimuli consisting of the actual system features and capabilities. The model suggests that users' motivation can be explained by three factors: Perceived Ease of Use, Perceived Usefulness, and Attitude towards using the system. The author hypothesised that the attitude of a user toward a system was a major determinant of whether the user will actually use or reject the system. The attitude of the user, in turn was considered to be influenced by two major beliefs: Perceived Usefulness and Perceived ease of use, with perceived ease of use having a direct influence on perceived usefulness. Both are hypothesised to be directly influenced by the system design characteristics.

Davis defines perceived usefulness (PU) as the subjective probability that using a specific system will enhance job performance. Perceived ease of use (PEOU) can be defined as the degree to which a user expects the system to be free of effort. According to TAM, ease of use and perceived usefulness are the most important determinants of actual system use. These two factors are influenced by external variables. In this study, these two variables (ease of use and perceived usefulness) are hypothesised to influence the professoriate's use of electronic information resources, and is captured in research question four "What are the factors that influence the professoriate's use of electronic information resources?". On the other hand, attitude, which is influenced by Perceived Usefulness and Perceived ease of use, is also hypothesised as a variable capable of influencing the professoriate's use of electronic resources, and it directly addresses research question five, "What is the attitude of the

professoriate towards electronic information resources?". TAM has been used by researchers worldwide to understand the acceptance of different types of information systems.

Park (2009) used TAM in understanding university students' behavioural intention to use e-Learning. The general structural model, which included e-learning self efficacy, subjective norm, system accessibility, perceived usefulness, perceived ease of use, attitude, and behavioural intention to use e-learning, was developed based on the technology acceptance model (TAM). The result proved TAM to be a good theoretical tool to understand users' acceptance of e-learning. E-learning self efficacy was the most important construct, followed by subjective norm in explicating the causal process in the model. Sharma and Chandel (2013) used TAM to study the use of learning through websites among students in Oman University. The findings from the study reveal that attitude and behavioural intention to use websites to learn was influenced by perceived usefulness and perceived ease of use, perceived website quality and computer self-efficacy. Alharbi and Drew (2014) used TAM in understanding academics behavioural intention to use learning management systems; findings show that perceived usefulness, perceived ease of use and attitude were crucial factors in influencing intention to use learning management system. TAM is one of the most influential models widely used in the IS/IT user acceptance studies. Many previous studies have adopted and expanded this model which was empirically proven to have high validity.

2.2.2 Combination of Technology Acceptance Model (TAM) and TPB Model (CTAM & TPB)

Technology Acceptance Model is one of the most popular theories that are used widely to explain Information System usage. So many studies have been conducted which have led to the changes in the originally proposed model. A new model called combined TAM-TPB model which integrates the technology acceptance model and theory of planned behaviour was proposed by Taylor and Todd (1995). Venkatesh and Davis (2000) proposed a new version of TAM called TAM2 which added new variables to the existing model.

TAM 2 theorises that there are four cognitive instrumental determinants of perceived usefulness: job relevance, output quality, result demonstrability, and perceived ease of use. TAM2 retains perceived ease of use from TAM as a direct determinant of perceived usefulness. TAM2 theorises that "people use a mental representation for assessing the match between important work goals and the consequences of performing the act of using a system as a basis for forming judgments about the use-performance contingency (i.e., perceived

usefulness)" (Venkatesh & Davis, 2000, p.191). Based on the theories on the mental matching process, a potential user's judgment of job relevance goes through a compatibility test (Venkatesh & Davis, 2000). Job relevance is defined as "an individual's perception regarding the degree to which the target system is applicable to his or her job" (p.191). TAM2 posits that job relevance has a positive effect on perceived usefulness. Output quality is another determinant of perceived usefulness. Output quality refers to an individual's perception about how well the system performs the tasks. Venkatesh and Davis (2000) suggest that judgments of output quality take the form of a profitability test, "in which, given a choice set containing multiple relevant systems, one would be inclined to choose a system that delivers the highest output quality" (p.192). TAM2 posits that output quality has a positive effect on perceived usefulness. Result demonstrability is the third determinant of perceived usefulness. It is defined as the "tangibility of the results of using the innovation" (Moore & Benbasat, 1991, p.203). TAM2 posits that result demonstrability has a positive effect on perceived usefulness.

Several studies conducted by researchers have also tried to modify the TAM by adding new variables to it. Agarwal and Prasad (1998a, 1998b) modified TAM by adding the construct of compatibility in the Technology Acceptance Model. Moon and Kim (2001) have added a new variable, playfulness factor to study acceptance of the World Wide Web. Lim (2000) proposed to modify TAM by adding variables like experience, self efficacy, perceived risk, and social influence. Another study done by Agarwal and Karahanna (2000) added cognitive absorption, playfulness, and self-efficacy to the TAM model. Chau (1996) in a study reviewed TAM by including two types of perceived usefulness. Van der Heijden (2000) after analysing the individual acceptance and usage of the website added two new constructs to TAM: perceived entertainment value and perceived presentation attractiveness.

Chau and Hu (2002) combined the factor of peer influence with Technology Acceptance Model. According to a study by Franco and Roldan (2005), the relationship between perceived usefulness and behavioural intention was strong among goal-directed users. Chau and Hu (2001) compared three models Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB), and a decomposed TPB model that is potentially adequate in the targeted healthcare professional setting in Hong Kong. The results indicated that TAM was superior to TPB in explaining the physicians' intention to use telemedicine technology. The study conducted by Sun and Zhang (2003) found that voluntariness can be a factor in determining the behavioural intention to use.

In spite of the potentials of the variables in TAM2 namely, job relevance, output quality, result demonstrability, and perceived ease of use in predicting the professoriate use of technology, only perceived ease of use will be used in this study, and it relates to research question four "what are the factors that influence the professoriate's use of electronic resources. The other variables in the model did not address our research questions, and due to this limitation, TAM2 will not be used as the main model to guide this study.

2.2.3 Motivation Model

The motivational model was developed by Davis et al. (1992) to study information technology adoption and use. The Motivation Model suggests that individuals' behaviour is based on extrinsic and intrinsic motivations. Extrinsic motivation is defined as the perception that users want to perform an activity "because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay, or promotions" (Davis et al., 1992, p. 1112). Perceived usefulness, perceived ease of use and subjective norm are examples of extrinsic motivation. Intrinsic motivation relates to perceptions of pleasure and satisfaction from performing the behaviour (Vallerand, 1997). Users want to perform an activity "for no apparent reinforcement other than the process of performing the activity per se" (Davis et al., 1992, p. 1112). Computer playfulness and enjoyment are examples of intrinsic motivation (Davis et al., 1992; Venkatesh, 2000).

In examining factors that influence the professoriate's use of electronic information resources, extrinsic motivation capsulated perceived usefulness, and perceived ease of use. These two variables form part of the UTAUT, and directly relates to research question four of this study.

Quite a handful of studies have used the motivational theory in their research. Yoo, Han and Huang (2012) examined the roles of intrinsic motivators and extrinsic motivators in promoting e-learning in the workplace; the findings revealed that intrinsic motivators (effort expectancy, attitudes, and anxiety) affected employees' intention to use e-learning in the workplace more strongly than did the extrinsic motivators (performance expectancy, social influence, and facilitating conditions). Hwang and Yi (2002) examined the effect of intrinsic motivation and self-efficacy in predicting the use of web-based information systems using students as subjects. The findings highlighted the importance of perceived enjoyment, learning goal orientation, and self-efficacy in determining the actual use of the system. Herath and Rao (2009) developed a hypothetical model on factors that encourage information

security behaviour in organisations. On validating and testing the model, the study suggests that security behaviours can be influenced by both intrinsic and extrinsic motivators.

In summary, motivational theory is important in the prediction of use of information resources. Motivation refers to "the reasons underlying behaviour" (Guay et al., 2010, p. 712). Applying motivational theory towards determining what motivates the professoriate to use electronic information resources is important to information behaviour research. Intrinsic motivation is motivation that is characterised by personal enjoyment, interest, or pleasure. Deci et al. (1999) state that "intrinsic motivation energises and sustains activities through the spontaneous satisfactions inherent in effective volitional action. It is manifest in behaviours such as play, exploration, and challenge seeking that people often do for external rewards" (p. 658). Researchers often contrast intrinsic motivation with extrinsic motivation, which is motivation governed by reinforcement contingencies. However, motivational theory with its two major branches of intrinsic and extrinsic behavioural criteria is not sufficient in addressing all the research questions. Due to this limitation, it will not be used as the main model to guide this study.

2.2.4 Theory of Planned Behaviour

The theory of planned behaviour (TPB) is one of the most widely cited and applied behaviour theories. It is one of many closely inter-related families of theories that adopt a cognitive approach to explaining behaviour and centre on individuals' attitudes and beliefs. The TPB (Ajzen, 1985, 1991; Ajzen & Madden, 1985) evolved from the theory of reasoned action (Fishbein & Ajzen, 1975) which posited intention to act as the best predictor of behaviour. Intention is itself an outcome of the combination of attitudes towards behaviour. That is the positive or negative evaluation of the behaviour and its expected outcomes, and subjective norms, which are the social pressures exerted on an individual resulting from their perceptions of what others think they should do and their inclination to comply with these. The TPB added a third set of factors as affecting intention (and behaviour); perceived behavioural control. This is the perceived ease or difficulty with which the individual will be able to perform or carry out the behaviour, and is very similar to notions of self-efficacy (Bandura 1986, 1997; Terry et al., 1993).

The Theory of Reasoned Action (TRA) is used to predict an individual's behaviour only in a real voluntary situation, not in a mandatory context. Ajzen (1991) develops the Theory of Planned Behaviour (TPB) to extend TRA to consider the mandatory situation. He adds a new

construct of perceived behavioural control in TPB. Perceived behavioural control is defined as "the perceived ease or difficulty of performing the behaviour" (Ajzen, 1991, p. 188). In the context of IS research, perceived behavioural control is defined as "perceptions of internal and external constraints on behaviour" (Taylor & Todd, 1995, p. 149). The Theory of Planned Behaviour (TPB) is similar to TRA in that TPB also assumes that individuals are rational decision makers. Individuals assess perceived behaviour control using a method similar to the expectancy-value model. For each in a set of control beliefs, individuals multiply the belief's strength by the perceived power of the control factor. TPB has also been widely applied to understand the individual acceptance and use of different technologies (Harrison et al., 1997; Mathieson, 1991; Taylor & Todd, 1995b). In the context of this study, technology refers to the electronic information resources used by the professoriate to search information for use in a work context. It is hypothesised in this study that attitude towards electronic information resources is a crucial construct of information behaviour. Examining the attitude of the professoriate is captured in research question five "What is the attitude of the professoriate towards electronic information resources?" The theory of planned behaviour uses attitude and belief as predicates of intention to perform behaviour. However, in the context of our study of professoriate information behaviour with regards to use of electronic information resources, there are other determinants of use not included in TRA. This omission explains the shortfall of the model as the main model for this study.

Armitage and Conner (2001) conducted a review of research based on TPB. The findings show that TPB accounted for 27% and 39% of the variance in behaviour and intention respectively. The perceived behavioural control (PBC) construct accounted for significant amounts of variance in intention and behaviour, independent of theory of reasoned action variables. The study found that when behaviour measures were self-reported, the TPB accounted for 11% more of the variance in behaviour than when behaviour measures were objective or observed. The study also found that subjective norm was generally a weak predictor of intentions.

Cheng (2015) used TPB to examine university lecturers' intention to teach an ethics course. Findings from the study show that individual attitudes, subjective norms, perceived behavioural control, and teacher self-efficacy influence intention to teach.

2.2.5 The Model of PC Utilisation

The theoretical grounding for the model of PC Utilisation comes from the work of Triandis (1971; 1980). In earlier work, Triandis (1971) argued that behaviour is determined by what people would like to do (attitudes), what they think they should do (social norms), what they have usually done (habits), and by the expected consequences of their behaviour. He suggested that attitudes involve cognitive, affective, and behavioural components. The cognitive component of attitudes involves beliefs. In the context of PCs, for example, a person may hold a belief that PCs make work more efficient. The affective component of attitudes has a like/dislike connotation. Thus, the statement "I hate computers" is considered an indication of the affective component of attitudes. Behavioural intentions are simply what individuals intend to do. For example, the assertion "I will start to learn a software package tomorrow" represents a behavioural intention. Thus, attitudes involve what people believe (cognitive), feel (affective), and how they would like to behave (behavioural) toward an attitude object.

The model of PC utilisation was based on a subset of Triandis's (1980) theory also in the context of PC use. Thompson, Higgins and Howell's (1991) model of PC utilisation examined the direct effects of social factors, affect, perceived consequences, and facilitating conditions on behaviour. Behavioural intentions were excluded from the model because it was actual behaviour (i.e., PC utilisation) in which we were interested). Habits were excluded because, in the context of PC utilisation, they (i.e., previous use) have a tautological relationship with current use. Thompson et al. (1991) replaced these variables with complexity and job fit. Empirical validation of the constructs proved that social factors, complexity, job fit, and long-term consequences had significant effects on PC use. There was no evidence that affect towards pc use and facilitating conditions influenced PC use (Model of PC utilisation).

Thompson et al. (1991) refine Triandis's model to predict PC utilisation behaviour. The major constructs in the model and their definitions include Job-fit: "the extent to which an individual believes that using a technology can enhance the performance of his or her job" (p. 129). Complexity: "the degree to which an innovation is perceived as relatively difficult to understand and use" (p. 128). Long-term consequences: "Outcomes that have a pay-off in the future" (p. 129). Affect towards use: "feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated by an individual with a particular act" (p. 127). Social

factors: "individual's internalisation of the reference group's subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations" (p. 126). Facilitating Conditions: "provision of support for users of PCs may be one type of facilitating condition that can influence system utilisation" (p. 129)

The model is very relevant to our study since electronic information resources can only be accessed using a personal computer (PC), smart phones, note pads and other similar digital devices. In the context of our study, complexity of electronic information resources was hypothesised to influence the information behaviour of the professoriate. This construct is considered as one of the factors influencing the use of electronic information resources and it is captured in research question four, "What are the factors that influence the professoriate's use of electronic information resources?"

In general, the constructs of PC utilisation namely, social factors, complexity, job fit, and long-term consequences were validated constructs that preceded use of personal computer in a work related context. In the context of our study, only complexity was found relevant for use in this study. All other variables were not found suitable for addressing the research questions, and due to this shortcoming, the model of PC utilisation was not found fit to be the main model to guide this research.

Teo and Lim (1998) examined factors influencing personal computer usage among novice and experienced users; findings of the study revealed that novice users viewed the importance of facilitators and inhibitors differently from experienced users.

2.2.6 The Innovation Diffusion Theory

One of the most popular adoption models is Rogers's Theory of Diffusion of Innovations (Sherry & Gibson, 2002). The Innovation Diffusion Theory (Rogers, 1995) has been used to study a variety of innovations. Much research from a variety of disciplines has used the model as a framework. Dooley (1999) and Stuart (2000) mentioned several of these disciplines as political science, public health, communications, history, economics, technology, and education, and defined Rogers' theory as a widely used theoretical framework in the area of technology diffusion and adoption.

For Rogers (2003), adoption is a decision of "full use of an innovation as the best course of action available" and rejection is a decision "not to adopt an innovation" (p. 177). Rogers defines diffusion as "the process in which an innovation is communicated thorough certain

channels over time among the members of a social system" (p. 5). As expressed in this definition, innovation, communication channels, time, and social system are the four key components of the diffusion of innovations.

"An innovation is an idea, practice, or project that is perceived as new by an individual or other unit of adoption", (Rogers, 2003, p. 12). An innovation may have been invented a long time ago, but if individuals perceive it as new, then it may still be an innovation for them.

The second element of the diffusion of innovations process is communication channels. For Rogers (2003), communication is "a process in which participants create and share information with one another in order to reach a mutual understanding" (p. 5). This communication occurs through channels between sources. Rogers (2003, p. 204). states, "A source is an individual or an institution that originates a message. A channel is the means by which a message gets from the source to the receiver". Rogers states that diffusion is a specific kind of communication and includes these communication elements: an innovation, two individuals, or other units of adoption, and a communication channel. Mass media and interpersonal communication are two communication channels. While mass media channels include a mass medium such as TV, radio, or newspaper, interpersonal channels consist of a two-way communication between two or more individuals. On the other hand, "diffusion is a very social process that involves interpersonal communication relationships" (Rogers, 2003, p. 19). Thus, interpersonal channels are more powerful to create or change strong attitudes held by an individual. In interpersonal channels, the communication may have a characteristic of homophily, that is, "the degree to which two or more individuals who interact are similar in certain attributes, such as beliefs, education, socioeconomic status, and the like"; but the diffusion of innovations requires at least some degree of heterophily, which is "the degree to which two or more individuals who interact are different in certain attributes". In fact, "one of the most distinctive problems in the diffusion of innovations is that the participants are usually quite heterophilous" (Rogers, 2003, p. 19).

According to Rogers (2003), the time aspect is ignored in most behavioural research. He argues that including the time dimension in diffusion research illustrates one of its strengths. The innovation-diffusion process, adopter categorisation, and rate of adoptions all include a time dimension. The social system is the last element in the diffusion process. Rogers (2003) defined the social system as "a set of interrelated units engaged in joint problem solving to accomplish a common goal" (p. 23). Since diffusion of innovations takes place in the social

system, it is influenced by the social structure of the social system. For Rogers (2003), structure is "the patterned arrangements of the units in a system" (p. 24). He further claimed that the nature of the social system affects individuals' innovativeness, which is the main criterion for categorising adopters.

Rogers identifies five attributes of an innovation that influence the adoption and acceptance behaviour: relative advantage, complexity, compatibility, trialability, and observability. Rogers (2003) defined relative advantage as "the degree to which an innovation is perceived as being better than the idea it supersedes" (p. 229). The degree of relative advantage may be measured in economic terms, but social prestige, convenience, and satisfaction are also important factors. It does not matter so much if an innovation has a great deal of objective advantage. What does matter is whether an individual perceives the innovation as advantageous; the greater the perceived relative advantage of an innovation, the more rapid its rate of adoption.

Rogers (2003) stated that "compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters" (p. 15). An idea that is incompatible with the values and norms of a social system will not be adopted as rapidly as an innovation that is compatible. A lack of compatibility in IT with individual needs may negatively affect the individual's IT use (McKenzie, 2001; Sherry, 1997). If an innovation is compatible with an individual's needs, then uncertainty will decrease and the rate of adoption of the innovation will increase.

Rogers (2003) defined complexity as "the degree to which an innovation is perceived as relatively difficult to understand and use" (p. 15). As Rogers stated, opposite to the other attributes, complexity is negatively correlated with the rate of adoption. Thus, excessive complexity of an innovation is an important obstacle in its adoption. A technological innovation might confront faculty members with the challenge of changing their teaching methodology to integrate the technological innovation into their instruction (Parisot, 1997), so it might have different levels of complexity. If hardware and software are user-friendly, then they might be adopted successfully for the delivery of course materials (Martin, 2003).

According to Rogers (2003, p. 16), "trialability is the degree to which an innovation may be experimented with on a limited basis". In addition, trialability is positively correlated with the rate of adoption. The more an innovation is tried, the faster its adoption is. New ideas that are simpler to understand are adopted more rapidly than innovations that require the adopter to

develop new skills and understandings. Rogers stated that earlier adopters see the trialability attribute of innovations as more important than later adopters.

The last characteristic of innovations is observability. Rogers (2003) defined observability as "the degree to which the results of an innovation are visible to others" (p. 16). The easier it is for individuals to see the results of an innovation, the more likely they are to adopt it. Such visibility stimulates peer discussion of a new idea, as friends and neighbours of an adopter often request innovation-evaluation information about it. Role modeling (or peer observation) is the key motivational factor in the adoption and diffusion of technology (Parisot, 1997). Similar to relative advantage, compatibility, and trialability, observability also is positively correlated with the rate of adoption of an innovation.

Rogers (2003) argued that innovations offering more relative advantage, compatibility, simplicity, trialability, and observability will be adopted faster than other innovations. Rogers does caution, "getting a new idea adopted, even when it has obvious advantages, is difficult" (p. 1), so the availability of all of these variables of innovations speed up the innovation-diffusion process. Innovation diffusion research regards individuals' perceptions about these characteristics of an information technology as important factors in influencing an individual's acceptance behaviour (Agarwal & Prasad, 1997, 1998; Karahanna et al., 1999; Plouffe et al., 2001).

In summary, diffusion of innovation describes the process by which innovation is communicated through certain channels over time among the members of a social system. The innovation characteristics determine the extent of adaption. The more an innovation possesses these characteristics the more the rate of adaption. The strength of this theory lies in its rich and detailed description of how technology innovation is diffused and accepted in a social system. In the context of this study, the relative advantage in diffusion of innovation theory relates to performance expectancy (PE) in UTAUT model, and Perceived Usefulness (PU) in TAM, and this directly relates to the research question four of this study "What are the factors that influence the use of electronic information resources?" In spite of this connectedness, the other constructs of the model are not sufficient to address other research questions pertaining to this study, thereby is not suitable as the main model to guide this study.

Medlin (2001) used Rogers's (1995) diffusion of innovations theory to examine the selected factors that might influence a faculty member's motivation and decision to adopt new

electronic technologies in classroom instruction. Medlin organised the findings into three groups: social, organisational, and personal motivational factors. As social factors, friends, mentors, peer support, and students were found to be the significant predictors that may influence a faculty member's decision to adopt electronic technologies in the classroom. The organisational variables, including physical resource support and mandates from the university, also were statistically significant in predicting the faculty members' use of electronic technologies in the classroom. "Personal interest in instructional technology", "personal interest in improvement in my teaching" and "personal interest in enhancing student learning" (Medlin 2001, p.8) were cited as three personal motivational variables that might affect faculty members' decision to adopt instructional technologies. However, Medlin did not find a significant difference among the self-identified adopter behaviour categories based on Rogers' theory in terms of social, organisational, and personal motivational factors.

Less' (2003) quantitative research study used Rogers' (1995) diffusion of innovations theory to investigate faculty adoption of computer technology for instruction in the North Carolina Community College System. She classified the faculty members based on Rogers' five categories of innovation adoption and compared them on the demographic variables of age, gender, race/ethnicity, teaching experience, and highest degree attained. While a significant relationship emerged between Rogers' adopter categories and their years of teaching experience and highest degree attained, the results did not show an important difference between faculty adopter categories and age, gender, and race/ethnicity. Less further classified the faculty as users in any of Rogers' five categories and non-users of computer technology in instruction. No significant difference existed between users and non-users in demographic characteristics of age, gender, race/ethnicity, teaching experience, and highest degree attained.

Using quantitative research methods, Surendra (2001) examined the diffusion factors proposed by Rogers (1995) and other sources to predict the acceptance of Web technology by professors and administrators of a college. He reviewed the training factor among the types of access. Access in general and training in particular were found to be the best predictors in the diffusion process of Web technology-based educational innovation. Moreover, he found that the diffusion factors, Rogers' attributes of innovations, are useful predictors of the adoption of innovation. In addition, a relationship was found between computer knowledge and the adoption of innovation.

2.2.7 The Social Cognitive Theory

The Theory of Planned Behaviour (TPB), the Technology Acceptance Model (TAM), and the Innovation Diffusion Theory assume that there are only unidirectional causal relationships among the major variables in their models. In contrast, the Social Cognitive Theory (Bandura, 1986) suggests that environmental factors, personal factors (in the form of cognitive and affective factors), and behaviours are determined reciprocally. An individual's cognitive competences influence the behaviour of using a technology, and the successful interactions with the technology influence the cognitive perceptions (Compeau et al., 1999). The Social Cognitive Theory (SCT) gives prominence to the concept of self-efficacy (Compeau et al., 1999). Self-efficacy is defined as the judgment of one's ability to use a technology to accomplish a particular job or task (Compeau & Higgins, 1995). Outcome expectations, including personal and performance-related ones, are major cognitive factors in influencing users' behaviour (Compeau & Higgins, 1995). Personal-related outcome expectations are concerned with individuals' esteem and sense of accomplishment. Performance related outcome expectations are concerned with job-related outcomes. SCT posits that self-efficacy influences both personal and performance-related outcome expectations (Compeau & Higgins, 1995). Affect and anxiety are the two affective factors. Affect refers to an individual's liking for a particular behaviour (e.g., computer use). Anxiety refers to an individual's anxious or emotional reaction in performing behaviour (e.g., using a computer).

Self-efficacy has been shown to influence choice of whether to engage in a task, the effort expended in performing it, and the persistence shown in accomplishing it (Bouffard-Bouchard, 1990). The greater people perceived their self-efficacy to be the more active and longer they persist in their effort (Bandura, 1986).

Miura (1987) has suggested that self-efficacy may be an important factor related to the acquisition of computing skills. Computer self-efficacy is a specific type of self-efficacy. Specific self-efficacy is defined as belief in one's ability to "mobilise the motivation, cognitive resources, and courses of action needed to meet given situational demands" (Wood & Bandura, 1989, p. 408). Thus, computer self-efficacy is a belief of one's capability to use the computer (Compeau & Higgins, 1995) and those with little confidence in their ability to use computers may experience computer anxiety that leads to poor performance on computer-based tasks.

Computer anxiety has been defined as a fear of computers when using one, or fearing the possibility of using a computer (Chua, Chen, & Wong, 1999). It is different from negative attitudes toward computers that entail beliefs and feelings about computers rather than one's emotional reaction towards using computers (Heinssen, Glass, & Knight, 1987). Computer anxiety is characterised as an affective response, an emotional fear of potential negative outcomes such as damaging the equipment or looking foolish. From an information processing perspectives, the negative feelings associated with high anxiety detract cognitive resources from task performance (Kanfer & Heggestad, 1997). Thus the performance of participants with higher computer anxiety might be poorer than those with little or no computer anxiety.

Computer self-efficacy and anxiety of the professoriate with regard to how they use electronic information resources was addressed in research question four "what are the factors that influence the professoriate's use of electronic information resources?"

In summary, social cognitive theory focuses majorly on self-efficacy, affect and anxiety, and these components only partly addresses research question four of this study. Due to this limitation, it will not be used as the main theory to guide this research.

2.3   Model and Theory used for the Study

This chapter reviewed relevant theories and models on information behaviour and user acceptance of technology. The strengths and weaknesses of these theories and models with respect to addressing the research questions were well adequately articulated and presented. Based on the evidence provided through the review process, two models emerged as the dominant models to guide the study.   Wilson 1996 model of Information Behaviour was chosen from the models and theories of information behaviour, and the Unified Theory of Acceptance and Utilization of Technology (UTAUT) was chosen from the user acceptance group. This section presents the two dominant models that guided this study and the justification for their selection.

2.3.1   Wilson 1996 Model of Information Behaviour

Wilson's 1996 model depicted in Figure 2.5 is a major revision of that of 1981, drawing upon research from a variety of fields other than information science, including decision making, psychology, innovation, health communication and consumer research. The basic framework of the 1981 model persists, in that the person in context remains the focus of information

needs, the barriers are represented by 'intervening variables' and 'information-seeking behaviour' is identified. However, there are also changes: the use of the term 'intervening variables' serves to suggest that their impact may be supportive of information use as well as preventive; information-seeking behaviour is shown to consist of more types than previously, where the 'active search' was the focus of attention; 'information processing and use' is shown to be a necessary part of the feedback loop, if information needs are to be satisfied; and three relevant theoretical ideas are presented: stress/coping theory (Folkman, 1984), which offers possibilities for explaining why some needs do not invoke information-seeking behaviour; risk/reward theory (Murray, 1991; Settle, 1989), which may help to explain which sources of information may be used more than others by a given individual; and social learning theory, which embodies the concept of 'self-efficacy', the idea of 'the conviction that one can successfully execute the behaviour required to produce the desired outcomes'. Thus, the model remains one of macro-behaviour, but its expansion and the inclusion of other theoretical models of behaviour (Bandura, 1977) make it a richer source of hypotheses than Wilson's earlier model.

The robustness of Wilson's (1996) model makes it ideal for studying the information behaviour of the professoriate. The model takes into consideration the information needs, sources, and both the active and passive information behaviour of users. Furthermore, the model captures all the key components of the research questions of the study; hence, will be used as the main research model to guide the study.

Al-Daihani and Oppenheim (2008) used Wilson's (1996) model to study information behaviour of Kuwait legal professionals. The study found that personal collections were the most heavily used sources. Majority of the lawyers relied on internal communication with colleagues as a channel for exchanging information more than external communication with others. Newspapers were the most important source from which they obtained information by chance.
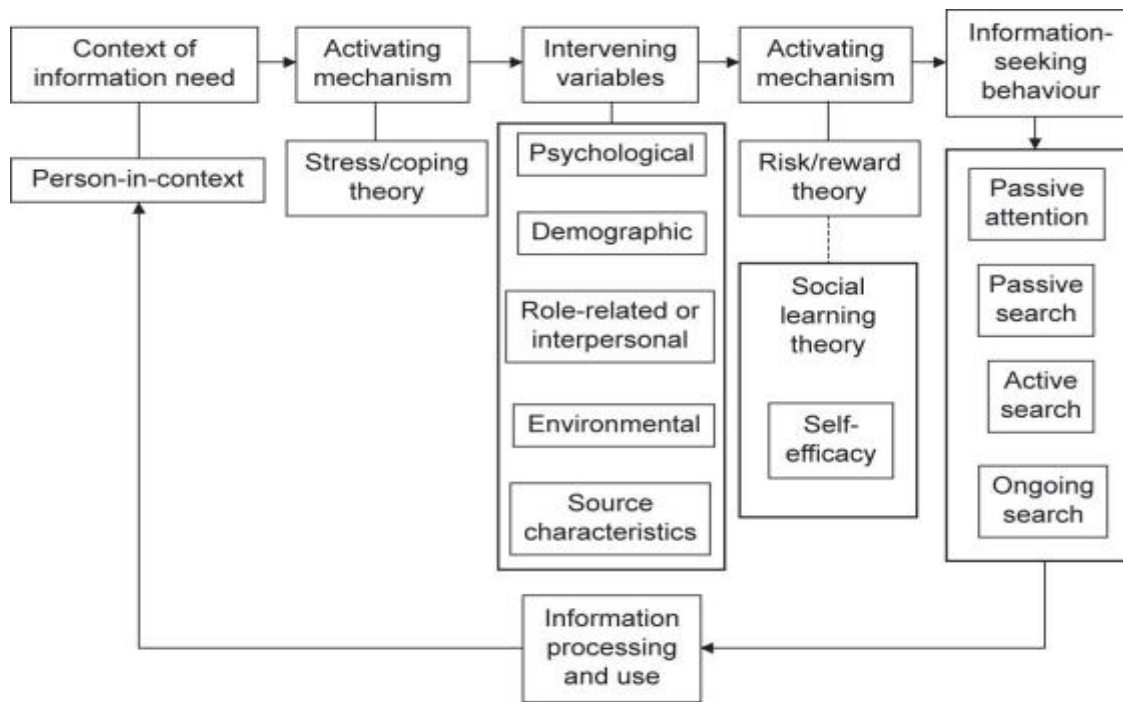
Fig 2.5 Wilson 1996 Model of Information Behaviour (Source: Wilson, 1996)

2.3.2 Unified Theory of Acceptance and Utilisation of Technology

The unified theory of acceptance and utilisation of technology (UTAUT) was developed by Vankatesh et al. (2003) to address the weaknesses of the reviewed user acceptance model. The UTAUT is a decomposition of eight user acceptance models. The authors examined the predictive validity of eight models in determining the behavioural intention and usage of technology. The eight models are: Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), Motivational Model (MM), model combining the Technology Acceptance Model and the Theory of Planned Behaviour (C-TAM-TPB), Model of PC Utilisation (MPCU), Innovation Diffusion Theory (ID) and Socio Cognitive Theory (SCT). Vankatesh et al. (2003) empirically validated the model with six longitudinal field studies of six different departments of six large firms in six different industries. UTAUT accounted for 70 % of the variance in usage intention, better than any of the eight models alone. The reliability and validity of each construct from every model were measured. For the new research model, seven constructs appeared to be significant and directly determined the intention to use information technology. Venkatesh et al. (2003) described some of the constructs of the UTAUT as follows:

1) Performance expectancy is defined as the degree to which an individual believes that using a particular system would improve his or her job performance. The constructs in the other models that pertain to performance expectancy are perceived usefulness (TAM, and combined TAM-TPB), extrinsic motivation (MM), job-fit (MPCU), relative advantage (DOI), and outcome expectancy (SCT). This construct, within each individual model, was the strongest predictor of intention and remained significant at all points of measurement in both voluntary and mandatory settings. Based on the literature, the influence of performance expectancy on behavioural intention is hypothesised to be moderated by gender and age; such an effect would be stronger for men, particularly younger workers.

2) Effort expectancy is defined as the degree of simplicity associated with the use of a particular system. Venkatesh et al. (2003) used the construct of effort expectancy to capture the concepts of perceived ease of use (TAM/TAM2), complexity, and ease of use (DOI and MPCU). The construct in each individual model was significant in both voluntary and mandatory settings, and as expected from the literature it was significant only during the post training measurement. Based on the literature, the influence of effort expectancy on behavioural intentions is hypothesised to be moderated by gender, age, and experience.

3) Attitude towards using technology is defined as the degree to which an individual believes he or she should use a particular system. Attitude towards using technology refers to an individual's overall affective reaction to using a system (Venkatesh et al., 2003). This construct is closely related with four constructs in the existing models: attitude towards behaviour (TRA, TPB/DTPB, C-TAM-TPB), intrinsic motivation (MM), affect towards use (MPCU), and affect (SCT). In some models, such as TRA, TPB/DTPB, and MM, the attitude construct is among the strongest predictors of behaviour intention (Davis et al., 1989; Fishbein & Ajzen, 1975; Venkatesh et al., 2003). For instance, Chau and Hu (2002) find that attitude "appeared to be the second most important determinant of a physician's intention for accepting telemedicine technology" (p. 307).

4) Social influence is defined as the degree to which an individual perceives that others believe he or she should use a particular system. Similar constructs are represented in existing models: subjective norms (TRA, TAM2, TPB/DTPB, and combined TAM-TPB), social factors (MPCU), and image (DOI). The comparison between models found that this

construct behaved similarly; it is insignificant in voluntary contexts and becomes significant when use is mandatory. The literature explained in mandatory contexts that, the effect is attributed to compliance; appears to be important only in the early stages of individual experience and when rewards/ punishment are applicable. In contrast, social influence in voluntary contexts operates by influencing perceptions about the technology. Equally, based on the literature, the influence of social influences on behavioural intentions is hypothesised to be moderated by gender, age, voluntariness and experience;

5) Facilitating conditions is defined as the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of a particular system. This definition captures three different constructs in existing models: perceived behavioural control (TPB/DTPB and combined TAM-TPB), facilitating conditions (MPCU), and compatibility (DOI). The comparison between models revealed that the relationship between intention and this construct in each model is similar in both voluntary and mandatory settings. Based on the literature, when both performance expectancy and effort expectancy constructs are present, facilitating conditions become insignificant; consistent with TPB/DTPB facilitating conditions are direct antecedents of usage (an attribute found also in MPUC). This effect is expected to increase with experience with technology as users find multiple avenues for help and support. Hence, the influence of facilitating conditions on usage is hypothesised to be moderated by age and experience.

6) Self-efficacy is defined as the degree to which an individual judges his or her ability to use a particular system to accomplish a particular job or task; and

7) Anxiety is the degree of anxious or emotional reactions associated with the use of a particular system.

These seven constructs namely performance expectancy, effort expectancy, attitude, social influence, facilitating conditions, self efficacy and anxiety will be used as the variables to measure the factors influencing the professoriate's use of electronic resources. Factors that influence professoriate's use of electronic resources is captioned in this study's research question four.

Venkatesh et al. (2003) reviewed and compared the eight dominant models that have been used to explain technology acceptance behaviour. These models included TRA, TPB, TAM,

combined TAM - TPB, DOI, SCT, MM, and MPCU (already discussed in previous sections). Upon review, the authors reported five limitations of prior model tests and comparisons and addressed them in their work; they included: 1) The technologies studied were simple and individual-oriented as opposed to complex and sophisticated organisational technology. 2) Most participants in these studies were students except for a few studies. 3) Time of measurement was general and in most studies well after acceptance or rejection of the usage decisions so individuals' reactions were retrospective. 4) The nature of measurement was in general cross-sectional 5) Most of the studies were conducted in voluntary usage contexts making it rather difficult to generalise results to mandatory settings.

Venkatesh et al. (2003) empirically compared the eight models in longitudinal field studies conducted in four different organisations among individuals that were introduced to a new technology in the workplace. The measurement was carried out at three different points in time: post training, one month after implementation and three months after implementation, while actual usage behaviour was measured over the six-month post training period. The data was divided into two samples for the eight models according to the mandatory and voluntary settings. The authors also studied the effect of some moderating variables that have been reported in previous research to affect the usage decision. These were experience, voluntariness, age, and gender. Results showed that, with exception to MM and SCT, the predictive validity of the models increased after including the moderators. The authors then examined commonalities among models and found seven constructs to be significant direct determinants of intention or usage in one or more of the individual models. They hypothesised that four of them play a significant role as direct determinants of user acceptance and usage behaviour.

Based on user acceptance literature and results of models' comparison, attitude, computer self-efficacy, and anxiety were hypothesised not to have a direct effect on behavioural intention. The constructs that do have a direct effect on behavioural intentions and usage are performance expectancy, effort expectancy, social influences, and facilitating conditions. This study will however, test all the seven significant direct determinants of intention. These are (i) performance expectancy, (ii) effort expectancy, (iii) attitude towards using technology, (iv) social influence, (v) facilitating conditions, (vi) self-efficacy, (vii) anxiety. This is important within the context of this study in examining the information behaviour of the professoriate with regard to how they use electronic information resources. Within the

context of this study, it is hypothesised that all the seven constructs are determinants of behavioural intention to use electronic information resources.

The empirical test of the original data (collected from four organisations) and the cross validation using new data (collected from two additional organisations) provided strong support for UTAUT. The new model was able to account for 70 % of the variance in usage intention, which is considered a major improvement over any of the original models where the maximum was around 40%. The authors acknowledged a limitation of content validity due to measurement procedures and recommended that future research should be targeted at more fully developing and validating appropriate scales for each of the constructs with emphasis on content validity and revalidating or extending UTAUT with the new measures (Venkatesh et al., 2003).

The UTAUT has been used in several similar studies. Attuquayefio and Addo (2014) used Venkatesh et al.'s (2003) UTAUT model to determine the strength of predictors for students' intention to accept and use ICT for learning and research in the Social Studies and Business Administration faculties of Methodist University College, Ghana. The findings reveal that Effort Expectancy significantly predicted behavioural intention to use ICT, while social influence (SI) and performance expectancy (PE) were statistically insignificant, as was behavioural intention (BI) on use behaviour (UB).

Ayankunle and Alan (2013) reviewed 37 selected empirical studies and conducted a meta-analysis in order to harmonise the empirical evidence. The outcome of the study suggests that only the relationship between performance expectancy and behavioural intention is strong, while the relationships between effort expectancy, social influence, and behavioural intention are weak. Similarly, the relationship between facilitating condition, behavioural intention, and use behaviour is also weak.

Hettinga and Schuurman (2005) used the UTAUT model to examine nurses' behavioural intentions towards the use of Medical Teleconferencing Application; the study revealed that performance expectancy and effort expectancy are high predictors of behavioural intention but social influence prediction power is low. In a cross cultural study of IT adoption, Oshlyansky, Cairns and Thimbleby (2007) found that performance expectancy, effort expectancy and social influence predicts use intention.

Qian (2008) investigated the validity of UTAUT using 313 intended users of Internet banking in China; the results suggest that performance expectancy and social influence are strong predictors of behavioural intention. In a similar study, Cheng, Liu, and Qian (2008) found performance expectancy and social influence of the UTAUT constructs as predictors of users behavioural intention towards internet banking.

Nisakorn and Thanakorn (2013) used UTAUT to examine the factors influencing healthcare Information Technology (IT) services in Thailand. The results found that the factors with a significant effect are performance expectancy, effort expectancy, and facilitating conditions. They were also found to have a significant impact on behavioural intention to use healthcare technology.

Kocaleva, Stojanovic and Zdravev (2015) used UTAUT to understand teaching staff acceptance and use of eLearning system. The findings of the study show that effort expectancy and facilitating conditions have the strongest effect on intention to use the e – learning system. Yoo, Han, and Huang (2012) used UTAUT to examine the roles of intrinsic and extrinsic motivators in promoting e-learning among employees in a food service company in South Korea. The findings revealed that intrinsic motivators (effort expectancy, attitudes, and anxiety) affected employees' intention to use e-learning in the workplace more strongly than did the extrinsic motivators (performance expectancy, social influence, and facilitating conditions). Furthermore, the effects of intrinsic motivators mediated the effect of extrinsic motivators.

Al-Qeisi, Dennis, Hegazy and Abbad (2015) examined the plausibility of the Unified Theory of Acceptance and Use of Technology (UTAUT) model in predicting internet banking behaviour as a newly adopted technology in third world countries. Data was collected from three Arab countries: Jordan, Saudi Arabia, and Egypt. Confirmatory factor analysis was used to test the hypothesised structural model. Findings suggest that facilitating conditions and social norms were insignificant determinants of usage behaviour, while effort expectancy was a key determinant of internet banking usage behaviour in the examined markets. Users' experience was found to moderate the impact of effort expectancy on behavioural intention.

In the present study, UTAUT is used to compliment Wilson 1996 information behaviour model. The justification for using these two models is that Wilson is a de-facto model of information behaviour since it captures all aspects of information behaviour, both active and passive. On the other hand, UTAUT is a unified theory of eight individual theories of

adoption and diffusion (the TRA, TAM, TPB, C-TAM-TPB, MM, SCT, MPCU, and the IDT) and has been used in several empirical studies with proven validity. These two models were used to address all the research questions. Wilson's (1996) model addresses research questions one to three of the study: 1) "What are the information needs of professoriate at the University of Ibadan, University of Lagos, and Obafemi Awolowo University in Nigeria?" 2) "How do professoriate actively and passively seek, access, and share information electronically?" 3) "What are the preferred information sources by the professoriate?" Venkatesh et al.'s (2003) model will be used to answer research questions four and five: "What are the factors that influence the professoriate's use of electronic information resources?" "What is the attitude of the professoriate towards electronic information resources?"

2.3.3   Summary of Information Behaviour Models

Table 2.1 shows the summary of models of information behaviour used in the study.

Table 2. 1 Summary of Information Behaviour Models

Name of Model	Aspects Covered	Strengths of Model	Weaknesses of the Mode
Ellis (1989, 1993) General Model of Information Seeking Behaviours	Describes the features of different behaviour in information seeking process – Starting, Chaining, Browsing, Differentiating, Monitoring, Extracting, Verifying, Ending.	Explains a robust features of purposive information seeking in general context.	Assumption that information seeking only occurs deliberately. Excludes other important forms of information seeking such as passive attention and information encountering.
Kuhlthau (1991, 1993) Information Search Process (ISP)	Represents information seeking as a process with consecutive stages (Initiation, Selection, Exploration, Formulation, Collection, and	Takes cognizance of the affective and cognitive experience of the information seeker involved in the process of constructing meaning from the information	The model did not include the role of information providers, the individual's information needs, and the context in which they arise.

	Presentation), and the associated feelings, thoughts and actions in an information seeking process.	they encounter.	
Erdelez (2004) Information Encountering (IE) Model	The model covers several steps that occur during IE: noticing, stopping, examining, capturing, and returning.	Describes a combination of cognitive, affective, and behavioural processes that is applicable in the event of encountering information.	The model is narrow and addresses only passive information behaviour.
Leckie et al. (1996) Model of Information Seeking of Professionals	Aspects covered include the work roles of the information seeker, tasks and characteristics of information needs.	Take into cognisance the context under which information is sort, the work role of the information seeker and the factors that shape their information need.	It fails to account for unintended but useful information encountered during an information search
Sonnenwald, (2005), Theoretical Framework of Information Horizons	The model covers information sources and individuals' source preferences across contexts, situations, and social networks.	Analytical description of how users prioritise information sources according to their preferences.	Deals only with information source preference of users in an imaginary airspace. Makes no reference to other modes of information seeking.
Dervin's (1983) Sense-Making Theory	Describes four component in making sense of reality in information related dilemmas; a situation in time and space, a gap, an outcome and a bridge.	Its methodological stance could help to resolve problematic situations. It explains the extent to which information serves to bridge the gap of uncertainty, confusion and the nature of the outcomes from the use of information.	The model is vague and lack explicitness needed in understanding an information seeking process.

Wilson's 1981 Information Behaviour Model	Describes perceived need of information user, formal or informal information sources or services, and success or failure of information search	Depicts information-seeking as a naturally occurring process to address knowledge gap through using formal and informal sources.	The model did account for variabilities that might occur at the individual level of analysis capable of influencing information seeking and use
Wilson's Second Model of 1981	Covers the physiological, cognitive or affective dimensions, the context, role demands, the environments of the information seeker.	It is a macro-model that offers a good source of hypotheses.	The weakness of the model lies in the implicit nature of hypothetical constructs
Wilson 1996 Model of Information Behaviour	Context of information need, activating mechanism, intervening variables, information seeking behaviour, passive attention, passive search, amongst others.	The model is robust in its description of the totality of human behaviour. The inclusion of other theoretical models of behaviour makes it a richer source of hypotheses than earlier models.	The broadness of the model accounts for its limitation. It fails to explicitly elaborate on micro-dimensions of information behaviour

2.3.4 Summary of User Acceptance of Technology Models

Table 2.2 shows the summary of the reviewed theories and models of users' acceptance and use of technology.

Table 2. 2 Summary of User Acceptance of Technology Models

Name of Model	Aspects Covered	Strengths of Model	Weaknesses of the Mode
Technology Acceptance Model (TAM)	PU and PEOU	Wide applicability, robustness, power and validity.	Non-specificity, inadequacy in measuring system usage, absence of

			sound theory/method for measuring PU & PEOU, disregard for societal factors that affect predictors of adoption.
Theory of Reasoned Action (TRA)	Individuals' perceptions, attitudes towards the behaviour, social influences.	Explains relationships between attitude and behaviour. Caters for social influences omitted by TAM.	Assumption that human behaviour is under voluntary control, demographic factors are not addressed at all.
Motivation Model (MM)	Intrinsic motivation (enjoyment and fun), perceived benefits (PU), external pressure i.e., social pressure (Igbaria, 1996).	Motivation leads to important behavioural, cognitive, and affective consequences.	Intention-behaviour gap, difficult to offer any simple predictive application in management practice.
Theory of Planned Behaviour (TPB)	Attitude toward behaviour, subjective norms, perceived behavioural control (PBC).	Individual's intention to perform a given behaviour, extension of TRA, predicting and explaining human behaviour.	Imperfection of predictive power of TPB, acknowledgment of other variables such as habit, perceived moral obligation and self-identity that may predict intentions and behaviour.
Combined TAM & TPB	Attitude decomposed to relative advantage (perceived usefulness), complexity (ease of use) and compatibility, subjective norms, PBC decomposed to self-efficacy and facilitating conditions (Taylor & Todd, 1995a).	Adequate to define individual's behaviour to the use of technology.	Cannot represent organizational aspects, inclination for only technological aspects.
Model of PC Utilization (MPCU)	Peoples' beliefs, affect (feelings), social norms, perceived consequences, habit and facilitating conditions.	Explain people's behaviours toward others in a complicated social environment.	Explain computer usage behaviour in only a voluntary environment, ignores facilitating conditions & habit as predictors.

Information Diffusion Theory (IDT)	Innovation attributes and innovators' characteristics.	Well-developed concepts and a large body of empirical results; innovation attributes act as predictors.	No evidence on how attitude evolves to acceptance, other shortcomings similar to TAM.
Social Cognitive Theory (SCT)	Self-efficacy, outcome expectations and affect (Venkatesh, 1999).	Scientific research, environmental determinants of behaviour, observational learning (Bandura, 1986) Person and cognitive factors (social cognitive theory), report multidirectional causal relationships among the model's major variables.	Too much emphasis on cognition, environmental predictors and too little attention to developmental changes, too mechanical.
Unified Theory of Acceptance and Use of Technology (UTAUT)	Effort expectancy, performance expectancy, social influence and facilitating conditions.	A dominant theory of adoption and diffusion research, most recent, utilizes the strengths of the other eight models.	Most tests were carried out in voluntary usage contexts, external variables, purported unification of different models & theories.

CHAPTER THREE

LITERATURE REVIEW

This chapter presents the review of empirical literature guiding the study. The review of literature was guided by the variables that underpins the study, and developed under the following subsections; information needs of faculty and the Professoriate, active information seeking of the Professoriate, passive Information seeking, information access, information sharing and information sources preferences, Lastly, the chapter is concluded by highlighting the gaps in the reviewed literature.

3.1 Introduction

The focus of this study is to examine the Information Behaviour of the Professoriate in selected federal universities in South West Nigeria. The study addressed the following research questions: (1) What are the information needs of professoriate at the University of Ibadan, University of Lagos, and Obafemi Awolowo University in Nigeria? (2) How do professoriate actively and passively seek, access, and share information electronically? (3) What are the preferred information sources by the professoriate? (4) What are the factors that influence the professoriate's use of electronic information resources? (5) What is the attitude of the professoriate towards electronic information resources? In reviewing the literature, the theoretical models used in the study namely, Wilson (1996) and Venkatesh et al. (2003) were used as a guiding framework.

Theoretical and empirical literature were reviewed on the following key variables such as information needs, information sources, active information seeking, information encounter (passive information behaviour), access to information and information sharing. The review of literature also covers issues of paradigm and methodology (Creswell, 1994; Greene, Caracelli & Graham, 1989; Salomon, 1991). The scope of the literature review covers scholarly journals, monographs, textbooks, conference proceedings, peer reviewed books of abstract essays, and major electronic databases such as ERIC, Social Science Citation Index, ProQuest and Google Scholar. The geographic coverage of the literature review is world view, Africa and Nigeria respectively.

3.2 Information Needs of faculty and the Professoriate

Information needs describe the intended use of information to satisfy a goal. Information needs often precede information seeking (Marchionini, 1995), and describes a vacuum that is to be filled in an information space and within a specific context. The context that pre-empts information needs is very broad and includes the need of information for teaching and research, suggesting that information needs vary across lines of disciplines. Many studies (Xuemei, 2010; Marouf & Anwar, 2010; Thanuskodi, 2009; Aforo & Lamptey, 2012; Bitso, 2012; Hemminger, 2007; Al-suqri, 2011; Meho & Haas, 2001; Meho & Tibbo, 2003; Singh & Satija, 2007; Hannah, 2005; Engel, Robbins & Kulp, 2011; Shpilko, 2011; Shahzad, 2013; Bhatti, 2009; Kumar, Salmani & Baweja, 2014; Lumande & Mutshewa, 1999; Kadli & Kumbar, 2011; Nnadozie & Nnadozie, 2008; Akinola, 2008; Folorunso, 2014; Zawawi & Majid, 2001; Majid & Kassim, 2000) on information behaviour of faculty suggest that faculty needs information mainly for teaching and research.

The recognition of an information need marks the beginning of a search to satisfy the information need. Upon retrieval, the result is checked to determine its relevance to the search query and if the result meets the information need, the search ceases, and if not, the search continues iteratively till the information need is satisfied or is abruptly ended by the information seeker (Wilson, 1996). Studies on information needs of faculty in different fields of study abound in empirical literature.

Thanuskodi (2009), while studying the information seeking behaviour of Law faculty at Central Law College in India, observed that law faculty need information for preparing for lectures and teaching. Out of the 56 respondents of his study, five were professors, seven were senior lecturers, and nineteen were lecturers. Others (25) were guest lecturers. Another study of law faculty in Ghana observed that law faculty need information for research, background reading, and keeping up-to-date with knowledge in their field of specialisation (Aforo & Lamptey, 2012). Law faculty relied more on print than on electronic information resources.

Marouf and Anwar's (2010) study on information behaviour of social science faculty at Kuwait university shows that faculty members need information for teaching and research purposes. Their respondents included ten professors, twenty five associate professors, and nineteen assistant professors. Even when information need of faculty is not explicitly stated in some of the empirical studies, it can be generally assumed that since faculty engage in

teaching, and research activities as their key role, their need for information invariably will be to meet their primary objective. Xuemei (2010) on information seeking behaviour in the digital with a focus on social science faculty depicts this evidence, making no clear distinction on their information needs but buttresses on other dimensions of information seeking. The demography of their study included eight assistant professors, five associate professors, and eight professors. Wang's (2006) interdisciplinary study of academic researchers in the internet era in university of Tennessee in the United States took a similar pattern, suggesting that while the focus of the study was on research, information need of faculty also extend to teaching. Bitso (2012) study on information behaviour of geography teachers in a developing African country of Lesotho found that information need was primarily used for teaching purposes. In addition, the scope of their information need cover contents in geology and geomorphology, plate tectonics, marine erosion, map reading and volcanism. There was no mention of professors in the study demography.

Hemminger et al. (2007) studied the information seeking behaviour of academic scientists, consisting of 30 professors and 20 lecturers at University of North Carolina USA. The study observed that the respondents of their study relied on electronic information resources such as e-journals, web pages and databases to meet their research and teaching needs. Since 91 % of the respondents had access to the internet, it was easier for them to satisfy their information needs electronically. Considering that the study population is made up of 97 professors, sixty four associate professors, eighty six assistant professors and ninety nine research staff, the need for information is ultimately for teaching and research.

A study on social science faculty studying stateless nations by Meho and Haas (2001), likewise suggests that respondents of their study made use of World Wide Web and e-mail in meeting their information need. Singh and Satija (2007) while studying the information behaviour of agricultural scientists in india, found that the professoriate of the study need information for teaching, research and keeping up to date in their field of study. Hannah (2005) examined the information behaviour of social science at the University of West Indies in Jamaica. The outcome of their investigation reveals that faculty needed information for teaching, research, and keeping abreast of developments in their field. They relied on both print and electronic resources to satisfy their information needs.

Rupp-Serrano and Robbins (2013) observed that education faculty in the USA needed information to prepare for lectures, remain current within their field of study, for research

publication, conference presentation, to prepare research proposal and grant application. Majority of the respondents in their study were professors, associate professors and assistant professors.

Engel, Robbins, and Kulp (2011) found that engineering faculty in a US university relied heavily on scholarly journals and internet resources to meet their information needs. The authors noted that reliance on and demand for electronic journals has increased exponentially over the past five years. Faculty meet their information needs in their offices, suggesting that their use of physical library space has equally decreased. The study further shows that engineering faculty use current and archived scholarly journals to satisfy their information need. Archive journal is highly crucial for engineering faculty, since every technological development is dependent on previous developments. Same cannot be said of social science research that finds human behaviour to change over time and in a different context and environment.

Shpilko (2011) assessed the information seeking patterns and needs of nutrition and food science faculty in New York, USA, and found that nutrition faculty use electronic resources for research, and print resources for teaching.

Bhatti (2009) reports on information seeking behaviour of faculty members at Islamia University of Bahawalpur, Pakistan, that social science and humanities faculty need information for preparing for lectures and keeping their knowledge up-to-date **and** conducting research. The respondents of the study include forty assistant professors, ten associate professors, and ten professors.

Shahzad's (2013) findings on information seeking behaviour of faculty in a university in Lahore, Pakistan show that faculty needed information for teaching and conducting research. Use of internet search engines was mainly to satisfy their information needs. Of the respondents, 16.6% were assistant professors, 15.3% were associate professors, while 17.8% were professors.

In examining the information behaviour of health sciences faculty and the impact of new technologies in a university in Illinois, Curtis, Weller and Hurd (1997) found that faculty need information mainly for teaching and research. For their information needs, they relied on journal articles via personal subscription and made heavy use of the internet to search for information.

While investigating the information seeking behaviour of research scholars and faculty members of life science faculty in India, Kumar, Samani, and Baweja (2014) found that they need information primarily for teaching, writing research papers and updating knowledge. The authors observed that the use of online journals was very prominent amongst the faculty members. The respondents were ten professors, eight associate professors and seventy one research scholars.

Lumande and Mutshewa (1999) study on information seeking behaviour among university of Botswana science faculty found that their information need was mainly for teaching and research. They make use of mainly journals, textbooks, and online databases for teaching and research. The respondents of their study include seven professors, eight assistant professors, thirty one senior lecturers, and fifty nine lecturers.

Nnadozie and Nnadozie (2008) in investigating the information needs of faculty members in a Nigerian private university found that they need information for teaching and research, health and social welfare, and community service. Respondents from their study include three professors, five associate professors, eight senior lecturers, twenty five lecturers, and ten assistant lecturers.

Another study in Nigeria by Akinola (2009) on information seeking behaviour of lecturers in faculties of education in Obafemi Awolowo University and university of Ibadan showed that faculties in both universities need information for updating knowledge, conducting research and preparing for class lecture. They make use of periodicals and textbooks to satisfy their information needs. The use of electronic journals to meet their information needs was high.

Folorunso's (2014) study on information seeking behaviour of social science scholars in Nigeria revealed that the research scholars need information for research and keeping abreast of developments in their field of study. To meet their information needs, they rely on journals, online sources and attend conferences. The respondents comprise of ten professors, eleven associate professors, thirteen senior research fellows, fourteen research fellows, and two junior research fellows.

3.3 Active Information Seeking of the Professoriate

Active information seeking is the purposeful seeking of information to satisfy a goal (Wilson, 1999). It is an intentional search for information with the aim of satisfying an information need. It is also referred to as information seeking behaviour. Wilson (2000, p. 49) defines information seeking behaviour as "the purposive seeking for information as a consequence of a need to satisfy some goal". Wilson emphasises that in the course of seeking, "the individual may interact with manual information systems such as a newspaper or a library, or with computer-based systems such as the World Wide Web". Wilson (1999) defines information behaviour as those activities a person may engage in when identifying his or her own needs for information, searching for such information in any way, and using or transferring that information. Information-seeking behaviour as explained by Wilson arises as a consequence of a need perceived by an information user, who, in order to satisfy that need, makes demands upon formal or informal information sources or services, which result in success or failure to find relevant information. If successful, the individual then makes use of the information found and may either fully or partially satisfy the perceived need or, indeed, fail to satisfy the need and have to reiterate the search process. Information seeking behaviour may involve other people through information exchange and information perceived as useful may be passed to other people or used by the person himself. The result of information seeking is the use of the retrieved information to fulfil a goal. Information use behaviour as stated by Wilson consists of the physical and mental acts involved in incorporating the information found into the person's existing knowledge base. It may involve physical acts such as marking sections in a text to note their importance, as well as mental acts that involve comparison of new information with existing knowledge. Wilson further pointed out that in the above definitions data is subsumed under information, and may or not be information depending upon the state of understanding of the information user.

Information seeking is central to our daily lives most especially in an increasingly digital environment where mobile computing and the internet have eased access to information resources. Information seeking among the academia is more traditional than habitual, since the core task of every academia warrants a demand on information resources. Research on information seeking of faculty has come a long way. In the academia however, several studies have focused on the information seeking behaviour of faculty in different fields of study. The focus of this research was to examine the information behaviour of the

professoriate as a unique group. In reviewing empirical literature on information seeking behaviour, attention was given to literature with professoriate in their demography.

Xumei (2010) used a qualitative approach to investigate the information behaviour of eight professors, five associate professors, eight assistant professors, and nine doctoral students in social science and humanities in the US. The result revealed that while social scientists tend to rely heavily on periodicals, humanities researchers rely more on books and primary sources. Overall, the researchers used electronic resources to satisfy 58 percent of their research needs and print sources to satisfy 42 percent of their research needs. In spite of the general preference for electronic information resources, individual differences exist amongst the professorial ranks and discipline. A full professor in the Teaching and Learning department accustomed to using print resources for most of his academic career was unfamiliar with new technologies and found electronic information resources difficult to understand and manage. A full professor in history department was concerned about the availability of older materials in the discipline. According to him "six thousand years of human history is not available online...if you think about local history, court records, and deeds, none of them are available online" (p. 443), justifying the relevance of print sources to his discipline. A professor in Africa Studies department was not familiar with the library's electronic information resources and found it hard to evaluate electronic resources on the web, since the nature of his research relied more heavily upon field studies and preferred the print data to the digitised.

The study also shows usage of electronic resources in accordance to academic rankings. Assistant professors were more enthusiastic users of electronic resources, relying on electronic resources more heavily for their research than associate and full professors. This shows that age influences information seeking behaviour, with younger professoriate having more inclination to electronic information resources than older professoriate. As expected, individual differences in the use of electronic resources exist, a professor in the Language and Philosophy department used electronic resources frequently, but was concerned about the availability of electronic resources that supported his discipline at the university. In general, the study data reveals diverse usage of electronic information resources. Doctoral students and assistant professors are more enthusiastic users of electronic information resources, relying on electronic resources more heavily for their research than associate and full professors. The junior researchers are presumably younger and more comfortable with emerging technologies. Indeed, doctoral students satisfied 61.7 % of their research needs with

electronic information resources, and assistant professors satisfy 70 % of their research needs with electronic information resources. Conversely, senior researchers, perhaps less comfortable with new technology, chose to satisfy the majority of their research needs with print resources, while associate professors satisfied 52 % of their research needs and full professors satisfied 52.5 % of their research needs with print resources.

A similar study by Marouf and Anwar (2010) investigated the information seeking behaviour of ten professors, twenty five associate professors, and nineteen assistant professors of social science in Kuwait using a quantitative approach. The outcome suggests that majority of the professoriate were heavily depended on books and journals for teaching and research purposes. Since the language of teaching in Kuwait is Arabic, the professoriate in the university were constrained to using print sources written in Arabic due to scarcity of online databases that offer scholarly information in Arabic. Their use of informal sources is comparatively less than formal sources. Among the informal sources, conferences, subject experts, and colleagues were given higher importance than librarians and government officials. Journals and books were used more frequently than raw data, technical reports, manuscripts, and primary materials. The population of the study consisted of 88 faculty members teaching at the four departments of the college of social sciences of Kuwait University. Amongst the faculty were 10 professors, 25 associate professors, and 19 assistant professors. The study did not show differences in the use of information resources amongst the various academic ranks.

Hemminger, Lu, Vaughan and Adams (2007) investigated quantitatively the information behaviour of scientists that comprises ninety seven professors, sixty four associate professors, eighty six assistant professors, and ninety nine doctoral students in University of North Carolina in USA. The result reveals that majority of the researchers had easy access to internet in their offices leading to increased usage of electronic resources, and their preferred information sources are online journals, web pages, databases, and personal communication. Their preference for electronic information sources could be hinged on the fact that professoriate in the sciences require current information for their research. In a similar study of engineering professoriates, Engel, Robbins & Kulp (2011) found that engineering professoriates relied heavily on online scholarly journals and internet resources. Their reliance on electronic information sources is largely because engineering professoriate, similar to their counterparts in the science require up-to-date information and innovations in

their field. The author did not show analysis of data based on professorial rank, to see if older professoriates in engineering differ from other groups in their information seeking behaviour.

Thanuskodi (2009) used a quantitative approach to study the information behaviour of Law faculty at Central Law faculty in Salem India. Amongst the 56 respondents were five professors, seven senior lecturers, nineteen lecturers, and twenty five guest lecturers. The result showed law faculty members relied more on text books and law reports for information seeking, while the use of online databases was significantly low, indicating that professoriate in Law relied more on print resources than electronic sources. Reliance on printed information resources (such as text books, law reports and case notes) seems to be more prevalent among law faculty, emphasising the need for the development of online databases of law resources. Thanuskodi's study failed to account for differences in resource usage across faculty ranks, and did not report the informal ways which faculty seek information. In a similar study of Law faculty in Ghana, Aforo and Lamptey (2012) observed that law faculty use law reports, law journals and text to seek information, further buttressing the reliance on print resources than electronic resources by law faculty. Aforo and Lamptey's study made no mention of professoriate in its demography, and implies a blurred line in the information seeking behaviour of the professoriate of law and other law faculty ranks.

Electronic information resources usage is widely used by science faculty as proofed by Hemminger's study. Hemminger (2007), while studying the information seeking behaviour of academic scientists in university of North Califonia, USA found that science faculty access the internet in their offices or lab. Having such convenient access to the internet is critical to increased usage of electronic resources. Environmental factors could also be a possible contributor to usage of electronic resources, since it is expected that academic faculty in developed countries like the US, are better exposed to internet and electronic information resources than their counters in developing countries where access to the internet and other facilitating technological infrastructure are clouded with structural impediments. The outcome also revealed that access to computers in their offices limited visits to the library since they can search online resources directly from their computers. The most frequently used resources by the academic researchers are journals, web pages, databases, and personal communication in that order.

This finding according to the author is a significant change in practice since previous research indicated that journals/books were the most popular source followed by personal

communications for academic researchers (Jirojwong & Wallin, 2002). Researchers in Hemminger's study utilised general web pages and online databases much more frequently than previously reported, almost as much as they use journal articles. This trend is likely attributed to convenience and easy access to internet, as researchers can quickly and easily search for information from the web rather than depend on colleagues. Searching for research materials in online databases is becoming more convenient as researchers increasingly utilise a single interface to search across multiple platforms of resources. Searching and retrieving information is now done primarily at the researcher's desktop, resulting in a dramatic decrease in the number of visits to the library. Personal communication is often reported as the most popular source for non scholarly information. The demography of the study participants includes 97 professors, 64 associate professors, 86 assistant professors, 99 research staff, 83 doctoral students, and 425 masters degree students. The outcome of the research was not differentiated across faculty ranks, hence it is difficult to ascertain precisely how the professoriate measure against the information behaviour parameters.

Meho and Haas (2001) in a study on the information seeking behaviour of social science faculty studying stateless nations across countries of US, UK, Germany, Canada, Australia, France, Italy, Netherlands, Switzerland and Turkey, showed that besides using traditional methods, social science professors use the world wide web and e-mail for locating relevant information; suggesting that these faculty members are aware of and utilise new information technology to support their research. The participants of the study were 6 assistant professors, 9 associate professors and 5 professors. Environmental variables seem to play a crucial role conversant with technology since faculty in developed countries are more technology natives than those in developing countries. Since the data was not analysed along age categories, it may be likely that a large percentage of the professoriate belonged to younger age groups.

In a similar study, Singh and Satija (2007) used a quantitative approach to study the information seeking behaviour of agricultural scientists with particular reference to their information seeking strategies in India. The study participants consist of 131 professors, 128 associate professors, and 73 assistant professors. The outcome showed that most of the agricultural science professoriate preferred journal, discussion with colleagues and experts, books, and references, while reading literature, technical reports and periodicals in that order seeking information. For keeping up to date, they depend mainly on journals, attending conferences and seminars, books and annual reviews. The findings are consistent with Jirojwong and Wallin's (2002) study that indicated faculty preferred journals as their main

formal source and discussion with colleagues as the major informal source of information. It differs from Hemminger's (2007) study on the information seeking behaviour of academic scientists in university of North California, where faculty rated web pages as their second order information preference. Again, environmental variables seem to be the differentiating factor in Singh and Satija (2007) and Hemminger (2007) studies. In spite of the significance of electronic information resources in today's information age, Singh and Satija's study did not account for this important dimension in their study.

Hannah (2005), while using a quantitative approach to study the information seeking behaviour of social science faculty at the University of West Indies, Jamaica, observed that textbooks were the preferred source of information for teaching followed by journals and monographs. For current awareness, respondents named current issues of journals followed by online database searches. Information sources used for teaching and research included citations at the end of journal articles and citations at the end of chapters of a book. On the use of online databases, EbscoHost was shown to have the greatest use followed by Emerald, OCLC first search and Proquest. The respondents of the study include professors (8%), senior lecturers (61%), lecturer (61%), and assistant lecturer (11%).

Rupp-Serrano and Robbins (2013) used a mixed method to examine the information seeking habits of education faculty in the US. The outcome reveals that scholarly journals topped the list as the most preferred resource for research, followed by internet resources, and books. Face to face with colleagues is the informal means of obtaining information by the faculty. Scanning current issues of journals, attending professional conferences, following references or leads from an article or item of interest, and personal communication were the most frequent means of staying current. This trend appears to be consistent with studies conducted in the US. The Professoriate in the US seems to be more at ease with the use of internet, and this suggests the contribution of environmental variables on the information behaviour of professoriate in the US. The respondents consist of 26% professors, 25% associate professors, and 23% assistant professors, while 13% were adjunct faculty, instructors, and lecturers.

Engel, Robbins and Kulp (2011) used a mixed approach to study the information seeking habits of engineering faculty in the US. The survey found that engineering faculty rely heavily on scholarly journals, internet resources, and face to face discussions with colleagues for their research. It is not surprising that scholarly journals and internet resources are the two

most important resources for engineering faculty in the US, just as observed in education and science faculties in Rupp-Serrano and Robbins (2013) and Hemminger (2007) studies in the US respectively. This outcome buttresses the existing trend in IB studies (Rupp-Serrano & Robbins 2013; Hemminger 2007) in the US. The reliance on and demand for electronic journals has increased exponentially in the last five years (Engel, Robbins & Kulp, 2011). Many of the respondents (professoriate) indicated visiting the physical library fewer than five times in the past year. Because engineering faculty increasingly use electronic resources and services, their use of the physical library space has decreased. Another important trend in these studies are personal and face to face communication, which upholds the fact that although faculty depends on electronic databases and internet resources for their research needs, the human element in information communication cannot be overemphasised. Communication and interaction with colleagues is a crucial part of information behaviour and shows how information sharing enhances research output. The respondents of the study consisted of professors (35%), associate professors (24%), assistant professors (23%), while the remaining (17%) were adjunt faculty, instructors, lecturers, and professor emeriti.

Shpilko (2011) conducted a study on assessing information seeking patterns and needs of nutrition and food science faculty in New York, US, and observed that more of the faculty members preferred electronic resources over print resources and read scholarly journals on a regular basis. Majority of the nutrition faculty made use of proceedings from conferences and seminars, use search engines like Google, and access authoritative nutrition web sites. Only few use government sources, newspapers, books and communicated with colleagues via listservs. The respondents indicated that resources differed depending on the task. The respondents were mainly doctoral degree (63.1%) masters (15.8%) and bachelor degree (5.3%) holders. There was no report of professors in the demography. However, the result is consistent with similar studies conducted in the US, indicating a wider acceptability and use of electronic resources in that region in comparison to studies in the Middle East and sub-Saharan Africa.

Sharhzad (2013) used a quantitative approach to survey the information seeking behaviour of members of university faculty in science and technology, social science, arts and humanities in Lahore, Pakistan. The demographic profile of respondents consisted of lecturers (50.3%), assistant professors (17.8%), and professors (15.3%). The study reported that faculty preferred electronic resources when seeking urgent information, and preferred internet search engines for seeking information.

74

Bhatti (2009) carried out a survey using a mixed method to investigate the information needs and seeking behaviour of social science faculty at university of Bahawalpur, Pakistan. The demography of the study participants includes 40 lecturers, 40 assistant professors, 10 associate professors, and 10 professors. The study reported that majority of the participants were not satisfied with the current stock of books related to their fields as they find them inadequate in meeting their research needs. It also revealed that faculty used books, periodicals, indexes, abstracts for teaching and research. It is surprising that journals are not mentioned as part of the information resources used, and neither was there any mention of electronic resources. The location of the study may likely be a major factor and implies that the university has not fully embraced the necessary technology that provides access to electronic resources. Discussion with seniors and colleagues is supported in this study as a major, but informal source of information seeking has been noted in similar studies to play a vital role in seeking information for teaching and research. Discussion entails seeking and sharing information for the purpose of gaining knowledge needed to satisfy an information need. In spite of the significance of consulting subject specialist and experts in the field, only few (27%) of the respondents engaged in this practice. In addition, few are those who use seminar, workshops, and conferences as their informal sources of gathering information. Seminars, workshops, and conferences are an integral part of the academic community and provide a forum for intellectual engagement and a platform for information sharing and dissemination. The study also reported that social science and humanities faculty visit the library for their research. This trend further buttresses the non-availability of internet and electronic information resources in the university that could allow faculty to easily and conveniently access electronic resources in the comfort of their office as reported in studies (Engel, Robbins & Kulp, 2011; Rupp-Serrano & Robbins, 2013; Hemminger, 2007) carried out in the USA.

Curtis, Weller and Hurd (1997) conducted a study on information seeking behaviour of health sciences faculty at the University of Illinois, with a particular focus on the impact of new information technology on faculty information behaviour. The demographic profile of the respondents included 91 professors, 102 associate professors, and 185 assistant professors. The outcome suggests the use of internet and World Wide Web is prominent among health science professors and explains their high use of electronic information resources. Studies on information seeking behaviour conducted in the US show strong inclination towards internet technologies as opposed to similar studies in developing countries. Moreover, science faculty

tend to be very conversant with internet technologies due to the current information requirement of science discipline. Findings also showed that faculty relied heavily on personal journal subscriptions to access online journal articles, implying that these faculty members have a personal craving to gather information needed for research.

Lalith (2010), while studying the information behaviour of management and commerce faculty in Sri Lanka universities found that academics used the library more when doing research paper than they use for preparing for lectures. The reason for use of the library for research by faculty members in Sri Lanka could imply a lack of access to electronic information resources in their offices on one part, and availability of current print resources in the library on the other hand. On the contrary, studies (Engel, Robbins & Kulp, 2011; Rupp-Serrano & Robbins, 2013; Hemminger, 2007) in the US reported that faculty seldom visited the library because they have easy access to electronic information resources at the comfort of their offices. This shows library usage pattern is influenced by availability and accessibility of electronic information resources. Respondents in Laith's study rank electronic and printed information sources high as their main source preferences. The respondents include senior lecturers (65.5%), lecturers (33.3%), and professor (1.14%).

Kumar, Salmani and Baweja, (2014) reported the outcome of the information seeking behaviour of research scholars and faculty members in life sciences in India using a quantitative technique. Result of the study showed that faculty used information for teaching, research, writing research papers, and updating knowledge. Use of online journals was prominent among the faculty members. The demographic profile of the respondents comprised 10 professors, 8 associate professors and 71 research scholars. This study indicated that professoriate in the sciences are more likely to use electronic information resources more than their counterparts in the humanities regardless of geographic location. Phenomenon in science is universal and research in the sciences depends heavily on current information.

Lumande and Mutshewa, (1999) used a quantitative approach to study the information seeking behaviour of university of Botswana science faculty. The outcome reveals that information sources used by faculty were mainly journals, textbooks, and online databases. The result however, did not show an analysis of differences in the use of these information sources by faculty ranks. Therefore, it is difficult to know how professoriates differ in the use of these sources. However, the prevalence of use of online databases indicates high patronage

of electronic information resources by science faculty and further reinforces the prevalence of electronic information resources usage in the sciences globally.

Nnadozie and Nnadozie (2008) studied the information needs of faculty members in a Nigerian private university. The findings reveal that faculty need information mainly for teaching and research, health and social welfare, community service. The major sources of information are library (53.6%), print media (23.2%), electronic media (17.9%), and discussion with colleagues (5.3%). The respondents consisted of 3 professors, 5 associate professors, 8 senior lecturers, 12 lecturers, 13 lecturers 2, 10 assistant lecturers, and 5 graduate assistants. The faculty in this study makes more use of the library, and tend to rely more on print sources than electronic sources. This is probably due to the fact that faculty members in some locations in developing countries have limited access to internet and electronic information resources in their offices. Some universities in developing countries, especially those with limited funding, do not subscribe or have very limited subscription to online databases due to cost. This limits their ability to access electronic information resources in the comfort of their offices. The result did not show analysis of data based on faculty ranks to see how professoriate information behaviour differ from other faculty members.

Akinola (2009) surveyed the information seeking behaviour of lecturers in faculties of education in Obafemi Awolowo University and University of Ibadan, Nigeria. The result of the study showed that faculty members from both universities seek information for updating knowledge, conducting research, and preparing lectures. They use periodicals and text books for research. The use of electronic journals for seeking information for educational purposes was high among the faculties of both universities. The result implies that even within the same geographic location, contextual factors play a part in information seeking. For instance, within Nigerian universities, there are very wide differences in information infrastructure amongst the universities. The first generation universities are better equipped in terms of technology infrastructure, expertise and research output, and enjoy higher ranking than the second and third generation universities. It is understandable that research conducted in the different universities might have significantly different outcomes. This explains why information resources usage is reportedly low in a research carried out at Madonna University (a fourth generation university) but high in the University of Ibadan and Obafemi Awolowo university (first generation universities).

Folorunso's (2014) study on information-seeking behaviour of social sciences scholars in a research institute in Nigeria demonstrate diverse usage patterns for electronic information resources among users of different academic ranks. Junior research fellows, research fellows, senior research fellows, and associate professors are more enthusiastic users of electronic information resources, relying on electronic resources more heavily than print resources. In particular, junior research fellows use electronic resources about twice (70%) as much as research professors (36%) to satisfy their research needs. Presumably, these junior researchers are younger and more comfortable with emerging technologies. The result revealed that scholars not more than 50 years approached electronic information resources much more than their older counterparts. These findings are consistent with Xumei's (2014) study, where the author found younger professors more attuned with technology than their older counterparts.

3.4 Passive Information Seeking

Active information seeking has since occupied information science literature for the past decades. The role of information which is incidentally or accidentally acquired has been neglected in the study of information seeking behaviour (Williamson, 1998). Recent researches have shown that useful information can be encountered in the process of a deliberate search for information and even when leisurely exposed to different forms of media. Wilson states that:

> "We have habits of reading and watching and listening to public vehicles of communication-newspapers, television, radio, magazines, and books. These are not random, but patterned activities. In this process, information is in part acquired because it is deliberately sought. It is also found where it is not specifically sought, as an accidental concomitant of routine activities with other purposes or as pure accident. It is clear that we could describe individual patterns of information-gathering activity, both where the search for information was the primary motive and where it was incidental (Wilson, 1977, pp. 36-37)".

The term "incidental information acquisition" is seen as synonymous with "accidental information discovery", suggesting that people find information unexpectedly as they engage in other activities. Some of this information they did not know they needed until they heard or read it. This is also the meaning implied by Williamson's (1997) paper. Erdelez (1997, p.

412) used the term "information encountering" for "memorable experiences of accidental discovery of useful or interesting information".

Chen and Hemon's (1982) study found that while frequently discussing another problem with a friend or relative, respondents sought spur-of-the-moment assistance with the situation described to the interviewer. Same pattern was found for the mass media where the respondents' encountered miscellaneous information which they felt might be of use in resolving an information need.

Savolainen (1995, p. 317) and Krikelas (1983) dealt specifically with this important aspect of information behaviour. The former saw everyday life information seeking as manifesting itself in two major forms, one of which is "monitoring of daily life world". The latter, who defined "information need" as the recognition of uncertainty, believed that people make ". . . an attempt to continually construct a cognitive environmental 'map' to facilitate the need to cope with uncertainty" (Krikelas, 1983, p. 8). He saw people as storing information to meet needs they might have in the future. Maybe because he was considering information needs in work-related settings, Krikelas did not include in his model the notion of "unconscious" needs. He therefore appeared to ignore situations in which a need is perceived only when information is "discovered".

While studying the role of incidental information acquisition in an ecological setting, Williamson (1998) reported that the process of "incidental information acquisition" was occurring. It was found that sometimes the mass media were used purposefully, for example, to look up cinema times. More commonly, respondents listened to radio, watched television, read magazines, newspapers or other printed materials (for example, pamphlets and leaflets) without the intention of locating specific information. They often "picked up" information through these sources, information that they had not even known that they needed until they heard or read it. They also talked to family, friends, colleagues and neighbours, often without the intention of seeking information, but in the course of conversations, information was exchanged. Some of the information acquired through all these sources was later used. Since the mass media, libraries and other information services were most often mentioned by respondents, the author argued that, in terms of information for everyday life, these systems exert a powerful influence in the "informing" process and raises the question on how they can be adapted to, and meet the needs of users.

Haley, Wiessner and Robinson (2009) conducted a collaborative qualitative enquiry into encountering new information and perspectives in constructing knowledge in conference contexts. Collaborators in the inquiry included conference coordinators, university faculty researchers, doctoral student research assistants, and conference attendees. The findings for this research report focus on a pattern that emerged through data analysis. Initial open coding of the data revealed a pattern of interaction and engagement with conference content at two different levels. Participants may engage in the material, and they may state their intention to act based on the material. They are more likely to report engagement than action.

Foster and Ford (2003) applied a naturalistic inquiry into the nature of serendipity in information seeking context of interdisciplinary scholars, both as a problem solving strategy and a sheer mode of knowledge acquisition. The outcome suggests that serendipity was widely experienced among the inter-disciplinary researchers. Serendipitously discovered information impacts on the discovery process by reinforcing or strengthening the researcher's existing problem, conception, or solution and taking the researcher in a new direction, in which the problem conception or solution is re-configured in some way. Besides the impact of serendipity, the nature of serendipitous information is revealed in two folds; the unexpected finding of information, the existence, and/or location of which was unexpected rather than the value, and the unexpected finding of information that also proved to be of unexpected value.

Gup (1997, 1998) examines the role of serendipity in information retrieval system, but observes that the value of serendipity is under threat, as electronic retrieval tends to reduce the opportunity for serendipitous information encounters. This view is supported by Cooper and Prager's (2000) study of digital collections, which illustrates the potential for limiting the occurrence of serendipity through filters and document rankings which can excessively limit searches. Similarly, Huwe (1999) suggests that the move to digital libraries might jeopardise serendipity by reducing the number of available paths to reach a given set of material. The literature of information retrieval and information seeking has also provided some support for the view of serendipity as a purposive or active phenomenon. Within this literature, serendipity has been seen to be of some importance, often considered as a by-product of browsing. In a similar approach Rice et al. (2001, p. 182) make much of the connection between browsing and serendipitous retrieval, indicating that "serendipitous findings are one of the consequences of browsing in the library and through journals, finding something of

interest or some things that are not originally sought". Browsing was associated (Rice et al., 2001, p. 179) with the most pervasive information searching activity and said to exist in three forms: search browsing, general browsing and serendipity browsing.

Erdelez, Basic and Levitov (2011) employed a literature search in accessing the potential for inclusion of information encountering within information literacy models. Five information literacy models popular in the U.S were identified and evaluated to determine if they include information encountering. Results show that none of the information literacy models made explicit reference to information encountering or other type of opportunistic discovery of information, but they all have components that can accommodate this type of information behaviour.

Stewart and Basic (2014) studied the information encountering experiences of undergraduate students and the potential role of personal information collection, management, and retrieval in information literacy instruction. Undergraduate students enrolled in an information literacy course were surveyed regarding their experiences online with information encountering and personal information management. Survey questions were adopted from the information encountering scale developed by Wise and Erdelez (2012) and consisted of twelve questions focused on the noticing, stopping, examining, and capturing steps of the Information encountering model (Erdelez, 2004). The study indicates that the vast majority of the undergraduate students responding to the survey were frequently encountering unexpected information while online, but were not capturing this information for future use using built-in, web-based tools. While information literacy courses teach students to identify, seek, analyse, and use needed information, they do not prepare them to manage and retrieve unexpected information encountered while using the Internet.

Matchell and Bly (2004) explored how people share information they encountered in their everyday reading as a complement to the more traditional digital library focus on sharing intentionally retrieved materials. The study found that sharing forms a significant use for encountered materials. The study identified three general areas of inquiry; how sharing encountered items fit into the broader spectrum of clipping practices, the value of sharing encountered information, and the social role of sharing encountered information. The outcome revealed that personal clippings are more often content or information-centric rather than exposition to use. To realise the intended value of the clippings, people rely on re-encountering them at the proper time or in the appropriate situation, for example when the

anticipated information need arises. In contrast, shared clippings often are not so strongly content-oriented. They may serve their intended function at the time of initial receipt, for example, strengthening social ties by demonstrating a shared interest. Thus, the shared material's importance is not tied so tightly to the anticipated utility of the content, but rather the appropriateness of the content to the sender's communicative goal. The study recipients indicated that they valued receiving the shared material independent of its immediate utility. The significance of this paradox is that the shared materials often appeared to serve a function other than expressed information need.

3.5 Information Access

Information access is an important area of research within library and information science (LIS) domain, but presently it is conceptually, methodologically, and theoretically underdeveloped (Vaagan, 2005; Carbo & Smith, 2008). Information access is often not explicitly defined in LIS literature. The terminology is fluid and often used in different contexts. "Access to information" is more commonly used in LIS research (Blakemore & Craglia, 2006; Burden, 2000; Caidi & Ross, 2005; Cooke, 2007; Jorgensen, 2006; Lor & Britz, 2007; McDermott, 2007). However, many authors (Burnett & Jaeger, 2008; Jaeger, 2007; Jaeger & Burnett, 2005; Lievrouw & Farb, 2002; Smith, 1995) have also used the term "information access" in their research. The two terms, access to information and information access should be seen as functionally equivalent, as demonstrated by several scholars who used both interchangeably (for example, Burnett, Jaeger & Thompson, 2008; Jaeger & Burnett, 2005; Lievrouw & Farb, 2002; Smith, 1995).

Jaeger and Burnett (2005, p. 465) define access as "the presence of a robust system through which information is made available to citizens and others". Such a system has physical, intellectual, and social components. Thus, information access is a combination of intellectual, physical, and social elements that affect the availability of information to individuals. As Jaeger (2007, p. 843) affirms, "Access stands at the centre of information behaviour". On the other hand, Aguolu and Aguolu (2002) argue that availability of information resources must be distinguished from accessibility. Availability of information resources means ensuring their presence in libraries for immediate use. He explains that learning materials might be available but inaccessible to those who need them.

Similarly, Lievrouw (2000) notes that, information must be generally available before an individual can become personally aware of that availability; pointing out that mere

availability is not sufficient for access. In line with this argument Dervin (1994, p. 369) notes the false assumption that "availability equals accessibility" needs to be contested, and argues in his model that personal awareness of availability can be converted into accessibility through individual capacity such as literacy and social intelligence. "Access occurs through individual action and can be ensured only if members of a community have developed sufficient individual capacity to convert availability to accessibility and subsequently to obtain access" (Dervin, 1994, p. 157).

Burnett, Jaeger, and Thompson (2008, p. 57) states that "access has three dimensions, physical, intellectual, and social. Physical access connotes the physical structures that contain information, the electronic equipment that houses the information, and the paths used to transmit the information". Burnett et al. (2008) argue that geography, technology, and economics affect physical access. Intellectual access refers to understanding information in a document, including how the information is categorised, organised, displayed, and represented (Jaeger & Bowman, 2005, p. 67). Individual traits such as physical or cognitive abilities and disabilities, language competence, and technological literacy can affect intellectual access. Whereas physical access is enhanced, constrained, or manipulated in the external environment, intellectual access is affected by the individual's internal characteristics. Lastly, the concept of social access suggests that elements of one's social world, including social norms and worldviews, influence the information one accesses and how and why particular information is sought (Burnett & Jaeger, 2008; Jaeger & Thompson, 2004). The authors are of the opinion that neither physical nor intellectual access can be understood in isolation, they are mediated by the social milieu of individuals. Lor and Britz (2007, p. 390) support this claim by stating that a well-developed and well maintained information infrastructure alone is not enough. They argued that accessible information should also be available, relevant, affordable, timely, and readily assimilated, and in languages and contexts users can relate to and understand. The conceptualisations of information access reviewed here are complex, with multiple understandings of information access. This is not surprising, as other researchers have similarly noted diverse perspectives of information access. For example, Dole, Hurych, and Koehler (2000) report that librarians throughout the world considered "access" to be a core value of librarianship, but found no standard, shared definition of that value. Some researchers (Byrne, 2003; Brown, 2004; Lor & Britz, 2007; Corredoira, 2007; Cramer, 2009) however, argued that the right of access to information has become the dominant right in the information and knowledge era.

In order to generate a broader understanding of access McCreadie and Rice (1999a, 1999b) reviewed literature across six different disciplines that covered information science, information society, library studies, mass media, organisational communication, and economics of information. Six different conceptualisations of access emerged from the result.

The first, "access to knowledge, and its representations" (p. 50), is the most common across disciplines. This includes messages sent and received, printed and audiovisual materials, digital data, analysis and advice, and education. In LIS, this conception of access typically includes books, documents, periodicals, citations, and databases. The emphasis, according to McCreadie and Rice, tends to be on the representations or artifacts of knowledge; there is an underlying assumption that if people have access to an artefact, then they have access to the knowledge contained therein. In individuals' personal and work lives, "access to knowledge" can affect their quality of life and decision-making abilities (McCreadie & Rice, 1999a, pp. 49-51).

The second common conceptualisation is "access to technology," which primarily focuses on connections or interactions with particular technological systems or types of media. McCreadie and Rice (1999a, p. 51) found this perspective less common in the LIS literature they reviewed. This conceptualisation, McCreadie and Rice note, frequently assumes that access to technology, or use of some system, is equivalent to access to information. However, a host of factors can intervene or complicate the relationship between access, information, and use. In addition, technology mediates individuals' access to information, either intensifying or compensating for individuals' abilities. Finally, McCreadie and Rice explain that "access to technology" can have a compounding effect: the more access one has the easier and more effectively one can gain further access.

A third conception, "access as communication" (p. 51), was found in information science and information society literatures, as well as in library studies. According to this perspective, access involves making sense of and using information. This includes comprehension, retention, and decision making. Again, a compounding effect is evident: "communication competence is gained through access to and participation in communication practices"(p. 52), so those who gain access to information are likely to benefit more and gain further access. In other words, an initial level of access to information begets competence in accessing and utilising further information (McCreadie & Rice, 1999a, pp. 53-54).

The remaining three conceptions of information were found less frequently in the LIS-related literature reviewed by McCreadie and Rice. First, access can be understood as control, meaning, "control of participation and of content, or control over who gains access to what information to whose advantage" (p. 52). Second, information access can also be conceptualised as "access to economic commodities or goods" (p. 53), implying that there are costs and benefits of access. This perspective is particularly common in the economics of information literature, and evaluates the risks, resources, and markets for access to information. Finally, McCreadie and Rice found that several disciplines consider access as a means to participation, particularly in the political process; here, information access includes rights, social power, and even the ability to benefit from accessing information. According to their research, four of the six conceptualisations are present in LIS disciplines: access as knowledge, technology, communication, and participation, though participation is rarely discussed (McCreadie & Rice, 1999b, pp. 54-78).

More recently, Jaeger and Burnett (2005, p. 465) propose that information access should be defined as "the presence of a robust system through which information is made available to citizens and others". The potential breadth of this definition is somewhat unclear, because the authors leave their conception of "system" vague. However, from the context of the article and subsequent publications (Burnett & Jaeger, 2008; Burnett, Jaeger & Thompson, 2008; Jaeger, 2007; Jaeger & Bowman, 2005), it is clear that "system" is meant to encompass more than a technological system; rather, system entails socially and politically contextualised complex means by which individuals obtain information. Hence, this definition reaches beyond technological tools and is useful for studying various forms of information access.

Information access falls within the broader research domain of information ethics (Carbo & Smith, 2008; Froehlich, 1992; Hauptman, 1988; Himma & Tavani, 2008; Mathiesen, 2004; Vaagan, 2005). Information ethics is fundamentally about who ought to have access to information and under what conditions (Mathiesen, 2004). Information ethics theories that posit a moral agent see information access as a central concern (Frohman, 2008). Thus, for at least some information ethicists, information access is an important part of this research domain. The American Library Association (ALA) Code of Ethics (2009) also demonstrates the significant relationship between information access and information ethics; the preamble states that library and information science professionals are "explicitly committed to intellectual freedom and the freedom of access to information" (p. 4). They have a special

obligation to ensure the free flow of information and ideas both in the present and in future. The first principle in this Code of Ethics includes "equitable access" (Mathiesen, 2004, p. 5).

Early studies report a trend towards faculty striving to have their own personal computers, a situation that has fostered computer literacy (Marshall, 1989). Later research (Adams & Bonk, 1995) conducted at the State University of New York in the United States shows that academic faculty access information using the computer more in their offices than in their homes. If computer access amounts to internet access, then computer access in offices increases accessibility to electronic information resources. Even though the internet was still at its early developmental stage at this period, early studies suggest that access to information is strongly associated with access to computer.

Subsequent studies reported a much higher level of Internet access at home (79 %) as compared to access at the office (50 %) (Renwick, 2005). This implies that with the decreasing cost of internet access combined with the portability and affordability of laptops, notepads, and smart phones, access to information cannot be confined to a fixed location. A more recent study (Singh & Kumar, 2013) on information access and utilisation by university faculty shows that faculty prefer to access online resources from their offices and home than from the university library. The respondents include professors, associate professors, and assistant professors. This implies that easy access to the internet and electronic resources coupled with the mobile nature of digital devices has decreased library patrons. Presumably, while in the office, the professoriate can use the internet infrastructure provided by the university and at home can connect to an ISP provider using data modem.

Bane (1995) examined the influence of CD-ROM full text databases on the use of print collections and found a consistent decrease in the use of the latter. The impact of remote access to full text electronic journals portrays similar trends, where print journal usage in academic libraries has decreased significantly since the introduction of online journals (Rogers, 2001; Morse & Clintworth, 2000). Indeed, this scenario agrees with other studies in that faculty prefer online information retrieval to traditional print sources resulting in reduction of in-house library use (De Groote & Dorsch, 2001; Morse & Clintworth, 2000).

Accessibility of information sources is an important recurring theme in information science literature. Resources may be available in the library and even identified bibliographically as relevant to one's subject of interest, but the user may not be able to lay hands on them (Aguolu & Aguolu, 2002). Citations may be identified in indexes but access to the sources

containing the relevant articles may be difficult. The more accessible information sources are, the more likely they are to be used. Aguolu and Aguolu (2002) indicate that, the availability of an information source does not necessarily imply its accessibility because a source may be available but its access is prevented.

Ugah (2008) while studying the availability and accessibility of information sources and the use of library services at university of Agriculture in Nigeria, observed that information sources are not easily accessible and that there was significant relationship between the accessibility and use of library services. The use of library services has a 79.8% dependence on the accessibility of information sources and an 81% dependence on the availability of resources. Majority of the respondents agreed that information sources were not easily accessible, leading to a lack of satisfaction with library services. Aina's (1983) study on access to scientific and technological information in Nigeria, reveals that of the 7,014 scientific papers published between 1900 and 1975, 5,607 (79%) are journal articles and 1,116 or (20%) of these journal articles were not indexed or abstracted, making them inaccessible. Iyoro (2004) examines the impact of serial publications in the promotion of educational excellence among information professionals receiving further training at the University of Ibadan. The study looks at the perception of how serial accessibility has contributed to students' learning process. Serials were found to play a significant role in the acquisition of knowledge, because the serial collection was easily and conveniently accessible.

Access to information is not without impediments. Both structural and systemic challenges have been noted. Ojo-Igbinoba (1993) stated that developing countries in Africa in particular, have suffered from poor communication facilities and shortage of budget allocation to import recent journals and other information resources. However, this situation is gradually beginning to change, as academic institutions in these countries now have increased access to the Internet that provides them with access to online resources including full text journals (Sulemani & Badu, 2003).

Ugah (2007) through literature review examined the obstacles to information access in developing countries. Lack of awareness, inaccessibility, information explosion, bibliographic obstacles, environment, poor infrastructure, declining budgets and rising costs, and staff attitude toward users were the main obstacles observed. Uhegbu (2002, p. 62) identified five impediments to free access to information as economic, social, environmental,

occupational, and infrastructure. Etim (2001) identified seven obstacles namely physical infrastructure, technical, and managerial capabilities, among others. In a similar study, (Sulemani & Katsekpor, 2007; Singh & Kumar, 2013) found unreliable internet services as a major factor that limits faculty's use of library services.

Aguolu and Aguolu (2002) argue that availability should be viewed from both national and instructional levels. They attribute the lack of availability of information sources to the steady proliferation of universities: federal, state, and private, along with increases in students and faculty, and the diversification of courses and academic and research programmes, without adequate information sources to meet the actual information needs. Dike (1992) conducted research on the scarcity of books in Nigeria and the threat to academic excellence. She was able to establish that non-availability of information sources had led faculty not to use library services. Olowu (2004) identifies natural and artificial barriers to free access to information. The library's poor reputation was attributed to lack of accessibility of information sources. A study by Marama and Ogunrombi (1996) confirms high unavailability of information science resources in most Nigerian university libraries, which had a negative effect on the use of information sources in the libraries studied. The librarians could not conduct quality research and publish research papers. The study, though limited to LIS, can be generalised to other subject areas.

Ajayi and Akinniyi (2004) found frustration among information seekers due to the non-availability of sources. Aina (1985) analysed the availability of periodical titles used in Nigerian libraries, finding that only 67 (11.5%) of the 578 periodical titles studied were not available in any of the major libraries, confirming a high rate of unavailability.

Oduwole and Akpati (2003) carried out a study on use of electronic information resources at the University of Agriculture Library in Abeokuta, Nigeria; his study also identified lack of ICT and power supply outage as constraints to use of electronic resources. In the same vein, Watts and Ibegbulam (2006) surveyed some of the barriers to the use of electronic information resources available at the Medical Library of College of Medicine, University of Nigeria, Nsukka. Their findings exposed the lack of adequate ICT (information and communication technology) infrastructure and affordable online access, absence of in-depth ICT skills and information searching skills among library staff, and cost of using the cybercafé as barriers to the use of electronic resources. Ray and Day (1998) found that limited time and lack of effective information retrieval skills were the main barriers to using e-sources. Conversely, faster access to information was noted as the main advantage of

electronic sources. Bar-Ilan et al. (2003) found that speed; accessibility and searchability were seen as the main advantages of using electronic information resources, while the main disadvantages were lack of access, lack of coverage and low readability.

The importance of access to information remains very crucial in the present information age where information combined with the technology that delivers creates the backbone to knowledge production. Both individuals and organisations with access to information use it as a competitive advantage. In the academia, free access to information enables faculty to prepare adequately for classroom teaching and is a vital tool to advance research in a constantly changing world. Buckland (1991, p. 77) recalls that "access emerges as a recurrent theme" across information science research. In spite of its strategic importance in human information behaviour, access remains, for the most part, under conceptualised and infrequently studied in library and information science.

The present study identifies the significance of furthering research in information access with a view into how university professoriate access information to fulfil their teaching and research need in a bid to narrow this gap in empirical literature.

3.6 Information Sharing

Information sharing is an umbrella concept that entails a wide range of collaborative behaviours including sharing accidentally encountered information to collaborative query formulation and retrieval (Talja, 2002, p. 145). Information sharing is essential in the academic environment and sharing of knowledge is considered one of the important features of academic life. Information sharing among academics occurs across all the stages of scholarly communication, from knowledge creation to knowledge dissemination. Research publication, research networks and collaboration, and scholarly gatherings such as conferences, seminars and workshops, play a key role in enabling information and knowledge sharing (Fari & Ocholla, 2015). In principle, sharing as a norm is enforced by a priority-based scientific reward system in which the first person to discover a result gets the reward associated with the discovery (Dasgupta & David, 1987; Stephan, 1996). Tensions arise between communal sharing and competitive incentives for researchers during a research process (Dasgupta & David, 1994; O'Mahony, 2003). This tension along with incentives created by the monetary potential of academic research has made restrictive sharing a reality and increased interest in information sharing among academic researchers (Cohen & Walsh, 2002; Murray, 2006).

What drives competing academic researchers to share information during the research process is based on two important contexts: specific sharing, where researchers share information about their work privately in response to a request, and general sharing, where a researcher shares new, unpublished results publicly. While the communal desire for information sharing is universal, factors that encourage sharing in one context may not in another. In essence, sharing can be highly context dependent because of differences in individual trade-offs and incentives. In specific sharing, a researcher who shares in response to a request from another bears the cost of preparing materials or documentation, but also, by providing access to the information, the researcher increases the probability that someone else will solve her research problem first. There is a potential benefit, but only in the future, and only if the requesting scientists has information of value and reciprocates. Hence, sharing depends on the likelihood of future reciprocity and the level of competition. In general, a researcher who shares new results can gain immediate feedback, particularly if the audience includes researchers who have solved complementary parts of the problem.

When resources are held by different parties, exchange of information and materials is a prerequisite for resource combination. The shared information and materials allow researchers to build on each other's work and achieve results faster. Thus, scientific progress and its societal benefits hinge on the sharing of information (Thursby et al., 2009). Nevertheless, while the scientific community as a whole may benefit from the free dissemination of knowledge, information-sharing is often challenged by a scientist's personal interests.

3.6.1 Determinants of Information Sharing

The prerequisite of information sharing is underpinned by several factors. Besides the academic researcher's personal interest, considerations of reciprocity and the extent to which the researcher perceives their community to conform to the norm of open science, influence directly his propensity to share information. Competitive interests of the researcher are also an important factor of exchange (von Hippel, 1987; Schrader, 1991; Bouty, 2000).

Haeussler (2011) observed that competition affects the information sharing behaviour of academic scientists. The author noticed that while the likelihood of sharing decreases with the competitive value of the requested information, it increases by the extent to which the researcher perceives that his or her community conforms to the norm of open science and when the inquirer is an academic scientists. The information requested from another scientists

may entail a competitive advantage for the holder of this information as long as it is scarce in supply (Hilgartner & Brandt-Rauf, 1994). The competitive edge is greater when the requested information is more valuable; conversely, the competitive edge declines when the requested information becomes widely available. Divergently, Rosenberg (1990) and Dasgupta and David (1994) advocated that researchers working for universities should be guided by the ethos of openly sharing knowledge. In contrast, researchers working for companies are expected to be secretive in order to protect the economic gains of research results.

As to what prevents sharing of information in academia, scholars are of the opinion that sharing information could cause academic scientists to lose unique knowledge advantage relative to other scientists (Vallas & Kleinman, 2008) and benefit all others except the sender (Thorn & Connolly, 1987). Walsh et al. (2007) report that in the life sciences, scientists working in highly competitive research fields are less likely to reveal knowledge to their peers.

One factor that gains more and more attention with regard to the accumulation and exchange of information is reciprocity. Reciprocity implies that the recipient of a favour from another party is obliged to reciprocate the gesture in order to maintain the balance of benefits and contributions. In the context of information exchange, this mechanism is supported by two elements: the interest in sustaining a good relationship with the provider of the information, which increases the chances of future exchanges and inherent feelings of guilt and fear of bad reputation to those unwilling to return a favour (Takahashi, 2000).

Haeussler's (2011) study found that expectation of reciprocity did not influence information-sharing of academic researchers, but moderates the effect that the competitive value of the requested information has on the likelihood of sharing. This suggests that reciprocity has a subtle effect on the decision to share information. Considerations of reciprocity takes place when individuals receive a particular favour and feel obliged to reciprocate, and when a person gives a favour in the hope that it will be reciprocated. In the latter case, information sharing is dependent on whether offering a favour to another party increases the chances that the recipient reciprocates the gesture in the future. Reciprocity becomes a powerful form of social capital to spur information-sharing when the inquirer is perceived to be able and willing to reciprocate in the future (Haeussler, 2011). This "tit-for-tat" mechanism works well when the parties know each other and trust is developed quickly (Ostrom, 1999) or when parties are social "neighbors", which increases the probability that the gesture will be

repeated in the future (Boyd & Richerson, 2002). Previous studies have supported the claim that considerations of reciprocity influence academic researchers. Collins (1982) observes that academic scientists employed in university and state laboratories are most likely to reveal data to colleagues who have something to return.

3.6.2 Empirical Studies on Information Sharing

Fari and Ocholla (2015) in a comparative assessment of information sharing among academics in Nigeria and South Africa universities found that the main type of information shared by the surveyed academics was information on conferences, seminars, and workshops. The Nigerian academics were more interested in sharing information about part-time, visiting, and sabbatical jobs. The surveyed academics in both countries shared information on scholarship availability, and information on new technology. The academics evidently recognised the usefulness of technology and visibly embraced its information and knowledge sharing capabilities. The academics in both countries explored other forms of information sharing, such as participation in joint. They also indicated a strong measure of research collaboration with academics within their institutions. A significant number of the academics stated that they shared information with academics in their countries. The study revealed that the majority of the surveyed academics in both countries used computers, mobile phones, social media, and the internet to share information. Digital cameras/photos and CD-ROMs were mostly used by the Nigerian academics, while teleconferencing and videoconferencing were largely used by the South African academics, suggesting that South African academics were using more new technologies for knowledge sharing than their Nigerian counterparts.

3.6.3 Challenges to Information Sharing

There are many challenges to information sharing. Buckland (1991) lists six barriers to information sharing especially in Africa to include changes in researchers' behaviour, motivation and influence (Mulligan & Mabe, 2011); culture and race (Ford & Chan, 2003; Trefry, 2006); lack of trust (Ngulube, 2005); lack of basic hands-on skills; poor infrastructure and facilities (Osunade, Philips & Ojo, 2007; Fari, 2011); negative attitude to information and knowledge sharing among academics (Aliyu, 2007); and information illiteracy (Umar, 2009). Some of the most significant challenges are lack of awareness (Association of College and Research Libraries, 2000; Ologbonsaiye, 1994; Aboyade, 1982; Aliyu, 2007; Fari, 2010) and inaccessibility (Riege, 2005). Other challenges include the information explosion

(Mohammed, 2000; Uhegbu, 2007); bibliographic obstacles (Aliyu, 2007; Mohammed, 2000; Banjo, 1984); poor infrastructure; declining budgets and rising costs of information products and services and costs to users; staffing issues; crime (Maidabino & Zainab, 2011; Holt, 2007); and international/diplomatic barriers (Britz & Ponelis, 2012).

The challenges affecting information sharing were much more pronounced among the surveyed academics in Nigeria in comparison to their South African counterparts. They highlighted serious problems concerning the inadequacy of information resources (Fari & Ocholla, 2015).

3.7 Types of Information Sources

Information sources are published in a range of formats: print, electronic and audio-visual. Print formats are the paper form of information. This includes books, serials, official publications, magazines, and other specialised sources. Electronic information sources refer to anything that is recorded, stored, and retrieved using computer technology, which includes CDs, DVDs, and all online sources including searchable databases. Audio-visual resources consist of sound and visual images. These include television programmes, motion pictures, music recordings, and slides.

Information is usually categorised into two main types; primary and secondary sources. Primary sources of information come directly from a person or organisation. They are original and have not been altered in any way. This includes diaries, patents, diaries, newspaper articles, artefacts, photographs, transcripts of conversations or interview, speeches, music, art, legislation and policy, novels, poems, plays, parliamentary papers amongst others. Secondary sources of information interpret and comment on primary sources, and include books, articles that summarise the work of others, literature reviews and biographies.

The main types of information sources may be available in print, audio-visual, and electronic format. Books are one of the most commonly used information sources and can be either fiction (work of the imagination) or non-fiction (fact-based). Non-fiction books provide in-depth detail on a subject. Most books have content pages, indexes, and chapter headings which helps the intended reader to quickly evaluate them. Books come in form of print and electronic formats.

Reference works include dictionaries, encyclopaedias, almanacs, bibliographies, and directories. Many of these reference works are now available online as well as in hard copy and are excellent for finding introductory information, topic overviews, definitions, statistics, facts, signpost and other information sources quickly.

Serials (also known as periodicals) include newspapers, magazines and journals, and include any work published at regular intervals. They are excellent sources of current information, presenting the latest thinking in easily digestible chunks. However, the short length of most articles often prevents the author from exploring the subject in great depth. Newspapers and magazines are aimed at a more general readership, while some serials cover a wide subject area; others focus on a particular subject or industry. As with books and reference works, many serials are published electronically, some are free to access, while others require subscription.

Websites are collections of web pages which reside on the World Wide Web. Thousands of new websites are created every day, offering a vast quantity of information of varying value. A well defined search strategy and excellent evaluation skills are required to use the internet effectively.

Government publications, such as command papers, legislation bills, acts, and statutes, debates, and reports can be in print format and can be found online in government official websites.

Specialised sources provide unique, scholarly, or historically valuable information and include conference papers, thesis, dissertations, diaries, manuscripts, letters, photos, maps, brochures, and pamphlets. People also provide a rich source of information especially those with unique experience or expertise. Knowing the right people to talk to provide an individual with the information needed quickly and easily, helping to save valuable research time and effort.

3.7.1 Information Source used by the Professoriate

In a survey of 350 academic faculty members in Technological Educational Institute (TEI) of Thessaloniki Greece, (Korobili et al., 2006) majority of the faculty used printed sources to a greater extent than other sources but they also used e-sources quite frequently. They made most use of books, websites and printed journals. It was also found that the use of e-sources was higher in the School of Business Administration and Economics among those who hold a PhD degree and among younger members of the faculty. In addition, the results indicated that

the use of e-sources was positively influenced by the respondents' perceived usefulness of sources, the convenience of access to the sources, and their academic productivity. Nnadozie and Nnadozie (2008) in a survey of information needs of faculty members in a Nigerian private university found that Journals/periodicals and monographs/textbooks were the sources of information consulted by faculty members. Some of the non-book information sources consulted by faculty members included the Internet and other online databases. Furthermore, some respondents admitted that television, and telephones were their non-book sources of information.

Khan (2012) analysed the use of information sources by faculty members and research scholars in a university in India and found that faculty members as well as research scholars use journals for getting their required information. They accessed printed journals/periodicals in the central library while most of the faculty members personally subscribed to printed journals/periodicals. The study shows that faculty consulted Emeraldinsight.com and Science Direct.com for accessing required online information.

Ehikhamenor (2003a) conducted a study to investigate the use and non-use of the internet facilities by academic scientists in ten Nigerian Universities. The findings of the study indicated that the scientists were still heavily dependent on printed sources, although some of the faculty members had access to, and were using, the internet in teaching/research.

More and more faculty are moving from using printed sources to using e-sources, and more specifically the Internet, as a major source of information. There is a large body of literature that focuses on the use of e-resources, especially on the Internet. The results of a user survey at the University of Hong Kong Libraries (Woo, 2005) showed that 68.8% of the respondents preferred to use journals online compared to 31.2 % who preffered to use printed journals. It has been identified that discipline has a major influence on usage patterns and preferences, and that faculty members in science or agriculture tend to use the Internet more intensively than faculty members of humanities or social sciences (Lazinger et al., 1997; Bar-Ilan et al., 2003). Age also plays an important role in usage; the younger the faculty members are, the more the use of electronic sources (Bar-Ilan et al., 2003).

It has also been reported that men are heavier users of the Internet and make most use of the complicated services (Busselle et al., 1999; Teo, 2001; Cheong, 2002). Bar-Ilan et al. (2003) also found that gender and academic rank have only a minor influence on the usage of e-sources and the Internet.

Bayugo and Agbeko (2007) reported on a survey of convenient access to, and use of, electronic databases (CDROM and online) with full-text journals and their effect on information seeking behaviour of health sciences academics at the College of Health Sciences in the University of Ghana. The survey documented academics preferences of print and electronic resource, and the specific databases and full-text journals. The results showed that academics were unaware of the two full-text journal databases (HINARI and PERI) available at the Library. Hence, they resorted to PUBMED as their source of access to full-text articles. They concluded that most academics now prefer information in electronic format to traditional print resources.

Erdamar and Demirel's (2013) study on electronic source preferences of education faculty at Gazi University found majority of faculty prefer e-journals to print journal. It was found that those younger than 40, research assistants, lecturers and associate professors used e-sources more commonly; and that increased age and academic title meant decreased frequency of e-source use. According to (Bar-Ilan, Peritz, & Wolman, 2003) the most active users of electronic journals are the younger members of the teaching and research staff. In a related study, Bush (2004) showed that age was not an influential factor in whether the respondents read articles on paper or in electronic format. While studying the dependency on e-resources (e-books, e-journals, e-tutorials, online databases, CD-ROM databases and e-reports) usage among social science faculty in Iranian universities, Negahban and Talawar (2009) found that social science faculty depended on all forms of e-resources for teaching and research.

The source preferences of social sciences faculty at Kuwait University reveals that they heavily depended on books and journals for teaching and on a larger variety of materials for research purposes (Marouf & Anwar, 2010). In a similar study of social science faculty, Bandi and Ramakrishnegowda (2015) observed that their information preference pattern cuts across both print and online resources. Attending conferences and workshops, and browsing the Internet were also preferred sources for seeking information.

Mučnjak (2009), in a comparison of usage data between social science and humanities faculty in a university in Croatia, found that preference for e-resources was higher among social science faculty than humanities. The explanation according to the author was hinged on the fact that literature becomes outdated in social sciences faster than in humanities. Overall, the study found that social sciences and humanities faculty preffered e-journals more than print books. Brennan et al., (2002) in studies that centered on how the adoption of electronic

information resources had affected academics' information behaviour, revealed that academics made fewer visits to the library and read more e-journals than the print era.

3.8 Summary of Literature

The literature review covered the variables in the research questions that guided the study. The first segment reviewed literature on information need of faculty in line with research question one that addressed the information needs of professoriate at the designated universities. Information need often precedes information seeking and describes a gap to be filled in an information space and within a specific context. Within the context of teaching and research, information needs varies across disciplines. Information needs marks the beginning of a search towards satisfying that need. The search could be manual or electronic using an information system. Upon retrieval, the information is matched against the criteria that precipitated the search process. This process may be recursive until the information need is satisfied.

The summary of literature on information needs reveals that the general information needs of faculty are for teaching, research, and keeping abreast with current developments in their fields of study. Across disciplines, the medium used to access information differs. For example, law faculty appears to meet their information needs using print resources and rely on text books, law journals, constitutions, and case files (Aforo & Lamptey, 2012). A particular study of geography faculty shows that the scope of their information need covers contents in geography and geomorphology, plate tectonics, marine erosion, map reading and volcanism. Whereas many faculty members across disciplines used varying ratio of print and electronic to meet their information needs, social science, science, and engineering faculty members appeared to use more electronic information resources than humanities and law faculty in meeting their information needs.

Active information seeking is the purposive seeking of information because of a need to satisfy some goals. The literature on purposeful information seeking reveals that faculty depended on printed information sources used mainly for teaching and research purposes. Use of electronic information resources prevail more in research settings and in studies conducted in the west relative to those carried out in sub-Saharan Africa. Where data is analysed across academic ranks, use of electronic information resources was found to be more dominant among younger faculty members than their older counterparts. In comparison, engineering and science faculty members use more electronic information resources than

their social science and humanities counterparts. Social science faculty members appeared to use more electronic information resources than humanities and law faculty members.

The role of accidental encountering of information has been neglected in the study of information behaviour. This has recently caught the attention of researchers whose studies show that useful information can be encountered in the process of a purposeful search. The review of empirical literature on passive information seeking show serendipitous information occurs in different settings and contexts. In a study in home setting, information encounter in mass media was used in resolving need, while a study of everyday life information seeking saw participants storing information to meet needs they might have in the future. In studying the role of accidental information acquisition in an ecological setting, accidental information acquisition was seen occurring in the mass media. A collaborative qualitative enquiry into encountering new information and perspectives in constructing knowledge in conference contexts, revealed a pattern of interaction and engagement with conference content. Studies that examined the role of serendipity in information retrieval system observed that the value of serendipity is undermined as electronic retrieval has the potential to reduce the opportunity for serendipitous information encounter. The study on information encountering experiences of undergraduate indicates that many of them frequently encounter unexpected information while online, but were not capturing this information for future use. A study that explored how people share information they encountered in their everyday reading found that sharing forms a significant part for encountered materials. An inquiry into the nature of serendipity in information seeking of interdisciplinary scholars, suggests that serendipity was widely experienced among the inter-disciplinary researchers.

Early research (for example, Adams & Bonk, 1995) on information access observed that faculty access electronic resources from their office. Due to the emergence of the internet, subsequent studies (for example, Renwick, 2005) report much higher levels of internet access at home, owing to portability and affordability of mobile devices such as laptops and notepads. The change in trend implies that access to electronic information resources using digital devices cannot be confined to a single and static location. This is evident in recent studies (De Groote & Dorsch, 2001; Morse & Clintworth, 2000; Singh & Kumar, 2013), which showed faculty preference to access online resources from their offices and home than from the university library. Both structural and systemic challenges were observed in studies

(Ojo-Igbinoba, 1993; Etim, 2001; Sulemani & Badu, 2003; Ugah, 2007; Sulemani & Katsekpor, 2007) as hindrances to information access.

Information sharing in the academic environment occurs through research publications, research networks and collaboration, and scholarly gatherings. Information sharing has two dimensions; specific sharing which is a response to a request for specific information, and general sharing where a researcher shares research outcomes in open access platforms. Sharing is context dependent and influenced by individuals' value for information. Review of literature supports the notion that information sharing is influenced by the individuals' personal interest, considerations of reciprocity, perception of community to conform to the norm of open science and competitive interest. Review of empirical studies on information sharing highlights the main types of information shared by faculty as information on conferences, seminars, and workshops. Negative attitude towards information sharing among academics and poor information technology infrastructure were amongst the major impediments to information sharing.

Information sources exist in print, electronic and audio-visual formats, and can be categorised into primary and secondary sources. Review of literature on information source preferences show that faculty use print and electronic resources for teaching and research. Some studies reported high preference for printed sources (Ehikhamenor, 2003a; Marouf & Anwar, 2010), while others depicted a high reliance on electronic sources (Woo, 2005; Erdamar & Demirel, 2013). Many studies (Korobili et al., 2006; Nnadozie & Nnadozie, 2008; Khan, 2012; Woo, 2005; Bandi & Ramakrishnegowda, 2015) however, reported that faculty were rapidly embracing electronic resources in addition to print, indicating a shift from print resources to electronic resources, with younger faculty relying more on electronic information resources in comparison to their older counterparts. Discipline is another determinant of information source preference; faculty members in science and agriculture tend to use the electronic information resources more intensively than faculty members of humanities or social sciences (Lazinger et al., 1997; Bar-Ilan, Peritz, & Wolman, 2003).   Social science faculty was observed to have more preference for e-resources than humanity faculty (Mučnjak, 2009). Though men were reportedly heavy users of internet (Busselle et al., 1999; Teo, 2001; Cheong, 2002), other studies (Bar-Ilan et al., 2003) did not observe any significant difference in the use of electronic resources across gender. Age played a significant role, with younger faculty members being more users of electronic sources (Bar-Ilan et al., 2003). Preferences

for electronic resources have resulted in fewer visits by faculty to the library (Brennan et al., 2002). Lack of ICT infrastructure, lack of access and poor information retrieval skills are some of the barriers to electronic information resources (Ray & Day, 1998; Oduwole & Akpati, 2003; Bar-Ilan et al., 2003; Watts & Ibegbulam, 2006).

3.8.1 Gaps in Literature

Review of literature on information needs shows that most of the literature was from the west and middle eastern countries. Most of the literature focused on the information needs of the faculty in general, with little attention given to the information needs of the professoriate as a specific group. This creates a gap that this study intends to fill by investigating the information needs of the professoriate as a specific group. This is addressed in research question one *"What are the information needs of the professoriate in the universities of study"*.

The reviewed literature on information seeking behaviour suggest that faculty still depend heavily on printed sources more for teaching, while depending more on electronic sources for research purposes. Most of the literature reviewed examined the active information behaviour of faculty in general. Attention was not given to the professoriate as a unique group. This study filled this gap by focusing specifically on the purposive use of information by the professoriate. Besides, there is the need for studies on professoriate active information behaviour in sub-Saharan Africa, to see how they differ from their counterparts in developed countries. This is because studies have shown that faculty members in developed countries are often more accustomed to using electronic information resources in comparison to those in developing countries. This study filled this gap by answering research question two *"How does the professoriate actively seek information electronically?"*

The review of literature on serendipitous (passive) information seeking clearly reveals a paucity of empirical literature in this direction especially within the academic context. Moreover, most of studies appear to be carried out in western settings with little attention given to serendipitous information encounter in the African context. There are no sufficient studies on accidental information encounter of social science faculty and in particular, the professoriate. This gap in knowledge in information science literature is addressed by research question two *"how does the professoriate passively seek, access and share information electronically?"*

The review of literature on information access reveals that most of the studies were carried out in the west, where there is easy access to electronic resources due to improved information infrastructure as compared to developing countries. There is therefore a need for more studies in sub-Saharan Africa to cater for geographical differences in information science literature. Most of the literature focused on faculty in general, with very few studies on the professoriate as a unique group. More studies are needed to examine the information access attributes of the professoriate specifically; since the information environment is a constantly changing one, studies that examine changes in information access pattern of the professoriate as a unique group will be significant to information science literature. This gap is addressed by research question two *"how does the professoriate access information electronically?"*

The review of literature on information sharing revealed a paucity of empirical studies on information sharing in the Sub-Saharan African context. Majority of the literature were based in western information sharing text. Little literature on information sharing in the African context only considered the information sharing behaviour of academics generally, with no special attention given to the professoriate as a unique group. This observation was acknowledged by Talja (2002, p. 143). In the author's view, "information sharing practices in academic communities, although recognised in the literature..." "…have rarely been taken as object of analysis in their own right" This present study fills this gap in the library and information science literature by investigating the information sharing behaviour of the professoriate as a specific group. Such new knowledge will have a significant contribution to empirical studies on information sharing literature in the African context. Filling this gap in information science is what research question two addressed *"How does the professoriate share information electronically?"*

The review of literature on information source preference reveals that majority of the literature focused on the information preference of faculty in general with little attention given to the information preference of the professoriate as a unique group. The literature did not highlight the criteria for information source selection of the professoriate as a unique group. Therefore, this study will fill this gap in information science literature by examining the information preferences of the professoriate as well as the criteria used in selecting those sources. This gap is addressed in research question three *"What are the information source preferences of the professoriate?"*

3.9 Conclusion

This chapter reviewed empirical literature using the themes of the research questions namely; information need, information seeking, information encountering, information access, information sharing and information source preferences. The review of literature revealed gaps in knowledge filled by this study. The following chapter presents the methodology for the study.

CHAPTER FOUR

RESEARCH METHODOLOGY

This chapter presents the research methodology for the study. The chapter discusses the research methodology, philosophical assumptions, the research design consisting of the population, sample size and sampling techniques, data collection instruments and procedures, administration of questionnaire and interview. Lastly, the chapter presents the validity and reliability of the instruments, data analysis procedure, and ethical considerations respectively.

4.1   Introduction

All research methodologies are linked to and differentiated by philosophical assumptions. Grix (2004) states that people who want to conduct clear, precise research and evaluate other research need to understand the philosophical underpinnings that inform their choice of research questions, methodology, methods and intentions. Hence, how one views the constructs of social reality and knowledge, affects how they will go about uncovering knowledge of relationships among phenomena and social behaviour and how they evaluate their own and other research. When conducting research, Crotty (1998) argues that researchers can choose which stage to begin, ontological, epistemological, methods or methodology. Other authors stress that research is best conducted by identifying your ontological assumptions first. According to Grix (2004), research is best done by setting out clearly the relationship between what a researcher thinks can be researched (the ontological position) to what is known about it (the epistemological position), and how to go about acquiring it (the methodological approach). In essence, your ontological assumptions inform your epistemological assumptions, which inform your methodology and these all give rise to your methods employed to collect data (Grix, 2004, p. 68). Besides, research is based on some underlying philosophical assumptions about what constitutes 'valid' research and which research methods are appropriate for the development of knowledge in a given study. In order to conduct any research, it is important to know what these assumptions are.

4.2   Research Methodology

Methodology is the rationale behind the collection of concepts, ideas, theories, and assumptions. Research methodology is a technique of collecting data systematically. Research method is a strategy of enquiry, which moves from the underlying assumptions to research design, and data collection (Myers, 2009). Although there are other distinctions in

the research modes, the most common classification of research methods is into qualitative and quantitative. Whereas quantitative research deals with the systematic scientific investigation used to measure the feelings and thoughts of people, and actions of the way and why things are done, qualitative research is used to gain an in-depth insight into matters that affect human behaviour (Domegan and Fleming, 2007). Both quantitative and qualitative research studies are conducted in library and information science disciplines. Neither of these methods is intrinsically better than the other; the suitability of which needs to be decided by the context, purpose and nature of the research study in question. This study used a mixed method approach to investigate the information behaviour of the professoriate in selected federal universities in South West Nigeria. The study collected quantitative data from the professoriate, while qualitative data was collected from the university subject librarians whose opinion and perspectives contribute in answering the research questions. Using a mixed method in a single research takes advantage of benefits of quantitative and qualitative approaches in providing answers to the research questions.

4.3   Research Paradigm

Hughes (2001a, p. 31) describes a paradigm as a way of seeing the world that "frames a research topic" and influences the way we think about the topic. Similarly, Fraser et al. (2004, p. 59) describe it as a "set of beliefs about the way in which particular problems exist and a set of agreements on how such problems can be investigated". Kuhn (1970, p. 146) views paradigms as "the entire constellation of beliefs, values, and techniques shared by members of a given scientific community", and "provide the concrete puzzle solution of how to solve a scientific problem (Seale, 1998, p. 12). A paradigm comes before the theoretical perspective of the research. It is the "world view" that is accepted by members of a particular scientific discipline which guides the subject of the research, the activity of the research and the nature of the research outputs (Corbetta, 2003, p. 11). Pickard (2013) argues that a research paradigm does imply a methodology; often, an individual's view of the world dictates the nature of the research they engage with.

Positivist thinking is associated with quantitative research, interpretivist thinking with qualitative research and postpositivist thinking with a dualism that attempts to include both methodologies. In the views of Pickard (2013), postpositivism is the paradigm under which mixed methods research functions, and agrees with Giddings (2006, p. 195) that it is "a pragmatic research approach that fits most comfortably within a postpositivist epistemology".

However, there is still an ongoing debate and view point as to the relevance of linking methodological choices to philosophical paradigms, and leaders in the field do not agree to the need to acknowledge an underlying paradigm, nor do they agree on the role that such paradigms serve in the research process. The contrasting viewpoints with regards to the place of paradigms in the research design community range from Patton's (2002) position, unnecessary and possibly handicapping, to Schwandt's (2000) position, inescapable. On one side of the debate, Patton (2002) argues that one can learn to be a good researcher, and learn to make sense of the resulting data, without first engaging in deep epistemological reflection and philosophical study. Such reflection and study can be so inclined, but it is not a prerequisite for fieldwork. Indeed, it can be a hindrance (Patton, 2002, p. 69).

On the other hand, Schwandt (2000) argues that the practice of social inquiry cannot be adequately defined as a theoretical making that requires only methodological prowess. As one engages in the "practical" activities of generating and interpreting data to answer questions about the meaning of what others are doing and saying and then transforming that understanding into public knowledge, one inevitably takes up "theoretical" concerns about what constitutes knowledge and how it is to be justified, about the nature and aim of social theorising, and so forth. In sum, acting and thinking, practice and theory, are linked in a continuous process of critical reflection and transformation (Schwandt, 2000, pp.190-191). Ladson-Billings (2000) takes an even stronger stance than Schwandt in asserting that the choice of a paradigm (and its associated epistemology) represents a choice between hegemony and liberation. She recommends that the academy go beyond transformation to reconstruction, meaning that teaching, service, research, and scholarship would be equally valued and used in the service of furthering intellectual enrichment, social justice, social betterment, and equity (Ladson-Billings & Donnor, 2005, p. 295).

It is my opinion; a researcher's philosophical direction shapes every decision made in the research process and includes the choice of methods. Though researchers begin without an understanding of their paradigm and its associated philosophical assumptions, does not mean they have no such assumptions. They are merely conducting research that rests on unexamined and unrecognised assumptions. Therefore, for a researcher to plan and conduct his own research, read and critique the research of others, and join in the philosophical, theoretical, and methodological debates in the research community, he needs to understand the prevailing paradigms, with their underlying philosophical assumptions.

This study applied a pragmatist paradigm. Tashakkori and Teddlie (2003) identify pragmatism as one of the paradigms that provides an underlying philosophical framework for mixed methods research. The ontology of pragmatism proffers that all individuals have their own unique interpretations of the world (Tashakkori & Teddlie, 2003). Rather than treating incommensurability as an all-or-nothing barrier between mutual understandings, pragmatists treat issues of intersubjectivity as a key element of social life. In particular, the pragmatist emphasis on creating knowledge through lines of action points to the kinds of joint actions that different people can accomplish together (Morgan, 2007, p. 72). The epistemological perspective of pragmatism indicates that rather than positioning oneself as a distance observer, the pragmatist is free to "study what interests you and is of value to you, study it in the different ways that you deem appropriate, and utilise the results in ways that can bring about positive consequences within your value system" (Tashakkori & Teddile, 1998, p. 30). In terms of methodology, pragmatists emphasise on the importance of using mixed methods and avoid being constrained by a single, monolithic method (Maxcy, 2003). Pragmatism sees mixed methods as offering a practical solution to the tensions created in the research community concerning the use of quantitative and qualitative methods (Johnson & Onwuegbuzie, 2004). Rupp-Serrano and Robbins (2013) used a pragmatist paradigm to study the information seeking behaviour of education faculty professoriate in US, and Engel, Robbins and Kulp (2011) used it to study the information behaviour of professoriates in engineering faculty in the US.

Applying pragmatist paradigm in investigating the behaviour of the professoriate towards information resources gives the researcher better understanding of how they interact with information, the objects and entities that hold these information and the channel through which it passes to reach the professoriate. Another keen perspective of the researcher is to see how the professoriate interact with the dynamics of the technical and social elements in the information space of the professoriate. This ontological position of the researcher is the philosophical foundation that pre-empts this investigation. In terms of epistemology, the prevailing knowledge of how the professoriate interact with information resources have not received sufficient attention. Investigating their information behaviour in a highly complex, and often challenging environment require the problem investigation to be both subjective as well as objective. This underlying philosophical premise is the main motivation for the use of a pragmatist paradigm with its associated methodological approaches.

4.4   Research design

Research design is the set of logical steps taken by the researcher to answer the research question. It is the blueprint for a study and sets out the methodology used by the researcher to obtain sources of information, such as participants, elements, and units of analysis, to collect and analyse the data, and to interpret the results (Brink, van der Walt & Van Rensburg, 2012, p. 96). Creswell (2009, p. 3) refers to research design as the plan and the procedures for research, spanning the decisions from broad assumptions to detailed methods of data collection and analysis. According to Polit & Beck, (2004, p. 49) research design is the overall plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research process.

This study used a pragmatic, parallel mixed method design that entailed a parallel collection of both quantitative and qualitative data to provide answers to the research questions. This method involved the parallel collection of quantitative data from the professoriate and semi-structured interview with the subject librarians. Questionnaire was used to collect the quantitative data from the professoriate and interview schedule was used in the process of interviewing the subject librarians for the qualitative data. Bhatti (2010) used a mixed method approach to study information needs and information-seeking behaviour of forty lecturers and sixty professoriates in humanities at the Islamia University of Bahawalpur, Pakistan. Findings reveal that faculty in that university relied heavily on print sources for teaching and research.

4.4.1 Population

Population is all individuals of interest to the researcher (Marczyk, DeMatteo & Festinger, 2005). Fraenkel and Wallen (2009) define population as individuals or elements with similar characteristics. It also comprises of all the members of a particular group who are of interest to the researcher (Fraenkel & Wallen, 2009). According to (Brink, Van der Walt & Van Rensburg, 2012) the population is the entire group of persons or objects that is of interest to the researcher, in other words, that meet the criteria that the researcher is interested in studying. The population of the study comprises the professoriate and the subject librarians in the faculties of social sciences and humanities in the three universities. The population of the professoriate and subject librarians in the three universities is 246 and 28 respectively. The distribution of the professoriate and subject librarians by universities is depicted in the table 4.1 below.

Table 4.1: Population of Professors in University of Lagos, Ibadan and OAU (Sources: Planning department (university of Ibadan); www.unilag.edu.ng; www.oauife.edu.ng)

Faculty	Population of Professors in University of Lagos, University of Ibadan and Obafemi Awolowo University			Population of Subject Librarians in the three universities	Total No. of Professors and Librarians in the three universities
	Male	**Female**	**Total no of professoriate**	**Subject Librarians**	**Total**
Social Science and Humanities (Unilag)	64	22	86	12	98
Social Science and Humanities (Unibadan)	78	13	91	10	101
Social Science and Humanities (OAU)	58	11	69	6	75
TOTAL	**200**	**46**	**246**	**28**	**274**

Population includes full professors, associate professors, and assistant professors.

4.4.2   Sample Size and Sampling Techniques

In conducting a study, data can either be collected from a segment of the population, known as sample, or from the entire population (census) (DeMarrais & Lapan, 2004; Babbie, 2007). Marczyk, DeMatteo and Festinger (2005) defined a sample as a subset of a population, and emphasised that it is important that the sample be representative of the population from which it was selected. Brady (2008) defined a census in research, as collecting data from all available members of a population used for the study. In a very large population however, it is not practical possible to include every member of the population of interest in a study. Time, money, and resources are three main limiting factors that make this unlikely. Most researchers instead study a representative subset (a sample) of the population. In cases where the population is small, it is recommended that the whole population be investigated.

If the sample used in the study is representative of the population from which it was drawn, the researcher can draw conclusions about the population based on the results obtained with the sample. In other words, using a representative sample is what allows researchers to reach broad conclusions applicable to the entire population of interest based on the results obtained in their specific studies (Marczyk, DeMatteo & Festinger, 2005).

In research there are two standard methods of sampling, probability or random sampling and non-probability or non-random sampling. Random sampling is a procedure through which a sample of participants is chosen from the population of interest in such a way that each member of the population has an equal probability of being selected to participate in the study (Kazdin, 1992). Researchers using the random selection procedure first define the population of interest and then randomly select the required number of participants from the population. Probability sampling includes simple random sampling, systematic sampling, stratified random sampling, cluster sampling, and census (De Vos, Strydom, Fouche & Delport, 2011, p. 228). In non-probability or non-random sampling, the chances of selecting a particular individual are not known because the researcher does not know the size or members of the population (De Vos, Strydom, Fouche & Delport, 2011, p. 231). Non-probability sampling includes accidental, convenience, purposive, quota, and snowball sampling (De Vos, Strydom, Fouche & Delport, 2011, p. 231). Non-probability sampling requires the researcher to judge and select those participants who know the most about the phenomenon being investigated by the researcher (Brink, Van der Walt & Van Rensburg, 2012, p. 139).

The study used census of all the professoriates and subject librarians of social science and humanities in the faculties of social science and humanities in the three universities. The sample size of professoriates for university of Lagos is (86), university of Ibadan (91), and Obafemi Awolowo University (69), making a sample of 246 which was used. The sample size for the subject librarians in social science and humanities in university of Lagos was (12), university of Ibadan (10), and Obafemi Awolowo University (6), making a sample of 28. The overall sample size for both the professoriates and the subject librarians was 274 (See table 4.1).

As pointed out above, the study took a census of all the professoriates in the faculties of social science and humanities and their subject librarians at the three universities resulting in 246 professors. The advantages of using a census in a study is that it provides a true measure of the population without a sampling error; it provides reliable data for future studies and gives detailed information about small sub-groups within the population (Gray, 2004) Census sampling technique was used to collect qualitative data from the 28 subject librarians in social science and humanities in the three universities. The opinion of subject librarians was vital since they are the custodians of information needed by the professoriate for teaching

and research. RIN (2007) used a purposive sampling technique to collect qualitative data from librarians on the use of academic libraries by researchers in United Kingdom.

4.4.3 Data Collection Instruments and Procedures

Polit and Hungler (1999) defined data as information obtained in the course of a study, while Fraenkel and Wallen (2009) described data as the various types of information gathered on a subject matter. Instruments, on the other hand, are mechanisms or tools used to gather data on a study (Fraenkel & Wallen, 2009).

Jensen and Jankowski (2002) pointed out that questionnaires or interview schedules are the main methods used in collecting data in a survey research. Other methods are focus group discussion, document review and observation (Pickard, 2013). This study used a mixed questionnaire containing open and close ended questions to collect quantitative and qualitative data from the professoriate in social science and humanities in the three universities. Some of the items in the questionnaire were self-structured while others were adapted from previous empirical studies. Items on information seeking, access, sharing and use of electronic information sources (research questions 2 & 3) were adapted from Xuemei (2010); Items on information source preferences (research question 3) were adapted from Singh and Satija (2007); Items on passive information behaviour (research question 2) were taken from Palsdottir (2010); Items on attitude (research question 5) were from Larbi-Apau and Moseley (2012). Items on information needs (research question 1) were taken from Ezinwanyi and Opeke (2013). Adapting questions from previous empirical studies give credence to the external validity (generalizability of the quantitative data to other settings) of the instrument (Shadish et al., 2002). The questionnaire was structured such that each segment captured the items that addressed the research questions.

The questionnaire was divided into five sections. The first section, section A elicited information on the demographic characteristics of the professoriate. The demographic data collected include faculty, department, field of specialisation, professorial rank, highest qualification, age group, gender, and marital status.

The second section (section B) collected information on information behaviour of the professoriate. The professors were asked to choose the types of information they require to fulfil their teaching and research needs using the scale very important (VI), important (I), slightly important (SI) and not important (NI).

110

The third section (section C) elicited information on active and passive information behaviour of the professoriate, how they access and share information, their preferred information sources, and the criteria used in selecting information sources. Under the active information behaviour segment, the professoriate were asked the sources they sought information from, using the scales, always, occasionally, rarely, and never. The passive information seeking segment was concerned with knowing the professoriate's information encountering experience while engaged in purposeful information search. The scales used are always, occasionally, rarely, and never. Under this segment, they were also asked what they use the encountered information for, and the scale always, sometimes, rarely, and never was used to elicit the responses. On information access, the professoriate was asked where they access information and the frequency of use of digital devices to access the information and the challenges faced in accessing information. In the information sharing column, the professoriate was asked the sort of information they usually share and the frequency of sharing such information. They were asked how they shared research information and the digital devices used when sharing information.

The fourth section (section D) sought information on the professoriate's preferred information sources. The respondents were to choose from a list of different information sources using the scale most preferred, preferred, somewhat preferred and least preferred. They were also asked to indicate the criteria used when selecting information sources, using the scales, very important (VI), important (I), slightly important (SI) and least important (LI).

The fifth section (section E) examined the factors that influenced the professoriate's use of electronic information resources. The factors considered are performance expectancy, effort expectancy, attitude towards using technology, social influence, facilitating conditions, self efficacy, anxiety and behavioural intention. Items listed under the major constructs were measured using 5-point Likert scales ranging from strongly disagree to strongly agree.

The last section (section F) gathered information on professoriate's attitude towards electronic information resources. Items used to measure attitude includes "electronic information resources make my teaching and research easy"; "Using electronic information resources saves a lot of time and effort in research"; "Electronic information resources is an effective tool for teaching and research"; and "I would like to learn more about electronic information resources". A 5-point Likert scale, ranging from strongly disagree to strongly agree was used to measure the professoriate's responses.

4.4.4 Administration of Questionnaire

A total of 246 professors and 28 subject librarians from social science and humanities in the three selected universities participated in the study. The researcher made use of professional research assistants to collect the quantitative and qualitative data. The research assistants were employed for the data collection because they were very familiar with the three universities and have good experience in data collection. The questionnaires were distributed to professors through one-on-one visit to their offices. Collecting data from the professors was a hectic process and took approximately six months, since they were seldom available due to their busy schedules. In University of Lagos, 86 questionnaires were distributed, 48 were collected and only 40 were found fit for data analysis. This represents a success rate of 46.5%. In University of Ibadan, 91 questionnaires were distributed, 76 were collected and 70 were found fit for analysis, which represents a success rate of 76.9%. In Obafemi Awolowo University, 69 questionnaires were distributed to the professoriate, 60 questionnaires were retrieved and 55 were found fit for analysis representing a success rate of 79.7%. In all, 165 questionnaires were found fit and coded for data analysis. This figure represents a success rate of 67%.

4.4.5 Semi-structured Interview Schedule

Interview can take different forms, from the very structured, formal interview which is a researcher-administered questionnaire, to the very informal, purposeful conversation (Lincoln & Guba, 1995). The purpose of an interview is to access what was in and on the interviewee's mind (Stenhouse, 1984). Interviews are usually used when seeking qualitative, descriptive, in-depth data that is specific to the individual and when the nature of the data is too complicated to be asked and answered easily (Pickard, 2013). Kvale (1996) highlighted seven stages of the interview process: thematising, designing, interviewing, transcribing, analysing, verifying and reporting. The process is not always as linear as this suggests. The type of interview you decide on depends first on the nature of your research topic and the sort of data you need to collect to respond to your research question (Pickard, 2013).

Structured interviewing refers to a situation in which an interviewer asks each respondent a series of pre-established questions with a limited set of response categories (Fontana & Frey, 1994, p. 363). This is often referred to as the "researcher-administered questionnaire", since it is highly structured and follows many of the same guidelines as a questionnaire (Pickard,

2013). There are two forms of structured interviews: standardised open-ended interview and closed, fixed-responses interview. In a standardised, open-ended interview all interviewees are asked the same open-ended questions but are allowed to respond in any way they feel is appropriate and with any information they choose to share. In a closed, fixed-response interview, interviewees are asked the same questions and choose from a predetermined set of alternative answers. It is also possible to use a combination of the two methods.

Unstructured interviews are used to gain a holistic understanding of the thoughts and feelings of the interviewee. This type of interview is used in research to explore salient issues for further investigation. Unstructured interviews are concerned with open-ended questions that allow the interviewee to tell their own story in their own words (Pickard, 2013). Patton (1987, p. 113) describes two approaches to conducting unstructured interviewing: the informal conversation and the general interview guide. The informal conversational interview is the purposeful conversation that allows questions and answers to flow from the immediate context in a reflective and reflexive manner.

In a guided interview the researcher prepares a basic checklist to make sure that all relevant areas of the topic are covered, though the researcher is still free to explore, probe and ask questions not previously specified. The purpose of using an interview guide is to "ensure that each interview covers basically the same ground but gives the interviewer considerable discretion in the conduct of the interview" (Ellis, 1993, p. 475).

Since the qualitative part of this study involved a small number of respondents, Gorsuch (2002) suggests it is appropriate to use semi-structured interviews. The semi-structured interview schedule was administered to subject librarians in social science and humanities in the selected universities. The subject librarians were chosen because they play significant roles in the provision of information sources and services. Hence, their opinion is useful in fostering long term policy development that will enhance information services delivery to the professoriate. It was expected that the semi-structured interview with the social science and humanities subject librarian would provide an in-depth understanding to the strategic role the university library plays in delivering information services to the professoriate, the challenges faced in providing information services to the professoriate, and policies that support the information needs of the professoriate. In-depth understanding of these phenomenons would provide future policy direction to enhance effective information services delivery to the

professoriate. The semi-structured interview was employed to complement the quantitative data obtained through use of the questionnaire.

4.4.6 Administration of the Interview

For the interview schedule, twelve subject librarians were scheduled for interview in University of Lagos, but only four agreed for an interview. Others turned down the interview for lack of time and busy work schedules. The interview was conducted in their respective offices. Upon the commencement of the interview, the interviewee signed the consent letter agreeing to the interview schedule. Each interview took approximately twenty minute. In university of Lagos, twelve subject librarians were scheduled for the interview, but only four agreed to be interviewed. In University of Ibadan, out of the ten subject librarian scheduled for interview, only five agreed to be interviewed. Those that turned down the interview did so for lack of time and busy work schedules. In Obafemi Awolowo University, six subject librarians were originally scheduled for interview, but only two were available for interview. Overall, the total number of subject librarians interviewed amounts to eleven, representing a success rate of 42%.

4.5   Validity and Reliability of Instruments

Validity in quantitative research is the ability of an instrument to represent the constructs they were designed to capture (Lincoln & Guba, 1985, p. 296). Crocker and Algina (1986) defined instrument validity as the extent to which a test instrument measures what it is meant to measure. The research instrument was subject to construct, content, and face validity. This was done through a careful assessment, correction, and verification of the questionnaire items by the researcher to ensure the instrument measured what it is intended to measure (Teddlie & Tashakkori, 2009). Besides, since all the questions in the questionnaire were adapted from other pre-tested tools in empirical literature, this, in a way, enhanced the validity of the instrument.

Reliability is the ability of an instrument to measure the constructs under examination consistently and accurately (Teddlie & Tashakkori, 2009). To ensure the reliability of the questionnaire used in this study, a test-retest reliability method using Cronbach Alpha was adopted to determine internal consistency and reliability of each of the factors or variables identified in the study. Babbie and Mouton (2001) recommended that questionnaire be pre-tested on ten people who are found to be appropriate to answer the research questions.

Sheatsley (1983) also suggested that 12 to 25 people are sufficient to reveal the major difficulties and weaknesses in a pre-test questionnaire.

To establish reliability of the instrument, a pre-test was done on 10 professors in social science and humanities in university of Benin, Nigeria. University of Benin was chosen for the pilot study because it has similar characteristics with the universities under investigation. According to Babbie and Mouton (2001), pre-testing of research instruments before administering them is a pre-requisite to data collection process. The reason for this is that it is important that questionnaire items are clear, concise and unambiguous (Williams, 2006), so that all respondents can read meaning into it the same way.

Nunnally and Bernstein (1994) provided guidance in the interpretation of the reliability coefficient by stating that a value of 0.70 is sufficient for early stages of research, but that basic research should require test scores to have a reliability coefficient of 0.80 or higher. When important decisions are to be made with test scores, a reliability coefficient of 0.90 is the minimum, with 0.95 or higher as a desirable standard (Nunnally & Bernstein, 1994).

Reliability of the pre-test quantitative instrument was measured using the Cronbach's coefficient alpha (α). Cronbach's coefficient ranges from 0 to 1, items with high Cronbach value (α = 0.7 and above) were retained and items with low Cronbach coefficient were reformulated and retested. Cronbach's alpha is a function of the average inter-correlations of items and the number of items in the scale (Kimberlin & Winterstein, 2008).

The reliability of the constructs as measured by Cronbach's Alpha was relatively high. Information needs measured (α = 0.76), active information behaviour (α = 0.82), passive information behaviour (α = 0.88), active information sharing (α = 0.72), information source preference (α = 0.89), Performance Expectancy (α = 0.82), Effort Expectancy (α = 0.78), Attitude toward Using Technology (α = 0.80), Social Influence (α = 0.84), Facilitating Conditions (α = 0.74), Self-Efficacy (α = 0.77), Anxiety (α = 0.87), and Behavioural Intention (α = 0.81).

For the pre-test of interview schedule, it is suggested that studies may utilise as few as 2 to 5 people, depending on the study goals and resources (Babyak, Grower, Mulvihill & Zaroski, 2000). The semi-structured interview schedule designed for collecting qualitative data was pre-tested on four (4) librarians at university of Benin, Nigeria. The pre-test sample participants were selected since they have similar characteristics with the study population.

4.6   Data Analysis

Marshall and Rossman (1995) describe data analysis as the process of bringing order, structure and meaning to the mass of collected data. It is described as messy, ambiguous, and time-consuming, but also as a creative and fascinating process. While it does not proceed in a linear fashion, it is the making sense of interpreting and theorising data that signifies a search for general statements among categories of data (Schwandt, 2007, p. 6). Therefore, one could infer that data analysis requires some sort or form of logic applied to research. In this regard, Best and Khan (2006, p. 354) clearly posit that the analysis and interpretation of data represent the application of deductive and inductive logic to the research. While this study employed a mixed method of data collection, namely a combination of qualitative and quantitative methods, it focused on the adoption of a pragmatic paradigm in conducting this research.

Data is information that is collected in a systematic way, organised, and recorded to enable the reader to interpret the information correctly (Antonius, 2003, p. 2). As such, data are not collected haphazardly, but in response to some questions that the researcher wishes to answer. Data are not given as a fixed, but are open to reconfiguration and thus alternative ways of seeing, finding answers to questions one wishes to answer (Schostak & Schostak, 2008, p. 10). Two methods of analysing data are namely quantitative and qualitative (Antonius, 2003; Schostak & Schostak, 2008).

The purpose of conducting a quantitative study is to produce findings, using quantitative methods, procedures and techniques to analyse data numerically, whereas qualitative methods use words, concepts, terms to construct a framework for communicating the essence of what the data reveals (Teddlie & Tashakkori, 2009). On the whole, regardless of the method (qualitative or quantitative), the purpose of conducting a study, is to produce findings, and in order to do so, data should be analysed to transform data into findings. In this study, data was analysed using both the quantitative and qualitative method.

Descriptive and inferential statistics using Statistical Package for Social Science (SPSS) was used to analyse the quantitative data collected on professoriate information behaviour. Results were presented using frequency tables, bar charts, and pie charts where appropriate. Before analysing the data, each completed questionnaire was checked for completeness of the required data. After which the questionnaire responses were coded and keyed into the computer using the SPSS software.

Qualitative data gathered through use of semi-structured interview schedule was analysed using thematic content analysis. Semi-structured interviews allow for thematic analysis of the qualitative data (Alvarez & Urla, 2002), which involves gathering and analysing the content of the text in order to make sense out of them (Guba & Lincoln, 2005). Analysis of the qualitative data reduces the data and makes interpretation easier. The recorded interviews were transcribed and responses of participants were summarised to statements. The analysis process conforms to Bernard's (2012) and Boyatzis's (1998) (cited in Braun & Clarke, 2006, p. 79) description of analysis of qualitative data as the categorising, ordering, manipulating and summarising of data to obtain answers to research questions.

Table 4.2 shows the relationship that exists between the study research questions, approach for data collection, sources of data and methods of data analysis.

Table 4.2: Research Questions, Sources of Data and Data Analysis Strategies

	Research questions	Approach	Source of Data	Method of Data Analysis
1	What are the information needs of professoriate?	Quantitative	Survey Questionnaire and Interview	Descriptive statistics
2	How does the professoriate actively and passively seek, access and share information electronically?	Quantitative	Survey Questionnaire and Interview	Descriptive statistics
3	What are the preferred information sources by the professoriate?	Quantitative	Survey Questionnaire and Interview	Descriptive statistics
4	What are the factors that influence the professoriate's use of electronic information resources?	Quantitative	Survey Questionnaire and Interview	Inferential statistics
5	What is the attitude of the professoriate towards electronic information resources?	Quantitative	Survey Questionnaire and Interview	Descriptive statistics

4.7 Ethical Considerations

Ethics is the branch of philosophy which deals with the dynamics of decision making concerning what is right and wrong. Johnstone (2009) refers to ethics as a system of principles which can critically change previous considerations about choices and actions. Ethics in research is abiding by the principles of what is considered 'right' in the research community when conducting a research. On this premise, Bell (1999) pointed out that research should be overt; all research participants have the right to know they are being studied; and why they are being studied. Fouka and Mantzorou (2011) argued that research ethics involve requirements on daily work, the protection of dignity of subjects and the publication of the information in the research.

Therefore, research should be conducted in accordance with ethical guidelines and must be justifiable on the basis of scientific, educational, or applied value (American Psychological Association, 1992). To ensure that this study adhered to standard ethical procedure, a formal letter of request stating the intended research activity was emailed to the respective gatekeepers of the universities in the study. The permission to collect data from the professoriate in the three federal universities was subsequently approved by their gatekeepers.

Furthermore, research depends very much on the co-operation of research participants. Since it is the right of the professors to decide if they are willing to take part in the study, this researcher prepared a letter of informed consent. The permission documents and informed consent form was given to the professoriates and the purpose of the research was explained to them. They were assured of confidentiality of information given and their right to withdraw at any point of the study. Any participant who desired not to participate in the survey was permitted to excuse himself from the process. The professoriates expectedly, read, understood, and signed the consent letters. Informed consent forms create a mutual understanding that remains constant throughout the research and provides a reference point for both the researcher and the participants. When a research participant gives an informed consent, it means that they understood what they are agreeing to, accept what is being asked of them, and are comfortable with the purpose of the research and the intended use of the data they are providing (Pickard, 2013). Schinke and Gilchrist (1993, p. 83) claim that "all informed consent procedures must meet three criteria: participants must be competent to give consent; sufficient information must be provided to allow for a reasoned decision, and consent must be voluntary and un-coerced".

Overall, the study complied with the guidelines of the University of KwaZulu-Natal (UKZN) Ethics Policy. The data collection instruments were administered to the study participants after the researcher had been granted ethical clearance by UKZN to conduct the study, gatekeepers' permission from the selected universities were received, and the informed consent signed by the participants.

4.8 Conclusion

This chapter presented the methodology used for the study. It highlighted the research paradigm and research design used for the study and provided justification for the approaches. It discussed the study population, sample size and sampling techniques, data collection instruments, validity and reliability. Furthermore, the section highlighted how the research instruments were pre-tested; sampling procedures, and the procedures for data analysis and presentation. Lastly, it presented the ethical issues and the procedures taken to ensure compliance with university of KwaZulu-Natal ethical policy. The following chapter presents the data analysis and findings from the study.

CHAPTER FIVE

DATA ANALYSIS AND PRESENTATION OF FINDINGS

5.1 Introduction

This chapter presents the data analysis and presentation of the findings. It presents the findings of the study derived from the questionnaire and interview schedule. The first segment presents the quantitative data, while the second segment presents the findings from the interview questions. The analysis and presentation of the quantitative data is presented in the following sequence: demographic data, information needs of the professoriate, active information seeking, passive information seeking, professoriate access to information, type of information shared by the professoriate, professoriate information source preferences, criterion for information source preferences, and factors influencing professoriate use of information source. The findings from the interview were presented in line with the interview schedule.

The purpose of this study was to investigate the information behaviour of the professoriate in three southwest universities in Nigeria. The study examined the characteristics of information behaviour of the professoriate in university of Ibadan, University of Lagos and Obafemi Awolowo University, Ile-Ife, Nigeria. The questionnaire was administered to the professoriate in faculties of Social Sciences, Arts, Education, and Law, while interview was administered to subject librarians in the same faculties. Data collected from the questionnaire was cleaned before being coded for analysis. Cleaning the data is necessary to avoid "noise" and to make sure the questionnaires are fit for analysis. Descriptive statistics was used to analyse a major part (sections A, B, C, D and F) of the questionnaire data using Statistical Package for Social Sciences (SPSS) version 18, while structural equation modelling was used to analyse section E of the questionnaire data which captured items of research question four (4) "What are the factors that influence the professoriate's use of electronic information resources?"

A total of 165 professors and 11 subject librarians from social science and humanities in the 3 universities participated in the study. In university of Lagos, 86 questionnaires were distributed, 48 were collected and only 40 were found fit for data analysis. This represents a success rate of 46.5%. In university of Ibadan, 91 questionnaires were distributed, 76 were collected and 70 were found fit for analysis and represent a success rate of 76.9%. In

Obafemi Awolowo university, 69 questionnaires were distributed to the professoriate, 60 questionnaires were retrieved and 55 were found fit for analysis representing a success rate of 79.7%. In all, 165 questionnaires were found fit and coded for data analysis. This figure represents a success rate of 67%. In university of Lagos, twelve subject librarians were scheduled for the interview, but only four agreed to be interviewed. In University of Ibadan, ten subject librarians scheduled for interview, but only five agreed to be interviewed. In Obafemi Awolowo University, six subject librarians were originally scheduled for interview, but only two were available for interview. The number of subject librarians that agreed to the interview is eleven.

The presentation of the result was organised along themes of the research questions and the variables of the study. The first section presents the result of the descriptive data. Findings of the descriptive analysis of the study are presented using frequency tables and percentages, pie charts and bar charts where appropriate.

5.2 Demographic Data Analysis

This section presents a summary of the demographic distribution of the professoriate of University of Ibadan (U.I), University of Lagos (UNILAG), and Obafemi Awolowo University (OAU) that participated in the study. The demographic characteristics of the study participants include university, faculty, department, gender, age, academic qualification, area of specialisation. The result of the analysis of the demographic data is presented in subsections that follow:

5.2.1   Distribution of the Professoriate by University

Data was analysed to determine the distribution of the professoriate according to their University. The result is depicted in Figure 5.1.
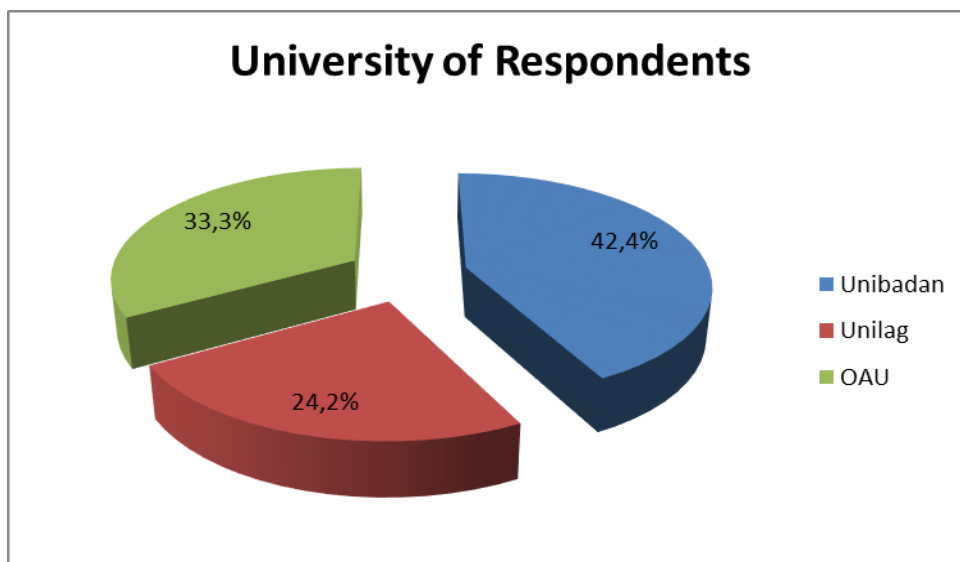
Figure 5.1: Distribution of Professoriate by University

The distribution of the professoriate on the basis of their universities depicts that University of Ibadan has the highest number (42.4%) of respondents, followed by Obafemi Awolowo University (33.3%), and University of Lagos (24.5%).

5.2.2 Distribution of the Professoriate by Faculty

Data was analysed to determine the distribution of the professoriate by faculty. The result is presented in Figure 5.2.
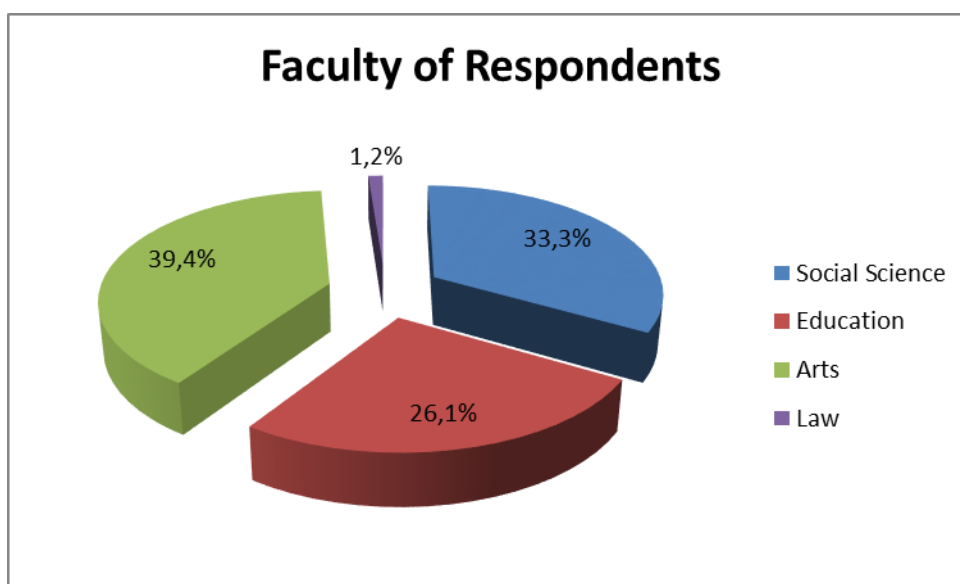
Figure 5.2: Distribution of Professoriate by Faculty

The result in Figure 5.2 shows that majority of the professoriate were from the faculty of Arts (39.4%), followed by those from faculty of Social Science (33.3%) and Education (26.1%). Faculty of Law has the least number (1.2%) of professoriate.

5.2.3 Distribution of Professoriate by Department

Data was analysed to determine the distribution of the professoriate by department. The result is shown in Table 5.1.

Table 5.1: Distribution of the Professoriate by Department

N = 165

Department	Frequency	Percentage
Psychology	17	10.3
English	16	9.7
Economics	14	8.5
History	13	7.9
Linguistics & African languages	10	6.1
Sociology	9	5.5
Guidance & Counselling	9	5.5
European Studies	9	5.5
Philosophy	7	4.2
Institute of Education	7	4.2
Educational Management	6	3.6
Geography	6	3.6
Special Education	5	3.0
Archaeology & Anthropology	4	2.4
Arabic & Islamic Studies	4	2.4
Human Kinetics & Health Education	4	2.4
Urban & Regional Planning	4	2.4
Religious Studies	3	1.8
Library, Archival & Information Studies	3	1.8
Classics	2	1.2
Teacher Education	2	1.2
Educational Technology	2	1.2
Continuing Education	2	1.2
Educational Foundation & Counselling	2	1.2
Communication & Language Arts	1	0.6
Private & Business Law	1	0.6
Public & International Law	1	0,6
Educational Administration & Planning	1	0.6
Political Science	1	0.6

The results in Table 5.1 show that the professoriate from psychology department were (10.3%), followed by those from department of English (9.7%), Economics (8.5%), History (7.9%), and Linguistics and African languages (6.1%). Professoriate from departments of Sociology, Guidance and Counselling, and European studies account for (5.5%) each. Next in ranking are departments of Philosophy and Institute of Education which each accounts for

(4.2%), while respondents from Educational management and Geography together represents (7.2%). Professoriate from departments of communication and Language, Arts, Private and Business Law, Public and International Law, Educational Administration and Planning, and Political Science has the least numbers of professoriate with each representing (0.6%).

5.2.4 Distribution of Professoriate by Professorial Ranks

Analysis of data to determine the professorial rank of the professoriate is depicted in Figure 5.3.
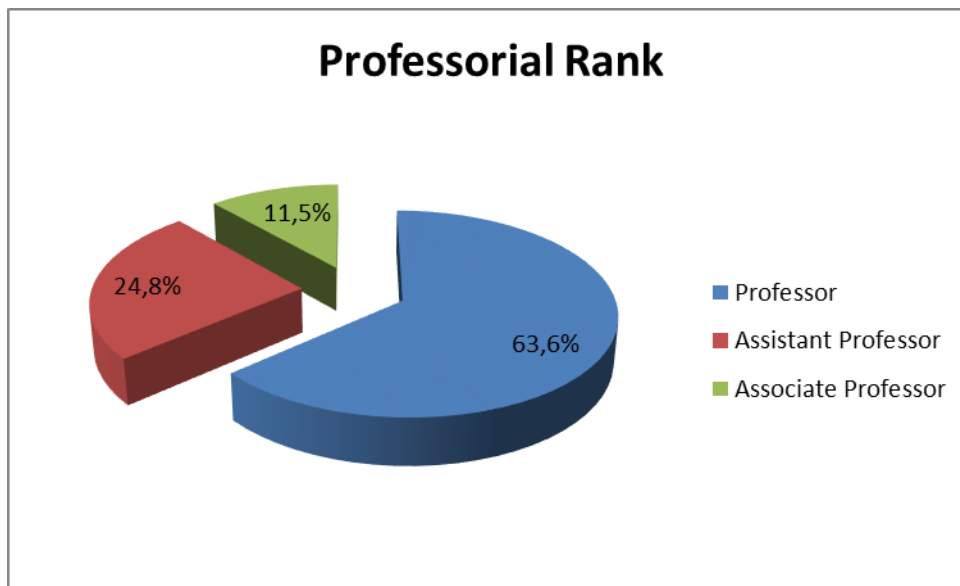
Figure 5.3: Distribution of Professoriate by Rank

The result in Figure 5.3 shows that full professors were (63.6%), followed by assistant professors (24.5%), and associate professors (11.5%).

5.2.5 Distribution of Professoriate by highest qualification

Data was analysed based on the highest qualification of the respondents. The result is shown in Figure 5.4.
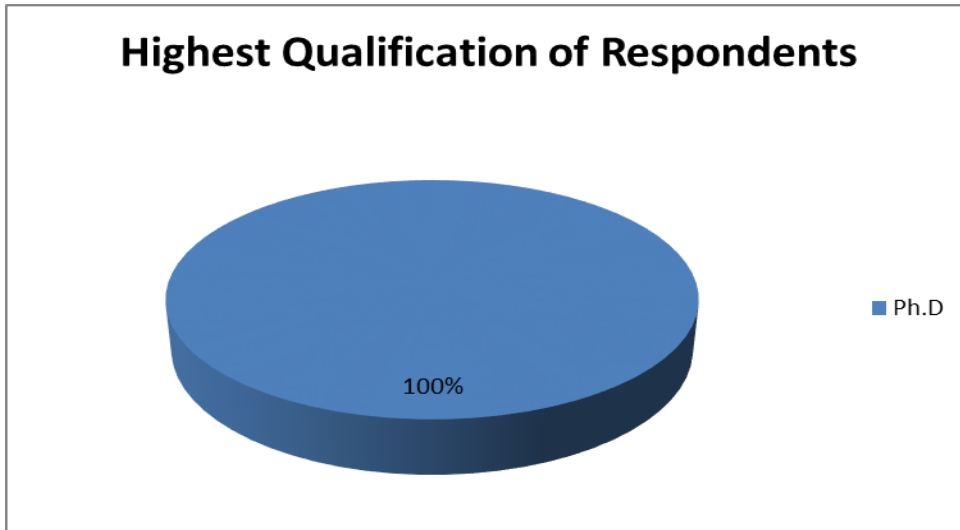
Figure 5.4: Distribution of Professoriate by Qualification

The result shows that all the professors surveyed had a PhD degree as their highest qualification.

5.2.6 Distribution of Professoriate by Age

Data was analysed to determine the study participants' age. The result is shown in Figure 5.5.
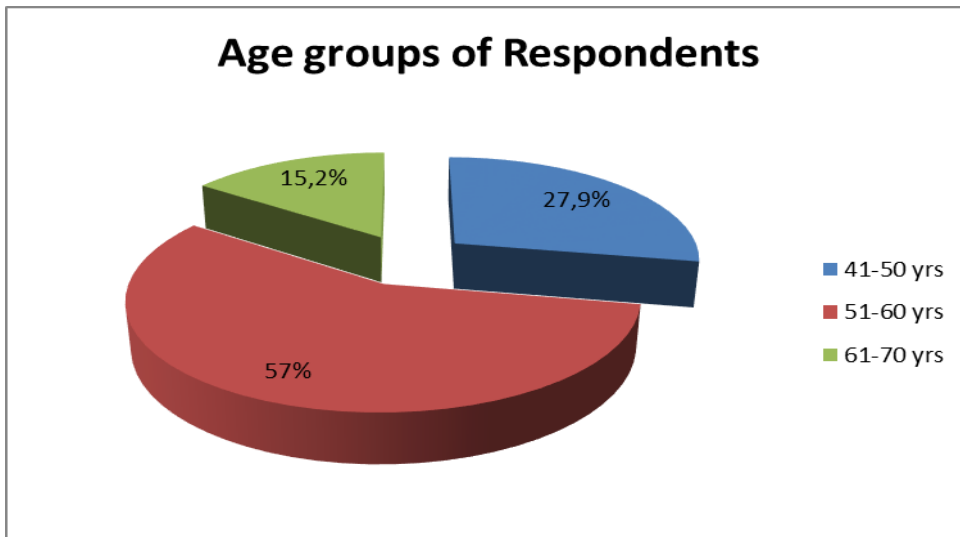
Figure 5.5: Distribution of Professoriate by Age

The result shows that (57%) of the study participants were within the ages of 51 to 60, followed by those (27.9%) in the 41 to 50 age bracket. Professoriate within the age group of 61 to 70 years accounted the least (15.2%).

5.2.7 Distribution of Professoriate by Gender

Analysis of data to determine the gender of the study participants is depicted in Figure 5.6.
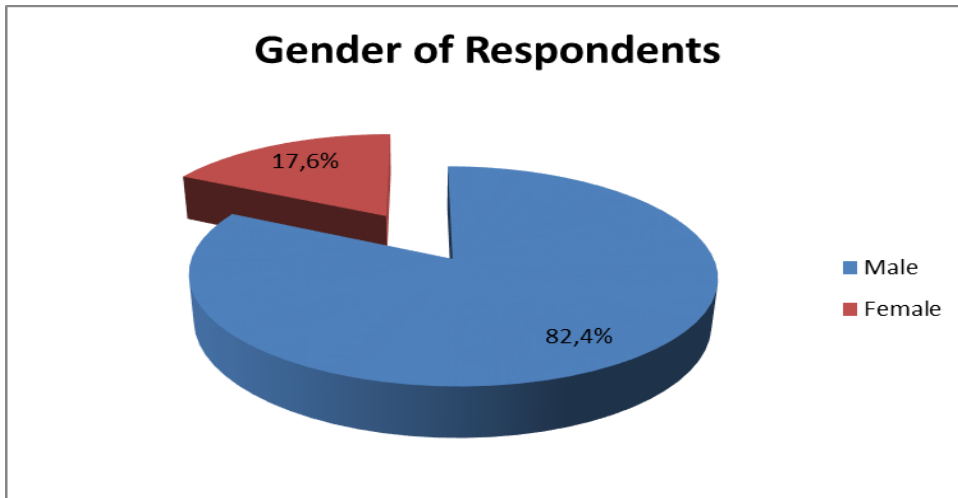
Figure 5.6: Distribution of Professoriate by Gender

The result in Figure 5.6 shows that male respondents (82.4%) were more than the female respondents.

5.2.8 Distribution of Professoriate by Marital Status

Research data was analysed to determine the marital status of the study participants. The result is shown in Figure 5.7.
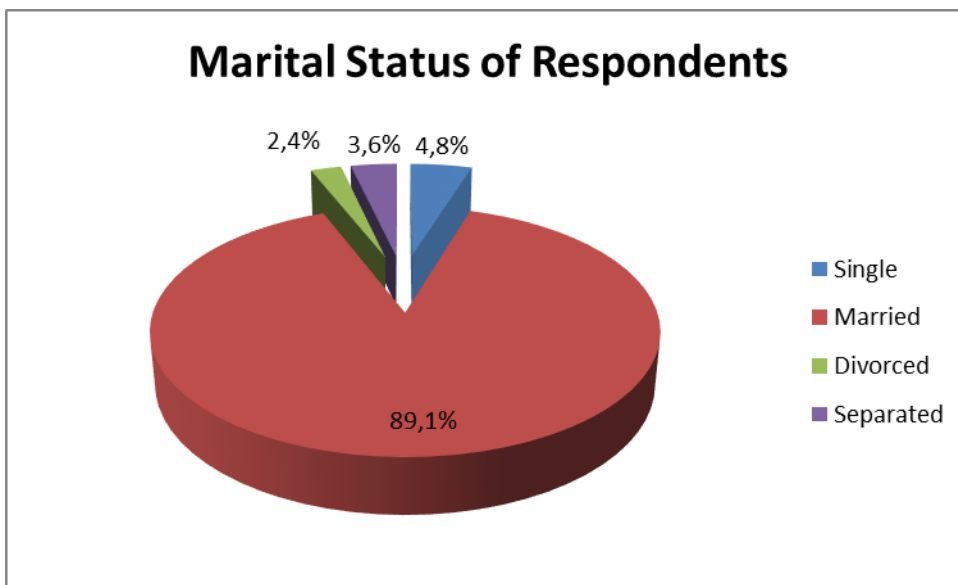
Figure 5.7: Distribution of Professoriate by Marital Status

The result in Figure 5.7 shows that majority (89.1%) of the professoriate are married, while only (4.8%) are still single. Respondents who are separated and divorced account for (3.6%) and (2.4%) respectively.

5.3 Data Analysis Based on Research Questions

This section presents the results of data analysis to provide answers to the research questions. It provides that result to determine the information needs of the professoriate, how professoriate actively and passively seek, access and share information, their preferred information sources, factors that influence professoriate use of electronic resources and the attitude of the professoriate towards electronic information resources.

5.3.1   Information Needs of the Professoriate

The first research question sought to determine the information needs of the professoriate in the selected universities. This was measured in terms of the type of information they need to satisfy their teaching and research requirements. Results are shown in Tables 5.2.

Table 5.2: Information Needs of the Professoriate

N = 165

Information Needs of Professoriate	VI		SI		NI	
	Freq	%	Freq	%	Freq	%
Developing contents used for teaching	165	100	0	0	0	0
Conducting research	165	100	0	0	0	0
Keep abreast of current developments in my field	165	100	0	0	0	0
I need Educational information	142	86.1	15	9.1	8	4.8
I need Socio-cultural information	93	56.4	59	35.8	12	7.3
I need political information	48	29.1	104	63	13	7.9
I need information for planning	36	21.8	113	68.5	16	9.7
I need Religious information	35	21.2	58	35.8	69	41.8
I need economic information	30	18.2	105	63.6	30	18.2
I need information for coordinating	27	16.4	116	70.3	21	12.7
I need Financial management information	14	8.5	88	53.3	63	36.2
I need information for directing	12	7.3	120	72.7	24	14.5
I need Parenting information	12	7.3	38	23	113	68.5
I need health information	10	6.1	116	70.3	39	23.6
I need information for decision making	7	4.2	139	84.2	19	11.5
I need Marketing information	7	4.2	57	34.5	99	60
I need Legal information	5	3.0	72	43.6	88	53.3
I need Technical information	4	2.4	73	44.2	88	53.3

The result shows that all (100%) the professoriate considers information for developing contents used for teaching, information for conducting research, and information to keep

abreast of current developments in their field of study as being very important information need. Educational information is considered very important by (86.1%) of the respondents, slightly important by (9.1%), and not important by 4.8% of the respondents. Socio-cultural information is considered by (56.4%) of the respondents as being very important, (35.8%) as slightly important and (7.3%) as not important. Political information is next in ranking, with (29.1%) of the professoriate holding it as being very important, (63%) see it as slightly important, while only (7.9%) see it as not important information need. Information for planning and religious information were closely tied in ranking of importance by the respondent, accounting for (21.8%) and (21.2%) respectively. Both information needs were rated by (68.5%) and (35.8%) as slightly important, (9.7%) and (41.8%) as not important respectively. Economic information follows in ranking, with (18.2%) of the respondents stating it is very important, while (63.6%) and (18.2%) considered it as slightly important and not important respectively. Parenting and health information are seen by (7.3%) and (6.1%) respectively as being very important, (23%) and (70.3%) respectively as slightly important, and (68.5%) and (23.6%) respectively as not important. Legal and technical information occupy the least position on the scale of importance amongst the professoriate with only (3%) and (2.4%) respectively.

5.3.2   Professoriate Active and Passive Seeking, Accessing and Sharing Information

The second research question sought to determine how the professoriate in the three universities actively and passively seek, access and share information. Professoriate's active information seeking was measured by the type of information media they sort when seeking information for teaching and research. Information access is measured first by the location (or place) where information access occurred and type of digital resources used to access the information. Information sharing was measured by respondents' response to what sort of information they share and how often, how they share their research output and the electronic device(s) used to share information. Passive information seeking was measured on the basis of the information encountered by the respondents while actively searching for information for teaching and research. Other indices used to measure passive information behaviour were the frequency of information encountered and the actual use of the encountered information. The following sections provide the result of the findings.

5.3.2.1 Professoriate Active Information Seeking

The respondents were asked where they have sought information for teaching and research. The result is provided in Table 5.3.

Table 5.3: Information Sources for Teaching and Research

N = 165

Have you sought information for teaching and research using any of the following sources?	Always		Occasionally		Rarely		Never	
	Freq	%	Freq	%	Freq	%	Freq	%
Electronic resources								
Online databases	127	77	37	22.4	1	0.6	0	0
Electronic journals	119	71.5	42	25.5	5	3.0	0	0
Web portals	87	52.7	48	29.1	23	13.9	0	0
Web sites	84	50.9	53	32.1	23	13.9	0	0
Electronic mail	16	9.7	33	20	91	55.2	7	4.2
Online Catalogs	9	5.5	84	50.9	52	31.5	0	0
Listservs	0	0	12	7.3	118	71.5	0	0
FTP	0	0	3	1.8	18	10.9	137	83
Media								
Newspaper	3	1.8	129	77.6	34	20.6		
Radio	2	1.2	62	37.6	81	49.1	13	7.9
TV			84	50.9	75	45.5	6	3.6
Print resources								
Journal articles	165	100	0	0	0	0	0	0
Textbooks	163	98.8	2	1.2	0	0	0	0
Encyclopaedia	69	41.8	83	50.3	13	7.9	0	0
Maps	31	18.8	19	11.5	77	46.7	0	0
Magazine	4	2.4	62	37.6	84	50.9	14	8.5
Interpersonal sources								
Interaction with colleagues	101	61.2	55	33.3	7	4.2	0	0
Interaction with friends	2	1.2	26	15.8	97	58.8	25	15.2
Academic gathering								
Conference proceedings	71	43	88	53.3	4	2.4	0	0
Seminar	50	30.3	107	64.8	4	2.4	0	0
Workshop	43	26.1	100	60.6	19	11.5	0	0

The results presented in Table 5.3 on the active information seeking of the professoriate, describes the various information sources categories (electronic resources, media, print resources, interpersonal sources, academic gathering) used by the professoriate to seek information for teaching and research. In electronic resources category, the result reveals that majority of the professoriate *always* sought information for teaching and research in online databases (77%) and electronic journal (71.5%), while (22.4%) and (25.5%) respectively *occasionally* use online databases and electronic journals to seek information for teaching and

research. The professoriate that *rarely* use online databases (0.6%) and electronic journal (3%) are quite few. Those that *always* use web portals (52.7%) to seek information for teaching and research are more than those that use websites (50.9%), electronic mail (9.7%), and online catalogues (5.5%). *Occasional* uses of online catalogues (50.9%) are reportedly more than occasional uses of websites (32.1%), web portals (29.1%), electronic mail (20%), listservs (7.3%), and FTP (1.8%) for teaching and research. FTP was *never* used by vast majority (83%) of the professoriate to seek information for teaching and research.

In the media category, newspaper (1.8%) and radio (1.2%) and TV are hardly *always* used by the professoriate for teaching and research, as compared to a larger number that *occasionally* use newspaper (77.6%), radio (37.6%) and TV (50.9%) for teaching and research. Those that rarely use newspaper, radio, and TV account for 20.6%, 49.1%, and (45.5%) respectively.

In print resources category, journal articles (100%) is always used by all of the professoriate for seeking information for teaching and research, followed by textbooks (98.8%), encyclopaedia (41.8%), maps (18.8%), and magazine (2.4%). Occasional usage of encyclopaedia (50.3%) for teaching and research was more than observed for textbooks (1.2%), maps (11.5%), and magazine (37.6%). Those that *rarely* used magazine (50.9%) for teaching and research outweighed those that rarely used encyclopaedia and text books for teaching and research. Only 8.5% of the respondents never used magazine for teaching and research.

In the interpersonal sources category, interaction with colleagues is *always* used by majority (61.2%) of the professoriate to seek information for teaching and research, while 33.3% occasionally use it for the same purpose. There are few (4.2%) reported cases of *rare* use of interaction with colleagues for teaching and research. interaction with friends is hardly (1.2%) always used by the professoriate for teaching and research, and only occasionally used by 15.8% and rarely used by 58.8% for teaching and research.

In the academic gathering category, conference proceedings is *always* used by majority (43%) of the respondents for seeking information for teaching and research, followed by seminar (30.3%), and workshop (26.1%). More of the professoriate tends to seek information for teaching and research *occasionally* in conference proceeding (53.3%), seminar (64.8%), and workshop (60.6%). The number of professoriate that rarely seek information for teaching and research in conference proceedings (2.4%), seminars (2.4%) and workshops (11.5%) are few.

5.3.2.2 Professoriate Passive Information Seeking

The respondents were asked whether they have encountered information in any of the information sources listed even though they were not looking for it. The result is provided in Table 5.4.

Table 5.4: Source of Information Encounter

N = 165

Have you encountered information for teaching and research in any of the following information source	Always		Occasionally		Rarely		Never	
	Freq	%	Freq	%	Freq	%	Freq	%
Electronic resources								
Electronic journals	83	50.3	81	49.1	1	0.6	0	0
Online databases	81	49.1	83	50.3	1	0.6	0	0
Web portals	37	22.4	93	56.4	31	16.8	0	0
Web sites	7	4.2	136	82.4	19	11.5	0	0
Electronic mail	2	1.2	20	12.1	130	78.8	11	6.7
Online Catalogs	1	0.6	24	14.5	108	65.5	26	15.8
Listservs	0	0	18	10.9	116	70.3	23	13.9
FTP	0	0	2	1.2	12	7.3	141	85.5
Media								
Newspaper	19	11.5	66	40.0	80	48.5	0	0
TV	6	3.6	50	30.3	107	64.8	2	1.2
Radio	1	0.6	30	18.2	130	78.8	2	1.2
Print resources								
Journal articles	140	84.8	25	15.2	0	0	0	0
Textbooks	140	84.8	25	15.2	0	0	0	0
Encyclopaedia	25	15.2	113	68.5	24	14.5	0	0
Magazine	9	5.5	11	6.7	140	64.8	0	0
Maps	3	1.8	21	12.7	57	34.5	40	24.2
Interpersonal sources								
Interaction with colleagues	5	3.0	138	83.6	22	13.3	0	0
Interaction with friends	2	1.2	17	10.3	114	69.1	27	16.4
Academic gathering								
Conference proceedings	33	20	128	77.6	4	2.4	0	0
Seminar	14	8.5	144	87.3	6	3.6	0	0
Workshop	6	3.6	147	89.1	10	6.1	0	0

The results of the professoriate information encountering under the electronic resources category show that electronic journals (50.3%) and online databases (49.1%) are the two major sources the professoriate *frequently* encounter information. *Occasional* encounter of information in the two sources is similar in pattern to *frequent* encounter, with more *occasional* information encounters occurring more on online databases (50.3%) than in

electronic journals (49.1%). Invariably, it is not surprising that there are only few cases of *rare* information encounters in electronic journals and online databases. On web portals, there is more occasional (56.4%) information encounters than are frequently (22.4%) encountered. *Rare* encounters of information on web portal were observed by 16.8% of the professoriate. Professoriate information encounters on websites occurs more occasionally (82.4%) than frequently (4.2%) with only 11.5% of rare encounters. Information encounters in electronic mails is *rare* (78.8%) compared to *occasional* (12.1%) and *frequent* (1.2%) encounters. Online catalogs and listservs follow similar pattern with more rare cases (65.5% and 70.3% respectively) of information encounter than *occasional* (14.5% and 10.9% respectively) and *frequent* encounters. Most professoriate never (85.5%) encountered information in FTP.

In the media category, the professoriate encounters more *frequent* information in newspapers (11.5%) than on TV (3.6%) and radio (0.6%). They also encounter information more occasionally in newspapers (40%) than on TV (30.3%) and radio (18.2%). The inverse is the case for rare information encountering where professoriate rarely encounters information on radio (78.8 %) than on TV (64.8%) and newspaper (48.5%). There are few cases of none information encounter but only on TV (1.2%) and radio (1.2%).

In the print resources category, the professoriate are at par in *frequent* information encounter in journal articles (84.8 %) and textbooks (84.8%) and at par for *occasional* (15.2%) information encounter in both information sources respectively. There are more occasional (68.5%) information encounters than frequent (15.2%) encounters in encyclopaedia more than there is for magazine (occasional: 6.7%; frequent: 5.5%) and maps (occasional: 12.7%; frequent: 1.8%).

In the interpersonal sources category, professoriate have few *frequent* encounters with colleagues (3%) and friends (1.2%), however, *occasional* information encounter happens more with colleagues (83.6%) than with friends (10.3%), and this implies more rare cases of information encounter between friends (69.1%) than between colleagues (13.3%).

In the academic gathering category, information encounter happens more *frequently* at conference proceedings (20%) than it occurs at seminars (8.5%) and workshops (3.6%). On the other hand, *occasional* information encounters take place more often in conference proceedings (77.6%), seminars (87.3%), and workshops (89.1%) than it occurs *frequently*. There are only few cases of *rare* information encounter in the three groups, with conference proceeding recording the least (2.4%).

5.3.2.3 Frequency of Information Encounter on the Internet and Print Sources

The professoriate was asked to indicate the frequency of information encounter on internet and print resources. The responses are depicted in Table 5.5.

Table 5.5: Frequency of Information Encounter

N = 165

Frequency of Information Encounter	Frequently		Occasionally		Rarely	
	Freq	%	Freq	%	Freq	%
How often do you encounter useful information on the internet while searching for specific information for research or teaching?	99	60	65	39.4	1	0.6
How often do you encounter useful information in (library) books while searching for specific information in print sources?	147	89.1	18	10.9	0	0
How often do you share the encountered information?	88	53.3	77	46.7	0	0

The result of frequency of information encounter on the internet and print resources shows information encounters occur more frequently, while searching information in print sources (89.1%) than on the internet (60%). However, occasional information encounter occurs more during information search on the internet (39.4%) than in print sources (10.9%). Sharing encountered information is more *frequent* (53.3%) than it is *occasional* (46.7%) amongst the professoriate.

5.3.2.4 Usage of Information Encountered on the Internet and Print Sources

The professoriate was asked what they use the information they encountered on the internet and print sources for. The result is shown in Table 5.6.

Table 5.6: Use of Information Encountered

N = 165

What do you use the information encountered for?	Always		Sometimes		Rarely		Never	
	Freq	%	Freq	%	Freq	%	Freq	%
To advance my general knowledge	165	100	0	0	0	0	0	0
I use it for personal development	163	98.8	2	1.2	0	0	0	0
To advance my career	159	96.4	6	3.6	0	0	0	0
For work related purposes	125	75.8	40	24.2	0	0	0	0
I sometimes use the information for teaching in the classroom	119	72.1	46	27.9	0	0	0	0
I sometimes use the information to advance my research	114	69.1	51	30.9	0	0	0	0
I archive it for later use	109	66.1	56	33.9	0	0	0	0
For entertainment	0	0	13	7.9	78	47.3	74	44.8

The result in Table 5.6 shows that all (100%) the professoriate *always* use the encountered information to advance their general knowledge. A vast majority (98.8%) *always* use the encountered information for personal development and advancing their career (96.4%). Those that *always* use the encountered information for work related purposes (75.8%) and sometimes for teaching in the classroom (72.1%) are equally high. Those that *always* use the encountered information for the advancement of their research and archiving it for later use account for 69.1% and 66.1% respectively. The professoriate hardly ever used the encountered information for entertainment; only 7.9% sometimes use the encountered information for entertainment, while 47.3% rarely do.

5.3.2.5 Professoriate Access to Information

The professoriate was asked where they access information for their research. The result is depicted in Table 5.7.

Table 5.7: Access to Information

Where do you access information for your research? Choose all that applies	Yes		No	
	Freq	%	Freq	%
Office	165	100	0	0
From home	153	92.7	12	7.3
Library	57	34.5	108	65.5

The result shows that all the professoriate access information for research from their offices, while a vast majority (92.7%) of the professoriate also access research information from their home. The use of the university library by the professoriate to access information is low (34.5%).

5.3.2.6 Professoriate Use of Digital Devices to Access Information

The professoriate was asked how often they use digital devices to access information. The result is shown in Table 5.8.

Table 5.8: Frequency of Use of Digital Devices to Access Information

N = 165

How often do you use the following digital devices to access information?	Frequently		Occasionally		Rarely	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**
Laptop	155	93.9	7	4.2	0	0
Desktop	140	84.8	23	13.9	0	0
Smart Phone	41	24.8	52	31.5	72	43.6
Palmtop	2	1.2	28	17	124	75.2
Mobile	0	0	17	10.3	136	82.4

The result shows that laptop (93.9%) is the digital device mostly used by the professoriate to access information followed by desktop (84.8%). Smart phone is used frequently by (24.8%) and sometimes by (31.5%) to access information. Palmtop is less frequently used by (1.2%), but occasionally used by (17%) to access information. Mobile phone is never frequently used but occasionally used by only (10.3%) of the professoriate to access information. Mobile phone, palmtop, and smart phone is hardly used by (82.4%), (75.2%) and (43.6%) of the professoriate.

5.3.2.7 Research Needs satisfied by Print and Electronic Information Sources

The professoriate was asked to indicate the percentage of their research needs satisfied by print information resources. The result is depicted in Table 5.9.

Table 5.9: Research Needs satisfied by Print Sources

N = 165

How much of your research needs are satisfied by print information	Frequency	Percentage
40%	46	27.9
60%	40	24.2
70%	29	17.6
30%	27	16.4
80%	11	6.7
50%	9	5.5
20%	3	1.8

The result shows that (27.9%) of the professors reported that print sources meet (40%) of their research needs, while (24.2%) said they meet (60%) of their research needs with print resources. Only (17.6%) and (16.4%) of the professoriate use (70%) and (30%) of print resources to meet their research needs respectively. Those that use 80%, 50%, and 20% of print sources to meet their research needs accounts for (6.7%), (5.5%), and (1.8%) respectively.

Table 5.10:   Research Needs satisfied by Electronic Sources

N = 165

How much of your research needs are satisfied by electronic sources	Frequency	Percentage
60%	44	26.7
40%	40	24.2
70%	29	17.6
30%	29	17.6
20%	11	6.7
80%	3	6.7
50%	9	5.5

The result shows that (26.7%) of professoriate reported that electronic resources meet (60%) of their research needs, while (24.2%) of the professors use electronic sources to meet (40%) their research need. Those that use electronic resources to (70%) of their research needs were (17.6%). Professoriate that use electronic information sources to meet (20%) and (80%) of their research need were (13.4%). Only (5.5%) of the professoriate use electronic information resources to meets (50%) of their research needs.

5.3.2.8 Type of Information shared by the Professoriate

The professoriate was asked what sort of information they usually share. The result is shown in Table 5.11.

Table 5.11: Type of Information shared

What sort of information do you usually share and how often?	Frequently		Occasionally		Rarely	
	Freq	%	Freq	%	Freq	%
Research information	165	100	0	0	0	0
Academic information	163	98.8	2	1.2	0	0
Political information	30	18.2	116	70.3	17	10.3
Social information	24	14.5	120	72.7	21	12.7
Economic information	13	7.9	130	78.8	22	13.3
Business Information	9	5.5	32	19.4	124	75.2
Legal information	2	1.2	12	7.3	151	91.5
Personal information	2	1.2	32	19.4	131	79.4
Medical information	1	0.6	43	26.1	121	73.3
Technical information	0	0	37	22.4	128	77.8

The result on the type of information shared by the professoriate shows that a vast majority of the professoriate frequently share research information (100%) and academic information (98.8%). Next is political, which is more occasionally (70.3%) than frequently shared (18.2%). Social and economic information follow a similar pattern; occasionally shared by 72.7% and 78.8% of the respondents in comparison with 14.5% and 7.9% that frequently share their research information respectively. Business, legal, personal, and technical information are less frequently shared; it explains why legal (91.5%), personal (79.4%), technical (77.8%), business (75.2%), and medical (73.3%) information in that order are rarely shared by the professoriate.

5.3.2.9 Research Information sharing by the Professoriate

The professoriate was asked how they share their research information. The result is depicted in Table 5.12.

Table 5.12: Information sharing by the Professoriate

N = 165

How do you share your research information	Yes		No	
	Freq	%	Freq	%
I publish in subscription-based journals	165	100	0	0
I publish in fee-based open access journals	163	98.8	2	1.2
I publish in no-fee open access journals	80	48.5	85	51.5

The result shows that vast majority of the professoriate publish their research outcomes in subscription-based (100%) and fee-based open access (98.8%) journals. About 50% of the professoriate publishes in no-fee open access journals.

5.3.2.10   Electronic Device used by the Professoriate to Share Research   Information

The professoriate was asked which electronic device they use to share information. The result is shown in Table 5.13.

Table 5.13: Electronic Device used by the Professoriate

What electronic device do you use to share information	Yes		No	
	Freq	**%**	**Freq**	**%**
Desktop computer	163	98.8	2	1.2
Laptop	162	98.2	3	1.6
Smart Phone	86	52.1	79	47.9
Mobile Phone	17	10.3	148	89.7

The result shows that a vast majority of the professoriate use desktop (98.8%) and laptop (98.2%) when sharing information. About 50% of the professoriate use smart phone to share information. Mobile phone is the least used device for information sharing by the professoriate.

5.3.3   Professoriate Information Source Preferences

The professoriate was asked to indicate which information sources they preferred the most when seeking information. The result is depicted in Table 5.14.

Table 5.14: Information Source Preferences

N = 165

Preferred information sources	Most Preferred		Preferred		Somewhat Preferred		Least Preferred	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**
Print information sources								
Scholarly Journal	165	100	0	0	0	0	0	0
Text Books	163	98.8	2	1.2	0	0	0	0
Periodicals	153	92.7	7	4.2	5	3.0	0	0
Newspaper	1	0.6	25	15.2	33	20	106	64.2
Magazine	1	0.6	0	0	7	4.2	157	95.2

Preferred information sources	Most Preferred		Preferred		Somewhat Preferred		Least Preferred	
	Freq	%	Freq	%	Freq	%	Freq	%
Reference Materials								
Encyclopaedia	135	81.8	18	10.9	4	2.4	8	4.8
Dictionaries	30	18.2	98	59.4	7	4.2	30	18.2
Atlas and Maps	17	10.3	19	11.5	5	3.0	119	72.1
Directories	14	8.5			6	3.6	140	84.8
Government publications								
Government gazette	2	1.2	2	1.2	7	4.2	143	86.7
Acts	1	0.6	2	1.2	2	1.2	149	90.3
Statutes	1	0.6	2	1.2	2	1.2	154	93.3
Bibliographic databases								
Abstract & Indexes	51	30.9	109	66.1	5	3.0	0	0
Thesis & Dissertations	16	9.7	126	76.4	21	12.7	0	0
Electronic Information sources								
E-journals	128	77.6	19	11.5	14	8.5	4	2.4
Online database	123	74.5	24	14.5	14	8.5	4	2.4
Online bibliographic databases	120	72.7	21	12.7	19	11.5	4	2.4
Online catalog	58	35.2	21	12.7	44	26.7	19	11.5
Internet	22	13.3	44	26.7	91	55.2	6	3.6
web	18	10.9	44	26.7	93	56.4	6	3.6
Informal Sources								
Seminars, Workshops & Conferences	128	77.6	34	20.6	0	0	3	1.8
Communication with Colleagues	17	10.3	134	81.2	8	4.8	6	3.6
Reference Librarian	0	0	106	64.2	45	27.3	14	8.5
Newspaper	0	0	17	10.3	32	19.4	114	69.1
Television	0	0	1	0.6	26	15.8	134	81.2

The results of the information preferences of the professoriate show that in the print information sources category, the most preferred print sources were scholarly journals (100%) followed by text books (98.8%) and periodicals (92.7%). Newspaper is preferred by only 15.2% and somewhat preferred by 20% of the professoriate. Magazine is the least preferred print information source by a vast majority (95.2%) of the professoriate.

In the reference materials category, encyclopaedia is the most preferred information source by a vast majority (81.8%) of the professoriate. Dictionaries are preferred by 59.4% of the professoriate, while atlas/maps and directories are the least preferred by 72.1% and 84.8% of the professoriate respectively.

In the government publication category, government is most preferred by only 1.2% of the professoriate, but least preferred by 86.7%. Acts and statutes are most preferred by just 0.6% of the professoriate respectively but the least preferred by a vast majority at 90.3% and 93.3% respectively.

In the bibliographic databases category, abstract and indexes is most preferred by 30.9% and preferred by 66.1% of the professoriate. On the other hand, thesis and dissertations is most preferred by only 9.7% and preferred by 76.4% of the professoriate.

In the electronic information sources category, e-journals (77.6%), online database (74.5%), and online bibliographic databases (72.7%) are the most preferred information sources by a vast majority of the professoriate. Online catalog is preferred by 35.2%, while internet and the web is most preferred by 13.3% and 10.9% respectively, but somewhat preferred by 55.2% and 56.4% of the professoriate respectively.

In the informal sources category, seminars, workshops, and conferences (77.6%) are the most preferred information sources, while communication with colleagues is preferred by 81.2% of the professoriate. Reference librarian is preferred by 64.2% of the professoriate. Newspaper and television is the least preferred by a vast majority of the professoriate.

5.3.3.1 Professoriate Criterion for Information Source Preferences

The professoriate was asked what criteria they use in selecting information sources for teaching and research. The result is depicted in Table 5.15.

Table 5.15: Criterion for Information Source Preferences

Criteria	Very important		Important		Slightly important		Least important	
	Freq	%	Freq	%	Freq	%	Freq	%
Relevance	160	97	5	3	0	0	0	0
Currency	156	94.5	9	5.5	0	0	0	0
Accuracy	155	93.9	10	6.1	0	0	0	0
Authoritativeness	155	93.9	9	5.5	0	0	1	0.6
Easy to understand	147	89.1	17	10.3	1	0.6	0	0
Purpose	130	78.8	23	13.9	11	6.7	1	0.6

The result shows that relevance (97%) is the most important criterion used by the professoriate in selecting information sources, followed by currency (94.5%), accuracy (93.9%), and authoritativeness (93.9%) of the information sources. Easy to understand and purpose are the criteria used by (89.1%) and (78.8%) of the professoriate respectively in selecting information sources.

5.3.4   Factors Influencing Professoriate Use of Information Source

The professoriate was asked to indicate the factors that influence their use of information resources. The factors presented are performance expectancy (perceived usefulness), effort expectancy (perceived ease of use, attitude towards use of technology, social influence, facilitating condition, self efficacy, anxiety and behavioural intention. The results on each factor are presented below.

5.3.4.1 Performance Expectancy (Perceived Usefulness)

The result on performance expectancy is presented in Table 5.16. A vast majority (98.2%) agreed that using electronic information resources increases their chances of publishing more scholarly research papers as compared to 1.8% that disagree. Those who agreed that electronic information resources increase their ability to carry out research (95.2%) far outweigh those that disagree (4.8%). The respondents that affirmed that using electronic information resources enables them to carry out research more quickly, and those that find electronic information resources useful for teaching and research, account for 94.5% and 93.3% respectively, against 5.5% and 6.7% of those that disagree.

Table 5.16: Performance Expectancy (Perceived Usefulness)

N = 165

Factors influencing use of electronic resources	Disagree		Neutral		Agree	
	Freq	%	Freq	%	Freq	%
Performance expectancy (perceived usefulness)						
Using electronic information resources increases my chances of publishing more scholarly research papers.	3	1.8	0	0	162	98.2
Using electronic information resources increases my ability to carry out research.	8	4.8	0	0	157	95.2
Using electronic information resources enables me to carry out research more quickly.	9	5.5	0	0	156	94.5
I find electronic information resources useful for teaching and research.	11	6.7	0	0	154	93.3

5.3.4.2 Effort Expectancy (EE) Perceived Ease of Use

The result of the professoriate's perception on items of effort expectancy is presented in Table 5.17. Majority of the professoriate agreed that their interaction with electronic information resources is clear and understandable (88 %) against 11.5% that disagreed. Those that felt that electronic information resources are easy to use are 84.2% as compared to those that feel electronic information resources is difficult. Many (78.8%) of the professoriate are of the opinion that it is easy to become skilful at using electronic resources, while others (21.2%) are of contrary opinion. The respondents agreed that learning to manoeuvre electronic information resources is easy are about (6%) more than those that felt otherwise.

Table 5.17:   Effort Expectancy (Perceived Ease of Use)

N = 165

Effort Expectancy (EE) Perceived Ease of Use	Disagree		Neutral		Agree	
	Freq	%	Freq	%	Freq	%
My interaction with electronic information resources is clear and understandable.	19	11.5	0	0	146	88.5
I find electronic information resources easy to use.	26	15.8	0	0	139	84.2
It is easy for me to become skilful at using electronic information resources.	35	21.2	0	0	130	78.8
Learning to manoeuvre electronic information resources is easy for me.	77	46.7	0	0	88	53.3

5.3.4.3 Attitude of Professoriate towards using technology

The scores on the items that measured attitude of the professoriate towards using technology are depicted in Table 5.18. Majority (98.2%) of the professoriate affirm that using electronic information resources is good for teaching and research against a few (1.8%) that are of contrary view. I like using electronic information resources to search for information for teaching and research got the nod of 85.5% of the professoriate as compared to the 14.5% that disagreed. Those that agreed that communicating information retrieved from electronic information resources through teaching and research is fun, are more than twice (69.1%) of those that think otherwise (30.9%).

Table 5.18: Attitude of Towards Using Technology

N = 165

Attitude towards using technology	Disagree		Neutral		Agree	
	Freq	%	Freq	%	Freq	%
Using electronic information resources is good for teaching and research.	3	1.8	0	0	162	98.2
I like using electronic information resources to search for information for teaching and research.	22	13.3	0	0	143	86.7
Electronic information resources makes more interesting.	24	14.5	0	0	141	85.5
Communicating information gotten from electronic information resources through teaching and research is fun.	51	30.9	0	0	114	69.1

5.3.4.4 Social influence

The result of items on social influence is shown in Table 5.19. Almost all (98.2%) the professoriate agreed that their university supports the use of electronic information resources for teaching and research. Those that agreed that people who influence their behaviour think they should use electronic information resources for teaching and research are 74.5% in comparison to those that are on the contrary (25.5%). "People who are important to me think that I should use electronic information resources for teaching and research" was affirmed by 73.9% of the respondents against 24.8% on the opposing side. Professoriate who consented that their colleagues in the faculty have been helpful in their use of electronic information resources was 70.9%.

Table 5.19: Social influence

N = 165

Social influence	Disagree		Neutral		Agree	
	Freq	%	Freq	%	Freq	%
In general, the university supports the use of electronic information resources for teaching and research.	3	1.8	0	0	162	98.2
People who influence my behaviour think that I should use electronic information resources for teaching and research.	42	25.5	0	0	123	74.5
People who are important to me think that I should use electronic information resources for teaching and research.	41	24.8	2	1.2	122	73.9
My colleagues in the faculty have been helpful to me in using electronic information resources.	46	27.9	2	1.2	117	70.9

5.3.4.5 Facilitating Condition

The result in Table 5.20 shows that a vast majority (99.4%) of the professoriate admitted they have the knowledge necessary to use electronic information resources. Furthermore, majority (98.8%) are those that agreed they have the resources necessary to use electronic information resources for teaching and research. The professoriate whose phones are not compatible with the use of electronic information resources, accounts for 38.8% against those that admitted that their phones are compatible. Few (27.3%) of the professoriate agreed that a specific person is available for assistance with difficulties in using electronic information resources. Those that disagreed are invariably more (72.7%).

Table 5.20: Facilitating Condition

N = 165

Facilitating Condition	Disagree		Neutral		Agree	
	Freq	%	Freq	%	Freq	%
I have the knowledge necessary to use electronic information resources.	1	0.6	0	0	164	99.4
I have the resources necessary to use electronic information resources for teaching and research.	2	1.2	0	0	163	98.8
My phone is not compatible with the use of electronic information resources.	101	61.2	0	0	64	38.8
A specific person is available for assistance with difficulties in using electronic information resources.	120	72.7	0	0	45	27.3

5.3.4.6 Self Efficacy

The result of items that measured self efficacy is shown in Table 5.21. Almost all (99.4%) of the respondents agreed that they can save and retrieve downloaded online journal using the computer. Many (95.8%) of the respondents claimed to be proficient in the use a computer, and equally many (81.2%) admitted they find it so easy using electronic information resources. Those that felt confident using online databases to search for information accounts for 76.4% against the less confident respondents (22.4%). The respondent that agreed they can completely use electronic information resources for teaching and research, if they have a built-in help facility in their smart phone or PC for assistance are 75.2% as against 23.6%. "I am confident using electronic information resources to search for information for teaching and research even if there is no one to help me" got the nod of 70.9% of the respondents against 29.1%. The respondents that agreed that they can use electronic information resources for teaching and research, if they have a lot of time are twice those that disagreed.

Table 5.21: Self Efficacy

N = 165

Self Efficacy	Disagree		Neutral		Agree	
	Freq	%	Freq	%	Freq	%
I can save and retrieve downloaded online journal using the computer	1	0.6	0	0	164	99.4
I am proficient in the use a computer	7	4.2	0	0	158	95.8
I find it so easy using electronic information resources	31	18.6	0	0	134	81.2
I am confident using online databases to search for information	37	22.4	0	0	126	76.4
I can completely use electronic information resources for teaching and research, if I have a built-in help facility in my smart phone or PC for assistance.	39	23.6	2	1.2	124	75.2
I am confident using electronic information resources to search for information for teaching and research even if there is no one to help me.	48	29.1	0	0	117	70.9
I can use electronic information resources for teaching and research, if I have a lot of time.	55	33.3	0	0	110	66.7

5.3.4.7 Anxiety

The items of the result of measures of anxiety are depicted in Table 5.22. The result shows that the feeling of apprehensiveness about using electronic information resources exists only amongst 28.5%. Majority (71.5%) of the professoriate disapproved the feeling of

apprehension in using electronic resources. The respondents that are scared to think that they could lose a lot of time using electronic information resources are fewer (29.1%) than those (70.9%) who are not. Those who accepted being intimidated by electronic information resources are less (29.1%) compared to those who opposed to it. Moreover, in the minority are those that hesitate to use electronic information resources because they are already used to print resources (29.7%), and those who have phobia for digital devices (29.1%). Those that disagreed on the two dimensions are higher and are 70.3% and 69.7% respectively.

Table 5.22: Anxiety

N = 165

Anxiety	Disagree		Neutral		Agree	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**
I feel apprehensive about using electronic information resources.	118	71.5	0	0	47	28.5
It scares me to think that I could lose a lot of time using electronic information resources.	117	70.9	0	0	48	29.1
Using electronic information resources is somewhat intimidating to me.	116	70.3	0	0	48	29.1
I hesitate to use electronic information resources because I am already used to print resources.	116	70.3	0	0	49	29.7
I have phobia for using digital devices e.g smart phone, palmtop, PDA	115	69.7	0	0	48	29.1

5.3.4.8 Behavioural Intention

The result in Table 5.23 shows that a vast majority (97.6%) of the professoriate declared their intention to use electronic information resources having known its usefulness. The number of professoriate that predict they would use electronic information resources in the shortest possible time (92.1%) is as high as those that plan to use electronic information resources in the future (93.9%). The professoriate that plan to use digital devices to access electronic information resources (83.6%) is equally high when compared to those that have no such plans.

Table 5.23: Behavioural Intention

N = 165

Behavioural Intention	Disagree		Neutral		Agree	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**
I intend to use electronic information resources having known its usefulness.	2	1.2	2	1.2	161	97.6
I plan to use electronic information resources in the future	2	1.2	8	4.8	155	93.9

I predict I would use electronic information resources in the shortest possible time	4	2.4	9	5.5	152	92.1
I plan to use digital devices (such as smart phone, PDA) to access electronic information resources	19	11.5	8	4.8	138	83.6

5.3.4.9 Attitude of the Professoriate towards Electronic Information Resources

The result of measures of attitude of the professoriate towards electronic information resources is depicted in Table 5.24. The overall results show that the professoriate has a positive attitude towards electronic information resources. A vast majority (97.6%) of the professoriate are of the opinion that using electronic information resources saves a lot of time and effort in research. Likewise, an overwhelming majority (96.4%) affirmed that electronic information resources are a fast means of getting information for teaching and research. The respondents that asserted they would like to learn more about electronic information resources and those that would like to tell their research students to use electronic information resources accounts for 96.4% respectively. Many (94.5%) of the professoriate agreed that electronic information resources is an effective tool for teaching and research as compared to the few (5.5%) that disagreed. The respondents that claimed that electronic information resources improves their ability to teach and conduct research and those that are of the opinion that electronic information resources make them more productive are (93.3%) respectively.

In addition, at par (89.7%) are those that agreed that electronic information resources make their teaching and research easy and those that claimed that they enjoy using electronic information resources for teaching and research. "I organise my teaching and research work better with the use of electronic information resources" got the nod of 85.5% and the disapproval of 14.5% of the respondents. "I like to use electronic information resources for teaching and research rather than use print resources" did not go well with majority (87.3%) of the professoriate. Only 7.9% felt they like to use electronic information resources for teaching and research rather than use print resources. Those that are non-committal are also few (4.8%).

147

Table 5.24: Attitude

N = 165

Attitude of the Professoriate	Disagree		Neutral		Agree	
	Freq	%	Freq	%	Freq	%
Using electronic information resources saves a lot of time and effort in research.	2	1.2	0	0	161	97.6
Electronic information resources are a fast means of getting information for teaching and research.	6	3.6	0	0	159	96.4
I will like to learn more about electronic information resources.	5	3.0	0	0	159	96.4
I like telling my research students to use electronic information resources.	6	3.6	0	0	159	96.4
Electronic information resources is an effective tool for teaching and research	9	5.5	0	0	156	94.5
Electronic information resources improves my ability to teach and conduct research	11	6.7	0	0	154	93.3
Electronic information resources make me more productive.	11	6.7	0	0	154	93.3
Electronic information resources make my teaching and research easy.	17	10.3	0	0	148	89.7
I enjoy using electronic information resources for teaching and research.	17	10.3	0	0	148	89.7
I organize my teaching and research work better with the use of electronic information resources.	24	14.5	0	0	141	85.5
I like to use electronic information resources for teaching and research rather than use print resources.	144	87.3	8	4.8	13	7.9

5.4 Factor Analysis

In order to understand the factors that played a significant role in influencing the professoriate use of electronic resources, factor analysis was applied to explore the underlying factors associated with professoriate use of electronic resources. The result received from the 165 respondents have been thoroughly analysed and the outputs of the results have been clearly explained in this section. Eight key constructs of the UTAUT namely performance expectancy, effort expectancy, attitude towards technology, social influence, facilitating conditions, self efficacy, anxiety and behavioural intention which are known to predict use of technology were the factors considered to influence the professoriate use of electronic information resources.

Performance expectancy, effort expectancy, attitude towards technology, social influence, and facilitating conditions were measured with four items each. Self efficacy was measured with seven items, anxiety was measured with five items, and behavioural intention was

measured with four items. All the items that measured the eight factors amount to fourty seven.

Using SPSS, factor analysis (principal component analysis) was carried out to explore the underlying factors associated with the 47 items. The construct validity was tested applying Bartlett's Test of Sphericity and the Kaiser-Mayer-Olkin Measure of sampling adequacy analyses the strength of association among variables. The Kaiser-Mayer-Olkin measures of sampling adequacy (KMO) were first computed to determine the suitability of using factor analysis. It helps to predict whether data are suitable to perform factor analysis. KMO is used to assess which variables to drop from the model due to multi-collinearity problem. The value of KMO varies from 0 to 1, and KMO overall should be 0.50 or higher to perform factor analysis.

Table 5.25 shows that the result of the Barlett's Test of Sphericity and the KMO for all the items that measured performance expectancy, effort expectancy, attitude towards technology, social influence, facilitating conditions, self efficacy, anxiety and behavioural intention, were all significant making the variables suitable for factor analysis. Behavioural intention has the least KMO statistic (.715) and self efficacy has the highest KMO value (.845).

Table 5.25: KMO Statistics for all UTAUT Factors

	Performance Expectancy	Effort Expectancy	Attitude	Social influence	Facilitating conditions	Self Efficacy	Anxiety	Intention
Kaiser-Mayer Olkin Measure of Sampling Adequency	.779	.772	.729	.859	.726	.845	.812	.715
Barlett's Test of Sphericity Approx.Chi-sq	687.442	368.654	167.782	801.656	512.437	621.372	2130.165	338.784
	6	6	6	6	6	21	10	6
Sig	.000	.000	.000	.000	.000	.000	.000	.000

To determine the minimum loading necessary to include an item in its respective constructs, Hair et al. (1992) suggested that variables with loading greater than 0.30 is considered significant, loading greater than 0.40 more important, and loading 0.50 or greater are very significant. For this study, items with loading of 0.50 or greater are acceptable.

The initial run of the Principal component on each of the factors (performance expectancy, effort expectancy, attitude towards technology, social influence, facilitating conditions, self

efficacy, anxiety and behavioural intention) setting the eigen values to 1, produced 10 items to represent all the 47 variables that measured the factors influencing the professoriate use of electronic resources. To increase the number of components extracted, items with eigen values of 0.800 or more are included. Including items with loadings of 0.800 or higher increases the cumulative percentage of the total variance in the factor solution.

The result of the factor analysis and the dimension that loaded into the eight different factors can be seen in Tables 5.26 to 5.33 and Figures 5.8 to 5.15 respectively presented below.

5.4.1 Variance of Component Extraction – Performance Expectancy

Table 5.26 explains the total variance for the sets of variables representing measures of performance expectancy. The variables with eigenvalue greater than 1 are sufficient to represent all other variables in that segment. Table 4.15 showed one item with eigenvalues 3.214 and the percentage of variance column gives the ratio, expressed as a percentage of the variance accounted for by each component to the total variance in all of the variables. The cumulative percentage column shows that 80.353% of the total variance is accounted for by the single components (with eigenvalues more than 0.8). The one item accounts for about 80% of the variability in the original variables. This suggests that the one (1) latent variable is associated with performance expectancy; however, there remains room for unexplained variation, which accounts for approximately 20% of the total variability. The second section of the table shows the variance explained by the extracted factors before rotation. The cumulative variability explained by this single factor in the extracted solution is 80.353%, making no difference from the initial solution.

Table 5.26: Variance of Component Extraction for Performance Expectancy

Factors	Initial Eigenvalues			Extraction Sums of Squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.214	80.353	80.353	3.214	80.353	80.353
2	.582	14.561	94.914			
3	.154	3.844	98.759			
4	.050	1.241	100.000			
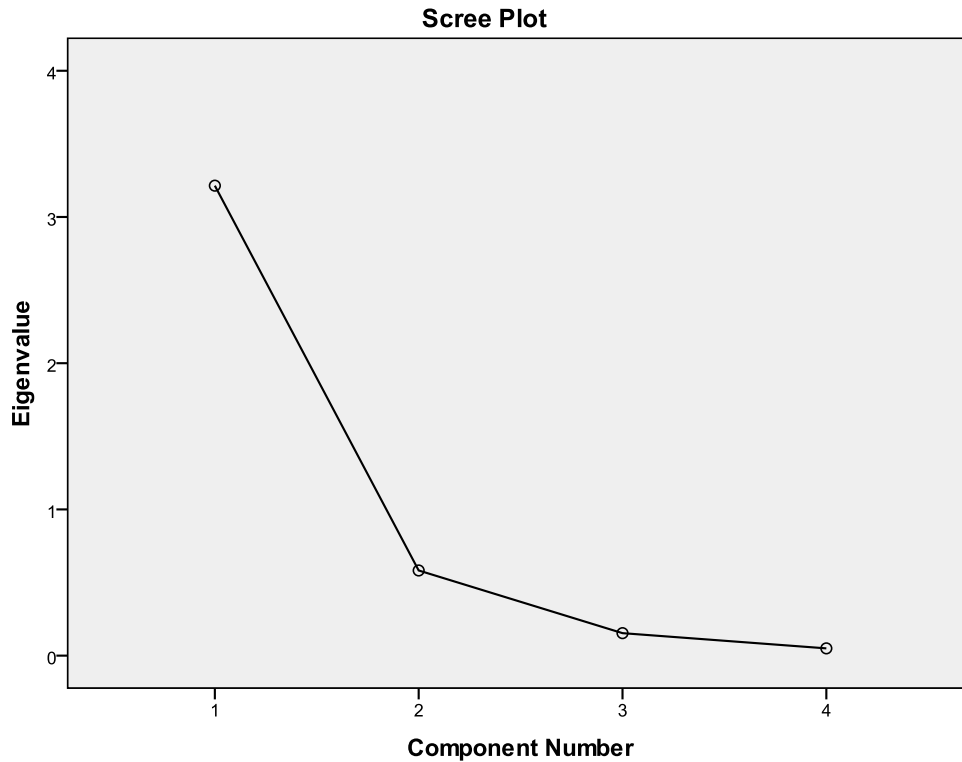
Scree Plot

Figure 5.8: Scree Plot for Performance Expectancy

5.4.2 Variance of Component Extraction – Effort Expectancy

Total variance for the set of variables representing measures of effort expectancy is explained in Table 5.27. The variable with an eigenvalue that is greater than 0.8 is sufficient to represent all other variables in that segment. Table 5.27 showed one item with eigenvalue 2.834, and the percentage of variance column gives the ratio, expressed as a percentage of the variance accounted for by each component to the total variance in all of the variables. The cumulative percentage (%) column shows that 70.857% of the total variance is accounted for by the single component with eigenvalue more than 0.8. This accounts for about 71% of the variability in the original variables. This suggests that this one (1) latent variable is sufficient to represent all the measures of effort expectancy; however, there remains room for a lot of unexplained variation, which accounts for approximately 29%. The second segment of the table shows the variance explained by the extracted factors before rotation. The cumulative variability explained by this single factor in the extracted solution is 70.857%, which makes no difference from the initial solution.

Table 5.27: Variance of Component Extraction for Effort Expectancy

Factors	Initial Eigenvalues			Extraction Sums of Squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.834	70.857	70.857	2.834	70.857	70.857
2	.661	16.522	87.379			
3	.347	8.682	96.061			
4	.158	3.939	100.000			
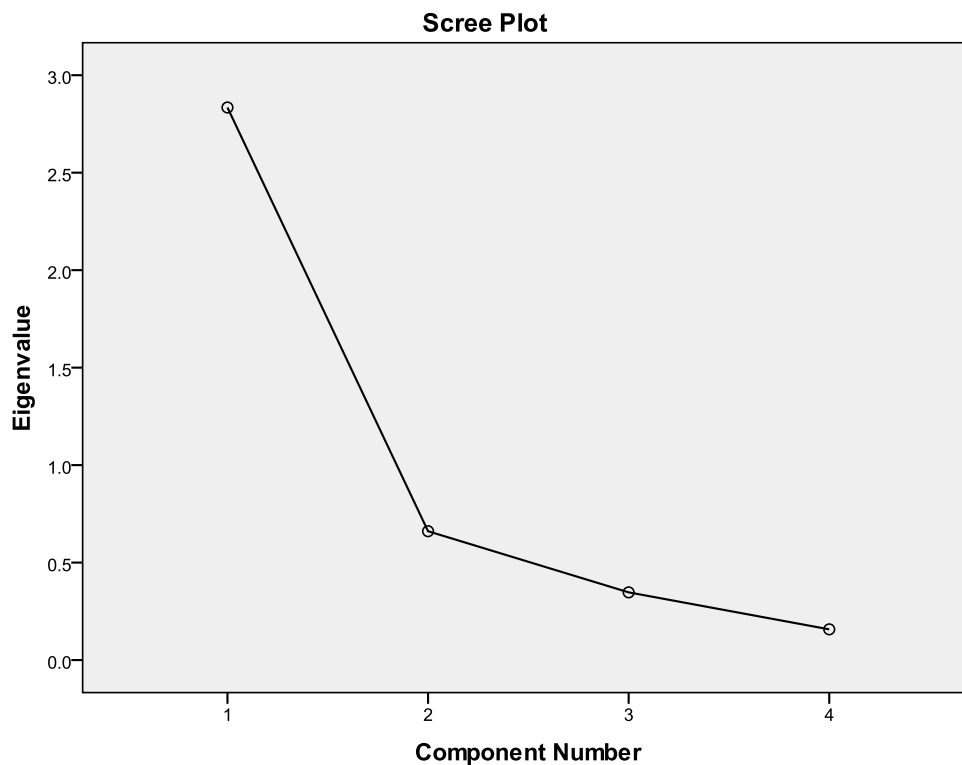
Figure 5.9: Scree Plot for Effort Expectancy

5.4.3 Variance of Component Extraction – Attitude towards Technology

Table 5.28 explains the total variance for the sets of variables representing constructs of attitude towards technology. The variables with eigenvalues, greater than 0.8 can be used to represent all other variables in that segment. The Table shows two (2) items with eigenvalues 2.290 and 0.821 and the percentage of variance column gives the ratio expressed as a percentage of the variance accounted for by each component to the total variance in all of the variables. The cumulative percentage column shows that 77.787% of the total variance is accounted for by the two components with eigenvalues greater than 0.8. These components together, account for about 78% of the variability in the original variables. This implies that

the two (2) latent variables associated with attitude towards technology are sufficient to represent that group. However, approximately 22% of the variability is lost because of unexplained variation. The second section of the table shows the variance explained by the extracted factors before rotation. The cumulative variability explained by these two factors in the extracted solution is 77.787%, with no difference from the initial solution. The rotation sum of squared loading section shows the variance explained by the extracted factors after rotation. The rotated factor model made no changes to the factor model.

Table 5.28: Variance of Component Extraction for Attitude towards Technology

Factors	Initial Eigenvalues			Extraction Sums of Squared loadings			Rotation Sum of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.290	57.262	57.262	2.290	57.262	57.262	2.008	50.212	50.212
2	.821	20.525	77.787	.821	20.525	77.787	1.103	27.575	77.787
3	.538	13.451	91.238						
4	.350	8.762	100.000						
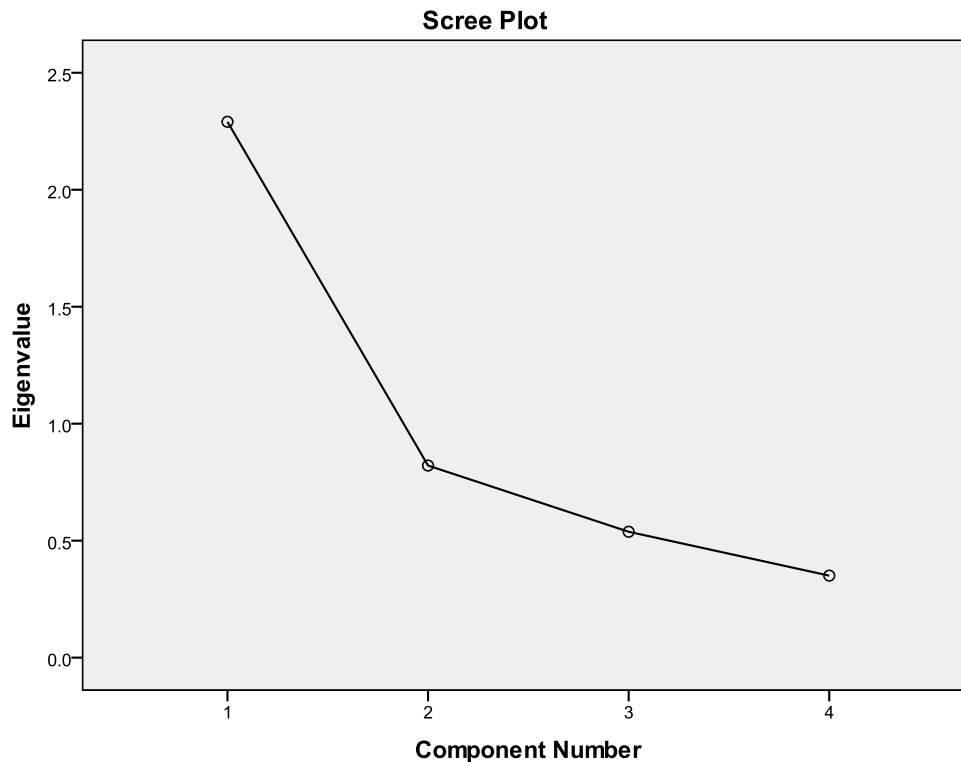
Figure 5.10: Scree Plot for Attitude towards Technology

5.4.4 Variance of Component Extraction – Social Influence

The total variance for the sets of variables measuring social influence is depicted in Table 5.29. The variables with eigenvalues, greater than 0.8 are sufficient to represent all other variables in that segment. The table showed two items with eigenvalues 2.839 and 0.966, and the percentage of variance column gives the ratio expressed as a percentage of the variance accounted for by each component to the total variance in all of the variables. The cumulative percentage column shows that 95.128% of the total variance is accounted for by the two components with eigenvalues greater than 0.8. Together, they account for about 95% of the variability in the original variables. This suggests that the two latent variables associated with social influence can adequately represent that group. However, there remains room for unexplained variation which accounts for approximately (5%) of the total variation. The second section of the table shows the variance explained by the extracted factors before rotation. The cumulative variability explained by the two factors in the extracted solution is (95.128%), showing no difference from the initial solution. Thus, no variation in the initial solution is lost due to latent factors unique to the original variables and variability in the factor model. The rotation sum of squared loading section shows the variance explained by

154

the extracted factors after rotation. The rotated factor model made no changes to the initial solution.

Table 5.29: Variance of Component Extraction for Social Influence

Factors	Initial Eigenvalues			Extraction Sums of Squared loadings			Rotation Sum of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.839	70.975	70.975	2.839	70.975	70.975	2.783	69.568	69.568
2	.966	24.153	95.128	.966	24.153	95.128	1.022	25.580	95.128
3	.181	4.516	99.644						
4	.014	.356	100.000						
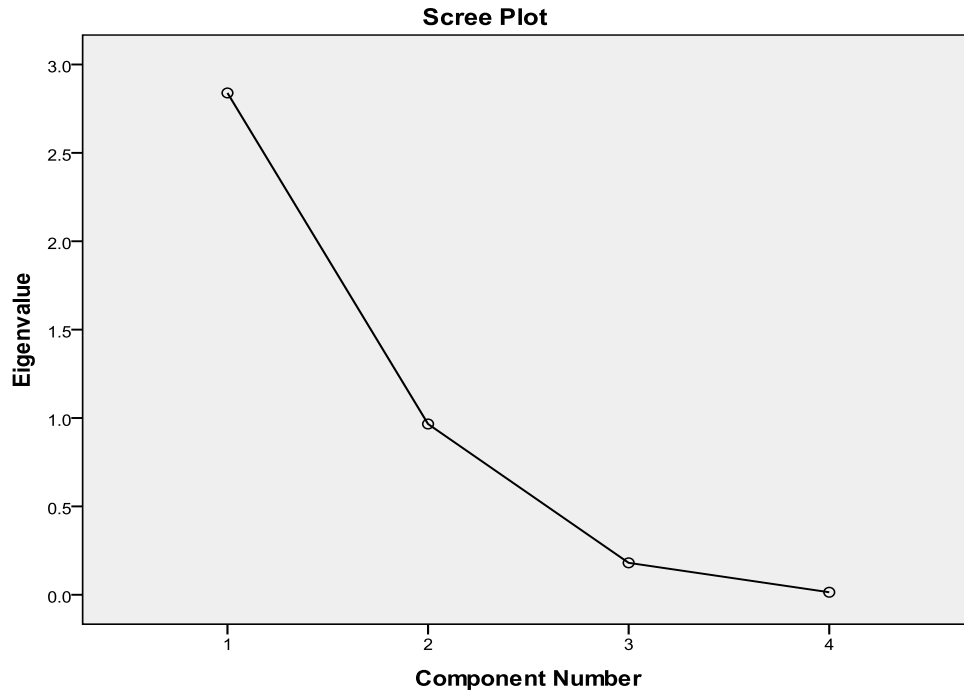
Figure 5.11: Scree Plot for Social Influence

5.4.5 Variance of Component Extraction – Facilitating Condition

The variance for the components of facilitating condition is shown in Table 5.30. The variables with eigenvalue, greater than 0.8 are sufficient to represent all the variables in that group. The table shows three items with eigenvalues 1.224, 1.113, and 0.907, and the percentage of variance column gives the ratio, expressed as a percentage of the variance accounted for by each component to the total variance in all of the variables. The cumulative percentage column shows that 81.084% of the total variance is accounted for by the 3 items with eigenvalues more than 0.8. Together, these variables account for about 81% of the variability in the original variables. This implies that the three latent variables associated with facilitating condition are sufficient to represent all the variables in that group. However, there remains room for some unexplained variation, which accounts for about 19% overall variation. The extraction sum of squared loading section shows the variance explained by the extracted factors before rotation. The cumulative variability explained by these three factors in the extracted solution is 81.084%, which is not different from the initial solution. The rotation sum of squared loading section shows the variance of the extracted factors after rotation. The cumulative variability remains the same as the initial solution.

Table 5.30:   Eigenvalues and Variance of Component Extraction for Brand Image (Source:)

Factors	Initial Eigenvalues			Extraction Sums of Squared loadings			Rotation Sum of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.224	30.601	30.601	1.224	30.601	30.601	1.116	27.901	27.901
2	1.113	27.815	58.416	1.113	27.815	58.416	1.096	27.402	55.303
3	.907	22.668	81.084	.907	22.668	81.084	1.031	25.781	81.084
4	.757	18.916	100.000						
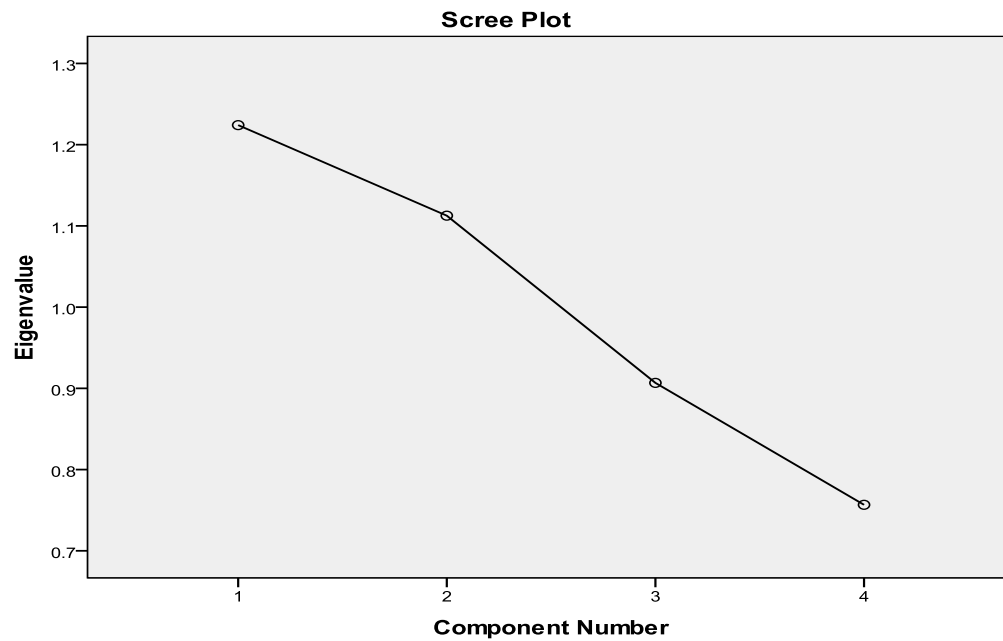
Figure 5.12: Scree Plot for Brand Image

5.4.6 Variance of Component Extraction – Self Efficacy

Table 5.31 explains the total variance for the sets of variables representing measures of self efficacy. The variables with eigenvalues, greater than 0.8 are sufficient to represent all other variables in that segment. Table 5.31 shows 3 items with eigenvalues 3.844, 1.033, and 0.849 and the percentage of variance column gives the ratio, expressed as a percentage of the variance accounted for by each component to the total variance in all of the variables. The cumulative percentage column shows that 81.796% of the total variance is accounted for by the three components (with eigenvalues more than 0.8). Together, they account for about 82% of the variability in the original variables. This suggests that the three latent variables are associated with self efficacy and there remains room for some unexplained variation which accounts for approximately 18%. The extraction sums of squared loading section of the table show the variance explained by the extracted factors before rotation. The cumulative variability explained by these three factors in the extracted solution is (81.796%), same as the initial solution. Thus, no variation explained by the initial solution is lost due to latent factors unique to the original variables and variability by the factor model. The rotation sum of squared loading section shows the variance explained by the extracted factors after rotation. The rotated factor model also did not adjust the initial factor model.

Table 5.31: Variance of Component Extraction for Self Efficacy

Factors	Initial Eigenvalues			Extraction Sums of Squared loadings			Rotation Sum of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Commulative %
1	3.844	54.912	54.912	3.844	54.912	54.912	3.592	51.315	51.315
2	1.033	14.752	69.664	1.033	14.752	69.664	1.123	16.039	67.354
3	.849	12.133	91.796	.849	12.133	81.796	1.011	14.443	81.796
4	.535	7.648	89.444						
5	.396	5.657	95.100						
6	.209	2.988	98.088						
7	.134	1.912	100.000						
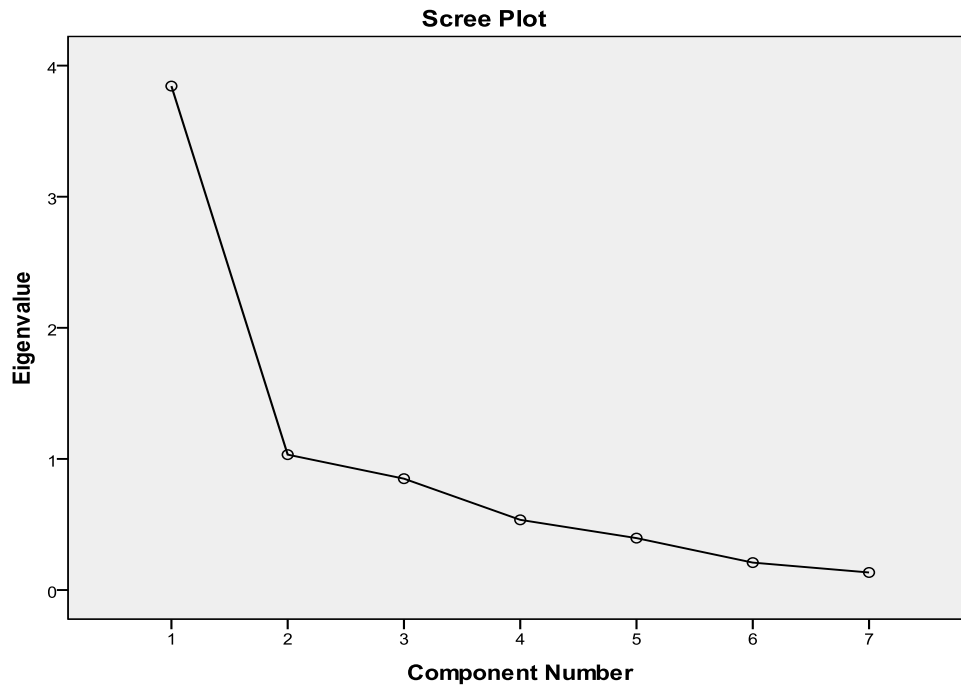
Figure 5.13: Scree Plot for Self Efficacy

5.4.7   Variance of Component Extraction – Anxiety

Table 5.32 explains the total variance for the sets of variables representing measures of anxiety. The variables with eigenvalues, greater than 0.8 are sufficient to represent all other variables in that segment. Table 5.32 shows one item with eigenvalues 4.859 and the percentage of variance column gives the ratio, expressed as a percentage of the variance accounted for by each component to the total variance in all of the variables. The cumulative percentage column shows that 97.173% of the total variance is accounted for by the single item (with eigenvalue more than 0.8). It accounts for about 97% of the variability in the original variables. This suggests that the single latent variables are highly associated with anxiety and there remains room for some unexplained variation which accounts for approximately just 3%. The extraction sums of squared loading section of the table show the variance explained by the extracted factors before rotation. The cumulative variability explained by this one factor in the extracted solution is 97.173%, same as the initial solution. Hence, no variation to the initial solution is lost due to latent factors unique to the original variables and variability of the factor model.

Table 5.32: Variance of Component Extraction for Anxiety (Source:)

Factors	Initial Eigenvalues			Extraction Sums of Squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.859	97.173	97.173	4.859	97.173	97.173
2	.072	1.445	98.618			
3	.049	.980	99.598			
4	.014	.281	98.880			
5	.005	.120	100.000			
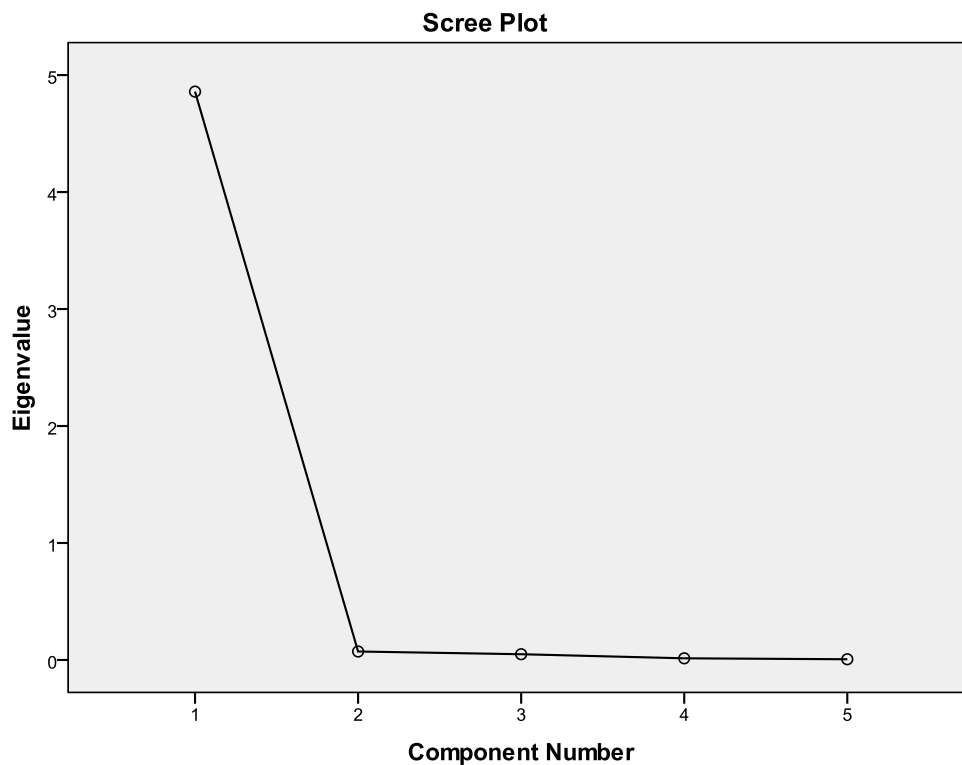
Figure 5.14: Scree Plot for Anxiety

5.4.8 Variance of Component Extraction – Behavioural Intention

Table 5.33 explains the total variance for the sets of variables representing measures of behavioural intention. The variables with eigenvalues, greater than 0.8 are sufficient to represent all other variables in that segment. Table 5.33 shows two items with eigenvalues 2.660, 0.812 and the percentage of variance column gives the ratio, expressed as a percentage of the variance accounted for by each component to the total variance in all of the variables. The cumulative percentage column shows that 86.801% of the total variance is accounted for by the 2 components (with eigenvalues more than 0.8). Together, they account for about 87%

of the variability in the original variables. This implies that the three latent variables are highly associated with behavioural intention leaving room for some unexplained variation which accounts for approximately (13%). The extraction sum of squared loading section shows the variance explained by the extracted factors before rotation. The cumulative variability explained by these two factors in the extracted solution is 86.801%, same as the initial solution. Thus, no variation explained by the initial solution is lost due to latent factors unique to the original variables and variability of the model. The rotation sum of squared loading section shows the variance explained by the extracted factors after rotation. The rotated factor model also did not adjust the initial solution.

Table 5.33: Variance of Component Extraction for Behavioural Intention

Factors	Initial Eigenvalues			Extraction Sums of Squared loadings			Rotation Sum of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Commulative %
1	2.660	66.501	66.501	2.660	66.501	66.501	2.411	60.285	60.265
2	.812	20.300	86.801	.812	20.300	86.801	1.061	26.515	86.801
3	.376	9.408	96.209						
4	.152	3.791	100.000						
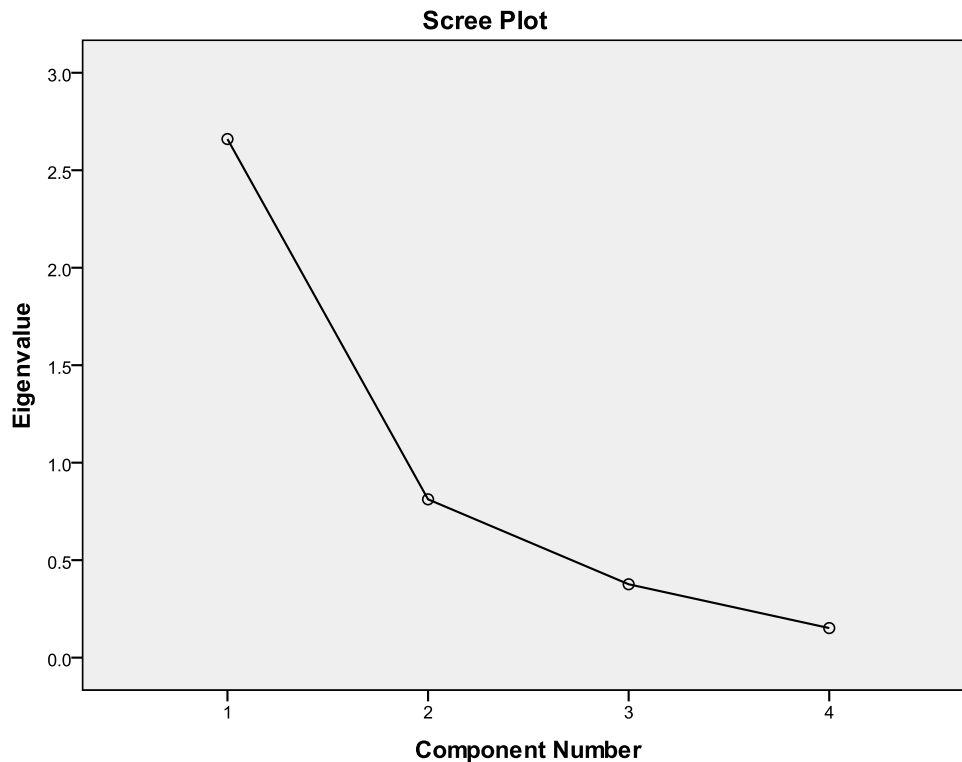
Figure 5.15: Scree Plot for Behavioural Intention

5.5   Components Extraction and Factor loadings – Descriptive Analysis

Table 5.34 below presents the summary of the principal component analysis extracted variables that explains the factors that influences professoriate use of electronic information resources with their factor loadings and the corresponding mean and standard deviation.

The result (Table 5.34) shows the items that measured performance expectancy. "Using electronic information resources enables me to carry out research more quickly" has a mean score of 2.89 and a standard deviation of 0.455. It is the only variable extracted from that group with an eigenvalue of 0.214. The cumulative value accounts for 80.353% of the total variation which is sufficient to represent all the variables in that segment.

In effort expectancy, "It is easy for me to become skilful at using electronic information resources" is the only variable extracted to represent the group with a mean of 2.57 and a standard deviation of 0.820. It has an eigenvalue of 2.834 and represents 70.857% of the overall variability, and sufficient to represent other variables in that group.

Table 5.34: Components Extracted with Mean, Standard deviation and factor loadings

Factors influencing Professoriate Use of Electronic Resources	Mean	Standard Deviation	Factors			
			F1	F2	F3	F4
Performance Expectancy Using electronic information resources enables me to carry out research more quickly	2.89	0.455	0.930			
Effort Expectancy It is easy for me to become skilful at using electronic information resources	2.57	0.820		0.866		
Attitude Electronic information resources make teaching and research more interesting.	2.70	0.707			0.728	
I like using electronic information resources to search for information for teaching and research.	2.73	0.681			0.714	
Social Influence People who are important to me think that I should use electronic information resources for teaching and research.	2.49	0.866				0.978
People who influence my behaviour think that I should use electronic information resources for teaching and research.	2.49	0.873				0.934

Under attitude as a construct, two variables were extracted. "Electronic information resources make teaching and research more interesting" has the lower mean (2.70) and the highest deviation (0.707) from the mean. "I like using electronic information resources to search for information for teaching and research" has the highest mean in the segment and the least standard deviation. The two items has eigenvalue of 2.290 and 0.821, and accounts for 77.787% of the total variability of items which is sufficient to represent that group.

Two variables were extracted from the items that measured social influence. The first variable "people who are important to me think I should use electronic information resources for teaching and research" has a mean score of 2.49 and a standard deviation of 0.866. The second variable "people who influence my behaviour think that I should use electronic information resources for teaching and research" has the same mean 2.49 as the first variable, but a higher standard deviation (0.873). The two variables with eigenvalues 2.839 and 0.966;

the cumulative percentage represented by the two items accounts for 95.128% of the overall variability of all the measures of social influence, and is considered sufficient to represent that group.

Table 5.35: Components Extracted with Mean, Standard deviation, and factor loadings

Factors influencing Professoriate Use of Electronic Resources	Factors					
	Mean	Std Dev	F5	F6	F7	F8
Facilitating Conditions						
I have the resources necessary to use electronic information resources for teaching and research.	2.97	0.219	0.963			
A specific person is available for assistance with difficult in using electronic information resources.	1.54	0.893	0.785			
I have the knowledge necessary to use electronic information resources.	2.98	0.155	0.783			
Self Efficacy						
I am proficient in the use of a computer	2.91	0.404		0.970		
I am confident using online databases to search for information	2.54	0.840		0.855		
I am confident using electronic information resources to search for information for teaching and research even if there is no one to help me.	2.41	0.911		0.826		
Anxiety						
I feel apprehensive about using electronic information resources	1.57	0.905			0.987	
Behavioural Intention						
I plan to use electronic information resources in the future	2.92	0.303				0.887
I intend to use electronic information resources having known its usefulness.	2.96	0.244				0.755

Under facilitating condition, (table 5.35) three items were extracted. "I have the knowledge necessary to use electronic information resources" has the highest mean (2.98) and the least deviation (0.155) from the mean. "A specific person is available for assistance with difficulty in using electronic information resources" has the least mean score (1.54) and the highest standard deviation (0.893). "I have the resources necessary to use electronic information resources for teaching and research" has a mean score of (2.97) and standard deviation of (0.219). The three variables with eigenvalues 1.224, 1.113, and 0.907, together account for about (81%) of the variability in the original variables and is considered sufficient to represent the group.

Self efficacy has three component extractions. "I am proficient in the use of a computer" has the highest mean score (2.91) and the least deviation from the mean (0.404), while "I am confident using electronic information resources to search for information for teaching and research even if there is no one to help me" has the least mean value (2.41) and the highest deviation from the mean (0.911). "I am confident using online databases to search for information" has a mean score of (2.54) and a standard deviation of 0.840. The three items have eigenvalues 3.844, 1.033, and 0.849 and together represent about 82% of the overall variables which make it sufficient to represent all the variables in the group.

The dimensions that represented anxiety have only one variable extraction from the principal component analysis, with a mean score of 1.57 and a standard deviation of 0.905. "I feel apprehensive about using electronic information resources" as an eigenvalue of 4.859 and 97.173% of the total variance of items in the group. The high eigenvalue and the high cumulative value make it sufficient to represent all other variables in the group.

The table (Table 5.35) shows that behavioural intention has two components representation from the principle components analysis. Between the two variables, "I intend to use electronic information resources having known its usefulness" has the highest mean score (2.96) and the least deviation (0.244) from the mean score, while, "I plan to use electronic information resources in the future" has a lower mean (2.92) and a higher standard deviation (0.303). Both items with eigenvalues of 2.660 and 0.812, represent 86.8% of the total variance of items that measured behavioural intention, and therefore sufficient to represent the group.

5.6 Regression Analysis of Extracted Components

Linear regression analysis was used to estimate the coefficient of the linear equation of the independent variables; performance expectancy, effort expectancy, attitude, social influence, facilitating condition, self efficacy, anxiety, and behavioural intention that best predict the dependent variable; use of information resources. Sequel to performing linear regression on the extracted items that represented each group of the independent variables, the items in each group was merged together into one variable using the spss "compute command". This operation allowed for a single variable to represent each dimension of the independent and dependent variables. The results of the linear multiple regression is presented in the tables below.

Table 5.36: Regression Result

Model	Standardized Coefficients Beta	t	Sig
(Constant)		2.708	.008
Performance Expectancy	0.277	4.823	.000
Effort Expectancy	-0.259	-3.234	.002
Attitude	0.676	9.105	.000
Social Influence	-0.126	-2.211	.029
Facilitating Condition	0.009	0.171	.864
Self Efficacy	0.130	1.219	.225
Anxiety	0.005	0.053	.958
Behavioural Intention	-0.061	-1.095	.275

*Dependent variable: use of e-resources

The result in table 5.36 shows that performance expectancy (β=0.277, t=4.823), effort expectancy (β=-0.259, t=-3.234), attitude (β=-0.676, t=-9.105), and social influence (β=--0.126, t=--2.211) are good predictors of use of e-resources by the professoriate. Facilitating Condition (β=-0.009, t=-0.171), Self Efficacy (β=-0.130, t=-1.219), Anxiety (β=-0.005, t=-0.053), and Behavioural Intention (β= -0.061, t= -1.095) are poor predictors of professoriate use of e-resources.

5.7 Answers to Interview Questions

5.7.1 Interview question 1: How does the library capacitates the professoriate to make effective use of library resources?

The outcome of the interview on what capacitates the professoriate to make effective use of library resources from the perspective of university of Lagos subject librarians reveals that the library has made no distinction between lecturers and the professoriate in supporting them to make effective use of information resources. One of the ways the library does this is through the provision of an exclusive place for all lecturers which includes the professoriate. In the words of one of University of Lagos Subject Librarian 1:

Themes: **dedicated space**

Unilag Subject Librarian 1:"We have a section in the second floor called writers room which is basically for lecturers. When I say lecturers, I am talking about from assistant lecturers up to professorial level" "The writers room is for lecturers fully air-conditioned and provides a

conducive environment, especially meant for lecturers where they will not be disturbed or distracted by students".

In capacitating the lectures and the professoriate, the library also give them access to special collection for their teaching and research activities, in addition to access to e-library.

Theme: **Access to special collections**

Unilag Subject Librarian 1: "They have access to go to the Gandi, it contains Nigeriana. These are documents published by Nigerians, or published by Nigerians all over the world no matter where they are. They are rear materials to be precise, and that is why it is well guided, we don't allow undergraduate to go there, it is only meant for lecturers and postgraduate students"

Theme: **Access to electronic library**

Unilag Subject Librarian 1: "In addition, we have our e-library. The e-library is meant for all categories of lecturers, we don't allow undergraduates to go there. The e-library has about 30 seating capacity, and full of databases, dbase, jstor, Elsevier, we have a lot of database services for all categories of courses, so lecturers have opportunity to go there"

The way the library capacitates the professoriate is through awareness campaign. As noted by Unilag Subject Librarian 2:

Theme: **Awareness campaign**

Unilag Subject Librarian 2: "The library creates awareness; at the same time organize an advocacy campaign in order to let them know the type of resources we acquire for maximum use"

The library capacitates the professoriate through the provision of information resources to all library users which includes the professoriate. The professoriate is given special attention when they need information. In the words of University of Lagos Subject Librarian 3:

Themes; **Provision of information resources; Special attention**

Unilag Subject Librarian 3: "The library has made provision for information resources for all category of users, students, lecturers with include the professoriate. .... but for the professoriate, the very few of them that come, we give them due consideration. I know one

professor in business admin that visits the library regularly, and whenever he comes, I pay special attention to his needs".

The library capacitates the professoriate by sending electronic copies of library resources to the professoriate through their various faculties. According to University of Lagos Subject Librarian 4:

Theme: **Sending e-resources to faculties**

Unilag Subject Librarian 4: "Most of our library resources we have is online, what we do is to send a copy of the softcopy to various faculties, that this is what the library has, and these are the things that can aid them (the professoriate) in their teaching"

Capacitating the professoriate to make effective use of library resources from the position of university of Ibadan and OAU librarians is done through the provision of books, journals, e-journals, and organising literacy programmes. The following excerpts are their interview responses:

Theme: **Provision of information resources**

UI Subject Librarian 5: "The library capacitates the professoriate by providing information resources in form of books and journals as well as organizing information literacy programme"

UI Subject Librarian 6: The library capacitates the professoriate by providing them with information in form of books and journals"

UI Subject Librarian 7: "The library capacitates the professoriate through the provision of information resources in form of books and e-jpurnal"

UI Subject Librarian 8: "Library capacitates the professors in ensuring effective utilization of library through the provision of myriads of information resources in print and electronic format"

UI Subject Librarian 9: "The library provides information resources to the professoriate in both print and electronic version"

OAU Subject Librarian 10: "The library in her capacity provide adequate information to the professors in form of print and electronic information resources available in the library"

OAU Subject Librarian 11:" The library encourages the professoriate to make effective use of library resources by making current journals and other resources available to them".

5.7.1.1 Narrative description of what capacitates the professoriate to make effective use of library resources.

Themes: dedicated space; Access to special collections; Awareness campaign; Provision of information resources; Special attention; Sending e-resources to faculties; Provision of information resources.

Several themes emerged from the interview data on capacitating the professoriate to make effective use of library resources. From the perspective of a subject librarian, in capacitating the professoriate, the library dedicated a section in the library called "writers room" where the professoriate can use to study or carry out their research. This room is fully air-conditioned and provide a conducive environment free from the distraction of students. This area is generally meant for use by all academic staff, which invariably includes the professoriate. In addition, the professoriate have access to special collection called "the Gandi" which has collection of publications by Nigerian authors all over the world. The place is well guided and access is limited to lecturers (including the professoriate) and postgraduate students. The library also organizes awareness campaign to let the professoriate know the type of resources that was acquired. Although library acquires information resources for all library users, special attention is given the professoriate when they need information resources. The library sends electronic copy of library resources to the various faculties, for easy access by the professoriate for teaching and research. Finally, the library capacitates the professoriate through the provision of information resources, in the form of books, journal and electronic information resources.

5.7.2 Interview question 2: What challenges are faced in providing information services to the professoriate?

The interview data on the challenges faced by the library in providing information services to the professoriate from the perspective of university of Lagos librarians reveals that epileptic electricity supply, slow and unstable internet connection and lack of fund to acquire information resources were the major challenges faced by the university library amongst other challenges. Excerpts of the interview regarding this evidence are documented below:

Theme: **Lack of fund**

Unilag Subject Librarian 1:"There is also need for money to pay for subscription. Some databases have been stopped because of the cost. They run into millions".

Themes: **Poor electricity supply; Low Internet bandwidth; Unstable Internet connectivity**

Unilag Subject Librarian 1: "There are lots of challenges, constant power break down, that is electricity, problem with bandwidth: breaking of internet connectivity that also hamper access. Fund is a great challenge to subscribe to database resources".

Unilag Subject Librarian 1: "Problem of resources is also be there, because let's look at the example I gave u earlier about the man that came looking for a particular that he has found on-line. Assuming about three four five of them came, it will be easy for us to produce because it is a soft copy, but if it were to be had copy and we had only one copy, you cannot give it out, rather we have to ask them to queue up and use them turn by turn".

Unilag Subject Librarian 1: "The problem of electricity is also there. There are times we don't have light in the library and everywhere becomes very hot, and when a professor comes, in his calibre, he may not be able to cope the way the students could".

Unilag Subject Librarian 1: "Majorly the challenges we have here is mainly electricity, without electricity everywhere will be stuffy and for you to relate with those people for service delivery will be an issue".

Other challenges mentioned by the librarians are infrastructural challenge, inferiority complex of librarians, attitudinal problems, and over reliance on library staff.

Themes: **Infrastructural challenge; Inferiority complex**

Unilag Subject Librarian 2: "Again we have infrastructural challenge. You don't expect a professor to come into the library and sit where other students are. We have where we call writer room within the library, but it is not spacious enough. Imagine a situation where we have about ten to fifteen professors coming in, it can't contain them".

Unilag Subject Librarian 2: "...the library itself, it needs expansion. "All those areas that I have mentioned, the writers' room, the Gandi, the typographic services that are meant for

lecturers are *fully occupied and need expansion*" ... "There are about 77 faculties. So you can imagine those two areas I have mentioned won't be able to serve them".

Theme: inferiority complex;

Unilag Subject Librarian 3: "Some of us librarians, the major challenge is inferiority complex, because he is a professor some of have the problem of how can I attend to this man, we are not of equal class, Again how am I going to express myself before this man considering his level, in terms of academics and social strata".

Theme: **Ego; Attitudinal problems**

Unilag Subject Librarian 4: "Then some of the professors have attitudinal problems, they look down on the librarians, what did they study, is it not to arrange and pack books, so many of them have that impression that librarians are not professionals, so they want to look down on them and talk to them anyhow, and these creates a problem of understanding. You can't come to me, and talk to me anyhow and expect me to give you the kind of services you want. Even if I'm compelled to do so, I won't give it to you the way I should have if you have considered me human".

Theme: **Over dependence on librarians**

Unilag Subject Librarian 4: "Some other challenges is sometimes when the lecturers come, they want you to spoon feed them, for something they can do on their own, they want you to spoon feed them on every resources you have in the library".

From the perspective of university of Ibadan and OAU librarians, poor electricity supply, poor internet connectivity, and funding were likewise mentioned as the major challenges facing the delivery of information services by the university library. Excerpts of the interview data are presented below:

Theme: **Poor electricity supply; Poor internet connectivity; Lack of funding; low patronage**

UI Subject Librarian 5: "Challenges encountered in providing information services to professors include: epileptic power supply constitute major impediments to access e-resources in the e-classroom of law library, lack of access to internet connection, lack of fund to provide current textbooks and journals, problem of alternative power supply and inverter and generator".

171

UI Subject Librarian 6: "Poor power supply, patronage of professors is generally low and wanting information immediately".

UI Subject Librarian 7: "Nigeria generally is facing economic crises. Inadequate funding to subscribe to current information materials has been the biggest challenge".

UI Subject Librarian 8: "Challenges faced are epileptic power supply, unstable internet connectivity, professoriate low patronage, and finance".

UI Subject Librarian 9: "Challenges encountered in providing information services to professors include; epileptic power supply, low bandwidth of the internet, bad illumination in the library".

OAU Subject Librarian 10: "Erratic power supply and low internet connectivity are the major challenges faced by the library in providing information services".

OAU Subject Librarian 11: "The challenges faced include poor power supply and low bandwidth of the internet connectivity".

5.7.2.1 Narrative description of challenges faced in providing information services to the professoriate

Themes: Lack of funding; Poor electricity supply; Low Internet bandwidth; Unstable Internet connectivity; Infrastructural challenge; Inferiority complex; Ego; Attitudinal problems; Over dependence on librarians.

From the perspectives of the subject librarians, the challenges faced by the library in providing information services to the professoriate include lack of fund for database subscription, lack of electricity, problem of bandwidth and unstable internet connectivity. A particular librarian mentioned that whereas students may be able to cope in this adverse situations, the professoriate in their calibre cannot cope. Lack of infrastructure is also a major as more apace is needed to create facilities for the professoriate. Some of the librarians have inferiority complex which affects their effectiveness in serving the professors. The professoriate on the other hand have attitude problems, having ego that make them look down on the librarians, often regarding them as people with low education. Over dependence on the librarians was also cited as a problem, where professoriate overly depend on the librarian for simple things they could otherwise do for themselves.

5.7.3 Interview question 3: To what extent is the university library meeting the information needs of the professoriate?

From the perspective of university of Lagos librarians the university library has met the needs of the professoriate by establishing faculty libraries for ease of access of information resources to the professoriate in their various departments, and the provision of e-library. The professoriate is part of the collection development committee which give them the privilege to include any book they want the library to acquire on their behalf or on behalf of their department, in the library acquisition list. In the words of Unilag Subject Librarian 1:

Unilag Subject Librarian 1: "All other faculties have been developed, even effort are being made now to recruit library assistance to man the place, so if a professor does not want to come to the library, he can walk in straight there" "when new materials are acquired, both journal and periodical, and primary and secondary information sources, are sent to all faculties and from there it is sent to various departments" "Beyond that the e-library is also an avenue for them, all of them have the password, so they don't need to come to the library" "Besides that, there is a committee that is in-charge of buying materials, and they (the professoriate) are part of that committee, so whatever materials they have seen that the library does not have, and they feel it is needed can be included in the list of potential acquisitions".

Some other librarians are of the opinion that the University library has tried reasonably to meet the information needs of the professoriates. In their words:

Unilag Subject Librarian 2: "The University is meeting the needs of the professoriate up to 65%".

Unilag Subject Librarian 3: "I will say 60 -65%, if I am to rate the reason is there is no university library in the world that can meet the information needs of its clients 100%. I think to a great extent, the university library has been able to make provision for the information needs of their professoriate".

Unilag Subject Librarian 4: "The library has largely tried in getting all the resources that will aid the teaching of the students. The library has in the last five years tried to get the major resources that will meet the needs of their clientele".

Responses from subject librarians in social science, arts, and education in University of Ibadan suggest that the university library has met the needs of the librarians to a "moderate" and "great extent".

UI Subject Librarian 5: "The information needs of the professoriates are met to a moderate extent".

UI Subject Librarian 6: "The library meets their need based on the available information at a moderate extent".

UI Subject Librarian 7: "Information needs of the professoriate are met to a great extent".

UI Subject Librarian 8: "The information need of the professors is met at a moderate level".

Response from librarian in faculty of law points out that the faculty library has met the needs of the professoriate by providing current information resources and promoting awareness of recent acquisitions. In his words:

UI Subject Librarian 9: "Through the provision of current law textbooks, law reports and journals, also by creating awareness by pasting latest acquisitions received from the central library and faculty of law on the notice board of the library".

Responses from the subject librarians at OAU suggest that the University library has met the needs of the professoriate to a "satisfactory level" according to one librarian, while the other said, "The library is trying its possible best, I will say 60%".

UI Subject Librarian 10: "The library is satisfying their needs to a satisfactory level".

UI Subject Librarian 11: "The library is trying its possible best, I will say 60%".

5.7.4   Interview question 4: What policies or strategies if any support the information needs of the professoriate?

According to a subject librarian 1 in social science in university of Lagos, as part of the strategies that support the information needs of the professoriate, some of the professoriate are part of the collection development committee and therefore contribute to the collection development of the university library. In his words:

Theme: **Part of collection development**

Unilag Subject Librarian 1: "*The professoriate (not all) are part of the collection development, so when the university is about to acquire materials, the librarian send information to them (professoriate) asking if there is any information resources (they have seen) they wish the library to acquire, since they are part of the information collection development committee*".

Subject librarian 2 claimed he is not "privy" to any policy that supports the information needs of the professoriate, according to him, he is just an ordinary staff, and issues of policy is known to the management staff. In his words;

Themes: **Policy is a management decision; digitization of intellectual product**

Unilag Subject Librarian 2: "*The policy of the university library is a management decision, as a staff, I am not privy to most of their policy. If any policy, it has to do with policy that has to do with acquisition, policy that has to do with digitization of intellectual product*".

A subject librarian in faculty of Arts was unsure as to whether a policy exists or not. Even though he is not aware of any documented policy, but he knows that preferences are given to the professoriate. In his words:

Theme: **Not aware of documented policy; Preferences given to the professoriate**

Unilag Subject Librarian 3: "*I wouldn't say there is a policy, and I wouldn't say there is no policy. The policy could be unwritten, because why I'm saying that is this, I am not aware of any documented policy that the library should render its services to the professoriate in this manner, but I know that preference is usually given to them. Once any of them comes into the library, and is recognized to be in that professorial cadre, preference is usually given to them*".

Another librarian emphasised that university policy is to have a direct contact with the professoriate through which information can be passed to them. In his words:

Theme: **Direct contact for information provision**

Unilag Subject Librarian 4: "*The policy that the library has is to have a direct contact with the professoriate that needs this material. If there is no direct contact, there is no way you*

guys can have a relationship, but with direct contact you can give them the right things they need to aid them in their teaching".

From the perspective of University of Ibadan librarians, there is no special policy or strategy that supports the information needs of the professoriate. In their words:

Theme: **No special policy other than library use policy**

UI Subject Librarian 5: "There is no special policy for the professoriate other than the general library user policy i.e. the borrowing policy, silence in the library, eating in the library. No any special strategies in place. The faculty of education library look forward to organise SDI that will tend towards patronising the professoriate".

UI Subject Librarian 6: "There is no special policy and strategy to support the professoriate other than the general policy".

UI Subject Librarian 7: "No special policy available and strategy for the professoriate".

UI Subject Librarian 8: "No policy and strategy presently".

UI Subject Librarian 9: "There is no policy nor strategy on ground presently".

Obafemi Awolowo University (OAU) librarians hold the same view that there is no special policy or strategy that supports the information needs of the professoriate.

OAU Subject Librarian 10: "No special policy for the professors in the library. Apart from the general rules and regulations that guide the library".

OAU Subject Librarian 11: "There are no specific policies or strategies apart from the general library policy on information provision and dissemination".

5.7.4.1 Narrative description of policies or strategies if any support the information needs of the professoriate

Theme: Part of collection development; Policy is a management decision; digitization of intellectual product; Not aware of documented policy; Preferences given to the professoriate; Direct contact for information provision; No special policy other than library use policy.

On policy or strategies that support the information needs of the professoriate, several themes emerged upon analysis of the interview data. The perception of a librarian is that some of the professoriate are part of the library collection development team, hence they have the

176

privilege to include whatever requisitions they deem necessary to meet their information needs. Another subject librarian claimed not being privy to know of any existing policy, as it is a management decision, adding that if any policy exist, it is policy that has to do with digitization of intellectual product. A librarian mentioned the lack of awareness of any documented policy, but emphasized that preferences is usually given to the professoriate once they visit the library. Another librarian maintained that the policy the library has is to have a direct contact with the professoriate, as it helps to create a relationship and give them the information resources they need for teaching. A particular librarian maintained that there is no special policy other than the library users' policy. However, most of the librarians are of the opinion that there is no policy or strategy in place to support the needs of the professoriate.

5.7.5 Interview question 5: What are the preferred information sources of the professoriate?

The preferred information sources of the professoriate in the view of one university of Lagos subject librarians are online scholarly databases (electronic sources) and library (print sources). In his words:

Themes: **Online databases; Faculty library**

Unilag Subject Librarian 1: "The professors have access to laptops and they have access to the password of each of the databases like jstor; so they can stay in their room and access what is in the library. Databases they have passwords, and if you allow it open, it will be abused. The faculty library is another second point, is another avenue for them to have access to the information they need".

In the view of another librarian, the preferred information sources of the professoriate cannot be determined, since the library serves all faculty members, and besides in his opinion, it is difficult to say, since a professoriate may choose not to visit the library physically but still have access to e-library from a distant location using the internet. In his words

Theme: **Difficult to determine;**

Unilag Subject Librarian 1: "For the fact that certain professors don't come to the library does not mean they do not use the library, they can use the library remotely, so we cannot determine the extent to which they use the library resources because most of our resources are evaluated based on those who walk into the main library, but they can access the university electronic resources outside the university wall; to measure that it will be very difficult".

In the opinion of a subject librarian from university of Lagos, the professoriate prefers information in hardcopy and depends on individual preferences. They also prefer information according to its authoritativeness, whether it is from an academic environment or from a professional body. In his words:

Theme: **Hardcopy; Individual preferences**

Unilag Subject Librarian 3: "First, they prefer having their information in hardcopy, they prefer physical materials, even when such material is not available in physical copy; they will want you to produce it in physical copy. I don't know if it's because of their background or they don't want anything electronic. I don't know, but I think it is restricted to their individual preferences, but many of them will always want it physically handy, then those want it whether in physical or softcopy, will tell you, if you don't have it in physical copy, send to my box. So some will want it physically, again they will want to know ...is the information emanating from an academic environment? ... Or a professional body? If it is a professional body, is the professional body an academic one, because they want to use those materials that they can easily reference, and when they refer to such material, its authenticity is guaranteed. Not only that, the authority of those materials will definitely be called to question if anything goes wrong. And we know that some of them use their output for one reason or the other, especially for promotional reasons, especially when they are co-authoring with some juniors within their departments, or within their area of specialization. So the sources normally they prefer is; 1) they want it in physical copy, 2) the authority for using such information resources, 3) the environment, whether it is an academic body or professional body and all that. So that is just that".

A subject librarian observed it is difficult to tell which information sources the professoriate prefers pointing out that when they come to the library, they ask for hardcopy and make use

of electronic resources when they get to the offices. Their information preferences are sometimes determined by the context of information seeking, whether for teaching or research. In his words:

Themes: **Difficult to tell; Context based**

Unilag Subject Librarian 1: "It is difficult to ascertain their most preferred information especially with the internet which gives them access to electronic databases. When they come to the library, they usually ask for journals and books, but when they are in their offices they also make use of electronic journals, so it is difficult to say which one they prefer the most. Their information preferences could also depend on whether they want the information for teaching or for research. Some prefer textbooks when seeking information for teaching but prefer electronic sources when they are seeking information for their research".

In the views of subject librarian in university of Ibadan, the professoriate prefers both print and electronic sources. Below are excerpts of their responses:

Theme: **Print resources; Electronic resources**

UI Subject Librarian 5: "Most of them preferred journals and electronic resources".

UI Subject Librarian 6: "Books are the preferred information resources as well as e-resources".

UI Subject Librarian 7: "The professoriate preferred information such as books, journals, e-books, and e-journals".

UI Subject Librarian 8: "The professor preferred information on printed i.e. books, journals and electronic form i.e. e-books, e-journals"

UI Subject Librarian 9: "The preferred information resources of professors include journals and law reports".

The OAU subject librarians hold similar views with their U.I counterparts that the professoriate prefers both printed and electronic sources. Excerpt of their responses are as follows:

Theme: **Currently prefer electronic resources**

OAU Subject Librarian 10: "Before the professors preferred printed materials, but now they prefer e-journal, e-book, and other e-resources in the library."

OAU Subject Librarian 11: "They prefer the use of electronic resources."

5.7.5.1 Narrative description of the preferred information sources of the professoriate

Themes: Online databases; Faculty library; Difficult to determine; Hardcopy; Individual preferences; Difficult to tell; Context based; Print resources; Electronic resources; Currently prefer electronic resources.

The preferred information sources of the professoriate was view with different perceptions from the subject librarians. One librarian mentioned that since the professoriate have laptops and can access the Internet from their homes, they can gain access to the online library resources since they have the password to login. They can also have access to information resources in their faculty library. An interesting perspective emerged from a librarian who is of the opinion that ascertaining their preferred information sources is difficult. In his opinion, for the fact certain professoriate do not come to the library does not mean they do not use the library, since they can use the library from a remote location. Usage of the library resources are often evaluated based on those who walk into the main library. And since the professoriate can access the university electronic resources outside of the university, measuring usage is difficult. A librarian is of the view that the professoriate prefer having their information in hardcopy, citing that even when a particular material is only available in electronic copy, they prefer it produced for them in physical copy. In a twist reflection, the librarian also felt preference of information sources depends on individual preferences, some professoriate would not mind a softcopy of a material not available in hardcopy. In the perspective of another subject librarian, it is difficult to ascertain, citing that when the professoriate come to the library, they ask for hardcopy, but make use of electronic copy in their offices. More also, their preferred information source could depend on the context. Some prefer textbooks when seeking information for teaching, but prefer electronic sources when seeking information for their research. A librarian mentioned that the professoriate previously prefer print resources, but currently, they now prefer resources. In the perspective of most of the librarians however, the professoriate prefer both print and electronic resources.

5.7.6 Interview question 6: What is the attitude of the professoriate towards the information services provided by the library?

From the perspective of university of Lagos subject librarians, some of the professoriate have poor attitude, while others have positive attitude. More of the librarians are of the opinion that the professoriate have good attitude towards library services.

Themes: **Poor attitude; Excellent attitude; Attitude is impressive**

Unilag Subject Librarian 1: "Well, sorry to say this, but it is a general thing, some of them have poor attitude towards the library. In Africa generally, library per se is a social service, it is not an essential service per se, and anything that is services is not appreciated. Anything that is free is not appreciated, but if you are to use money to get it, it will be appreciated; So that is one of the challenges that the library is having. Most of them does not appreciate it, however, there are some who appreciate it, at any point in time when the issue of library is being discussed, they are always eager to make it more vibrant. But for most of them, their attitude towards the library is very poor. Not all of them, but an average number have bad attitude towards the library services".

Unilag Subject Librarian 2: "Excellent. Their attitude is excellent".

Unilag Subject Librarian 3: "..... but generally, the few I have been privileged to serve commended the services of the library, and they will always come back. When something is good, you want to have it again and again and again. So I will say, to a great extent, the library services have made a good impression on them and that's why they keep coming back. Otherwise, I don't think they will have a positive attitude towards the library."

Unilag Subject Librarian 4: "Their attitude is impressive because most of them too, they meet us especially when we want to do accreditation, sometimes when they are doing accreditation there is no way the department or faculty won't need the assistance of the library. We work in collaboration for them to meet up with the requirements of the accreditation panel."

From the perspective of university of Ibadan librarians, four out of the five librarians described the attitude of the professoriate as "good" or "positive". Only one of the librarians was uncertain due to the professoriate's low patronage of the library. The general attitude of the professoriate is good. In their words:

Themes: **Attitude difficult to determine (low library patronage); Good attitude; Positive attitude**

UI Subject Librarian 5: "The attitude is difficult to determine because of their low or non-patronage".

UI Subject Librarian 6: "The professoriate portray good attitude to the information provided".

UI Subject Librarian 7: "The professoriate attitude towards the services rendered is very good".

UI Subject Librarian 8: "Their attitude to services provided is good but their patronage to library is low. Those that patronise the library possess good attitude."

UI Subject Librarian 9: "The professors demonstrate positive attitude towards the provision of information services of the library".

From the perception of the OAU librarians, the professoriate has a positive attitude.

OAU Subject Librarian 10: "I think they have positive attitude towards the information services".

OAU Subject Librarian 11: "The professoriate have a positive attitude towards the information services. They are usually excited when the library makes new resources available."

5.7.6.1 Narrative description of the attitude of the professoriate towards the information services provided by the library

Themes: Poor attitude; Excellent attitude; Attitude is impressive; Attitude difficult to determine (low library patronage); Good attitude; Positive attitude

The general theme that emerged from the attitude of the professoriate towards the information services provided by the library is that the professoriate have good, excellent, positive and impressive attitude towards library services. However, the librarian that felt the professoriate had a poor attitude, argued from the perspective that since the library provides a free social service, it is often not appreciated compared to when services are paid for. The librarian also admitted that not all of the professoriate have poor attitude but that an average number have bad attitude. Another librarian who claimed that their attitude is difficult to

determine crest his argument on the professoriate low patronage of the academic library. But for the rest librarians, the professoriate have positive attitude towards library services.

5.7.7 Interview question 7: What is the library doing to enhance access to information by the professoriate?

Below is an excerpt of the interviews:

Theme: **Proactive service delivery; Organize seminars on retrieval skill development; Creating awareness of library resources;**

Unilag Subject Librarian 1: "The library will continue to do its service, don't mind them, you need to do your work. But now you have to carry your services to go and meet them, that is a kind of a pro-active way to render services. Gone are the days when the librarian will sit down and expect the researcher to come to them, now you carry your services to go and meet them. Now ICT have made it more possible, if u don't do that, all your users will run away. But for the fact that u have information technology does not mean u can access information. For the fact that you have google and research engines doesn't mean you know how to access information. These are the skills librarians have acquired, so you need to come and learn that, a times we organize seminars, we tell them to come, we tell them about the latest development, when we acquire new databases, we ask them to come. When our new librarian came, she organized a presentation about what the library has, and what they will have in the future. These are way we toast them, these are way we are pro-active not minding their attitude. We now force them to come and see what we have. Telling them that to have laptop, access to google is not enough for them to access information, there are skills they don't know, that you can bank, enter information in google does not mean you can get a good search result. There is a way that information can be narrowed down and get the exact information you want without wasting your time. So all those kind of capacity development is going on annually."

*Themes: **Constant update of information resources; creating awareness to subscribed databases***

Unilag Subject Librarian 2: "Constant updating of the resources, constant updating of both print and electronic resources, as well as creating awareness of subscribed databases, subscribed resources and acquired resources."

Unilag Subject Librarian 3: "In this regard, I don't think there is any specific channel through which the professoriate receive information other than the general channel of come into the library, you search for materials yourself, or you approach a librarian or a library assistance to help you with your information needs and all that, except for the very few we have their contact, and we were able to get their contact as a result of previous interactions, so you now know that this person, his area of interest and area of research is this, and you know that once a new item comes in, he will want to have a look at that, through that we can communicate with them. Other than that, I don't think the library is doing any other thing to serve them specially, or make them have information in a peculiar way."

Theme: **Create awareness through letters; library orientation**

Unilag Subject Librarian 4: "The library is doing a lot, on new arrival of materials, sometimes we write letter to various department to come for lecture, we have e-resources, they come to see what the department have, sometimes they send some lecturers from some department to come, we lecture them and we tell them what we have, and sometimes when we do library orientation (user awareness) some of the lecturers come around to see what the library have as a resources."

From the perspective of university of Ibadan librarians, the library is enhancing access to information to the professoriate through creating awareness of newly arrived materials and newly subscribed e-resources, training on how to access e-resources, and provision of current books and journals.

Theme: **Creating awareness of new arrival of library materials; Provide training; Provision of information resources**

UI Subject Librarian 5: "Publicity of new arrivals of library materials through displays and notices."

UI Subject Librarian 6: "Training on how to access e-resources, provision of current/updated books in the library."

UI Subject Librarian 7: "Awareness of newly arrived materials as well as newly subscribed e-resources databases through memo, bulletin and notices."

UI Subject Librarian 8: "The library is making effort to publicise her new collection through notice board, memo (internal) and posters."

184

UI Subject Librarian 9: "Effort is presently in the pipeline in the faculty of law library to upgrade and enhance local connectivity in order to ensure prompt provision of information resources through OPAC so that professors can search online for their information resources rather than searching manually. Secondly, faculty library are also trying to procure current textbooks on various law subjects, journals, weekly and monthly reports and updating of Nigerian law of federation."

From the perspective of OAU librarians, the library enhances access to information by the professoriate through awareness of newly acquired materials by sending e-mails to them.

Excerpts of the interview are shown below:

UI Subject Librarian 10: "There is always a general way of announcing new arrival of information in the library; especially by the university bulletin, memo, and website."

UI Subject Librarian 11: "The library enhances access to information by doing current awareness of new materials. The library sends email to them when materials in their field are newly acquired".

5.7.7.1 Narrative description of what the library is doing to enhance access to information by the professoriate

Theme: Proactive services; Access to information using ICT; Organize seminars to develop capacity to use library resources; enhance access to information by constantly updating print and electronic resources; creating awareness of subscribed databases and newly acquired materials.

One of the subject librarians in University of Lagos said the library has become pro-active by taking information services to the professoriate. This is made partly possible by ICT which has made it possible for the professoriate to access information resources. The librarian pointed out that their ability to use google and other search engines do not mean they can access information effectively. According to him, the professoriate needs special information retrieval skills to be able to effectively retrieve the kind of information they require. In line with this perceived need, the library organizes seminars as a form of capacity development towards effective use of library resources. Another librarian in university of Lagos said the library enhances access to information to the professoriate by constant updating of print and electronic resources and creating awareness of subscribed databases. Another subject librarian in university of Lagos pointed out that the library is not doing anything to enhance

access to information by the professoriate besides the general method available to other library users (which is library users searching for information themselves when they come into the library). An exception to this norm is given to few professoriate known to librarians who may be privy to receiving exclusive information about an information resource when it is purchased, based on an earlier notice by a professor. A Librarian (respondent 4) said the library is enhancing access to information by the professoriate by acquisition of new materials and creating awareness of same and electronic resources through informative lectures and library orientation.

5.7.8   Interview question 8: What differences if any exist between the information behaviour of professoriate and other academics in the university?

From the perspective of university of Lagos librarians, subject librarian 1 pointed out that there is a difference in their information behaviour, pointing out that the professoriate have ego which affect their overall information behaviour. In his words:

Theme: **They have ego; poor information behaviour**

Unilag Librarian 1: "The professoriate have ego, they don't want to mix-up. Even when they need information, they want you to come and give it to them, so there is a lot of gap between their information behaviour and that of other academic faculty. There is one who came for a presentation and said he has never been to the library for the past five years. Other colleagues told her for the fact you are a professor, you should be ashamed to say that in the public. Is not everything you want is in your laptop. I can tell you that their information behaviour is poor when compared with others, in terms of information acquisition and usage. There should not be ego in using information, for the fact that you are a professor does not mean you know it all. I know a professor who cannot even open a laptop he doesn't even know where to start, so their information behaviour between them and their colleagues is very poor. There is a gap between the professors and other academics in terms of information behaviour, resources acquisition, needs, access, and dissemination."

The subject librarian for Arts is of the opinion that there is no difference in their information behaviour, it is relative and depends on the individual. While some professoriate may lay back in terms of information acquisition due to their academic achievements, some of them

are also workaholics. Same trends go for doctorates. Therefore, there is no yardstick to measure differences in their information behaviour.

Theme: **Difficult to measure**

Unilag Librarian 2: "Pretty difficult to determine, because I'm not in that category to measure the information behaviour of professors vis-à-vis, But I will tell them that those that are not yet professor will visit the library more because they need to publish, but once someone becomes a professor, there is a kind of layback that they have already acquired so so and so number of papers, coming to the library, using the library resources may reduce a little. It is also relative; we have a lot of professors who are workaholics, whether they are professor or doctor, it doesn't affect them, and yet we have a lot of doctorate who are also lazy. So it is relative, so we cannot determine the difference."

Librarian for education is also of the opinion that there is no difference between the information behaviour of professoriate and other academics, according to him; it is solely dependent on individuals' attitude. In his words:

Theme: **No difference; Depends on individual attitude**

Unilag Librarian 3: "I don't think I have observed any difference in their information behaviour. Basically they all share the same information seeking behaviour, they all have the same attitude. It is very few of them that you can say he is not like this, he is not like that, so it all bothers on that person's individual attitude, it is their personal attitude that drives them to behave the way they behave."

Another librarian in social science pointed out that there is no difference in the information behaviour of the professoriate and other academic faculty. In his words:

Theme: **Same attitude**

Unilag Librarian 4: "They are all the same thing; library is to attend to them irrespective of their level. We don't look at this one is a professor, PhD, first degree or masters we attend to them. We give them equal attention."

The University of Ibadan librarians generally believe there is a difference in the professoriate information behaviour and that of other faculty members. The difference as pointed out by a subject library lies in the professoriates low patronage of the library and utilises the library

resources only occasionally. The issue of ego among the professoriate was also mentioned. Below is the excerpt of the interviews:

Theme: **Difference lies on library patronage**

U.I. Subject Librarian 5: "The difference is that the rate at which the professoriate patronize the library is low compared to other academicians."

U.I. Subject Librarian 6: "The professors are different to other academia due to the attainment of their cadre as such they do not patronize the library just like other academic staff. Also, they do not have too much time to spend in the library."

U.I. Subject Librarian 7: "The major differences is that the professoriate think they have got to the peak of their carrier as such they do not patronize the library just like other member of academic staff."

U.I. Subject Librarian 8: "The professors are different to other academia due to the attainment of their cadre as such they do not patronize the library just like other academic staff. Also, they do not have too much time to spend in the library."

U.I. Subject Librarian 9: "The difference between the information behaviour of professors and other academics within the university environment is that the professors utilizes the library resources occasionally to meet their information need due to their tight schedule of academic commitment than other academics."

From the perspective of OAU subject librarian, one of the librarians raised the issue of ego in the information behaviour of the professoriate, while the other librarian saw no differences in their information behaviour. Below is the excerpt of the interviews:

Theme: **Ego; No difference**

OAU Subject Librarian 10: "The professors believed they have achieved the peak of their career as such they referred information like reports, figure, as well as fact."

OAU Subject Librarian 11: "There is no difference."

5.7.8.1 Narrative description of differences between the information behaviour of professoriate and other academics in the university

Themes: They have ego; poor information behaviour; Difficult to measure; No difference; Depends on individual attitude; Difference lies on library patronage.

Mixed themes emerged from the data on differences in the information behaviour of the professoriate and other academic faculty. The librarian who pointed at the ego of the professoriate claimed they find it difficult to mix up with other academic faculty and even when they need information, they want you to come and give it to them, and that again shows they have poor information behaviour. A librarian is of the opinion that it is difficult to measure, stating that the academic faculty who are not professors often visit the library since they want to publish scholarly papers, but once they have attained professorial, their visit to the library diminishes. Some of the librarian however, insist there is no difference in their information behaviour and that it depends on the individual's attitude. The librarians with the opinion that a difference exist stated that the professoriate patronage of the library is low compared to other academic faculty due to their academic attainment.

5.8 Summary of Interview

The interview questions addressed how the library capacitates the professoriate to make effective use of resources, the attitude of the professoriate towards the information services provided by the library, the information needs, and the preferred information sources used by the professoriate. Furthermore, the interview assessed what the library is doing to enhance access to information by the professoriate; the challenges are faced by the library in providing information services to the professoriate, whether there are policies or strategies if any support the information needs of the professoriate; and differences if any exist between the information behaviour of the professoriate and other academics in the university.

The library capacitates the professoriate by giving them access to special collections, provision of information resources in the form of books, print journals and e-journals, organising awareness campaigns and literacy programmes, sending electronic copies of library resources to them through their various faculties, and through the provision of an exclusive place for them to conduct their research. However, this exclusive place is also open to all doctoral students and lecturers.

The challenges faced by the universities in providing information services to the professoriate include epileptic electricity supply, slow and unstable internet connection and lack of fund to acquire information resources and subscription to scholarly databases were the major challenges. Others are inadequate infrastructure, inferiority complex of librarians towards professors,, attitudinal problems of the professoriate and over reliance on library staff.

The university library meets the information needs of the professoriate by establishing faculty libraries for ease of access of information resources to the professoriate in their various departments, and the provision of e-library. The professoriate are part of the collection development committee which give them the privilege to include any book they want the library to acquire on their behalf or on behalf of their department, to be included in the list of potential acquisitions. Generally, the universities have to a moderate level met the information needs of the professoriate.

The professoriate makes use of both print and electronic sources, but seems to prefer print sources for teaching and electronic sources for research. The attitude of the professoriate towards the information services provided by the library is generally good.

The library enhances information access to the professoriate by giving them access to information resources using ICT infrastructure. The library also organises seminars to develop their capacity to use library information resources effectively. They enhance access to information by constantly updating print and electronic resources and creating awareness of subscribed databases and newly acquired library materials.

Some of the librarians are of the opinion that there is a difference between the information behaviour of the professoriate and other faculty members. The reasons for the differences includes ego, low patronage of the library in comparison to other faculty members. The rest librarians that felt there was no difference described information seeking as being subjective, and dependent on the individual. Overall, the subject librarians are of the opinion that there is no special policy or strategy to support the professoriate except the general library policy.

5.9 Conclusion

The chapter presented the analysis of data and findings of the study. The first segment presented the findings from the questionnaire and the second segment presented the responses from the interview schedule. The next chapter presents the discussion of findings of the study.

CHAPTER SIX

DISCUSSION OF FINDINGS

6.1 Introduction

This chapter presents the discussion of findings of the study. The first segment discussed answers to the quantitative data, while the second segment focused on the qualitative interview responses. The discussions are guided by the themes of the research questions. The first segment has the following subsections; demographic characteristics of the respondents, information needs of the professoriate, professoriate active information seeking, professoriate passive information behaviour, Criterion for information source preference, and factors influencing the professoriate's use of information sources. The second segment discussed the responses of the interview with the librarians. The chapter ended with a summary of both segments.

This study examined the information behaviour of the professoriate in selected federal universities in South West Nigeria. The objectives of the study focused on the information needs of the professoriate, how they actively and passively seek, access and share information electronically, their information source preferences, factors that influence their use of electronic information resources and the attitude of the professoriate towards electronic information resources. The respondents of the study were academic faculty of the professoriate cadre in three federal universities in Nigeria, namely: University of Ibadan, University of Lagos and Obafemi Awolowo University, Ile-Ife, Nigeria. The study is underpinned by Wilson's (1996) model of information behaviour and Venkatesh et al.'s (2003) Unified Theory of Acceptance and Utilisation of Technology (UTAUT).

Interpretation is the process of making sense of the numerical data that has been collected, analysed and presented. Only through interpretation can the researcher expose relations and processes that underlie his findings. Interpretation refers to the task of drawing inferences from the collected facts after an analytical or an experimental study (Miller & Brewer, 2003). The task of interpretation has two major aspects: the effort to establish continuity in research through linking the results of a given study with those of another and the establishment of some explanatory concept (Daniel & Sam, 2011). In one sense, interpretation is concerned with relationships within the collected data, partially overlapping analysis. Interpretation also extends beyond the data of the study to include the results of other research, theory, and

hypothesis. Through interpretation, the researcher can understand the abstract principle that works beneath his findings well. Interpretation leads to the establishment of explanatory concepts that can serve as a guide for future research studies; it opens new avenues of intellectual adventure and stimulates the quest for more knowledge. The researcher can better appreciate, only through interpretation, why his findings are what they are and can make others understand the real significance of his research findings (Daniel & Sam, 2011).

6.2 Demographic Characteristics of the Respondents

The findings of the study show that the distribution of professoriate is highest in University of Ibadan (42.4%) followed by Obafemi Awolowo University (33.3%) and University of Lagos (24.5%). The high number of professoriate in University of Ibadan may be attributed to the high sample ratio of respondents (91, 37%) in comparison with the other two universities. The low turnout of professoriate in University of Lagos despite having the second largest sample size (86, 35%), and in OAU could be attributed to the difficulty of getting them to fill questionnaires.

The result of the study shows that the highest number of professoriate that responded were from faculty of Arts followed by faculty of social science (33.3%) and education (26.1%), with faculty of law (1.2%) having the least number of professoriate. The high number of professoriate from faculty of Arts may be attributed to the faculty having the largest number of departments, while the low number of professoriate in faculty of Law can be explained for similar reasons. Faculty of law generally has few departments (www.ui.edu.ng).

The findings of the study show that majority of the professoriate were from psychology department (10.3%), followed by those from department of English (9.7%), Economics (8.5%), History (7.9%) and Linguistics and African languages (6.1%) respectively. The high number of professoriate from these departments corresponds to the high number of professoriate in faculty of Arts and Social Sciences as already shown in sections 5.2.2 and 5.2.3 as compared to professoriate in departments (Guidance and Counselling, Institute of Education, Educational management) under education and Law (Private and Business Law, Public and International Law).

The distribution of professoriate by professorial ranks shows that majority of the respondents are full professors (63.6%), followed by assistant professors (24.5%) and associate professors (11.5%). This implies that there are more of full professors in the three universities than

associate and assistance professors. The low number of associate professor suggests future low production of professors, and implies that professors will continue to be in short supply even in the future.

The result of the study reveals that the professoriate surveyed, all had a PhD degree as their highest qualification. This is invariably the norm and the minimum requirement set by the Nigerian University Commission to become a professor in Nigerian universities (NUC, 2015). It is also a standard global requirement before an academy member could attain a professoriate.

The result of the age distribution of the professoriate shows that majority (57%) of the professoriate were within the ages of 51 to 60, followed by those in the 41 to 50 (27.9%) age bracket, while those in the 61 to 70 age group accounted the least (15.2%). The age distribution of the professoriate followed a somewhat (statistical) normal distribution, where only few academics manage to attain professoriate level in their younger years, and few are those that remain longer, with more sample size in the middle range. This pattern is seen in similar studies (Folorunso, 2014; Ishappa & Ramakrishnegowda, 2015). In Nigeria the retirement age was previously 65 years, but has been recently adjusted to 70 following a new agreement between Nigeria University commission (NUC) and the Nigerian government.

The distribution of gender of the professoriate shows that there is more male (82%) professoriate than their female (18%) counterparts. The distribution is a true reflection of the population of participants of the study, and at the same time portrays the dominance of males in academics as documented in literature (Al-Suqri, 2007; Al-Suqri, 2011; Khan & Bhatti, 2012; Folorunso, 2014; Ishappa & Ramakrishnegowda, 2015). Specifically, Al-Suqri's (2007) study on the information-seeking behaviour of the social science faculty at the Sultan Qaboos University in Oman, had more male (64%) participants than female (36%), while similar study by the same author (Al-Suqri, 2011) on the information-seeking behaviour of social science scholars in developing countries also reported more male (66.6%) than female (33.3%) respondents. Similarly, Khan and Bhatti (2012), while studying the information needs and seeking behaviour of law faculty members of the university of Peshawar and its affiliated law colleges in India observed a related trend with male (93%) respondents outweighing their female (7%) counterparts. However, contrary to this trend is a study on social science faculty information seeking pattern using the Internet sources and services at Mumbai University, India. The authors (Ishappa & Ramakrishnegowda, 2015) had more

female (58%) professors than male (42%) in their sample. This implies that the general trend of male dominance in most academic discipline could be diffused in some academic environment where female academics could dominate a particular faculty.

The result from the study shows that majority (89.1%) of the professoriate are married, while only (4.8%) are still single; those that are separated and divorced accounts for (3.6%) and (2.4%) respectively. This is consistent with demographic reporting of academic faculty in literature (e.g Al-Suqri, 2011; Khan & Bhatti, 2012; Folorunso**,** 2014; Ishappa & Ramakrishnegowda, 2015**)**.

6.3 Information Needs of the Professoriate

The result shows that all the professoriate considers information for developing contents used for teaching, information for conducting research, and information to keep abreast of current developments in their field of study as being *very important* to their information needs. Educational information is considered very important by 86.1% of the respondents, slightly important by 9.1%, and not important by 4.8% of the respondents. Socio-cultural information is considered by 56.4% of the respondents as being very important, 35.8% as slightly important and 7.3% as not important. Political information is next in ranking, with 29.1% of the professoriate holding it as being very important, 63% see it as slightly important, while only 7.9% see it as a not important information need.

Zhang (1998) asserts that a thorough understanding of user information needs and information seeking behaviour is fundamental to the provision of useful information services. The understanding of information needs and information-seeking behaviour of various professional groups is essential as it helps in the planning, implementation, and operation of information system, and services in a work setting (Devadason & Lingman, 1997). White (1975) suggests that if academic librarians are to serve academic researchers realistically, they must recognise the changing needs and variations in information gathering and provide services that would be most useful. Knowledge of the information needs and information-seeking behaviour of users is vital for developing library collections, upgrading facilities, and improving services to meet the information needs of users effectively (Tahir, Mahmood & Shafique, 2008). This study found that the top ranking information needs of the professoriate are information for developing contents used for teaching, conducting research, and keeping abreast of current developments in their field of study. Teaching is a vital part of the professional life of the professoriate and involves passing acquired knowledge to the intended

recipients. The findings are consistent with Tahir, Mahmood and Shafique's (2008) study where the authors found "teaching or lecture preparation" and "to support research work" to be the main purpose of information seeking. To develop competence and to keep up with current developments in their fields were equally ranked high in their study. When the respondents of their study were asked the sources and methods they used to keep abreast of developments in their field, "Consulting with subject experts" was the most common method with a mean score of 4.32, followed by reading the latest books (mean=4.29) and newspapers (mean=3.80). "Discussion with colleagues" and "participation in professional seminars" had mean scores of 3.75 and 3.58, respectively. In a similar study, Okonoko, Emeka-Ukwu, and Ayomanor (2015) observed that academic faculty needed information for academic purposes, conducting research and self-development. Likewise, Sujatha, (2016) found that faculty seek information to prepare for class lectures, writing and presenting papers, doing research work, and keeping up-to-date knowledge. Teaching and research are two most vital components necessary to the professional growth of the professoriate in the academe. They need information to prepare for lectures and to conduct research in their respective fields of study. Marouf and Mumtaz (2010) reported that the faculty heavily depended on books and journals for teaching and on a larger variety of materials for research purposes. The need for information to keep abreast of current developments in their field of study gives the professoriate more grounding and authority in their fields of study.

6.4 Professoriate Active Information Seeking

In investigating the kind of sources professoriate use for teaching and research, the result reveals (in the electronic resources category) that majority of the professoriate *always* sought information for teaching and research in online databases (77%) and electronic journal (71.5%), while (22.4%) and (25.5%) respectively *occasionally* use online databases and electronic journals to seek information for teaching and research. The professoriate that *rarely* use online databases (0.6%) and electronic journal (3%) are quite few. Those that *always* use web portals (52.7%) to seek information for teaching and research are more than those that use websites (50.9%), electronic mail (9.7%), and online catalogs (5.5%). *Occasional* uses of online catalogs (50.9%) are reportedly more than *occasional* uses of websites (32.1%), web portals (29.1%), electronic mail (20%), listservs (7.3%), and FTP (1.8%) for teaching and research. FTP was *never* used by vast majority (83%) of the professoriate to seek information for teaching and research.

Online databases and electronic journals are two of a kind, used in seeking information for teaching and research. An online database is a database accessible from a local network or the internet. Online database are hosted on websites, made available as software as a service product accessible via a web browser. They are either free or require payment, such as by monthly subscription. Electronic journals (e-journals) are scholarly journals that can be accessed via electronic transmission. In other words, electronic journals can be housed in databases or websites and can be downloaded freely or upon payment of the required subscription. In either case, the importance of both information resources to the professoriate for academic and research purposes is greatly empathised in the findings of this study. There are several types of online academic databases serving different academic disciplines including the social sciences and humanities. These online databases house many peer reviewed journals which give them the credibility and authoritativeness fit for teaching and research purposes. The professoriate being distinguished members of the academe ought to rely on esteemed and credible sources both for quality classroom delivery and award winning research outcomes. An important point to note in this finding is the degree of acceptance and use of online databases and journals by the professoriate. Previous studies (Stone, 1982; Blazek & Aversa, 1994; Budin, 1999; Mumtaz, 2000; Waugh, 2004; Redmann & Kotrlik, 2004; Brinkerhoff, 2006) have shown that professoriate exhibited anxiety over use of electronic information resources. The findings of the current study show a change in trend towards more acceptance of information technology (online databases and e-journal). This implies a behavioural change and inclination towards online databases and e-journals than previously reported.

Early studies (Stone, 1982; Blazek & Aversa, 1994) on information behaviour of faculty show that faculty members (including professoriate) preferred printed resources. For instance, Stone (1982), in an article summing up research published between 1970 and 1982, notes that books and journals were cited as the most frequently used research material. The dependence on printed sources during this period is linked to an era when internet was still in its infancy and the development of the internet protocol suite TCP/IP, a standard networking protocol that allows for internetworking was still at its developmental stage. Academic libraries at this period acted as the only information source for the academic faculty and provided only print sources of information for patrons. In 1990, Sethi studied the information-seeking behaviour of 256 social science faculty members in Indian universities and found that faculty preferred journals, books, government documents, and reference sources for meeting their information

needs. In 1995, in a study on information-seeking among social sciences researchers Folster (1995) observed that researchers placed little value on computerised services and informal sources, preferring to use printed books and journals. Later researchers however, have provided evidence that social sciences faculty make extensive use of electronic resources in their research, and that information technology is having a major impact on their patterns of communication and information-seeking behaviour (Costa & Meadows, 2000; Meho & Haas, 2001; Hannah, 2005; Shen, 2007). Most of the studies conducted in the social sciences and humanities during this period have similar patterns, showing faculty inclination towards electronic resources. The result of this study proves that the professoriate are equally following technological trend in seeking information. However, (Xumei, 2010) has shown that history professors relied more on old manuscripts sometimes dating as far as 50 to 100 years. Similarly, a study on historians' attitude toward and use of electronic materials found that they have increased their use of online catalogs and indexes in their efforts to identify appropriate primary and secondary sources of information (Dalton & Charnigo, 2004). This implies that though disciplinary context could constrain faculty to seek information in a particular medium, their general attitude towards electronic information resources is changing. To this end, Wang (2006) noted while investigating the disciplinary and cultural differences among information seekers in the Internet age, that there are differences across disciplines and cultures in terms of how they rank the importance of these resources and how much they use them. In this study, e-journal was rated second in electronic resources category, but was rated third in (Xuemei, 2010) study where the author observed that participants (professors and doctoral students) were unclear as to the relationships between e-journals and databases and did not see any differences between them.

Those respondents that *always* use web portals (52.7%) to seek information for teaching and research are more than those that use websites (50.9%), electronic mail (9.7%), and online catalogs (5.5%). *Occasional* users of online catalogs (50.9%) are reportedly more than *occasional* users of websites (32.1%), web portals (29.1%), electronic mail (20%), listservs (7.3%), and FTP (1.8%) for teaching and research. FTP was *never* used by vast majority (83%) of the professoriate to seek information for teaching and research.

Web-portals and websites have similar characteristics. A web portal is a specially designed web site that brings information together from diverse sources in a uniform way. Usually each information source gets its dedicated area on the page for displaying information, whereas a website is a collection of related web pages, including multimedia content,

typically identified with a common domain name, and published on at least one web server. The similarities explain the close ties in the number of professoriate that claimed to use the two forms of electronic resources for information seeking. Most universities' library websites have the functions and characteristics of a website and web-portal. In Xuemei (2010) study of social science faculty, the web received the highest ranking with a score of 4.5, while web portals were rated as the seventh most important electronic research resource; whereas in our study, web-portals and the web received third and fourth ranking respectively. The difference in result could be traced to how the two information resources are perceived by professoriate in different geographical contexts.

Electronic mail is a method of exchanging digital messages between computer users across computer networks or the internet and has become a common global communication platform for many people in private and professional fields. Professoriates use this medium for official communication, as well as seek information from faculty members within their respective universities and beyond. Professoriate use this resource to establish collaboration with their overseas counterparts, as well as a medium for information exchange between and among faculty, and could be used to receive updates and information about research opportunities, seminars, workshop, and conferences. The professoriate in this study had ranked e-mail as the fifth preference amongst other electronic information resources for seeking information. Previous studies have equally buttressed the importance of electronic mail in information seeking. E-mail was also ranked fifth most important electronic resources in Xuemei's (2010) study. The author pointed out that e-mail has become a common communication and networking tool used by professoriate to make contacts with experts, conduct interviews or surveys, and network with colleagues. Folorunso (2014) likewise emphasised the significance of e-mail in professoriate information behaviour and noted that all the professors in his study used e-mail daily for information gathering.

Online catalog was used occasionally by the professoriate to seek information for teaching and research. Only few of the professoriate claimed they use it always. This is probably because online catalog offers an electronic bibliographic database that describes the materials (for example, books, periodicals and videotapes) in the library unlike the manual version that can only be accessible from the library; the online catalog can be accessed from any location using the internet. The reason for the occasional use of online catalog could be attributed to the sporadic use of library materials by the professoriate. Occasional access to the university's online catalog and frequent access to electronic databases from distant location

(such as office and home) might be a contributory factor to professoriate's rare visit to the university library. In a previous study, online catalogs were rated as the fourth most important electronic resource in Xuemei's (2010) study. Environmental and geographical differences could be the reason for this disparity, owing to the fact Xuemei's study was carried out in a more developed society where professoriate are most likely to have a better online library orientation than their counterparts in developed countries. Many of the participants in Xuemei's study, mainly professors, browsed the library's online catalogs to locate the library's existing print and online resources, and some searched the online catalogs of other libraries. Al-Suqri's (2011) finding supports this evidence and reports that respondents heavily used online library catalog since it is easily accessible from their offices. Online catalogs were rarely used by many of the professors in Folorunso's (2014) study. The reason for this is probably because Folorunso's study was carried out in Nigeria where many institutions have not yet developed a comprehensive online catalog for their library resources.

Listserv was used occasionally by few (7.3%); and the most rarely used electronic information resources for teaching and research. In line with the result of this study, similar studies have observed the low use of listserv. In Xuemei's (2010) study, it was ranked sixth amongst the electronic resources used by the professoriate in his study. Listservs is still new to some participants. Some non-users reported that they are not familiar with the source or have not been able to find any good listservs in their respective fields. Faculty and other academics take advantage of listservs to ask or answer questions, browse current information in their fields, locate information on conferences, discover new publications, and locate relevant calls for papers (Xuemei, 2010). Listsevs were reportedly rarely used by the professoriate in Folorunso's (2014) study; this re-enforces its lack of vital significance in information seeking among the professoriate in this study.

The study shows that file transfer protocol (FTP) was *never* used by vast majority of the professoriate to seek information for teaching and research. FTP was developed to cater for the transfer of large files over the internet, but it has become outdated since today's browsers can handle most downloading tasks. It is therefore not surprising how redundant it has become as a tool for seeking information. Studies (Xuemei, 2010; Folorunso, 2014; Al-Suqri, 2011) on information behaviour have consistently proved the irrelevance of this resource in accessing, sharing, and using information. FTP is viewed by many information seekers as outdated and obsolete (Xuemei, 2010), and the least popular internet application (Folorunso, 2014).

In the media category, newspaper (1.8%), radio (1.2%) and TV are hardly *always* used by the professoriate for teaching and research, as compared to a larger number that *occasionally* use newspaper (77.6%), radio (37.6%) and TV (50.9%) for teaching and research. Those that rarely use newspaper, radio, and TV account for 20.6%, 49.1%, and 45.5% respectively.

Newspaper, television, and radio are informal sources of information for the professoriate. Among the three sources, newspapers are seldom used *always*, but *occasionally* used by many of the professoriate to seek information for teaching and research. The reason for its occasional use could be attributed to it being an informal source of information and not used in many disciplines as an authoritative source. Similar to this finding, occasional uses of newspapers as an information tool amongst the professoriate and other faculty members is well documented in literature (Bello, 2014; Marouf & Anwar, 2010) and considered less important in some studies (Tahir, Mahmood & Shafique, 2008). However, it has been reported that political scientists, according to Marouf and Anwar (2010), are more likely to make use of newspapers than any other discipline, since it carries issues of politics and government useful in keeping abreast of developments in their field. Research in political science may include a review of newspaper reports over a certain period in history that require citing names of media, date of publication and page number. In spite of the relevance of newspaper in some academic circles, it still ranks low compared to other formal information sources. Studies (Tahir, Mahmood & Shafique, 2008; Marouf & Anwar, 2010) have observed that professoriate use newspapers and magazines to keep up to date about current developments. This implies that though the information provided in a newspaper may not be empirical in nature, it provides socio-cultural and political information deemed necessary in an information society that requires scholars to be up-to-date of current global developments. Many studies (Sethi, 1990; Marouf & Anwar, 2010; Folorunso, 2014) have confirmed scholars' preference for formal sources over informal sources and explain the low usage of newspaper, television, and radio for teaching and research as revealed in this study.

In print resources category, journal articles (100%) is always used by all (100%) of the professoriate for seeking information for teaching and research, followed by textbooks (98.8%), encyclopaedia (41.8%), maps (18.8%), and magazines (2.4%). Occasional usage of encyclopaedia (50.3%) for teaching and research was more than observed for textbooks (1.2%), maps (11.5%), and magazine (37.6%). Those that *rarely* used magazine (50.9%) for teaching and research outweighed those that rarely used encyclopaedia and text books for

teaching and research. Only (8.5%) of the respondents never used magazine for teaching and research.

The result shows that journals and textbooks are the most used print sources for teaching and research. Print sources remain an important information source for teaching and research despite the growing popularity of electronic information resources. The reason for its continued relevance is due to some obvious factors. It is easy to read from and can be conveniently carried about with no risk, unlike computers and laptops. Findings from studies (Yi, 2007; Bello, 2014) reveal that though some professoriates prefer electronic resources for research, they end up printing the electronic resources before reading. Use of print resources has been found to be context based. Lawyers and historians often use print resources more than their counterparts in science and social sciences (Majid & Kassim, 2000). The professoriate of Arabic was observed to rely more on print resources because of lack of electronic database in Arabic (Al-Suqri, 2007). This implies that geographical and cultural factors may influence the nature of resources used for teaching.

A study by Marouf and Mumtaz (2010) on social sciences faculty at Kuwait University confirms this trend, where faculty depended heavily on books and journals for teaching. In other instances, the professoriate in social sciences preferred more of print than electronic resources for teaching, and preferred electronic resources to print for research (Francis, 2005; Marouf & Anwar, 2010; Khan & Bhatti, 2012). For historians, a hundred and five hundred years history, as noted by (Xumei, 2010) is not yet documented electronically making print resources indispensable. Early studies (Stone, 1982; Blazek & Aversa, 1994) on information need show that print sources were mainly used for information seeking. The findings of this study show that in spite of the changing trend towards the use of electronic information resources, print sources remain and will continue to have its place of relevance in information seeking. Recent studies (Bello, 2014; Tahir, Mahmood & Shafique, 2008; Folorunso, 2014) support this evidence and show that print sources is still of relevance even in the face of growing use of electronic information resources. The findings of this study observed more occasional uses of encyclopaedia than frequent uses for teaching and research. This resource is used for reference purposes as noted by (Ucak & Kurbanoglu, 1998) in a study of social science and humanities faculty.

In the interpersonal sources category, interaction with colleagues is *always* used by majority (61.2%) of the professoriate to seek information for teaching and research, while (33.3%)

occasionally use it for the same purpose. There are few (4.2%) reported cases of *rare* use of interaction with colleagues for teaching and research. Interaction with friends is hardly (1.2%) always used by the professoriate for teaching and research, and only occasionally used by 15.8% and rarely used by 58.8% for teaching and research.

The study found that interaction with colleagues is frequently and occasionally used by the professoriate for teaching and research. Colleagues are seen as expert in their fields of study that can be relied upon to give insight in grey areas within their professional jurisdiction. Besides, they are close associates that are easily reachable since they all share the same academic space. Even when distance is a factor, e-mail, short mail service (sms), online chat groups, and telephone could be used to reach distant colleagues. Similar to the findings of this study, the role of professional colleagues in the academic community to assist in finding information is well emphasised in literature (Al-Suqri, 2007). The result of this study found colleagues to be preferred over other channels of information such as conferences, seminars and workshops, and conforms to that of Dee and Blazek (1993). The reason for this preference is probably because they were considered familiar, reliable, immediately accessible, inexpensive, and often provide a concise answer (Dee & Blazek, 1993).

As noted in this study, colleagues were given higher importance than friends in information seeking of the professoriate. The reason for this preference is obvious, since friends are not seen as professional or experts in the academic circle, except when there is a sheer coincidence where a colleague could be at the same time a friend. In another study Al-Suqri (2011) found that friends are given high importance than librarians, and are more reliable when seeking information for research for class room lecture and conference presentation. In comparison with formal sources, interaction with colleagues ranks low, but ranks highest within the group of informal sources. In Tahir, Mahmood and Shafique's (2008) study, interaction with colleagues was ranked below reference materials and experts in the subject field for teaching; whereas for keeping abreast of developments in their field, Tahir, Mahmood and Shafique (2008) found that discussion with colleagues had a low score in ranking compared with consulting with subject experts and reading the latest books and newspapers. Interaction with colleagues has different ranking in different studies (Al-Suqri, 2011; Folorunso, 2014; Okonoko, Emeka-Ukwu & Ayomanor, 2015) but never ranked top among other groups of information sources such as print and online sources. However, its importance in information seeking has been greatly emphasised. Due to the importance of colleagues in information seeking Verhoeven, Boerman and Jong (1995) suggest that libraries

should facilitate informal meetings among scholars and compile up-to-date directories of local and international scholars in specialised disciplines in order to develop these informal contacts.

In the academic gathering category, conference proceedings is *always* used by majority (43%) of the respondents for seeking information for teaching and research, followed by seminars (30.3%), and workshops (26.1%). More of the professoriate tends to seek information for teaching and research *occasionally* in conference proceedings (53.3%), seminars (64.8%), and workshops (60.6%). The number of professoriate that rarely seek information for teaching and research in conference proceedings (2.4%), seminars (2.4%) and workshops (11.5%) are few.

This study depicts that conference proceedings is the most frequently and occasionally used informal source of information in the category of academic gathering, used by the professoriate for teaching and research. Early studies (Sethi, 1990; Hart, 1993) suggest that professoriate have used conference proceedings, seminars as a platform to satisfy their information need. Recent studies (Francis, 2005; Tahir, Mahmood & Shafique, 2008; Marouf & Anwar, 2010; Folorunso, 2014) have also shown the importance of conference proceedings in information seeking of academic faculty, and suggest that seeking information in conferences, seminars and workshops is second nature in the academics, and a trend that has persisted even in contemporary times. The findings of this study are consistent with recent studies (Francis, 2005; Tahir, Mahmood & Shafique, 2008; Marouf & Anwar, 2010; Folorunso, 2014) and show the importance of conference proceeding in the professional life of the professoriate. Conferences and seminars are organised locally and internationally and provide a forum for the professoriate to interact and engage with one another for the purposes of sharing knowledge. Many studies have shown that besides formal information sources, academics also relied heavily on informal communication channels to meet their information needs (Marouf & Anwar, 2010). Conferences, seminars, and workshop are valued professional meeting spaces for scholars to gather information for teaching and research, and to keep abreast of current developments in their fields of study. Francis (2005) observes that more professoriate use conferences to gather information for research more than they use same for teaching. This study however, did not make any distinction between the two uses of information. Nevertheless, the fact remains that information and experience gathered in conferences, seminars and workshop could be a vital resource that can be used for teaching and research.

6.5   Professoriate Passive Information Behaviour

The results of the professoriate information encountering under the electronic resources category show that electronic journals (50.3%) and online databases (49.1%) are the two major sources that professoriate *frequently* encounter information. *Occasional* encounter of information in the two sources is similar in pattern to *frequent* encounter, with more *occasional* information encounters occurring on online databases (50.3%) than in electronic journals (49.1%). It not surprising there are only few cases of *rare* information encounters in electronic journals and online databases. On web portals, there is more occasional (56.4%) information encounters than are frequently (22.4%) encountered. *Rare* encounters of information on web portals were observed by (16.8%) of the professoriate. Professoriate information encounters on websites occur more occasionally (82.4%) than frequently (4.2%) with only 11.5% of rare encounters. Information encounters in electronic mails is *rare* (78.8%) compared to *occasional* (12.1%) and *frequent* (1.2%) encounters. Online catalogs and listservs follow a similar pattern with more rare cases (65.5% and 70.3% respectively) of information encounter than *occasional* (14.5% and 10.9% respectively) and *frequent* encounters. Most professoriate never (85.5%) encountered information in FTP.

Customary, information seeking has been described as seeking information on purpose, nevertheless, a number of library and information science researchers have pointed out that the nature of information seeking behaviour is not restricted to solely purposive information seeking. A small but growing number of studies have recognised information encountering as a part of information seeking behaviour (Wilson, 1999; McKenzie, 2003; Foster, 2004; Hider, 2006; Abrahamson & Fisher, 2007). Since encountering information happens during a purposive search, the data on information encountering was compared with the data on active search. An interesting pattern emerged from this comparison. The pattern reveals that the ratio of frequent (always) encounters (of information) in online databases (49.1%; 77%), electronic journals (50.3%; 71.5%) and web portals (22.4%; 52.7%) is high in relation to websites (4.2%; 50.9%) where the professoriate encountered less (4.2%) 'Frequent' information in relation to the number (50.9%) that admittedly used web site for information seeking. Expectedly, since the 'frequent' use of e-mail (9.7%), 'online catalogue' (5.5%), listservs (0%), and FTP (0%) for teaching and research were low, information encountered on these media was also low. The implication of these findings is that more information is frequently encountered in online databases and electronic journals and relatively more on

web portals, probably because it contains academic materials that require intense concentration. Hence, more chances of encountering new information as against websites where the professoriate usually does more of '*browsing*', thus less information encounter. For email and online catalogue, the low level of frequent information encounter simply corresponds to its low *frequent* use in seeking information for teaching and research. In contrast, there are more reported cases of *occasional* encounters in online databases (49.1%), electronic journals (50.3%), web portals (56.4%), and web sites (82.4%) by the professoriate in comparison to their *occasional* purposive usage at 22.4%, 25.5%, 29.1%, and 32.1% respectively. For online databases and electronic journals, the rate of frequent information encounter is same as for occasional encounters and further buttresses the high rate of both frequent and occasional information encounters in this information medium. For web portals (56.4%) and particularly websites (82.4%), there are more reported cases of *occasional* information encounter (22.4%), than *frequent* encounter (4.2%) respectively. For websites, the high occasional information encounters is explained by its *browsing* nature where expectedly, professoriate are more likely to *occasionally* rather than *frequently* encounter information.

For email, there are few cases of purposive *occasional* (20%) usage of information as there are for occasional information encounters (12.1%). This implies that not so much of information is encountered both *frequently* and *occasionally* in the use of email for seeking information for teaching and research purposes. For online catalogue, the number of professoriate that admitted encountering information occasionally (14.5%) was more than those that encountered information frequently (0.6%). This figure is low compared to those that use online catalogue purposively but occasionally. The reason could be that online catalogue does not offer so much information but just a guide to library resources. It is therefore expected that encountering information on this medium could only occur in few occasional instances, bearing in mind the apparent challenges of accessing library information resources in the Nigerian academic environment.

In the case of listserv and FTP, the few cases of occasional information encounters might as well have been slightly exaggerated owing to the fact that it is hardly frequently used and has few reported cases of occasional usage. The pattern of rare encountering of information in the electronic resources is well expected since there are more cases of frequent and occasional information encounters in online journals and electronic databases; it is not surprising to see that only few of the professoriate *rarely* encounters information in these information sources.

The holistic view of the patterns that emerged when data for purposive information seeking was superimposed with information encountering, suggest that the more purposive information seeking takes place *frequently* (always) (see fig 6.1), the more chances there are to encounter new information and vice versa (the less frequent information takes place, the less chances of encountering new information). This observation is supported in a study (Palsdottir, 2010) where the author investigated the connection between purposive information seeking and information encountering. The pattern that emerged revealed that those who were active at purposive information seeking were also active at information encountering and that those who were passive at either of the two styles of information seeking were passive at the other.
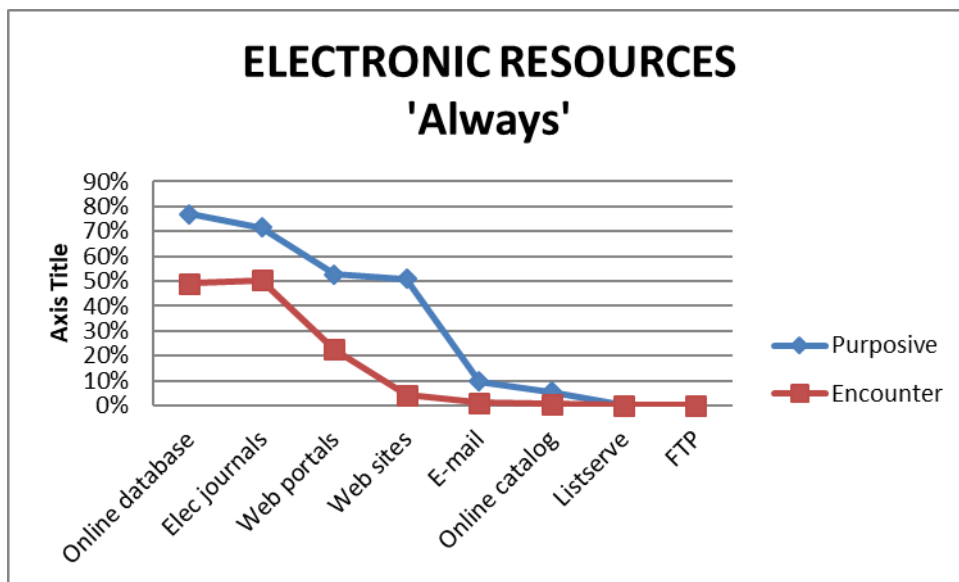
Figure 6.1: Comparing Purposive and Passive Use of Electronic Resources – ALWAYS

The pattern that emerged in the occasional instance reveals that there are more occasional information encounters on online databases, electronic journals, web portals, and websites than there are for e-mails, online, listserv, and FTP with exception for online catalogue where occasional purposive usage surpasses occasional discovery of information. The results are presented in Figure 6.2.
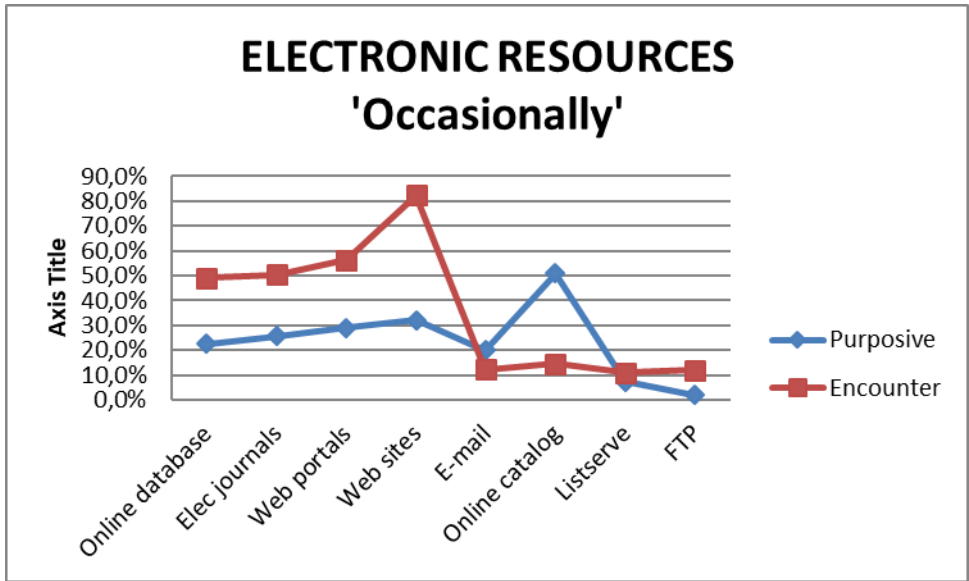
Figure 6.2: Comparing Purposive and Passive Use of Electronic Resources – OCCASSIONALLY

The pattern that emerged in the *'rarely'* instance reveals low cases of *rare* active and passive information seeking for online databases, electronic journals, web portals and websites, and more instances of *rare* information encounter and use of e-mails, listserv, and FTP, with online catalogue veering downwards showing that it's rarely used in relation to e-mail and FTP. The results are presented in Figure 6.3.
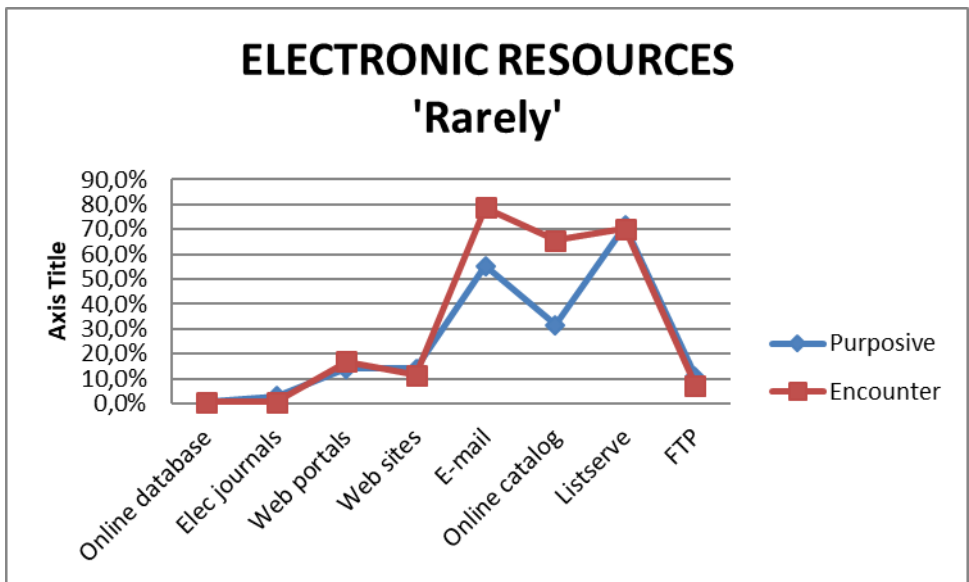
Figure 6.3: Comparing Purposive and Passive Use of Electronic Resources = RARELY

In the media category (Figure 6.4), the professoriate encounters more *frequent* information in newspapers (11.5%) than on TV (3.6%) and radio (0.6%). They also encounter information more occasionally in newspapers (40%) than on TV (30.3%) and radio (18.2%). The inverse

is the case for rare information encountering where the professoriate rarely encounters information on radio (78.8 %) than on TV (64.8%) and newspaper (48.5%). There are few cases of none information encounters but only in the TV (1.2%) and radio (1.2%) category.

The results on use of electronic resources for teaching and research in the media category reveal that professoriate encounter more information *frequently* in newspapers, TV, and radio in that order. Same order goes for occasional information encountering in the three media. Expectedly, an inverse order proceeds in the case of rare information encountering; where data shows that professoriate rarely encounter information in radio, TV, and newspaper. The implication of this lies in the fact that newspapers contain more intellectual and vast content that ranges from politics, economics, social life, philosophy, geography, housing and more. The rich content and dynamism of its content makes newspapers a somewhat reliable source of information to the professoriate across the social science discipline and beyond. However, a look at the comparison of data between the purposive information seeking and encountering shows that more information is encountered always (11.5%) than actual usage (1.8%). The reason for this is probably because with respect to teaching and research, newspaper is the least desireable source for information but the information encountered therein could provide a viable piece of information as a reference or case-in-point in classroom teaching. The same explanation could be given in the case of TV where only 3.6% of the professoriate admitted encountering frequent information even though none used the sources frequently for the same purpose. For radio, the frequency of encounter and actual usage is simultaneously low. In occasional uses of media, newspaper accounts for the highest frequency (77.6%) and holds the highest number (40%) of professoriate encountering information. Similar trends can be seen in both active and passive users of TV and radio with TV taking the lead in both cases. For rare information encountering in the media, it is not surprising to see that newspaper provides the least source of rare information encounter in comparison to other media sources. This is highly expected since newspaper holds the highest percentage of frequent and occasional information encounters.

This trend likewise conforms to the patterns discovered in Palsdottir's (2010) study that shows that those who were active at purposeful information seeking also took the lead at information encountering and vice versa. The mass media generally belongs to people's immediate surroundings and form a part of their everyday information environment. Consequently, the possibilities of encountering information in the Media may be greater than on the internet, and it may therefore be regarded as natural that the difference between

information encountering and purposive seeking is greater for the Media than the other channels (Palsdottir, 2010). This study however, shows that amongst the media sources used by the professoriate to seek information for teaching and research, newspaper is more frequently and also more occasionally used than other media sources, followed by TV. Radio proved to be the least source where information encounter for teaching and research takes place from the perspective of the professoriate. Wilson (1999) cited mass media as an example of a place where people can encounter useful information they never intended, when they are in fact looking for another information. The results are further depicted in Figures 6.4 and 6.5 respectively.
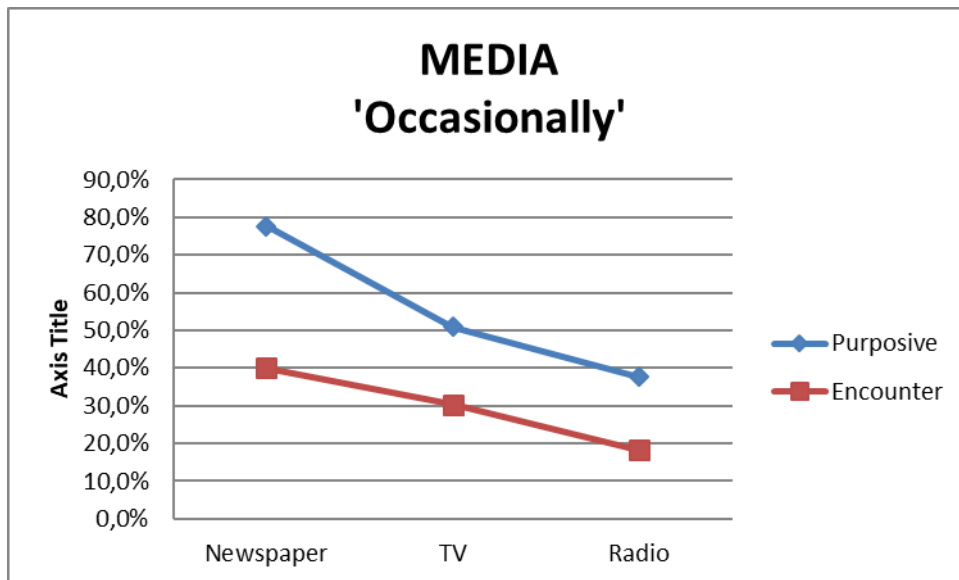
Figure 6.4: Comparing Purposive and Passive Use of E-Media Resources – OCCASSIONALLY
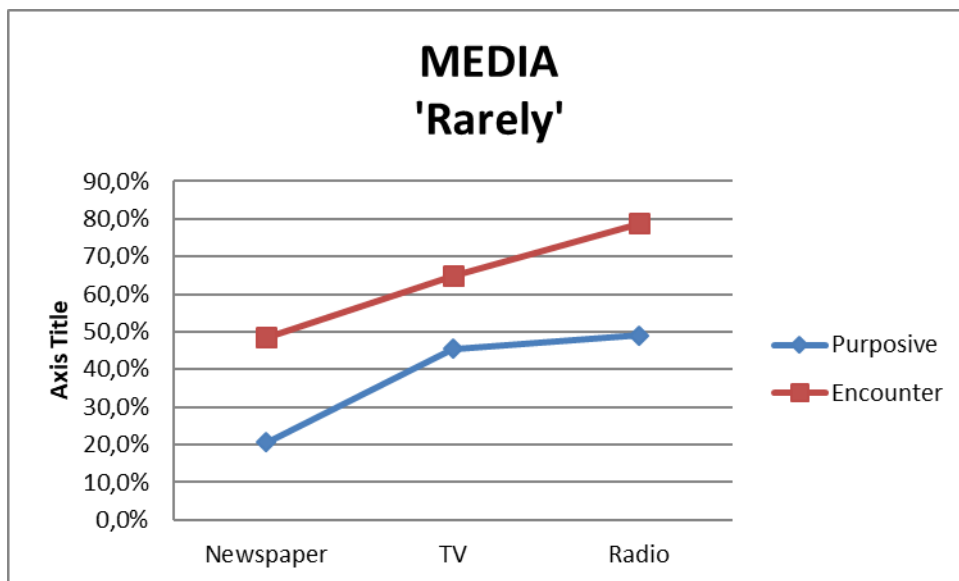
Figure 6.5: Comparing Purposive and Passive Use of E-Media Resources – RARELY

In print resources category, the professoriate is at par in *frequent* information encounter in journal articles (84.8 %) and textbooks (84.8%) and at par for *occasional* (15.2%) information encounter in both information sources respectively. There are more occasional (68.5%) information encounters than frequent (15.2%) encounters in encyclopaedia more than there are for magazine (occasional: 6.7%; frequent: 5.5%) and maps (occasional: 12.7%; frequent: 1.8%) respectively.

The result on information encountering for teaching and research in print resources shows that there are more frequent encounters in journals and textbooks (84.8%) than in encyclopaedia (15.2%) maps (5.5%) and magazine (1.8%) respectively. When data for information encountering was compared with purposeful seeking in the case of those that used the sources *frequently*, the pattern that emerged were similar across the print resources (see result in Figure 6.6). This implies that there exists a strong correlation between frequency of use of a particular source and the information encountered in that source. This finding supports the claim in Palsdottir's (2010) study that those who were active at purposive information seeking were also active at information encountering.
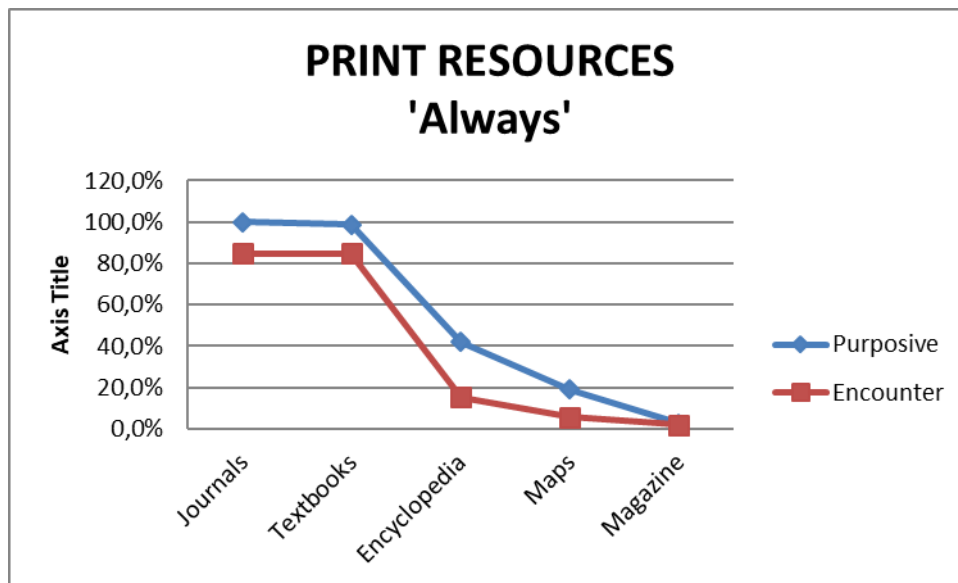
Figure 6.6: Comparing Purposive and Passive Use of Print Resources – ALWAYS

For *occasional* uses of the print resources, journals and textbooks were less occasionally used for teaching and research. This result is expected, as it is a reflection of the *frequent* usage of journal and textbook for teaching and research. There appears to be more *occasional* encounters (68.5%) of information in encyclopaedia than is *frequently* (15.2%) encountered, and same goes for maps and magazines. This suggests that encyclopaedia is a good reference source that is occasionally used by the professoriate to search information for teaching and research. Maps have low *frequent* and *occasional* usage and this suggests that it is used only by few professoriates in disciplines like geography, religious studies, and anthropology to seek information for teaching and research. Superimposing both data (see Figure 6.7) the result depicts a similar pattern, but shows that the frequency of occasional information encounter is more than of actual (but occasional) usage. The comparison of occasional information encountered in maps and magazines against its counterpart of actual usage shows similar patterns.
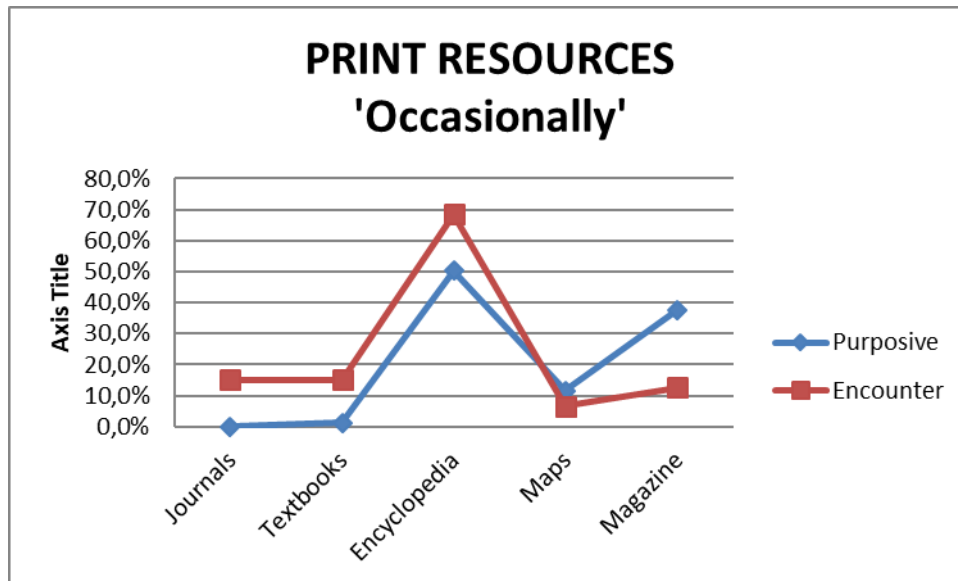
Figure 6.7 Comparing Purposive and Passive Use of Print Resources – OCCASSIONALLY

The data on rare information encounter (Table 5.4) shows that there was no reported evidence of rare information encounter in journals and textbooks. This is because print journals are a good source of information for research and for teaching. Therefore, the case of rare information encounter in this information medium is well expected. It is also not surprising that information is rarely encountered in maps (64.8%) and magazine (34.5%) as compared to encyclopaedia (14.5%). This finding is consistent with Majid and Kassim (2000), where the authors noted that encyclopaedias were considered less important for teaching purposes. The pattern (see Figure 6.8) that emerged when both data (purposive and encounter) on the *rarely* dimension were compared, shows a corresponding similarity between the rare cases of purposive use of information in encyclopaedia, map and magazine to rare cases of encountering information on these information media.
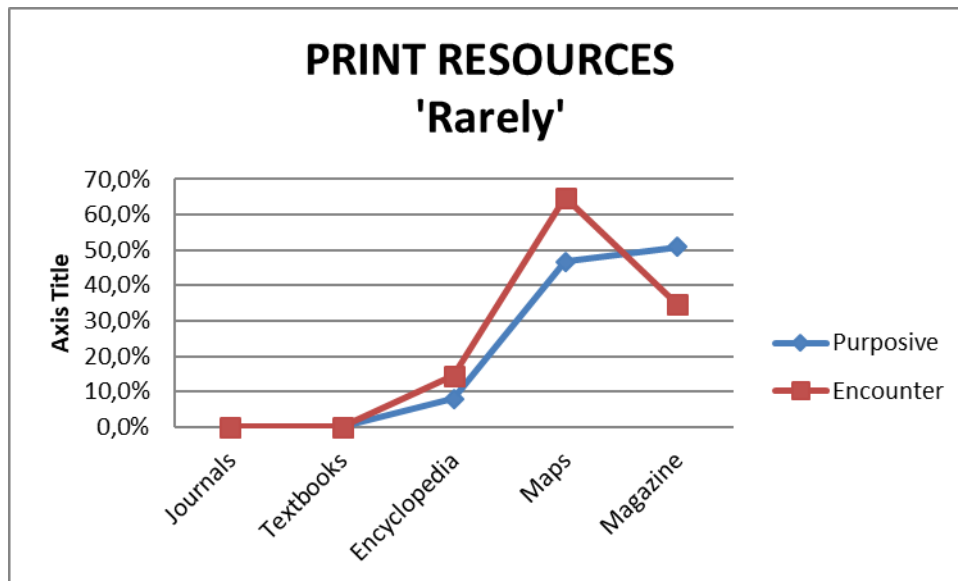
Figure 6.8: Comparing Purposive and Passive Use of Print Resources = RARELY

In the interpersonal sources category, professoriate have few *frequent* encounters with colleagues (3%) and friends (1.2%), however, *occasional* information encounter happens more with colleagues (83.6%) than with friends (10.3%), and this implies more rare cases of information encounter between friends (69.1%) than between colleagues (13.3%).

The result of encountering information for teaching and research in interpersonal sources revealed that professoriate encounter information frequently and occasionally more with colleagues than with friends. This result is expected as colleagues are seen as academic professionals with mastery in their field of study who can be relied upon to provide knowledgeable information. In occasions when information is needed urgently, professional colleagues are easily reachable because they are within close geographical distance or just a phone call away. The result also shows that information encountering amongst academic colleagues occurs more occasionally (83.6%) than frequently (3%). The reason for this lies on the premise that colleagues may not be the first point of call when seeking information for teaching and research, since this study shows that professoriate rely more on online databases, e-journal, print journals and textbooks for teaching and research; consequently more information will be encountered in more frequently used sources than with colleagues. The pattern that emerged (see Figure 6.9) when data on information encountering (3%) and purposive information seeking (61.2%) was superimposed (on the *always* scale) suggests that less information is encountered in oral conversation as opposed to print sources. However, since colleagues are occasionally used to seek for information, it is also expected that encountering information from them will occur occasionally (see result in Figure 6.10).
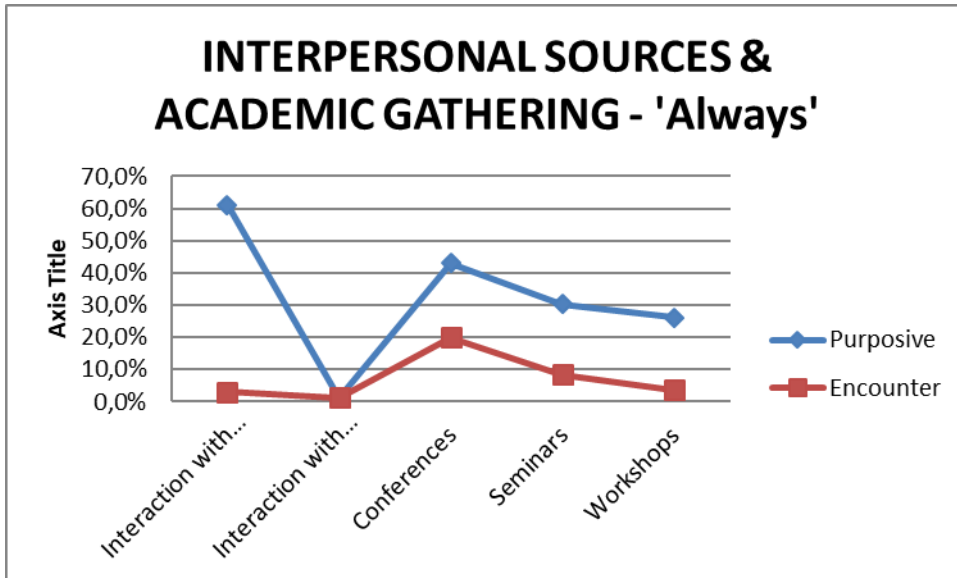
Figure 6.9: Comparing Purposive and Passive Use of Interpersonal sources – ALWAYS
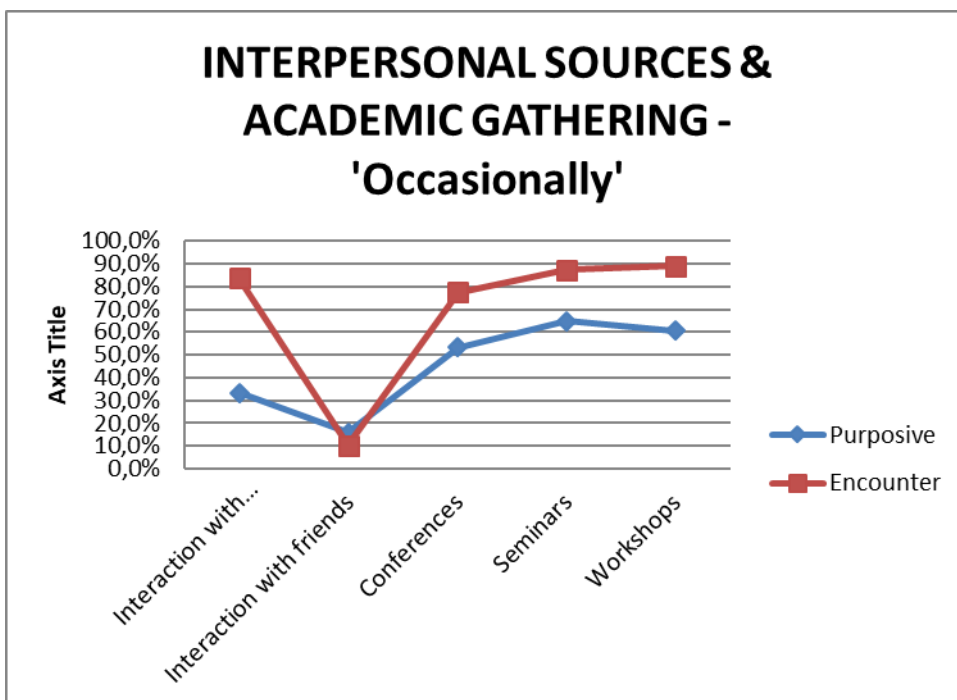
Figure 6.10: Comparing Purposive and Passive Use of Interpersonal sources – OCCASSIONALLY

Similar trends can be seen in the *rarely* instance (see Figure 6.11), where there is a corresponding similarity between cases of rarely purposive seeking and rarely encountering information in interaction with colleagues, with friends, conferences, seminars and workshops.
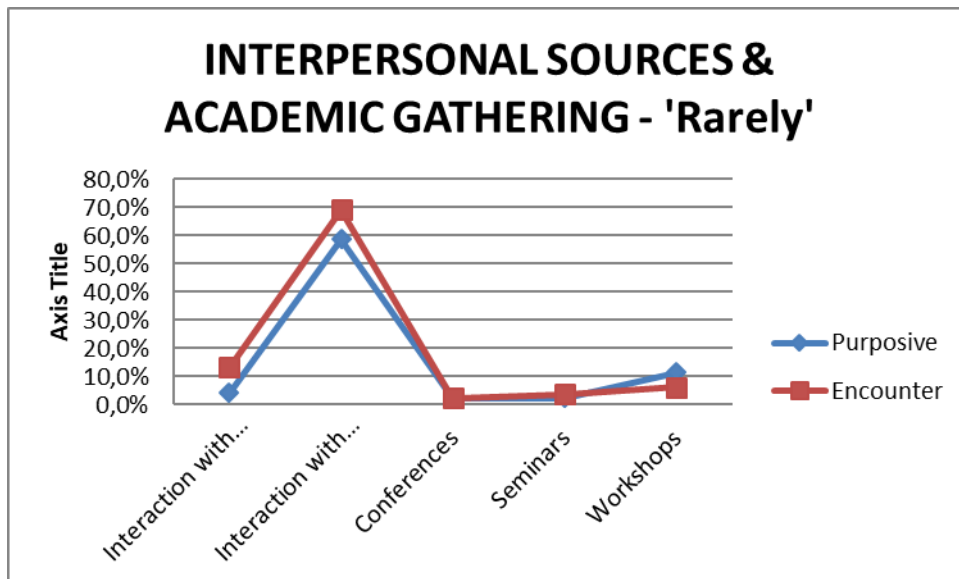
**Figure 6.11: Comparing Purposive and Passive Use of Interpersonal sources –
RARELY**

In the academic gathering category, information encounter happens more *frequently* at conference proceedings (20%) than it occurs at seminars (8.5%) and workshops (3.6%). On the other hand, *occasional* information encounters take place more often in conference proceedings (77.6%), seminars (87.3%), and workshops (89.1%) than it occurs *frequently*. There are only few cases of *rare* information encounter in the three groups, with conference proceeding recording the least (2.4%).

The result on encountering information in academic gathering reveals that 20% of the professoriate encounter information more frequently in conferences than they encounter in seminars (8.5%) and workshop (3.6%). This could imply that conferences offer more academic contents such as paper presentations from different scholars, interactions with participants that make it more likely to encounter new information. When purposive information and information encounter was compared (see Figure 6.12), the pattern again suggests that the frequency of purposive search for information (conferences, seminars and workshops) is to some extent correlated with the amount of information encountered in the process.
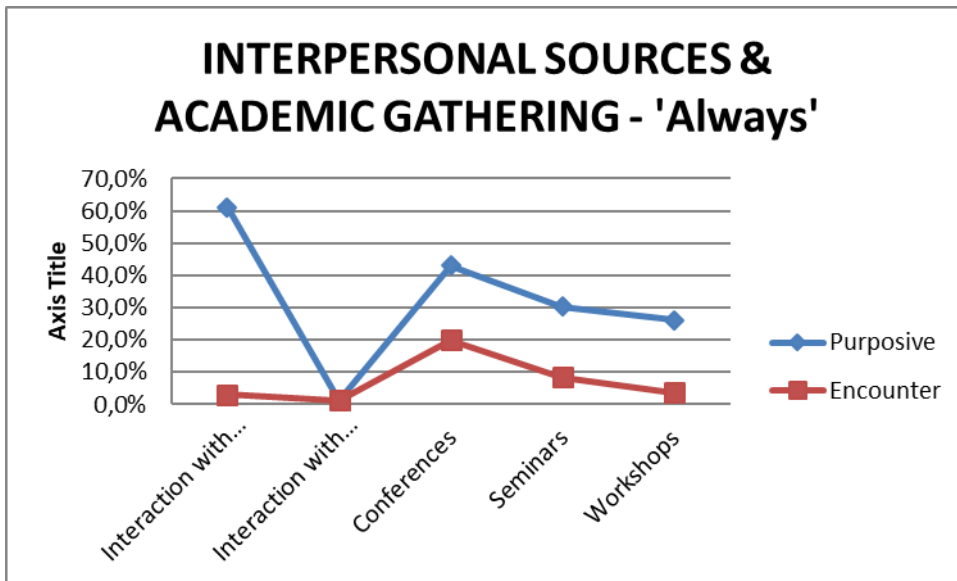
Figure 6.12: Comparing Purposive and Passive Use of Academic Gathering – ALWAYS

On the other hand, when data on occasional information encounter in conferences, workshop, and seminars was compared to the purposive data; the pattern shows that there were more occasional encounters of information in academic meetings, than those who occasionally but purposively use that medium. The professoriate seems to encounter occasional information in seminars and workshops than in conferences (See Figure 6.13).
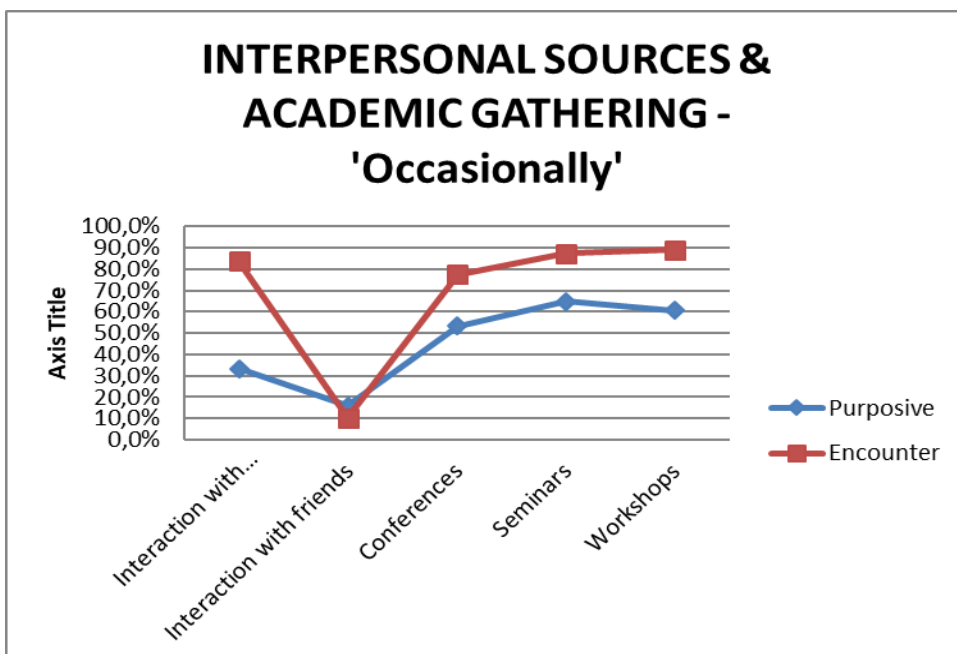
Figure 6.13: Comparing Purposive and Passive Use of Academic Gathering – OCCASSIONALLY

Similar trends can be in the rarely dimension (see Figure 6.13); however, in all the three instances (conferences, seminars and workshop), there is no significant difference in rarely encountering information for both purposive and chance information encounter in conferences, seminars and workshops.
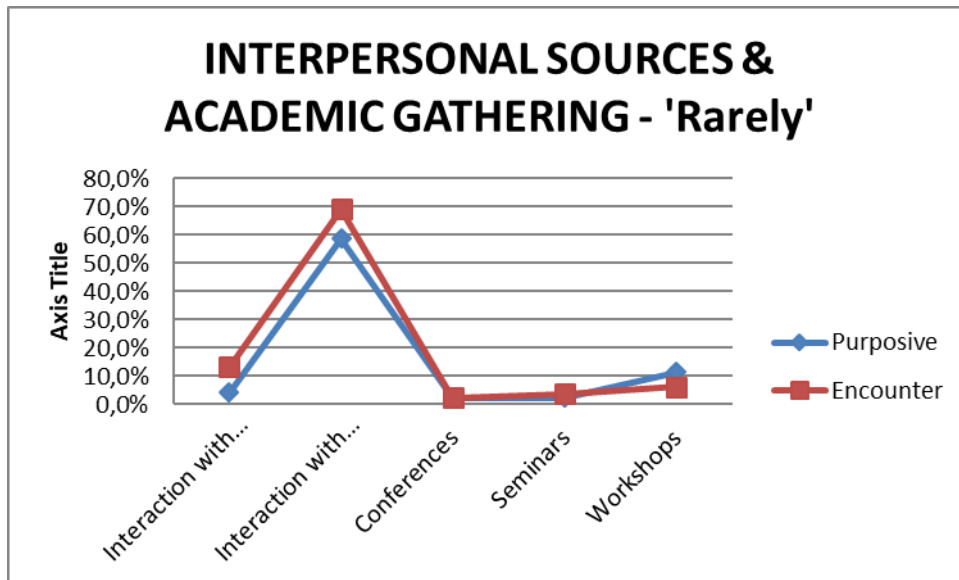
Figure 6.14: Comparing Purposive and Passive Use of Academic Gathering – RARELY

6.5.1 Frequency of Information Encounter

The result of frequency of information encounter on the Internet and print sources reveals that professoriate encountered information more frequently in print sources (89.1%) than on the internet (60%). Occasional information encounter however, occurs more often on the internet (39.4%) than in print sources (10.9%). The professoriate shares information more frequently (53.3%) than occasionally (46.7%) amongst themselves.

Print resources have over time retained their relevance even in the face of increasing use of internet and electronic resources. Print resources have proved indispensable because of their ease of use, flexibility, readability, and convenience. Similar to the findings of this study, studies (Sethi, 1990; Majid & Kassim, 2000; Al-Suqri, 2007; Khan & Bhatti, 2012; Bello, 2014) have shown that faculty (professoriate inclusive) rely on textbooks for teaching and for research. In similar studies, some disciplines in the humanities such as history, Arabic, and law are known to rely heavily on print sources (Stone, 1982; Blazek & Aversa, 1994) than other social science disciplines. In support of this claim Blazek and Aversa (1994) noted that humanities researchers are likely to be interested in older works dating back 20, 40, or 50

years, and the "classics" in each field can extend to items dating back 2,000 or 3,000 years in time. Watson-Boone, (1994) noted that having retrospective coverage may be more important to the humanist than having access to current material. It is therefore not surprising that information encounter occurs more frequently in print resources than on the internet.

Since findings of this study show that the professoriate use textbooks to prepare for classroom teaching, it is expected that encountering new information would most likely happen more often in this process. In addition, since the internet is used occasionally in comparison to print for teaching, encountering information will occur occasionally. Internet resources are often used by professoriate and faculty more for research than for teaching purposes. Internet offers search engines that enable more narrowed search criteria for more precise information retrieval. Besides, internet is a medium for the professoriate to access electronic databases and resources needed for teaching and research. Internet usage to satisfy information need of academic have been reported in recent studies (Francis, 2005; Bello, 2014), even though some studies (Al-Suqri, 2007; Khan & Bhatti, 2012) still show that internet resources is not well embraced by some faculty due to language limitation (such as Arabic). Earlier studies (Al-Shanbari & Meadows, 1995; Reid, 1995; Bane & Melheim, 1995) showed that besides e-mail which is most often used, internet resources and their applications were not common at that time. The findings of this study showed that sharing of encountered information occurs more frequently than occasionally. The reason for increased sharing habit may be attributed to information technology innovations that have provided several platforms (such as sms, whatsapp, e-mail, and chat group) for information sharing.

6.5.2 Usage of Information Encounter on the Internet and Print Sources

The result in table 5.6 shows that all (100%) of the professoriate *always* use the encountered information to advance their general knowledge. A vast majority (98.8%) *always* use the encountered information for personal development and the advancement of their career (96.4%). Those that *always* use the encountered information for work related purposes (75.8%) and sometimes for teaching in the classroom (72.1%) are equally high. Those that *always* use the encountered information for the advancement of their research and archiving it for later use account for 69.1% and 66.1% respectively. Only 7.9% of the professoriate sometimes uses the encountered information for entertainment, while 47.3% rarely do.

The result on usage of encountered information shows that all the professoriate use the information to advance their general knowledge, while a vast majority use it for personal development, to advance their career, for work related purposes, for teaching and research, while some archive it for later use. The significance of this finding is that information encountered on the internet and in print sources is as important as that retrieved from a purposeful search. While scanning through information, there is a salient attention exhibited by the information seeker. Whereas Wilson (1999) refers to it as passive attention, McKenzie (2003) calls it non-directed monitoring. Williamson (1997) on the other hand refers to it as accidental discovery of information. In any case information encountered is then categorised and prioritised in order of immediate, intermediate, and future importance. The first step might be to save the encountered information, which is later revisited and classified in the order of needs.

6.6 Professoriate Location of Access to Information

The result shows that all the professoriate access information for research from their offices, while a vast majority (92.7%) of the professoriate access research information from their home. The use of the university library by the professoriate to access information is low (34.5%).

The result on location of access to information shows that all the professoriate access information for research and teaching from their offices, while a vast majority access information from their homes. The professoriates that access information from the library are few. The use of office to access information is absolutely expected since the office is their official work space that provides a convenient environment for the professoriate to prepare for their daily classroom routines. After official hours, the office provides an alternative environment for them to engage in their research work when they are not occupied with their families. With the advent of information technology, the professoriate could use either their laptops or office desktop computers to access the university electronic library resources or access other electronic databases via the internet. Similar to this finding, accessing information from offices by university academics is documented in similar studies (Abrahamson & Fisher, 2007; Marouf & Anwar, 2010). This study observed that a vast majority of the professoriate access information from their homes. This implies that most of them may likely have their personal libraries at home that provide them with the private space they need for maximum concentration and optimal intellectual output. Work that is not

finished at the office might as well be completed at home; this includes lecture preparation and research engagement. The result of the study shows that the professoriate makes less use of the library to access information for teaching and research purposes. This result is not entirely surprising since most of their time is spent at the office and home, and since most of them may want their private space which the university library may not provide. Similar to what was observed in this study, studies (Xumei, 2010; Folorunso, 2014) have noted poor use of the library by the professoriate.

The result shows that laptop (93.9%) is the digital device mostly used by the professoriate to access information followed by desktop (84.8%). Smart phone is used frequently by 24.8% and sometimes by 31.5% to access information. Palmtop is less frequently used (1.2%) but occasionally used by 17% to access information. Mobile phone is never frequently used but occasionally used by only 10.3% of the professoriate to access information. Mobile phone, palmtop, and smart phone is hardly used by 82.4%, 75.2% and 43.6% of the professoriate.

The result of the use of digital devices to access information reveals that a vast majority of the professoriate use laptops and desktops to access information for teaching and research. Most universities in Nigeria are fast embracing information technology and at the same time giving incentives to faculty members to own laptops and other digital devices. This kind of initiative encourages professoriate to adapt to innovation thereby compelling a change in behaviour. There might be one of the reasons to professoriate's positive change in attitude towards electronic information resources. The change in habit might also be attributed to constant computer training and ICT awareness programs organised by the universities. The use of smart phone for teaching and research is reportedly low, and this might be due to the small screen of smart phone, which puts constrain on readability due to the small font size of the characters. However, occasional use of smart phone for accessing information was observed and may be due to the fact that smart phone may be a more reliable and ready option to access information in occasions where laptop is unavailable; for instance, when the laptop battery runs down in events of power outage and urgent information is required to satisfy teaching or research demands.

6.7   Types of Information shared by the Professoriate

The result on the type of information shared by the professoriate shows that a vast majority of the professoriate frequently share research information (100%) and academic information (98.8%). Next is political, which is more occasionally (70.3%) shared than frequently shared

(18.2%). Social and economic information follow a similar pattern; occasionally shared by 72.7% and 78.8% of the respondents in comparison with 14.5% and 7.9% that frequently share their research information respectively. Business, legal, personal, and technical information are less frequently shared; this explains why legal (91.5%), personal (79.4%), technical (77.8%), business (75.2%), and medical (73.3%) information in that order are rarely shared by the professoriate.

The result on the type of information shared by the professoriate shows that a vast majority of the professoriate frequently share research and academic information. It is not surprising that research and academic information are the most frequently shared information by the professoriate. Teaching and research are the main task of the professoriate, and engaging in them is fundamental to their productivity and growth in the academia. Sharing political information comes next and denotes how engaged the professoriate could be in political matters. Political information sharing most often comes in form of debates and ideological views and the perception of the person making the argument. This sort of non-academic discourse is very common amongst the academia especially when they gather in informal sessions; it is not expected that it should only occur occasionally as proved by the findings of this study. Social and economic information follow a similar pattern; it is shared occasionally by the professoriate. Sharing social information emphasises the importance of social ties amongst the professoriate and within the academic community. This suggests that the professoriate is non-exclusive of their social world and their keen participation in social life is a vital part of their total well being not minding their academic status. Moreover, economic information, occasionally shared by the professoriate shows their keen interest and value for economic indicators and measurement vital in assessing the economic world. Since the professoriate has high earning potentials that make them high net-worth individuals, investment in the economy is a sustainable strategy to become financially independent both in the short and long run. Therefore, being aware of what is happening in their economic environment becomes an innate desire that prompts information seeking, and economic information sharing becomes a pattern towards satisfying such a need. Legal, business, personal, medical, and technical information needs are rarely shared by majority of the professoriate and simply shows how less important and insignificant they are in the perception of majority of the professoriate.

6.7.1 Research Information sharing by the Professoriate

The result shows that vast majority of the professoriate publish their research outcomes in subscription-based (100%) and fee-based open access (98.8%) journals. About 50% of the professoriate publishes in no-fee open access journals.

Conducting research is part of the academic requirements of the professoriate, and publishing the research outcome is a vital step to ensure its visibility and relevance. This also offers a way of sharing scientific discoveries in the academic community and beyond. Without visibility of research result, the entire research process, alongside the time, energy, and resources invested in the research is highly diminished. A research is beneficial if the outcome is published in a renowned journal for public consumption. Visibility of empirical research brings economic gains to both the academic institution and the professor that carried out the research, and forms part of the yardstick used in the valuation and ultimately in the ranking of the university against other universities globally.

This result of this study found that the professoriate publishes in subscription-based journals and almost all the professoriate publishes in fee-based open access journals. This is not surprising especially with the fierce competition for academic positions in Nigerian universities. Besides, becoming a professoriate requires certain amount of publication and retaining the status of a professoriate demands an expectation of prolific research and publication.

Subscription-based journals encompasses both top ranking and low impact journals and charges their readers (individuals or universities) who want to access either the print or electronic version. With subscription-based journals, both the content and the review process are handed over to the publishing house and payment is made for publication. In some instances, universities pay subscription fees to a plethora of journals for easy access to staff and students.

The recent decade has seen the rise of open access journal publications which offer a slightly different concept of peer-reviewed scientific publication to the more traditional subscription-based journals. The open access approach is a rather modern concept and rests mostly on online publishing. Open access journals are divided into those that charge publication fees and those that do not. Fee-based open access journals require payment on behalf of the author. The money might come from the author but more often comes from the authors'

research grant or employer. On the other hand, the no-fee open access journals differ by enabling free access to the scientific community and to the public. In addition, accepted manuscripts are published online much faster than their subscription-based counterparts.

The professoriate in this study uses majorly the subscription-based and fee-based open access to publish their research findings. The reason for this is probably because they offer more rigorous approach to scientific publication through peer-review process and in return publishes research of high scientific standard compared to no-fee open access which operate on "I pay you publish" model. As a result, many no-fee research publications are most often of poor quality since there are no technical barriers to publication. Hence, it is not surprising that not many professoriates in this study patronise no-fee journals. Publishing in no-fee open access journal is regarded as a sign of poor research capacity of an academic, and is usually avoided by most highly ranked professoriate.

6.8 Professoriate Criterion for Information Source Preferences

The result shows that relevance (97%) is the most important criterion used by the professoriate in selecting information sources, followed by currency (94.5%), authoritativeness (93.9%), and accuracy (93.9%) of the information sources. Easy to understand and purpose are the criteria used by 89.1% and 78.8% of the professoriate respectively in selecting information sources.

The result of professoriate criteria for information source preference shows that relevance is the most important criterion used by the professoriate in selecting information sources. The user of information is the best judge on whether particular information meets a specific information need. In writing a research paper for instance, the aim of the investigation will guide the professoriate's information behaviour on the varieties of information sources to choose from. When the professoriate finds a particular piece of information, he matches it to the title of his research to see if it is relevant. If it is not relevant, the search process continues. In electronic information retrieval, a key word is formulated by the user to streamline the search result; the search engine uses an algorithm to generate hundreds of information that matches the search query. It is then left to the judgement of the information user to select the result based on its relevance to his information need. The information source may be excellent, but will be of no use if the information retrieved does not relate to the actual information need. Fritch and Cromwell (2001) advised that the information seeker should not progress any further with other criteria once the information is of no relevance.

The authors suggest the user move on to another information source. On the other hand, if the information source is found relevant, then a careful consideration of other criteria should follow before the information is used. The result of this study shows that professoriate understand the importance of relevance as the first criterion in information source selection.

The result shows that currency is ranked next in line to relevance as criterion in professoriate source selection. Information about a subject changes over time as new information emerges and old information is changed or replaced. If currency is needed, the writer has to find the most recent information sources pertaining to the subject, and if drawing information from a book, it is important that the writer uses its most recent edition. The implication of this finding buttresses the importance of current information sources in the selection of information sources for teaching and research in the investigated universities.

Authoritativeness and accuracy of the information sources shared same ranking as the next criteria after currency in the selection of information sources by the professoriate. Authoritativeness considers both the expertise of the author and the legitimacy of the publisher. In source selection, the user expects that the author should be qualified and have appropriate credentials related to the subject. With respect to accuracy, the information should be consistent with that from other information sources as well as from one's own knowledge. Accuracy should consider the sources the author cites, and users must be cautious to see if the information contains grammatical errors and misspelled words, as it could be a sign that the information was poorly edited or perhaps not edited at all. The professoriate in this study found both authoritativeness and accuracy to be very important as criteria for source selection for teaching and research. Most work cited in bibliographic references of scientific papers and empirical studies are peer reviewed and as such the authority of the author is rarely questioned, and so is the accuracy since the paper most have gone through thorough scrutiny and editing before final publication. The essence of this finding is that the professoriate considers authoritativeness and accuracy as essential factors in information source selection for teaching and research.

Easy to understand and purpose are the criteria used by 89.1% and 78.8% of the professoriate respectively in selecting information sources. Ease of understanding is vital to the professoriate in this study as an important criterion to source selection for teaching and research. A difficult to understand piece of information will negate the very essence behind the retrieved information. Purpose depicts why a piece of information is sought. Purpose of

information could be to teach, inform, entertain, persuade or express a point of view. Even though every information seeker has a purpose prior to an information search process, it is observed in this study to be in the least of the most important criteria used for source selection by the professoriate.

6.9 Factors Influencing Professoriate Use of Information Source

The professoriate was asked to indicate the factors that influence their use of information resources. The factors presented are performance expectancy (perceived usefulness), effort expectancy (perceived ease of use), and attitude towards use of technology, social influence, facilitating condition, self efficacy, anxiety, and behavioural intention. The result reveals that performance expectancy (perceived usefulness), effort expectancy (perceived ease of use), attitude towards use of technology, and social influence significantly influence the professoriate' use of electronic information resources, while social influence, facilitating condition, self efficacy, anxiety and behavioural intention do not. This section discusses the result of these findings.

6.9.1 Performance expectancy (perceived usefulness)

Performance expectancy is defined as the degree to which an individual believes that using the system will help him/her to attain gains in job performance (Venkatesh et al., 2003, p. 447). This study shows that performance expectancy highly influenced the professoriate's use of electronic resources for teaching and research. Performance expectancy was operationalised by the extent to which using electronic information resources increases the professoriate chances of publishing more scholarly research papers; increases their ability to carry out research quickly; and electronic information resources is useful in teaching and research. In each instance, electronic information resources are perceived to be a vital resource in achieving the academic goals of the professoriate. The constructs similar to performance expectancy in the past models and theories are perceived usefulness of TAM, relative advantage in DOI, job-fit in MPCU, outcome expectancy in SCT and extrinsic motivation in TMM.

Therefore, this discussion draws inferences to these associated constructs of other models and theories where applicable. Davis (1993) identified perceived usefulness as a key variable that influences intention to make use of technology; it is buttressed in this study to be a vital factor towards professoriate use of electronic resources. Buchanan, Sainter and Saunders

(2013) distinguished perceived usefulness into high and low perceived usefulness and indicated that high perceived usefulness is associated with frequent use of technology, while low perceived usefulness is associated with lower reported usage. Their findings were consistent with Tyagi's (2012) and suggest that both individual and contextual factors need to be taken into account when trying to understand use of technologies. Interestingly, empirical evidences from past literatures confirmed that age and gender played a very important moderating effect on the influence of performance expectancy on use of technology, where it was (Venkatesh et al., 2003) observed that the effect was stronger in younger male workers. This study supports Venkatesh et al.'s (2003) observation, in that a vast majority of the study respondents were male professors, even though our analysis of data was not based on gender and age categories. The findings here infer that younger and older professoriates are influenced by perceived usefulness (performance expectancy).

Ajjan and Hartshorne, (2008) found performance expectancy to be positively associated with attitude towards use of Web 2.0 technologies, indicating that a positive perception of perceived usefulness of technology could most likely encourage the use of a technology. Amongst the UTAUT constructs examined, Oye, Iahad, and Rabin (2011) found that performance expectancy exerted the strongest influence. Also in concordance (Venkatesh et al., 2003; Teo & van Schaik, 2009; Oye, Iahad, & Rabin, 2011; Muhsin, Partono, & Ahmad 2016), studies show performance expectancy construct to be one of the strongest contributor to intention to use a technology. Perceived usefulness remains an important antecedent of user acceptance of technology (Davis, 1993). Tibenderana and Ogao (n.d) and Al-Suqri's (2014) study on the contrary demonstrate a negative effect of performance expectancy on behavioural intention to use electronic library services. In other studies (Anandarajan et al., 2000; Brown et al., 2006; Oshlyansky, Cairns, & Thimbleby, 2007), performance expectancy was found to have contributed poorly to behavioural intention to use technology in relation to other factors, also suggesting the influence of contextual factors in moderating the effect of performance expectancy on use of technology. Perceived usefulness has been found to be highly associated with other factors to influence use of technology. Davis (1993) identified perceived usefulness and perceived ease of use as two key variables that influence intention to use technology, while Ajjan and Hartshorne, 2008 found that perceived usefulness positively affects attitude towards use of adopting web 2.0 technologies. In spite of its significance in usage behaviour, findings from Al-Suqri (2014) show that perceived

usefulness was not associated with the extent to which respondents perceive electronic books to be useful.

6.9.2 Effort Expectancy

This study shows that effort expectancy was one of the major constructs that influenced professoriate use of electronic resources. The items that measured effort expectancy are "My interaction with electronic information resources is clear and understandable", "I find electronic information resources easy to use", "It is easy for me to become skilful at using electronic information resources", and "Learning to manoeuvre electronic information resources is easy for me". Each of the items contributed significantly in predicting use of electronic information resources by the professoriate.

Effort Expectancy is the degree of ease associated with the use of a system (Venkatesh et al., 2003, p. 450). Origins of the construct can be traced in TAM as perceived ease of use, DOI and MPCU as complexity. According to Venkatesh et al. (2003) evidences from past literature indicated that the influence of effort expectancy on behavioural intention is stronger in older workers and young women, thus they hypothesised gender, age and experience to moderate the relationship between the constructs. In this study however, the context of the moderating variables differ significantly and shows that the effect of effort expectancy is diffused across demographic lines. Young and older, predominantly male professorial population use electronic information resources due to its ease of use. According to Davis (1993) perceived ease of use is one of the strongest determinants of use of technology. Its strength in predicting use of technology is seen in various information science empirical studies (Venkatesh, 2000; Venkatesh & Davis, 1996; Venkatesh & Morris, 2000).

In other instances, perceived ease of use is related to self efficacy. In studying factors affecting faculty use of learning technologies, Buchanan, Sainter dand Saunders (2013) observed that individuals high in self-efficacy with respect to a particular technology perceived it as easier to use.

Similar to the findings of this study, Chen and Barnes (2007) observed that perceived ease of use (effort expectancy) and perceived usefulness (performance expectancy) together have a significant impact on user's intentions to adopt a technology. These two factors form the nucleus of technology acceptance model (TAM), first articulated by Davis (1989), which

predicts that usage behaviour is determined by the intention to use a technology, which in turn is driven by the perceived usefulness and perceived ease-of-use of the system.

In examining faculty's acceptance of electronic books, Al-Suqri (2014) found perceived ease of use and usage behaviour to be statistically significant, implying that the extent to which an individual perceived electronic books to be easy to use was positively correlated with the person's usage behaviour. Both recent and older studies have reinforced the strength of perceived ease of use in using technology in different context. Teo and van Schaik, (2009) investigated a sample of pre-service teachers' acceptance and use of computers, and found perceived ease to be a significant determinant of teachers' behavioural intention to use computers, while Ajjan and Hartshorne (2008) and Tyagi (2012) found perceived ease of use to positively affect attitude towards use of Web 2.0 technologies.

Similar to perceived usefulness, review of previous literature (Benamati & Rajkumar, 2008; Lee, 2009; Liu et al., 2010; Yousafzai et al., 2007) provide adequate evidence to support the significant influence of perceived ease of use on attitude towards using a technology as proposed by Davis (1985; 1989). Davis, (1985; 1989) noted that perceived ease of use is one of the most popular constructs in IS adoption studies. Davis et al. (1989, p.16) defined perceived ease of use as "the degree to which a person believes that using a system will be free from efforts". Researchers have used this variable to predict the intention to use various technologies such as e-commerce (Eri et al., 2011; Pavlou, 2003), e-learning (Chiu et al., 2007), computing satisfaction (Doll & Torkzadeh, 2011) internet banking (Nasri, 2011) amongst others. In this study, it was found to be a significant contributor to professoriate's use of electronic information resources. In-spite of the wide effect of effort expectancy on technology usage behaviour, Muhsin, Partono, and Ahmad (2016) reported its non significance on intention to use e-journal, showing that its predictive capability in information system research is context dependent.

6.9.3 Facilitating condition

The study found that facilitating condition was not a significant predictor of use of electronic information resources. Facilitating condition was measured using four items; "I have the knowledge necessary to use electronic information resources", "I have the resources necessary to use electronic information resources for teaching and research", "My phone is not compatible with the use of electronic information resources", and "A specific person is available for assistance with difficulties in using electronic information resources". The items

were collectively found to have a weak correlation with the use of electronic information resources. However, a look at the contribution of individual items shows that the first two items ("I have the knowledge necessary to use electronic information resources" and "I have the resources necessary to use electronic information resources for teaching and research") had significant scores of 99.4% and 98.8% respectively, when compared to the low scores (38.8% and 27.3%) of the last two items ("My phone is not compatible with the use of electronic information resources" and "A specific person is available for assistance with difficulties in using electronic information resources") respectively. This implies that whereas the professoriate had the knowledge and resources necessary for the use of electronic information resources for teaching and research on one part, the incompatibility of their phone and lack of technical personnel to assist in time of difficulty with electronic information resources, poses a technical challenge (at the institutional level) to the professoriate's effective use of information resources for teaching and research.. Facilitating condition is defined "as the degree to which an individual believes that an organisational and technical infrastructure exists to support use of the system" (Venkatesh et al., 2003, p. 453). The weakness of the contribution of these items in making the construct of "facilitating condition" less significant to the use of electronic information resources is highly justified. Further implication to this finding is the moderating effect of age and experience on facilitating condition as hypothesised by (Venkatesh et al., 2003). On this premise, it can be hypothesised that though the phones used by the professoriate may be compatible with the use of electronic information resources, the small screen size of the smart phones posses as an inhibitor to the effective use of electronic information resources for teaching and research.

Studies (Jacob & Issac, 2008; Miller, 2012) have shown that small screen size of smart phone limits its usage for reading especially among older faculty. With respect to experience as a moderating factor, constant usage of electronic information resources increases experience and reduces the possibility of encountering difficulties, but does not entirely eliminate the chances of encountering problems during system usage. The low score on personnel availability for assistance with difficulties in using electronic information resources helps to diminish the influence of "facilitating condition" as a construct that influences use of electronic information resources. Though this study found facilitating condition not significant in contributing to use of electronic resources, on the contrary Muhsin, Partono, and Ahmad (2016) found it to have a positive and significant relation to actual use of e-journal.

6.9.4 Behavioural Intentions

Behavioural intention was found not significant in determining usage of electronic information resources for teaching and research. The items that measured behavioural intention are "I intend to use electronic information resources having known its usefulness", "I predict I would use electronic information resources in the shortest possible time" , "I plan to use electronic information resources in the future", "I plan to use digital devices (such as smart phone, PDA) to access electronic information resources". In spite of the high descriptive value of these collective items in predicting use of electronic information resources, the regression result shows the weakness of the measurement items in predicting use of electronic information resources. This connotes that though intention precedes use, intention on its own does not equal to use. Intention is a mere declaration of intent, which can change depending on the circumstances. In this sense, a person can use a technology without prior intent. In essence, behavioural intention can stand alone and does not necessarily precede use at every instance.

Behavioural intention refers to a person's intention to perform various behaviours. Intention may be viewed as a special case of beliefs, in which the object is always the person himself and the attribute is always behaviour. As with belief, the strength of an intention, or more simply, "intention", is measured by a procedure which places the subject along a subjective-probability dimension involving a relation between himself and some action (Ajzen & Fishbein, 1980). In sum, the concept "behavioural intention" is used only when the probability dimension links the person to behaviour.

According to the TRA and TPB, salient behavioural beliefs in combination with outcome evaluations are hypothesised to lead to attitude, which in turn leads to intention to perform behaviour, and on to behaviour itself (Ajzen & Fishbein, 1980). Intention as a construct is different from the actual behaviour since 'intent' does not necessarily mean 'action'. Even though 'action' is strongly precipitated by 'intent', but it does not in any way equal to it. For this reason, marketing researchers use 'intention to purchase' to measure the tendency of a potential buyer to make a 'purchase' decision before introducing the actual product. Intention places the subject along a subjective-probability dimension involving a relation between himself and some action.

Personal intention is the subjective probability in engaging in a behaviour that relates to the individual's personal life, social intention is the subjective probability in engaging in a behaviour that relates to the social life of the individual. In the items that measured 'intention' namely "I intend to use electronic information resources having known its usefulness", "I predict I would use electronic information resources in the shortest possible time" , "I plan to use electronic information resources in the future", "I plan to use digital devices to access electronic information resources" satisfies the condition of 'subjective probability' that relates to the actual behaviour, but not the behaviour itself. Quite a number of studies have documented behavioural intention as a precursor to actual behaviour. Yi and Hwang (2003) showed that behavioural intentions were correlated with actual logged use of a virtual learning environment by students. Ajjan and Hartshorne (2008) found behavioural intention to have a very significant effect on actual behaviour of using Web 2.0 technology. Moreover, in contrast to this study, Muhsin, Partono, and Ahmad (2016) found behavioural intention to have a positive and significant relationship to actual use of e-journal.

6.9.5   Self Efficacy

Self-efficacy is defined as the degree to which an individual judges his or her ability to use a particular system to accomplish a particular job or task. Self efficacy was measured with seven items, namely; "I am confident using electronic information resources to search for information for teaching and research even if there is no one to help me", "I am confident using online databases to search for information", "I am proficient in the use of a computer", "I can save and retrieve downloaded online journal using the computer", "I find it so easy using electronic information resources",   "I can use electronic information resources for teaching and research, if I have a lot of time", "I can completely use electronic information resources for teaching and research, if I have a built-in help facility in my smart phone or PC for assistance". Descriptively, these items measure use of e-resources.

"I can save and retrieve downloaded online journal using the computer", "I am proficient in the use a computer" and "I find it so easy using electronic information resources" has the highest frequency scores amongst other items that measured self efficacy. This evidence shows the improvement in self efficacy scores in professoriate use of digital devices. The improvement in self efficacy could be attributed to the fact that technology self-efficacy arise from repeated or greater use of the technology and vice versa. This suggest that in a digital world where academia have constantly embraced new technologies to improve teaching and

learning, continuous training for faculty is expected to lead to high self-efficacy in the use of electronic information resources. This shows how technology competencies can be improved with constant awareness, training, and use of a technology. This notion is consistent with some studies (Ertmer, Addison, Lane, Ross & Wood, 1999; Torkzadehand Van Dyke, 2002) that engagement with technology can increase self-efficacy levels.

The importance of self-efficacy in using electronic information resources, as found in this study is consistent with observation in some studies (Awwal, 2011; Chien, 2012; Holden, 2011), where the authors found computer self-efficacy as an important construct in technology adoption. Though the regression result is weak in its prediction, it was found significant in faculty adoption of Web 2.0 in two studies (Ajjan & Hartshorne, 2008; Tyagi, 2013), and found to be positively associated with use of technology by academic faculty (Buchanan et. al., 2013; Fagan & Neill, 2004). Research documented how individual factors affect use of technologies, with two studies (Ajjanand & Hartshorne, 2008; Hsu & Chiu, 2004) reporting that faculty members high in Internet self-efficacy reportedly use more learning technologies than did those lower in Internet self-efficacy.

6.9.6 Anxiety

Anxiety is the degree of anxious or emotional reactions associated with the use of a particular system. Computer anxiety is the apprehension felt by individuals when they used computers or when they considered the possibility of using a computer (Ball & Levy, 2008). Similar to computer self-efficacy, computer anxiety also plays a significant role in the adoption of information systems (Venkatesh et al., 2003).

In this study, it was measured using four items; "I feel apprehensive about using electronic information resources", "It scares me to think that I could lose a lot of time using electronic information resources", "Using electronic information resources is somewhat intimidating to me", "I hesitate to use electronic information resources because I am already used to print resources", and I have phobia for using digital devices". The descriptive results of these items show reduced level of anxiety amongst the professoriate in using electronic information resources for teaching and research.

Previous studies (Hackbarth et al., 2003; Xumei, 2010) have reported high level of anxiety especially with the older faculty. This reduced feeling of apprehension and phobia for electronic information resources by the professoriate might probably be the outcome of

training and constant exposure to digital technologies and resources at both individual and institutional levels. It may also be attributed to the high level of ICT investment in these universities, which must have prompted an institutional awareness campaign in using electronic information resources. This result combined with the positive self-efficacy disposition by the professoriate shows an inverse but positive correlation between (computer) self-efficacy, (computer) anxiety, and use of electronic information resources. This implies that high scores on self-efficacy translates to less apprehension in using technology. In other words, increased self-efficacy in using electronic information resources leads to decreased anxiety in using the resources. This is consistent with some studies (Thatcher & Perrewé, 2012; Fagan et al., 2003; He & Freeman, 2010) that showed that computer self-efficacy negatively influences an individual's computer anxiety. Hackbarth et al. (2003) proved that individuals with high computer anxiety perceive computer based applications somewhat difficult to use. This study shows a reduced level of anxiety amongst the university professoriate.

6.9.7   Attitude

Attitude toward using technology refers to an individual's overall affective reaction to using a system (Venkatesh et al., 2003) and is defined as the degree to which an individual believes he or she should use a particular system. In this study, it was measured using four items; "Using electronic information resources is good for teaching and research", "I like using electronic information resources to search for information for teaching and research", "Electronic information resources makes teaching and research more interesting", and "Communicating information gotten from electronic information resources through teaching and research is fun". The responses of the professoriate to these items show that the professoriate had positive attitude towards electronic information resources with regards to teaching and research.

Attitude refers to a person's favourable or unfavourable evaluation of an object. The term "attitude" is used only when there is strong evidence that the measure employed places an individual on a bipolar affective dimension. Looking at the items that measured the attitude scale, we can see a 'bipolar affective dimension' in them. For instance, "I like using electronic information resources to search for information for teaching and research" and "Using electronic information resources is good for teaching and research", could either be evaluated based on the respondents' favourable or unfavourable disposition towards the

object by the respondents thereby satisfies the 'bipolar affective' requirement of the attitude construct. According to the TRA and TPB, salient behavioural beliefs in combination with outcome evaluations are hypothesised to lead to attitude, which in turn leads to intention to perform behaviour, and on to behaviour itself (French, 2005; Ajzen, 2005, p.3).

Similar to the findings of this study, studies (Benamati & Rajkumar, 2008; Lee, 2009; Liu et al., 2010; Yousafzai et al., 2007) have provided adequate support on the significant influence of ease of use on attitude, supporting the evidence that the professoriate in this study had a favourable disposition towards use of electronic information resources on account of its ease of use. Behavioural theories posit that positive attitude leads to behavioural actions. Instructional technologies may exist to enhance higher education; they can only be used by faculty members if they possess the skills, knowledge and attitudes necessary to infuse them into the curriculum (Baylor & Ritchie, 2002). To this end, Albirini (2006) pointed out that successful implementation of information technologies in education depends on the attitude of the educators who ultimately decide its use in the teaching process.

The positive attitude of the professoriate towards electronic information resources hinges on their self-efficacy, reduced anxiety, and perceived ease of use of electronic information resources. These three constructs are highly correlated, and a positive or negative score on one affects directly or indirectly the unit scores of others. The Technology Acceptance Model (Davis, 1989) also conveyed the same message that a positive attitude towards a technology precedes its acceptance. According to the Diffusion of Innovations Theory (Rogers, 1995), people's attitude towards a technology is one of the key elements to its adoption.

The finding here also tallies with Piccoli et al.'s (2001) opinion that if faculty have a positive attitude towards using computers for teaching and learning, they will be more satisfied and effective users of electronic resources. Moreover, similar to this study is the findings in Surej's (2015) study which revealed that male lecturers have more positive attitude toward integrating Information Technology into teaching and learning process. The respondents of this study had more males than females, even though the analysis of data was not based across demographic lines.

6.9.8 Social Influence

Social influence is the degree to which an individual perceives that important people believe he/she should use the new system (Venkatesh et al. 2003, p. 451). It connotes the societal

expectation from the professoriate to be able to use electronic information resources. In today's digital world, much is expected from the professoriate who are surrounded by digital innovations to aid access to information resources especially from the standpoint of being in an institution that prioritises investment in educational technologies.

Social influence was measured with four items, namely; "People who influence my behaviour think that I should use electronic information resources for teaching and research", "People who are important to me think that I should use electronic information resources for teaching and research", "In general, the university supports the use of electronic information resources for teaching and research", and "My colleagues in the faculty have been helpful to me in using electronic information resources". Together these four items were found to influence the use of electronic information resources by the professoriate significantly. Similar to the findings of these studies (Anandarajan, et al. 2000; Brown et al., 2006; Oshlyansky, Cairns, & Thimbleby, 2007), this construct influenced intention to use technology. Specifically, Muhsin, Partono, and Ahmad (2016) found social influence in combination with performance expectancy to have influenced academics use of e-journal.

6.10 Implication of Results in relation to Wilson (1996) model

In relation to Wilson's (1996) model of information behaviour which also subsumed the Wilson (1981) information seeking model; the person in context is the professoriate and the context of information seeking is the role demand of the professoriate's work (in this case teaching and research), which by extension determines the information need to satisfy the goals in that context. Information need is not a primary need, but a secondary need that arises out of the need to satisfy a basic need (Wilson, 1981). In the context of this study, the result shows that the need for information seeking by the professoriate arose from the need to develop contents used for teaching and conducting research, and to keep abreast of current developments in their fields of study. Others are educational information, socio-cultural information and political information, in that order.

In Wilson's (1996) model, information seeking is pre-empted by an activating mechanism, which could be the reward associated with the outcome of the information seeking process and the efficacy of the information seeker in accomplishing the information search process. In the model, information seeking behaviour entails both active and passive search. Active information seeking was measured by the type of information media used while seeking information for teaching and research. Wilson captured this stage of information behaviour as

placing a "demand on information system" and "other information sources" (Wilson, 1999, p.251), and corresponds with the electronic information sources (information system) and print sources, interpersonal sources, and academic gathering (other sources) respectively used by the professoriate in this study. The results in the electronic sources category reveal that professoriate frequently use online databases and electronic journals for seeking information for teaching and research, while in the print sources category, Journal articles and textbooks are frequently used. In the interpersonal sources category, interaction with colleagues was preferable, while conference proceeding took the lead in the academic gathering category. Passive information behaviour was measured by the professoriate information encountering experience in electronic (information system) and print sources, interpersonal sources and academic gathering. The result reveals that frequent and occasional encountering of information occurs in both electronic journals and online databases. In print sources category, information is encountered more frequently in journal articles and textbooks than occasionally, while information encountering occurs more occasionally amongst colleagues than friends. Information encountering occurs more frequently in conference proceedings than in seminars and workshops, but occurs more occasionally in workshop, seminars, and conferences than frequently in that order.

Wilson's model also captured *information use*, *information exchange* and *information transfer* to *other people* as consequence of information seeking. The purpose of information use with regards to active information behaviour is for developing contents used for teaching and research, and keeping abreast of current developments in their fields of study using electronic information resources, print sources, media, interpersonal sources and academic gathering, depicted using *information systems* and *other sources* in Wilson's model. On the other hand, the professoriate uses the encountered information to advance general knowledge, for personal development, to advance their career, and for teaching and research. *Information exchange* and *information transfer* is captured in this study using information sharing, operationalised by the type of information shared, the platform used to share their research outcomes, and the type of devices used to share information. The summary result revealed that professoriate use mainly desktop and laptop computers to share research and academic information in subscription-based and fee-based open access journals. Expectedly readers of these subscribed journal and the open access online journals are the *other people* at the other end of the information exchange and information transfer as depicted in Wilson's model. Intervening variables in Wilson's model describes the barriers of different kinds encountered

in the cause of information seeking. The challenges faced by the professoriate include constant power outage, poor internet connectivity, and lack of funds for database subscriptions. Wilson's (1996) model, a build-on on Wilson's previous information behaviour models is a composite model that integrated all aspects of human information behaviour in addition to other behavioural theories. It proved in this study to be sufficient in examining the information behaviour of the professoriate.

6.11 Discussion of Result of Interview

The interview addressed eight key questions: 1) how the library capacitates the professoriate to make effective use of library resources, 2) the challenges faced by the library in providing information services to the professoriate, 3) the extent to which the library meets the information needs of the professoriate, 4) the policies or strategies that support the information needs of the professoriate, and 5) preferred information sources used by the professoriate. Furthermore, the interview shed more prospective into: 6) the attitude of the professoriate towards the information services provided by the library, 7) the role of the library in enhancing access to information by the professoriate, and 8) differences if any that exist between the information behaviour of the professoriate and other university faculty.

6.11.1 How the library capacitates the professoriate to make effective use of library resources

The library capacitates the professoriate by giving them access to special collections, provision of information resources in the form of books, print journals and e-journals, organising awareness campaign and literacy programmes, sending electronic copies of library resources to them through their various faculties, and through the provision of an exclusive place for them to conduct their research. However, this exclusive place is also open to all doctoral students and lecturers.

The professoriate is vital to delivering academic services to the universities and therefore need to be capacitated in order to perform their job roles effectively. Since knowledge is constantly and continuously evolving, professoriate need up-to-date text books in their areas of expertise and interest for premium classroom delivery. In addition they require access to scholarly databases to stay abreast of current development in research in their fields of study. Provision of an exclusive place for faculty members and those carrying out research especially at the doctorate and masters level is becoming a norm in many universities. This exclusive space does not provide a special place for the professoriate. The reason might be

because the professoriate is most often least in number in comparison to other faculty ranks. In addition, their use of the library as indicated in this study is poor. These reasons may not justify an investment for an exclusive place for the professoriate. However, it can also be argued that the provision of an exclusive place designated specifically for the professoriate will encourage them to use the library, but with increasing mobility of digital devices and improved internet infrastructure that enables access to e-library. Getting the professoriate to use the library may remain an elusive proposition.

6.11.2 Challenges faced by the library in providing information services to the professoriate

The challenges faced by the universities in providing information services to the professoriate are unstable power supply, slow and unstable internet connection, and lack of fund to acquire information resources and to subscribe to scholarly databases. Others are inadequate infrastructure, inferiority complex of librarians towards professors, attitudinal problems of the professoriate and over reliance on library staff.

Most of the challenges highlighted by the librarians facing the universities in providing information services to the professoriate are not entirely new in the Nigerian academic environment. Some of these challenges such as unstable power supply and poor/slow internet connectivity have become endemic, having persistently been reported in literature (Fatoki, 2005; Etim, 2006). Similar to this study, studies (Ishola, 2014; Okiy, 2005; Yetunde, 2008) found lack of adequate funding to be a major factor affecting information services provision especially in government owned universities where budgetary allocation for education has been dwindling. Abubakar (2011) highlighted erratic internet services, lack of hardware and software, and non-availability of ICT infrastructure as impediments to providing information services to users in Nigerian academic libraries. In addition the author noted that there is difficulty in the importation of books and journals from abroad due to high rise in foreign exchange. This has deterred many academic libraries from acquiring current and relevant titles. Eze and Uzoigwe (2013) pin point funding, poor infrastructure, low level of computer literacy among librarians, non-conducive environment, high cost of maintaining ICT facilities, and inadequate facilities (accommodation) for users as barriers militating against effective delivery of library information services. The challenges facing adequate provision of information services to the professoriate will not go away soon as there seems to be lack of

long term strategic plan and lack of resolute commitment on the part of Nigerian policy makers to tackle these endemic problems.

6.11.3 Extent to which the library meets the information needs of the professoriate

The university library meets the information needs of the professoriate by establishing faculty libraries for ease of access of information resources to the professoriate in their various departments, and the provision of e-library. The professoriate are part of the collection development committee which give them the privilege to include any book they want the library to acquire on their behalf or on behalf of their department, to be included in the list of potential acquisitions. Generally, the universities to a moderate level have met the information needs of the professoriate.

The report from the interview with the subject librarians suggest that the university library has to a moderate extent met the information needs of the professoriate through the provision of faculty libraries and e-library. From the perspective of the librarians, the faculty library is a way of bringing information services at the door post of the professoriate, and provides information resources that meet their information needs and that of their department. The faculty library is different from the main library that serves the entire information needs of the university by providing general information resources. With the provision of e-library that provides round-the-clock access to academic databases via the internet, it is expected that the information needs of the professoriate should be sufficiently met. However, the challenges already indicated by the librarians such as lack of fund to subscribe to scholarly databases and poor internet access, imposes a significant limitation to information provision to the professoriate. It is therefore expected that the librarians agreed that the university library is meeting the information needs of the professoriate only to a moderate extent. The opinion of the subject librarians by implication could mean that the information needs (information for teaching and research, and keeping abreast of current development in their fields of study) as indicated by the professoriate (in table 5.2) are only met to a moderate extent.

6.11.4 Policies or strategies that support the information needs of the professoriate

Overall, the subject librarians are of the opinion that there is no special policy or strategy to support the professoriate except the general library policy. One of the main roles of the university library is to provide information resources to the academic faculty for teaching and research, and therefore makes no distinction of any academic status. Perhaps creating a

demarcation by way of policy to favour the professoriate might create a class disparity within the faculty circles with a potential counterproductive result.

6.11.5 Preferred information sources of the professoriate

The interviews data on the preferred sources of information by the professoriate showed mixed results; with the general trend revealing that professoriate use both print and electronic information resources. Context and individual preferences and situational disposition and discipline appear to play a crucial role in professoriate's source selection. Since professoriate key responsibility is teaching and research, informational requirements for these dual roles will differ considerably. Most of the teaching curriculum is textbook based and therefore requires the professoriate to consult the appropriate textbook when preparing to teach. Even when the textbook exits in electronic format, the print version would likely dominate the professoriate's preference. Print versions are easier to read and can be "marked on" to highlight important areas for further reference and emphasis. The interview data coincides with the quantitative data (table 5.3) which reported that nearly all the professoriate sought information from textbooks and print journals for their teaching and research. As pointed out by a librarian, individual preference also plays a major role in sources selection, some professoriate are more comfortable with print resources, and would rather print electronic journals they found useful rather than read electronically. Discipline equally plays a role in sources selection with professoriate in Law preferring print sources compared to their counterparts in the social sciences and humanities as reported by one of the university librarians; this is consistent with other studies (Thanuskodi, 2009; Aforo & Lamptey, 2012) on law faculty. In the opinion of some of the librarians, the professoriate seems to prefer electronic sources for research in comparison to teaching. The reason for this trend is probably because electronic databases are easy to query using keywords that will most likely yield more relevant results. This trend is also supported by the quantitative data (table 5.3), which shows professoriate preference for online databases and e-journals. Another reason for electronic source preference is the fact that the e-library only has electronic resources. Therefore, the professoriate has no choice but to access the electronic resources in the databases of the e-library. It is therefore logical that professoriate's preference for both print and electronic is dependent on the context of information seeking.

6.11.6 Attitude of the professoriate towards information services provided by the library

The attitude of the professoriate towards the information services provided by the library is generally good. Attitude is usually measured by a person's positive or negative disposition towards an object (French, 2005; Ajzen, 2005). From the perspective of most of the librarians, the professoriate has a positive disposition towards information services provision of the library. The academic library is meant to serve the university community by providing informational services needed to promote teaching and learning. Over the years, federal universities in Nigeria have enjoyed considerable measure of financial budget provisions to resuscitate their internet infrastructure and acquire new information resource resulting in improved services provision. The reciprocal gesture of the professoriate towards the information services provision of the libraries depicts a reasonable level of satisfaction. This perhaps informs the opinion of a high number of librarians that the professoriate has a positive attitude towards the library services. The stance of the librarians tally with the quantitative result that showed a positive attitude of the professoriate towards electronic resources provided by the university library (see table 5.18 and table 5.24).

6.11.7 Role of the library in enhancing access to information by the professoriate

The library enhances information access to the professoriate by giving them access to information resources using ICT infrastructure. The library also organises seminars to develop their capacity to effectively access and use library information resources. The library enhances access to information by constantly updating print and electronic resources and creating awareness of subscribed databases and newly acquired library materials.

ICT infrastructure is very vital in today's digital world and forms the backbone needed for digital devices to access information. It plays a key role in the academia enabling quick and easy access to electronic information resources. The extent of investment in ICT is what distinguishes academic institutions into those digitally compliant and able to offer e-services and those incapacitated. The quantitative data shows that majority of the professoriate make use of laptop and desktop computers and access electronic information resources from their offices and homes. Accessing and effectively retrieving information from the digital library often imposes a challenge to the professoriate, especially because they are non digital natives, often requiring training to improve their information retrieval skills. The library therefore play a big role in ensuring adequate training is provided to the professoriate to enhance their capacity to access the electronic library, through organising workshops and seminars. Several

studies (Negahban & Talawar, 2009; Erdamar & Demirel, 2013) have reported the underutilisation of library materials and e-resources by faculty. A common recommendation from these studies includes creating awareness of library resources through different forms of marketing campaign. The opinion of the librarians in that creating awareness to subscribed databases and newly acquired library materials only goes further to support this evidence.

6.11.8 Differences between the information behaviour of the professoriate and other faculty

Most of the librarians interviewed were of the opinion that there is a difference between the information behaviour of the professoriate and other faculty members. The reasons for the differences includes ego, low patronage of the library in comparison to other faculty members. The librarians that felt otherwise described information seeking as being subjective and dependent on the individual.

Most studies (Nnadozie & Nnadozie, 2008; Engel, Robbins & Kulp, 2011; Shahzad, 2013) on faculty information behaviour have made no distinctions between the professoriate and other academic faculty, while in some studies (e.g Xuemei, 2010), analysis of data based on demography showed some behavioural differences across professorial ranks with regards to use of information resources. In this study, the reason for this difference as cited by a librarian is low patronage of the library because of their ego in comparison to other academic faculty. Though the quantitative data (table 5.7) supports this assertion, the reasons from the quantitative data suggest that the professoriate have access to the internet which enables them to access their institution's e-library resources from their offices or homes using their laptops or desktop computers. Besides, the decentralisation of the library into faculty libraries means that professoriate can make use of their faculty libraries rather than patronising the main library.

6.12 Summary of Discussion of Findings

This chapter discussed the findings of the study on the information behaviour of the professoriate in selected federal universities in south west Nigeria. The discussion of the findings was based on the research questions that guided the study. The information need of the professoriate shows that they need information for developing contents used for teaching, conducting research, and keeping abreast of current developments in their fields. Knowledge of the information needs of the professoriate is vital for developing library collections,

upgrading facilities, and improving services to meet their information needs effectively (Tahir, Mahmood & Shafique, 2008).

Active information seeking investigated the kind of information sources used by the professoriate for teaching and research. In the electronic information sources category, majority of professoriate *always* sought information for teaching and research in online databases, electronic journal, web portals, and websites in that order. These online databases houses many peer reviewed journals, which give it the credibility and authoritativeness fit for teaching and research purposes. The result also shows an increasing acceptance and use of online information resources in comparison with previous studies. In the informal sources category, newspaper is the most occasionally used information source used by the professoriate followed by TV and radio for teaching and research. It is mostly used by political scientists as a dependable source of primary information, as well as keeping abreast of developments in global economic and political issues (Marouf & Anwar, 2010).

In print resources category, journal articles, and text books are a major source of information by the professoriate for teaching and research. Print sources remain an important information source for teaching and research despite the growing popularity of electronic information resources. The reason for its continued relevance is due to its flexibility and convenience. Lawyers and historians often use print resources more than their counterparts in science and social sciences (Majid & Kassim, 2000). The study found that interaction with colleagues is frequently and occasionally used by the professoriate for teaching and research. Colleagues are seen as experts in their fields of study that can be relied upon to give insight in grey areas within their professional jurisdiction. In the academic gathering category, conference proceedings is the most frequently and occasionally used informal source of information.

The results of the professoriate information encountering under the electronic resources category show that electronic journals (50.3%) and online databases (49.1%) are the two major sources where professoriate *frequently* encounter information. A growing number of studies have recognised information encountering as a part of information seeking behaviour (Abrahamson & Fisher, 2007). In print resources category the professoriate encounter *frequent* information in journal articles and textbooks than in encyclopaedia, maps, and magazine. The result of encountering information for teaching and research in interpersonal sources revealed that professoriate encounter information frequently and occasionally more with colleagues than with friends. Colleagues are seen as academic professionals with

mastery in their field of study who can be relied upon to provide knowledgeable information. In the academic gathering category, information encounter happens more *frequently* at conference proceedings, than it occurs at seminars and workshops. Since encountering information happens during a purposive search, the data on information encountering was compared with the data on active search. An interesting pattern emerged because of this comparison. The patterns that emerged suggest that the more purposive information seeking takes place, the more chances there are to encounter new information and vice versa.

The result of frequency of information encounter on the Internet and print sources reveals that professoriate encountered information more frequently in print sources than on the internet. Occasional information encounter, however occur more often on the internet than in print sources. Information is shared more frequently than occasionally amongst the professoriate. The reason for increased sharing habit may be informed by information technology innovations that have provided several information sharing platforms.

The result on usage of encountered information shows that all the professoriate use the information to advance their general knowledge, while a vast majority use it for personal development, to advance their career, for work related purposes, for teaching and research, while some archive it for later use.

The result on location of access to information shows that all the professoriate access information for research and teaching from their offices, while a vast majority access information from their homes. Professoriates that access information from the library are few. The use of office to access information is absolutely expected since office is their official work space and provides a convenient environment for the professoriate to prepare for their daily classroom routines. Accessing information from offices by university academic is documented in similar studies (Abrahamson & Fisher, 2007), while home provides them with the private space they need to continue their research. Professoriate make less use of the library, since most of them spent most of their time in the office; besides, the university library does not provide a private and convenient space for them. Poor use of the library by the faculty has been observed in similar studies (Xumei, 2010; Folorunso, 2014).

The result of the use of digital devices to access information shows that many of the professoriate use laptops and desktops to access information for teaching and research. Most universities in Nigeria are fast embracing information technology and giving incentives to faculty members to own laptops. This kind of initiative encourages professoriate to adapt to

244

innovation thereby compelling a change in behaviour. The change in habit might also be attributed to constant computer training and ICT awareness programs organised by the universities.

The result shows that vast majority of the professoriate publish their research outcomes in subscription-based and fee-based open access journals, when compared to those that publish in no-fee open access journals. Visibility of empirical research brings economic gains to both the academic institution and the professor that carried out the research, forming part of the yardstick used in the valuation and ultimately in the ranking of the university against other universities globally.

The result of professoriate information sources preferences shows that in the print sources category, professoriates prefer scholarly journals, text books, and periodicals. Newspapers and magazines are the least preferred information sources. The convenience, portability, and ease of use of printed sources make it a preferred option especially for teaching.

In the electronic information sources category, e-journals, online databases, and bibliographic databases are the most preferred information sources in comparison to online catalogue, internet, and web. The preference for electronic sources for teaching and research seems to be growing amongst the professoriate, in line with recent studies (Voorbij & Ongering, 2006; Kanniyappan et al., 2008; Kaur & Verma, 2009).

The result of professoriate criteria for information source preference shows that relevance is the most important criterion used by the professoriate in selecting information sources, followed by currency, authoritativeness and accuracy of the information. Easy to understand and purpose are the least used criteria.

This study shows that performance expectancy, effort expectancy, attitude and social influence significantly influenced professoriate's use of electronic resources for teaching and research. Facilitating condition, self efficacy, anxiety and behavioural intentions were weak predictors of use of electronic information resources by the professoriate. A descriptive analysis of data showed improved self-efficacy scores and low level of anxiety towards the use of electronic information resources. The high descriptive self efficacy scores in professoriate use of digital devices could be attributed to repeated use of the technology thereby reducing their level of anxiety. Increased self-efficacy in using electronic information resources has been observed in similar studies (Thatcher & Perrewé, 2012; Fagan et al., 2003;

He & Freeman, 2010) to lead to decreased anxiety in using the resources. The positive attitude of the professoriate towards electronic information resources hinges on their self-efficacy, reduced anxiety, and perceived ease of use of electronic information resources. These three constructs are highly correlated, and a positive or negative score on one affects directly or indirectly the unit scores of others.

The interview result shows that library empowers the professoriate by giving them access to information resources in the form of books, print journals and e-journals, organising awareness campaigns and information literacy programmes, as well as providing an exclusive place for them and other faculty members. The provision of an exclusive place designated specifically for the professoriate may encourage them to use the academic library more often.

The challenges faced by the academic libraries in providing information services to the professoriate, includes unstable electricity supply, unstable internet connectivity and lack of fund to acquire information resources and to subscribe to scholarly databases. These challenges appears to be an endemic as there is no long term strategy and commitment on the part of Nigerian policy makers to address these issues.

Generally, the universities to a moderate level have met the information needs of the professoriate by establishing faculty libraries for ease of access of information resources and the provision of e-library. Lack of funds to subscribe to scholarly databases, and poor internet access are challenges that limit information provision to the professoriate. There is no special policy to support the professoriate except the general library policy. Perhaps a policy that favours the professoriate might create a class disparity within the faculty circles. The professoriate use both print and electronic information resources. Context, individual preferences, and professional field of the professoriate seem to play a vital role in the professoriate's source selection.

The attitude of the professoriate towards the information services provided by the library is generally good. Attitude is usually measured by a person's positive or negative disposition towards an object. The quantitative and qualitative findings show that the professoriate has a positive disposition towards electronic information resources.

The library enhances information access to the professoriate by giving them access to information resources using ICT infrastructure. The library also organises seminars to develop their capacity to effectively access and use library information resources. ICT

infrastructure is very vital in today's digital world and forms the backbone needed for digital devices to access information. It plays a key role in enabling the professoriate's quick and easy access to electronic information resources. The library plays a big role in ensuring adequate training is provided to the professoriate to enhance their capacity to access the electronic library.

The librarians are slightly divided on whether there is or not a difference between the information behaviour of the professoriate and other faculty members; the reasons for the differences low patronage of the library in comparison to other faculty members. The indifference was based on the premise of information seeking being subjective and dependent on the individual.

6.13 Conclusion

This chapter discussed the findings of the study on the information behaviour of the professoriate in selected federal universities in south west Nigeria. The discussion of the findings was based on the research questions that guided the study. The first segment discussed the result of quantitative data from the professoriate, while the other segment focused on the responses from the subject librarians in the three universities. The following chapter presents the summary, conclusion, and recommendations of the study.

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

This chapter provides the summary of the main findings of the study, conclusion and recommendations and areas for further studies. The sections of this chapter are organised based on the research questions that guide the study.

The focus of this study was to investigate the information behaviour of the professoriate from selected federal universities in South West Nigeria. The objectives of the study were to find out the information needs of the professoriate; determine how the professoriate actively and passively seek, access, and share information electronically; and understand preferred information sources used by the professoriate. Lastly, the study examined the factors that influence the professoriate's use of electronic information resources and the attitude of the professoriate towards electronic information resources.

The study was guided by Wilson's (1996) information behaviour model and Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003). A pragmatist methodological approach, involving the collection of both quantitative and qualitative data guided the research design. A structured questionnaire was used to collect the required quantitative and qualitative data from the 246 professors from the three universities. In addition, interview schedules were used to collect qualitative data from the subject librarians in social science and humanities in the three universities. The quantitative data was analysed using descriptive and inferential statistics with the aid of SPSS, while the qualitative data was analysed thematically.

7.2 Summary of Research Findings

The summary of findings covers the following themes around the research questions: demographic characteristics of the professoriate; the information needs of professoriate; how the professoriate actively and passively seek, access, and share information electronically; the preferred information sources used by the professoriate; the factors that influence the professoriate's use of electronic information resources and the attitude of the professoriate towards electronic information resources.

7.2.1 Summary of Demographic Information of the Professoriate

This section summarises the demographic distribution of the professoriate in the universities of study. The demographic characteristics include university, faculty, department, gender, age, and academic qualification.

7.2.1.1 Distribution of the professoriate by University

The distribution of the professoriate on the basis of their universities shows that university of Ibadan has the highest number (42.4%) of professoriate, followed by Obafemi Awolowo University (33.3%) and University of Lagos (24.5%). The distribution of the professoriate by faculty shows that majority of the professoriate were from the faculty of Arts, followed by those from faculty of Social science (33.3%), Education (26.1%), and faculty of Law (1.2%). The data shows that majority of the professoriate were from the department of psychology (10.3%), followed by those from department of English (9.7%), Economics (8.5%), History (7.9%) and Linguistics and African languages (6.1%). Professoriate from departments of Sociology, Guidance and Counselling, and European studies account for 5.5% respectively.

Next are departments of Philosophy and Institute of Education; each accounts for 4.2%, while professoriate from Educational management and Geography together represent 7.2%. Those from departments of communication and Language Arts, Private and Business Law, Public and International Law, Educational Administration and Planning, and Political Science have the least numbers of professoriate with each representing 0.6%. The result shows that majority of the respondents were full professors (63.6%), followed by assistant professors (24.5%) and associate professors (11.5%). The result shows that all the professors surveyed had a PhD degree as their highest qualification. Moreover, the result shows that majority (57%) of the professoriate were within the age group of 51 to 60, followed by those in the 41 to 50 age bracket (27.9%). Proffessoriates within the age group of 61 to 70 years were the least (15.2%). The distribution of the respondents by gender shows that male professoriate (82.4%) were more than their female counterparts. The result shows that majority (89.1%) of the professoriate are married, while only 4.8% are still single. Respondents that were separated and divorced account for 3.6% and 2.4% respectively.

7.2.2   Summary of Answers to the Research Questions

This section presents the summary of the findings to the research questions

7.2.2.1 Information Needs of the Professoriate (Research Question 1)

The first research question sought to determine the information needs of the professoriate in the selected universities. This was measured in terms of the type of information they need to satisfy their teaching and research requirements. The result shows that all the professoriate consider information for developing contents used for teaching, information for conducting research, and information to keep abreast with current developments in their field of study as being very important to their information need. Understanding the information needs of the professoriate is essential in the planning, implementation, and operation of information system and services in the university (Devadason & Lingman, 1997).

7.2.2.2 Professoriate Active Information Seeking (Research Question 2)

The result reveals, in the electronic resources category, that the number of professoriate who *always* sought information for teaching and research in online databases (77%) and electronic journals (71.5%) are more than those that *always* use web portals (52.7%), websites (50.9%), electronic mail (9.7%), and online catalogue (5.5%). In the media category, newspaper (1.8%), radio (1.2%) and TV are hardly *always* used by the professoriate for teaching and research, as compared to the large number that *occasionally* use newspaper (77.6%), radio (37.6%) and TV (50.9%) for teaching and research. In the interpersonal sources category, interaction with colleagues is *always* used by majority (61.2%) of the professoriate to seek information for teaching and research, while 33.3% *occasionally* use it for the same purpose. Interaction with friends is hardly (1.2%) *always* used by the professoriate for teaching and research. In the academic gathering category, most of the professoriate tends to seek information for teaching and research *occasionally* in conference proceedings (53.3%), seminars (64.8%), and workshops (60.6%), than those that admitted *always* using conference proceedings (43%), seminars (30.3%), and workshops (26.1%). The number of professoriate that *rarely* seek information in conference proceedings (2.4%), seminars (2.4%) and workshops (11.5%) are few.

7.2.2.3 Professoriate Passive Information Seeking (Research Question 2)

The results of the professoriate information encountering under the electronic resources category show that electronic journals (50.3%) and online databases (49.1%) are the two

major sources where professoriate *frequently* encounter information. *Occasional* encounter of information in the two sources is similar in pattern to *frequent* encounter, with more *occasional* information encounters occurring on online databases (50.3%) than in electronic journals (49.1%). On web portals, there is more occasional (56.4%) information encounters than are frequently (22.4%) encountered. Similar pattern occurs in websites, where the professoriate encounters information more occasionally (82.4%) than frequently (4.2%). Information encounters in electronic mails, online catalogue, and listservs are very rare.

In the media category, professoriate encounter more information occasionally in newspapers (40%) than on TV (30.3%) and radio (18.2%), than *frequently* encountered in newspapers (11.5%), TV (3.6%) and radio (0.6%). In the interpersonal sources category, *occasional* information encounter occurs more often with colleagues (83.6%) and friends (10.3%), than it occurs frequently at 3% and 1.2% respectively. In the interpersonal sources category, professoriate have few *frequent* encounters with colleagues (3%) and friends (1.2%); However, *occasional* information encounter happens more with colleagues (83.6%) than with friends (10.3%). In the academic gathering category, information encounter happens more *occasionally in* conference proceedings (77.6%), seminars (87.3%), and workshops (89.1%) than it occurs *frequently* at 20%, 8.5%, and 3.6% respectively.

In print resources category the professoriate rate of *frequent* information encounter in journal articles (84.8%) and textbooks (84.8%) is same and same for *occasional* (15.2%) information encounter in both information sources respectively. There are more occasional (68.5%) information encounters than frequent (15.2%) encounters in encyclopaedia more than there are for magazine and maps. In the interpersonal sources category, *occasional* information encounter happens more with colleagues (83.6%) than with friends (10.3%), than it occurs *frequently* (3%),(1.2%), in the two sources respectively. Professoriate information encounter with friends are very rare. In the academic gathering category, *occasional* information encounters takes place more often in conference proceedings (77.6%), seminars (87.3%) and workshops (89.1%) than it occurs *frequently* (20%), (8.5%), (3.6%) in those sources respectively.

When data for information encountering in the electronic and print sources was compared with its counterpart in purposeful information seeking, the pattern that emerged suggests a strong correlation between frequency of use of a particular source and the information encountered in that source. It implies that those active at purposive information seeking were

also active at information encountering. This finding supports the claim of Palsdottir (2010) that the more purposive information seeking takes place in an information source; the more chances there are to encounter new information.

7.2.2.4 Usage of Information Encounter by the Professoriate (Research Question 2)

The result on use of encountered information shows that all the professoriate use the encountered information to advance their general knowledge, while vast majority use the encountered information for personal development (98.8%) and to advance their career (96.4%). Those that use the encountered information for work related purposes (75.8%) and sometimes for teaching in the classroom (72.1%) are equally high. Many of the professoriates use the encountered information to advance their research (69.1%) and archive it (66.1%) for later.

7.2.2.5 Professoriate Location of Access to Information

The result shows that all the professoriate access information for teaching and research from their offices, while a vast majority (92.7%) access information from their home. The use of the university library (34.5%) by the professoriate to access information is low. The result shows that majority of the professoriate use laptops (93.9%) and desktop (84.8%) to access information for teaching and research. Smart phone is used frequently by 24.8% and sometimes to access information (31.5%). The use of smart phone to access information for teaching and research is reportedly low due to its small screen which constrains readability.

7.2.2.6 Professoriate Research Needs Satisfied by Print Information and Electronic Sources

The result shows that 27.9% of the professoriate meet their research needs with 40% of print information resources and 60% of electronic information resources (24.2%) meet their research needs with 60% of print resources, and 40% of electronic sources. This implies that the professoriate meet their research needs with different degrees of print and electronic resources. The difference in usage is dependent on individual and discipline context. Since social science and humanities comprised various disciplines, the format of information resources required will surely differ. The professoriate in law is most likely to rely more on print than electronic resources for their research, whereas professoriate in education may most likely rely on electronic resources than on print for research. Evidence shows that

academics in humanities rely more on print sources than their counterparts in social sciences (Xumei, 2010).

7.2.2.7 Types of Information shared by the Professoriate

The result on the type of information shared by the professoriate shows that majority of them frequently share research information (100%) and academic information (98.8%). Political information is more occasional (70.3%) than frequently (18.2%) shared. Social and economic information follows similar patterns, occasionally shared by 72.7% and 78.8% of the respondents in comparison with 14.5% and 7.9% that frequently share it. Business, legal, personal, and technical information are less frequently shared.

7.2.2.8 Research Information sharing

The result shows that the professoriate publishes their research outcomes in subscription-based journals and fee-based open access (98.8%) journals. Only about 50% publish in no-fee open access journals. Subscription-based and fee-based open access journals offer a more rigorous approach to scientific publication through peer-review process and in return publishes research of high scientific standard compared to no-fee open access which operqates on "I pay, you publish" model. Publishing in a no-fee open access journal is regarded as a sign of poor research capacity of an academic, and is usually avoided by most highly ranked professoriates.

7.2.3   Professoriate Information Source Preferences (Research Question three)

The results of the information preferences of the professoriate show that in the print information sources category, the most preferred print sources are scholarly journals (100%) followed by text books (98.8%) and periodicals (92.7%). Newspaper is preferred by only 15.2% and somewhat preferred by 20% of the professoriate. Magazine is the least preferred print information source by a vast majority (95.2%) of the professoriate.

In the electronic information sources category, e-journals (77.6%), online databases (74.5%), and online bibliographic databases (72.7%) are the most preferred information sources used by a vast majority of the professoriate. Online catalogue is preferred by 35.2%, while internet and the web is most preferred by 13.3% and 10.9%, but somewhat preferred by 55.2% and 56.4% of the professoriate respectively.

In the informal sources category, seminars, workshops and conferences, 77.6% are the most preferred information sources, while communication with colleagues is preferred by 81.2% of the professoriate. Reference librarian is preferred by 64.2% of the professoriate. Newspaper and television is the least preferred by a vast majority of the professoriate.

In the reference materials category, encyclopaedia is the most preferred information source by a vast majority (81.8%) of the professoriate. Dictionaries are preferred by 59.4%, while atlas/maps and directories, government gazette, acts and statutes are amongst the least preferred information sources.

In the bibliographic databases category, abstract and indexes is most preferred by 30.9% and preferred by 66.1% of the professoriate. On the other hand, thesis and dissertations is most preferred by only 9.7% and preferred by 76.4% of the professoriate.

7.2.3.1 Professoriate Criterion for Information Source Preferences (Research Question three)

The result shows that relevance (97%) is the most important criterion used by the professoriate in selecting information sources, followed by currency (94.5%), authoritativeness (93.9%), and accuracy (93.9%) of the information sources. Easy to understand and purpose are the criteria used by 89.1% and 78.8% of the professoriate in selecting information sources respectively. The information source may be good, but is of no relevance if the information does not relate to the actual information need. Fritch and Cromwell (2001) advised that the information seeker should not progress any further with other criteria once the information is of no relevance.

7.2.4 Factors Influencing Professoriate Use of Electronic Information Source

The result reveals that performance expectancy (perceived usefulness) (β= 0.277, t= 2.708, p= 0.008), effort expectancy (perceived ease of use) (β= -259, t= -3.234, p=0.000), attitude towards use of technology (β= 0.676, t= 9.105, p=0.000), social influence (β= -0.126, t= -2.211, p= 0.29), significantly influence professoriate use of electronic information resources, while facilitating condition (β= 0.009, t= 0.0.171, p= 0.864), self efficacy (β= 0.130, t= 1.219, p= 0.225), anxiety (β= 0.005, t= 0.053, p= 0.958), and behavioural intention (β= -0.061, t= -1.095, p= 0.275) were not significant predictors.

Each of the items were examined against their descriptive statistics in order to have a better understanding of the items' predictive influence on professoriate's use of electronic information resources.

7.2.4.1 Performance expectancy (perceived usefulness)

Performance expectancy is defined as the degree to which an individual believes that using the system will help him/her to attain gains in job performance (Venkatesh et al., 2003, p. 447). The result shows that performance expectancy highly influenced professoriate use of electronic resources for teaching and research. Performance expectancy was operationalised using four items. The items and there descriptive mean values are: I find electronic information resources useful for teaching and research (mean (x) = 2.86); using electronic information resources enables me to carry out research quickly (x= 2.89); using electronic information resources increases my ability to carry out research (x= 2.90); using electronic information resources increases my chances of publishing more scholarly research papers (x= 2.96). The cumulative mean for all the items is x^2= 2.90. The high mean values show that the professoriate believes that using electronic information resources will help them in their teaching and research. Davis (1993) identified perceived usefulness as a key variable that influences intention to make use of technology, and is buttressed in this study to be a vital factor towards professoriate use of electronic resources. Several studies (Ajjan & Hartshorne, 2008; Teo & van Schaik, 2009; Oye, Iahad, & Rabin, 2011; Muhsin, Partono & Ahmad, 2016) have found performance expectancy to exert stronger influence on use of information systems.

7.2.4.2 Effort Expectancy

Effort Expectancy is the degree of ease associated with the use of a system (Venkatesh et al., 2003, p. 450). The construct originates from TAM; referred to as perceived ease of use (Davis, 1993). The result shows that effort expectancy influenced the professoriate's use of electronic information resources. The items that measured effort expectancy and there statistic mean are "My interaction with electronic information resources is clear and understandable" (x= 2.76); "It is easy for me to become skilful at using electronic information resources" (x= 2.57); "I find electronic information resources easy to use" (x= 2.68); and "Learning to manoeuvre electronic information resources is easy for me" (2.06). The average of the mean values of all the items is x^2= 2.52. The cumulative value of these

items contributed significantly in predicting use of electronic information resources by the professoriate. According to Davis (1993), perceived ease of use (effort expectancy) is one of the strongest determinants of use of technology. Its strength in predicting use of technology is seen in various information science empirical studies (Venkatesh, 2000; Venkatesh & Davis, 1996; Venkatesh & Morris, 2000; Chen & Barnes, 2007), and is supported by the result of this study.

7.2.4.3 Facilitating condition

The result from this study shows that facilitating condition was not a significant predictor of use of electronic information resources. The items and their respective mean values are: "I have the resources necessary to use electronic information resources for teaching and research" (x= 2.97); "I have the knowledge necessary to use electronic information resources" (x= 2.98); "My phone is not compatible with the use of electronic information resources" (x= 1.77); and "A specific person is available for assistance with difficulties in using electronic information resources" (x= 1.54). The items collectively with the mean (x^2= 2.32) were found to have a weak correlation with the use of electronic information resources. However, a look at the contribution of the individual items show that the first two items; ("I have the resources necessary to use electronic information resources for teaching and research", x= 2.97) and ("I have the knowledge necessary to use electronic information resources", x= 2.98) had significant mean scores when compared to the low mean scores (x= 1.77; x= 1.54) of the last two items respectively. This means that whereas the professoriate had the knowledge and resources necessary for the use of electronic information resources for teaching and research on one part, the incompatibility of their phone (at a personal level) and lack of technical personnel to assist in time of difficulty with electronic information resources pose a technical challenge (at the institutional level) to the professoriate's effective use of information resources for teaching and research. Since facilitating condition is defined "as the degree to which an individual believes that organisational and technical infrastructure exist to support use of the system" (Venkatesh et al., 2003, p. 453), it is important that the universities provide the necessary technical support for the professoriate.

7.2.4.4 Behavioural Intentions

Behavioural intention refers to a person's intention to perform various behaviours. Intention may be viewed as a special case of beliefs, in which the object is always the person himself

and the attribute is always behaviour. The items that measured behavioural intention and their mean scores are: "I intend to use electronic information resources having known its usefulness" (x= 2.96); "I predict I would use electronic information resources in the shortest possible time" (x= 2.89); "I plan to use electronic information resources in the future" (x= 2.92); "I plan to use digital devices (such as smart phone, PDA) to access electronic information resources" (x= 2.72). The cumulative mean (x= 2.87). In spite of the high descriptive value of these collective items in predicting use of electronic information resources, regression result shows the weakness of the measurement items in predicting use of electronic information resources. This connotes that though intention precedes use, intention on its own does not equal to use. Intention is a mere declaration of intent, which can change depending on the circumstances. In this sense, a person can use a technology without prior intent. In essence, behavioural intention can stand alone and does not necessarily precede use at every instance. Intention as a construct is different from the actual behaviour since 'intent' does not necessarily mean 'action'. Even though 'action' is strongly precipitated by 'intent', but it does not in any way equal to it. For this reason, marketing researchers use 'intention to purchase' to measure the tendency of a potential buyer to make a 'purchase' decision before introducing the actual product. Intention places the subject along a subjective-probability dimension involving a relation between himself and some action (Ajzen & Fishbein, 1980).

7.2.4.5 Self Efficacy

Self-efficacy is defined as the degree to which an individual judges his or her ability to use a particular system to accomplish a particular job or task. In this study, self efficacy was measured with seven items, namely: "I am confident using electronic information resources to search for information for teaching and research even if there is no one to help me" (x= 2.41); "I am confident using online databases to search for information" (x= 2.54); "I am proficient in the use of a computer" (x= 2.91); "I can save and retrieve downloaded online journal using the computer" (x= 2.98); "I find it so easy using electronic information resources" (x= 2.62); "I can use electronic information resources for teaching and research, if I have a lot of time" (x= 2.33); "I can completely use electronic information resources for teaching and research, if I have a built-in help facility in my smart phone or PC for assistance" (x= 2.51). The cumulative mean (x^2 = 2.61) for all the items shows the professoriate has high self efficacy in using electronic information resources. The high self

efficacy scores could be attributed to training and repeated use of electronic information resources. This suggests that in a digital world where academia have constantly embraced new technologies to improve teaching and learning, continuous training for faculty is expected to lead to high self-efficacy in the use of electronic information resources. This shows how technology competencies can be improved with constant awareness, training, and use of a technology. This notion is consistent with some studies (Ertmer, Addison, Lane, Ross & Wood, 1999; Torkzadehand Van Dyke, 2002), that engagement with technology can increase self-efficacy levels.

7.2.4.6 Anxiety

Anxiety measures the degree of emotional reactions associated with the use of a particular system. Computer anxiety is the apprehension felt by individuals when they used computers or when they considered the possibility of using a computer (Ball & Levy, 2008). In this study, anxiety describes the apprehension felt by the professoriate when using electronic information resources for teaching and research. Anxiety was measured using five items: "I feel apprehensive about using electronic information resources" (x= 1.56); "It scares me to think that I could lose a lot of time using electronic information resources" (1.58); "Using electronic information resources is somewhat intimidating to me" (x= 1.58); "I hesitate to use electronic information resources because I am already used to print resources" (x= 1.59); and I have phobia for using digital devices" (1.58). The cumulative mean for the five items is x^2= 1.57, which shows that the professoriate in this study have low level of anxiety towards the use of electronic information resources for teaching and research. This result combined with the high self-efficacy scores show an inverse but positive relation between self-efficacy, and anxiety over the use of electronic information resources. This implies that high scores on self-efficacy translates to less anxiety in using technology. In other words, increased self-efficacy in using electronic information resources leads to decreased anxiety in using the system. This is consistent with some studies (Thatcher & Perrewé, 2012; Fagan et al., 2003; He & Freeman, 2010) that showed that computer self-efficacy negatively influences an individual's computer anxiety.

7.2.4.7 Attitude

Attitude toward using technology refers to an individual's overall affective reaction to using a system (Venkatesh et al., 2003). It was measured using four items: "Using electronic information resources is good for teaching and research" (x=2.96); "I like using electronic

information resources to search for information for teaching and research" (x= 2.73); "Electronic information resources makes teaching and research more interesting" (x= 2.70); and "Communicating information gotten from electronic information resources through teaching and research is fun" (x= 2.38). The cumulative mean for the attitude items is $x^2=$ 2.69, and portrays a positive attitude of the professoriate towards electronic information resources for teaching and research. The term "attitude" is used only when there is strong evidence that the measure employed places an individual on a bipolar affective dimension. The attitude measure could either be evaluated based on the professoriates' favourable or unfavourable disposition towards the electronic information resources, thereby satisfies the 'bipolar affective' requirement of the attitude construct. According to the TRA and TPB, salient behavioural beliefs in combination with outcome evaluations are hypothesised to lead to attitude, which in turn leads to intention to perform a behaviour, and on to behaviour itself (French, 2005; Ajzen, 2005, p.3). Similar to the findings of this study, studies (Benamati & Rajkumar, 2008; Lee, 2009; Liu et al., 2010; Yousafzai et al., 2007) have provided adequate support on the significant influence of attitude on use of technology.

7.2.4.8 Social Influence

Social influence is the degree to which an individual perceives that important people should use a new system (Venkatesh et al., 2003, p. 451). It describes the general expectation that professoriate in the academia should use electronic information resources. In this study, social influence was measured with four items. The items and their mean scores are: "People who influence my behaviour think that I should use electronic information resources for teaching and research" (x= 2.49); "People who are important to me think that I should use electronic information resources for teaching and research" (x= 2.49); "In general, the university supports the use of electronic information resources for teaching and research" (x= 2.96); and "My colleagues in the faculty have been helpful to me in using electronic information resources" (x= 2.43). Together these four items with an average mean score ($x^2 =$ 2.60) were found to be significant in influencing the use of electronic information resources by the professoriate. Similar to the result of this study, findings in other studies (Anandarajan, et al., 2000; Brown et al., 2006; Oshlyansky, Cairns, & Thimbleby, 2007) have likewise shown how this construct influenced intention to use technology.

7.3 Conclusion

The study examined the information behaviour of the professoriate in three federal universities in Nigeria, using Wilson (1996) information behaviour model and Venkatesh et al. (2003) UTAUT model as a framework to guide the study. The study found that the professoriate need information mainly for developing contents used for teaching, information for conducting research, and information to keep abreast of current developments in their field of study. The professoriates were quite active in information seeking, and frequently seek information in online databases and electronic journals for teaching and research in comparison with other sources in that category. In the media category, newspaper is more occasionally used than TV and radio, to access information for teaching and research. When they seek information in print sources, journal articles and textbooks are frequently used as opposed to other print sources. In the interpersonal sources category, interaction with colleagues is preferred as a more viable source of information than friends, and in the academic gathering category, conference proceedings is more often used by many of the professoriate to gather information than in workshops and seminars.

The passive information behaviour of the professoriate described through their encounter with unintended information, shows that the rate of *frequent* and *occasional* information encountering in electronic journals and online databases are almost similar. There is more *occasional* encountering of information in web portals and websites than there are *frequently* encountered. Rarely does the professoriate encounter information in electronic mails, online catalogue, and listserv. In the media category, the professoriate encounters information more often *occasionally* than *frequently* in newspaper, TV, and radio in that order. In print resources category, there are more cases of *frequent* information encounter than *occasional* encounter in journal articles and textbooks, just as information is encountered more occasionally than frequently in encyclopaedia, maps and magazines, in that order. In the interpersonal sources category, there are more instances of *occasional* information encounter amongst colleagues than friends, while in the academic gathering category, information encountering happen more occasionally than frequently in conferences, seminars, and workshops. The pattern that emerged when information seeking and information encountering data was superimposed reveals that the more purposive information seeking takes place (*frequently or occasionally*), the more chances there are to encounter new information (*frequently or occasionally*). The frequency of information encounter shows that

information is encountered more frequently in print sources than on the internet. Occasional information encounter, however, occur more often on the internet than in print sources.

The professoriate use encountered information to advance their general knowledge, for personal development and to advance their career, in that order. Most of the professoriate use either laptop or desktop to access information for teaching and research more from their offices and homes, than from the university library. Information sharing is very common, and research and academic information more often than other types of information. They prefer to publish their research outcomes in subscription- based, and fee-based open access journals than in no-fee open access journals. In selecting information sources, relevance comes first, followed by currency, authoritativeness, and accuracy and easy to understand. The regression result of the factors that influence professoriate's use of electronic resources shows that performance expectancy, effort expectancy, attitude, social influence significantly influenced use of electronic information resources. The descriptive statistics however, shows that the professoriate have high self-efficacy and showed low level of anxiety in using electronic information resources. The descriptive scores on the professoriate's intention to use electronic resources is high, but its insignificance in predicting use of electronic resources theoretically shows the unique difference between *"intention to use"* and *"actual use"* of electronic information resources.

7.4 Recommendations

The study makes the following recommendations based on the findings of the research questions that guided the study.

7.4.1   Recommendation 1: Awareness

The first research question examined the information needs of the professoriate and found that the professoriate need information for developing content used for teaching, information for conducting research, and information to keep abreast of current developments in their field of study.

To this end, the study recommends the need for the university library to acquire up-to-date collections to address the academic and research needs of the professoriate in different disciplines. The academic library should also create a system that can inform the professoriate of recent collections in their fields. Such a system could use sms or e-mail as information alerts or reminders.

7.4.2   Recommendation 2: Capacity building programmes

The second research question investigated how the professoriate actively and passively seek, access, and share information electronically. The findings show a growing trend towards the use of online databases and electronic journals for teaching and research. The professoriate hardly makes use of the university library to access information. In line with this observation, the study recommends more efforts on the part of the university library to create continuous awareness of library digital resources and develop training programs to enhance the information retrieval skills of the professoriate. The university library should create a dedicated and well furnished space, comfortable and attractive enough to motivate the professoriate to use the library. Since the professoriate still rely on textbooks for teaching and research, the space will create an environment conducive for them to study and refer to both print and electronic information resources.

7.4.3   Recommendation 3: Support services infrastructure

The study found that facilitating condition was weak in influencing the professoriate's use of electronic information resources. The two items that contributed to its weakness, namely, "My phone is not compatible with the use of electronic information resources", with a mean score of $x= 1.77$ and "A specific person is available for assistance with difficulties in using electronic information resources" ($x= 1.54$). The result shows the lack of technical support infrastructure to facilitate the use of electronic information resources. With respect to this observation, the study recommends that the university library create an efficient and effective support services infrastructure to attend to the technical challenges faced by the professoriate.

7.4.4   Recommendation 4: Resource needs

The study found that the professoriate is increasingly making use of electronic journals and online databases for teaching and research, while also depending heavily on print journals. With regard to this finding, the study recommends the need for increased resource allocation for academic library to subscribe to online databases and electronic journals, in addition to print journals.

7.4.5   Recommendation 5: Policy

In line with the observations of this study, institutional policy can be formulated that takes into cognisance the observed characteristics of the professoriate's information behaviour, to

guide the academic library in the development of a service and system framework that focuses on meeting their unique information requirements.

7.5 Contributions of the Study

The outcome of this study has wide implications for theory, practice, and policy. In relation to theory, the study used Wilson's (1996) model of information behaviour to examine the information behaviour of the professoriate. A key part of Wilson's theory which the findings of this study addresses is the notion of barriers to seeking information, described as intervening variables (Wilson, 1996). This term is rather broad, and falls short of the specificity needed to understand the actual barrier that impedes information seeking process. The study observed the items which made up facilitating conditions of the UTAUT model; this has individual and structural factors that constitute barriers to seeking information. The result in differences in the mean scores of these individual items shows a clear demarcation in the two sets of barriers that obstruct seeking information using electronic information resources. A clear separation of these barriers will help policy makers and the academic library to understand where the actual problem lies in an information seeking process such that intervention strategies can be developed to target the specific problem rather than a vague, ineffective holistic approach. The inclusion of this two dimensions of barriers (at the individual and structural or organisational levels) in Wilson's (1996) model will further improve the models and help in the understanding of how these two key elements constitute impediments to an information seeking process. In addition, this modification will broaden the understanding of the challenges faced in seeking information in today's digital environment. In the UTAUT model, these findings suggest the need to dissect the construct of facilitating condition into the observed two (individual and structural) dimensions.

In the context of practical implication, the study contributes to the understanding of the various elements of information behaviour. Understanding what constitutes purposeful information seeking, with specific reference to information needs, information use, access to information and information sharing provides an empirical basis that could guide the design of solution architecture to meet the specific locale requirement of the professoriate in a developing country like Nigeria. Understanding of the factors that influence the use of electronic information resources serves as a framework for the academic library in scaling up information services that address the observed dimensions in the study.

With respect to policy, the study provides the university and the academic library indicators for policy formulation that focus on improving information provisions and services that specifically address the information requirements of the professoriate as a unique group.

7.6 Originality of the Study

Information behaviour remains an important area of research especially in an increasing digital environment where information seeking patterns are constantly changing. Continuous research is therefore required to keep abreast of developments and changes in information user behaviour. The changing information environment prompted the need for this study to investigate the information behaviour of the professoriate in a developing country like Nigeria, where policies have pioneered massive investment in many universities to drive various digital projects to enhance teaching, learning, and research.

Conducting an empirical study into the effect of this investment on user behaviour will help in assessing its effectiveness and contribution towards the required outcome. Studies have given attention to the information behaviour of various information user groups like students, lawyers, scientists, engineers, and faculty in general, and with most of the studies conducted in developed and middle east countries. A close review of literature reveals that adequate attention has not been given to the information behaviour of the professoriate as a unique group, a gap this study seeks to bridge. Furthermore, previous studies have focused more on one aspect of information behaviour namely purposive (active) information behaviour or the deliberate search for information to satisfy a goal. Other equally important aspects of information behaviour namely passive information behaviour, referred to as Information Encountering or Information Serendipity (encountering information by chance), has been largely neglected in information behaviour research, another that this study has addressed. Different from previous studies, this study is also unique as it uses two models (Wilson, 1996 and Venkatesh et al., 2003) to understand better the information behaviour of the professoriate with respect to their use of electronic information resources to seek information for teaching and research.

The findings of this study is very unique as it reveals a positive change in attitude, reduced anxiety towards and high self-efficacy in embracing electronic information resources for teaching and research by the professoriate, contrary to some previous studies. The study also uniquely shows how the two-dimensional elements observed in the UTAUT construct of

facilitating condition can be used to modify both models for a better understanding of human information behaviour. The current study is therefore significant as it contributes to knowledge in information behaviour research in a developing country rapidly embracing information technology in her academe. The study makes a significant contribution in library and information science literature as it helps to understand the information behaviour of the professoriate in selected federal universities in South West Nigeria.

7.7 Suggestions for Further Studies

This study examined the information behaviour of the professoriate in three federal universities in South West Nigeria using Wilson's (1996) information behaviour model and Venkatesh et al.'s (2003) UTAUT model as a theoretical framework. The findings of this study provide the foundation for further research seeking to examine other dimentions of information behaviour not considered in this study.

The outcome of this study shows that the professoriate is increasing embracing the use of electronic information resources for teaching and research. In spite of their reliance on print sources, they also make use of electronic journals and online database for teaching and research. The result of the factors that influence their use of electronic information resources, show high self-efficacy and reduced anxiety, which translate to high attitude scores towards use of electronic information resources. Contextual and environmental factors may have influenced the result and militate against the generalisation of this findings in other contexts and environment. Hence, further studies can be carried out to examine how the information behaviour of professoriate in other regions in Nigeria or elsewhere compares to the findings of this study.

The study examined the information behaviour of professoriate as a unique group on the different information behaviour constructs. Due to the numerous constructs examined, the findings may be considered too broad, thereby dampening an in-depth understanding of specific information behaviour. To this end, the study suggests the need for further studies to examine specifically and in detail other segments of human information behaviour such as the serendipity, information sharing, and information access and information management, with regards to the professoriate.

This study used Wilson's (1996) model to examine the active and passive information behaviour of the professoriate. In spite of the justification for this model, its limitations lie in its broadness compared to other information behaviour models such as Ellis (1993) model of

information seeking behaviours, Kuhlthau (1991, 2005) Information Search Process (ISP) model, Erdelez (2004) Information Encountering (IE) model, Leckie et al.'s (1996) model of information seeking of professionals, Sonnenwald's (2005) Theoretical Framework of Information Horizons, which are more specific in their outcomes. It may be significant to library and information science literature if further research could use these models to look at specific information behaviour of the professoriate.

Lastly, there is need for further studies to examine specifically and in detail other segments of human information behaviour such as serendipity, information sharing, and information access and information management, with regards to the professoriate.

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August 31, 2015

Dear Respondent
Informed Consent Letter

Researcher: NWONE, Simeon Ambrose
Institution: University of KwaZulu-Natal
Telephone number: +27611949505
Email address: simeonwone@ukzn.ac.za

Supervisor: Prof. S. Mutula
Institution: University of KwaZulu-Natal
Telephone number: 033-260 5093
Email address: mutulas@ukzn.ac.za

I, Simeon Nwone, kindly invite you to participate in the research project entitled **Information behaviour of the Professoriate in selected federal universities in South West Nigeria.**

This research project is undertaken as part of the requirements of the PhD, which is undertaken through the University of KwaZulu-Natal, Information Studies Department.

The aim of this study is to investigate the Information Behaviour of Professoriates in University of Lagos, University of Ibadan and Obafemi Awolowo University.

Participation in this research project is voluntary. You may refuse to participate or withdraw from the research project at any stage and for any reason without any form of disadvantage. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Department of Information Studies, at the University of KwaZulu-Natal.

If you have any questions or concerns about participating in this study, please feel free to contact myself or my supervisor at the numbers indicated above.

It should take you about 15 minutes to complete the questionnaire.

Thank you for participating in this research project.

August 31, 2015

---------------------   --------------------

Signature   Date

I .... hereby consent to participate in the above study.

Name: .... Date: .... Signature: ....

My name is Simeon Ambrose Nwone, a PhD candidate in Information Studies at the University of KwaZulu-Natal, Pietermaritzburg Campus, South Africa. I am conducting this study as part of the requirements for the Doctoral degree. The purpose of this study is to investigate the ***"Information Behaviour of Professoriate at selected Federal Universities in South West Nigeria"***. The findings will assist the university library in developing effective strategies in providing library services and resources tailored to meeting the digital information resource requirement of professors. I will be grateful if you could endeavour to answer the questions below. It will take approximately 15 minutes to complete the questionnaire. Your responses will be kept confidential. Thank you.

Section A: Demographics Characteristics of Respondent

1. **Faculty**_____   2. **Dept.**_____

3. **Field of Specialisation**_____

4. **Professorial Rank** _____**5. Highest Qualification**_____

6. **Age Group** (1) 31 – 40 yrs [   ]   (2) 41– 50 yrs [   ]   (3) 51 - 60yrs [   ]

   (4) 61 - 70yrs [   ]   (5) Above 70yrs [   ]

7. **Gender:**   (1) Male [   ]   (2) Female [   ]

8. **Marital Status**: (1) Single [   ] (2) Married [   ] (3) Divorced [   ] (4) Separated [   ]

SECTION B: Information needs of Professoriate. Please choose the types of information you require to fulfil your research and teaching needs using the scale VI= very important; I= important; SL= slightly important; NI= not important

	Information needs of Professoriates	VI	I	SI	NI
B9	I need information for developing contents used for teaching				
B10	I need information in conducting my research				
B11	I need information to keep abreast of current developments in my field				
B12	I need political information				
B13	I need health information				
B14	I need economic information				
B15	I need Technical information				
B16	I need Legal information				
B17	I need Financial management information				
B18	I need Religious information				
B19	I need Parenting information				
B20	I need Educational information				
B21	I need Socio-cultural information				
B22	I need Marketing information				
B23	I need information for decision making				
B25	I need information for planning				
B26	I need information for coordinating				
B27	I need information for directing				

Please indicate other type of information you require not stated above
_____
_____

SECTION CA: Active Information Seeking How do you actively and passively seek, access and share information electronically?

	Have you sought information for teaching and research using any of the following sources?	Always	Occasionally	Rarely	Never
	Electronic resources				
CA28	- Electronic mail				
CA29	- Electronic journals				
CA30	- Online databases				
CA31	- Web portals				
CA32	- Online Catalogs				
CA33	- Web sites				
CA34	- Listservs				
CA35	- FTP				
	Media				
CA36	- Newspaper				
CA37	- TV				
CA38	- Radio				
	Print resources				
CA39	- Journal articles				
CA40	- Textbooks				
CA41	- Magazine				
CA42	- encyclopaedia				
CA43	- Maps				
	Interpersonal sources				
CA44	- Interaction with colleagues				
CA45	- Interaction with friends				
	Academic gathering				
CA46	- Conference proceedings				
CA47	- Seminar				
CA48	- Workshop				

CB: Passive information seeking : Have you encountered information for teaching and research in any of the following information sources although you were not seeking the information?

	Electronic resources	**Always**	**Occasionally**	**Rarely**	**Never**
CB49	- Electronic mail				
CB50	- Electronic journals				
CB51	- Online databases				
CB52	- Web portals				
CB53	- Online catalogs				
CB54	- Web sites				
CB55	- Listservs				

CB56	- FTP				
	Media				
CB57	- Newspaper				
CB58	- TV				
CB59	- Radio				
	Print resources				
CB60	- Journal articles				
CB61	- Textbooks				
CB62	- Magazine				
CB63	- Encyclopaedia				
CB64	- Maps				
	Interpersonal sources				
CB65	- Interaction with colleagues				
CB66	- Interaction with friends				
	Academic gathering				
CB67	- Conference proceedings				
CB68	- Seminar				
CB69	- Workshop				

Passive information behaviour

	Frequency of Information Encounter	**Very frequently**	**Frequently**	**Occasionally**	**Rarely**
CB70	How often do you encounter useful information on the internet while searching for specific information for research or teaching?				
CB71	How often do you encounter useful information in (library) books while searching for specific information in print sources?				
CB72	How often do you share the encountered information?				

	What do you use the information encountered for?	**Always**	**Sometimes**	**Rarely**	**Never**
CB73	I use it for personal development				
CB74	To advance my career				
CB75	For entertainment				
CB76	For work related purposes				
CB77	I archive it for later use				
CB78	To advance my general knowledge				
CB79	I sometimes use the information for teaching in the classroom				
CB80	I sometimes use the information to advance my research.				

CC: ACCESS TO INFORMATION

	Where do you access information for your research? Choose all that applies	Tick (√)
CC81	From home	
CC82	Office	
CC83	Library	

	How often do you use the following digital devices to access information?	Very frequently	Frequently	Occasionally	Rarely
CC84	Desktop Computer				
CC85	Laptop				
CC86	Palmtop				
CC87	Smart phone				
CC88	Mobile Phone				

CC88. What challenges do you face in accessing information?

…………………………...

....

....

....

CC89. How much of your research needs are satisfied by *PRINT* INFORMATION SOURCES Please tick (√) as appropriate

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

CC90. How many percent of your research needs are satisfied by **ELECTRONIC** SOURCES Please tick (√) as appropriate

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

CD: Active Information Sharing

	What sort of information do you usually share and how often?	Frequently	Occasionally	Rarely
CD91	Academic information			
CD92	Research information			
CD93	Political information			
CD94	Economic information			
CD95	Economic information			
CD96	Legal information			
CD97	Medical information			
CD98	Business Information			
CD100	Social information			
CD101	Technical information			
CD102	Personal information			

What other types of information do you share?

_____

_____

	How do you share your research information?	**Tick (√)**
CD103	I publish in no-fee open access journals	
CD104	I publish in fee-based open access journals	
CD105	I publish in subscription-based journals	

What other ways do you share research information?

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

	What electronic devices do you use to share information?	**Tick (√)**
CD106	Mobile phone	
CD107	Smart phone	
CD108	Desktop computer	
CD109	Laptop	

SECTION D: PREFERRED SOURCES OF INFORMATION

Which of the information sources tabulated below do you prefer when seeking information for Teaching and Research?

	Information Sources	**Most Preferred**	**Preferred**	**Somewhat Preferred**	**Least Preferred**
	Print Information sources				
D110	Text Books				
D111	Scholarly Journal				
D112	Periodicals				
D113	Newspaper				
D114	Magazine				
	Reference Materials				
D115	Encyclopedia				
D116	Dictionaries				
D117	Directories				
D118	Atlas and Maps				
	Government publications				
D119	Government gazette				
D120	Acts				
D121	Statutes				
	Bibliographic databases				
D122	Thesis & Dissertations				

D123	Abstract & Indexes				
	Electronic Information sources				
D124	Internet				
D125	web				
D126	Online database				
D127	E-journals				
D128	Online bibliographic databases				
D129	Online catalog				
	Informal Sources				
D130	Communication with Colleagues				
D131	Seminars, Workshops & Conferences				
D132	Reference Librarian				
D133	Newspaper				
D134	Television				

What criteria do you use in selecting your information source? VI= Very important, I= Important, SRI=Somewhat Important, LI= Least Important

	3B. Criteria for selecting information source	VI	I	SI	LI
D135	**Authoritativeness:** Knowing the source of the information - who is responsible for writing or producing it and is this person/group qualified.				
D136	**Currency:** Currency deals with the timeliness of the information.				
D137	**Relevance:** Relevance has to do with the importance of the information for your specific needs.				
D138	**Accuracy:** Accuracy deals with the reliability, truthfulness, and correctness of the informational content.				
D139	**Purpose:** Purpose as a criterion deals with "the reason the information exists".				
D140	**Easy to understand:** Deals with the ease of understanding of the information source				

Research Question 4: What are the factors that influence your use of electronic information resources? (Use the scale SD=Strongly disagree, N=Neutral D=Disagree, A=Agree, SA=Strongly Agree)

	Factors influencing use of electronic information resources	SD	D	N	A	SA
	Performance Expectancy (PE) Perceived Usefulness					
D141	I find electronic information resources useful for teaching and research.					
D142	Using electronic information resources enables me to carry out research more quickly.					
D143	Using electronic information resources increases my ability to carry out research.					
D144	Using electronic information resources increases my chances of publishing more scholarly research papers.					
	Effort Expectancy (EE) Perceived Ease of Use					
D145	My interaction with electronic information resources is clear and					

	understandable.					
D146	It is easy for me to become skilful at using electronic information resources.					
D147	I find electronic information resources easy to use.					
D148	Learning to manoeuvre electronic information resources is easy for me.					
	Attitude toward Using Technology					
D149	Using electronic information resources is good for teaching and research.					
D150	Electronic information resources makes more interesting.					
D151	Communicating information gotten from electronic information resources through teaching and research is fun.					
D152	I like using electronic information resources to search for information for teaching and research.					
	D. Social Influence					
D153	People who influence my behaviour think that I should use electronic information resources for teaching and research.					
D154	People who are important to me think that I should use electronic information resources for teaching and research.					
D155	My colleagues in the faculty have been helpful to me in using electronic information resources.					
D156	In general, the university supports the use of electronic information resources for teaching and research.					
	E. Facilitating Conditions					
D157	I have the resources necessary to use electronic information resources for teaching and research.					
D158	I have the knowledge necessary to use electronic information resources.					
D159	My phone is not compatible with the use of electronic information resources.					
D160	A specific person is available for assistance with difficulties in using electronic information resources.					
	F. Self-Efficacy					
D161	I am confident using electronic information resources to search for information for teaching and research even if there is no one to help me.					
D162	I am confident using online databases to search for information					
D163	I am proficient in the use a computer					
D164	I can save and retrieve downloaded online journal using the computer					
D165	I find it so easy using electronic information resources					
D166	I can use electronic information resources for teaching and research, if I have a lot of time.					
D167	I can completely use electronic information resources for teaching and research, if I have a built-in help facility in my smart phone or PC for assistance.					
	G. Anxiety					
D168	I feel apprehensive about using electronic information resources.					
D169	It scares me to think that I could lose a lot of time using electronic information resources.					

D170	I hesitate to use electronic information resources because I am already used to print resources.					
D171	Using electronic information resources is somewhat intimidating to me.					
D172	I have phobia for using digital devices e.g smart phone, palmtop, PDA					
	H. Behavioural Intention to Use the System (BI)					
D173	I intend to use electronic information resources having known its usefulness.					
D174	I predict I would use electronic information resources in the shortest possible time					
D175	I plan to use electronic information resources in the future					
D176	I plan to use digital devices (such as smart phone, PDA) to access electronic information resources					

SECTION E: Attitude of the professoriate towards electronic information resources
What is your attitude towards electronic information resources.
Use the scale SD=Strongly disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

		SD	D	N	A	SA
E177	Electronic information resources make my teaching and research easy.					
E178	Using electronic information resources saves a lot of time and effort in research.					
E179	I enjoy using electronic information resources for teaching and research.					
E180	Electronic information resources is an effective tool for teaching and research					
E181	Electronic information resources improves my ability to teach and conduct research					
E182	Electronic information resources are a fast means of getting information for teaching and research.					
E183	I will like to learn more about electronic information resources.					
E184	I like telling my research students to use electronic information resources.					
E185	Electronic information resources make me more productive.					
E186	I organize my teaching and research work better with the use of electronic information resources.					
E187	I like to use electronic information resources for teaching and research rather than use print resources.					

Thank you for taking your time to fill this questionnaire

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August 31, 2015

Dear Respondent

Informed Consent Letter

Researcher: NWONE, Simeon Ambrose
Institution: University of KwaZulu-Natal
Telephone number: +27611949505
Email address: simeonwone@ukzn.ac.za

Supervisor: Prof. S. Mutula
Institution: University of KwaZulu-Natal
Telephone number: 033-260 5093
Email address: mutulas@ukzn.ac.za

I, Simeon Nwone, kindly invite you to participate in the research project entitled
Information behaviour of the Professoriate in selected federal universities in South West Nigeria.

This research project is undertaken as part of the requirements of the PhD, which is undertaken through the University of KwaZulu-Natal, Information Studies Department.

The aim of this study is to investigate the Information Behaviour of Professoriates in University of Lagos, University of Ibadan and Obafemi Awolowo University.

Participation in this research project is voluntary. You may refuse to participate or withdraw from the research project at any stage and for any reason without any form of disadvantage. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Department of Information Studies, at the University of KwaZulu-Natal.

If you have any questions or concerns about participating in this study, please feel free to contact myself or my supervisor at the numbers indicated above.

It should take you about 15 minutes to complete the questionnaire.

Thank you for participating in this research project.

June 15, 2015

---------------------   --------------------
Signature   Date

I .... hereby consent to participate in the above study.

Name: .... Date: .... Signature: ....

APPENDIX IV: INTERVIEW GUIDE FOR UNIVERSITY SUBJECT LIBRARIANS

Professors are highly accomplished and recognized academic faculty members that have distinguished themselves in teaching and research over the years in an academic community.

1.   How does the library capacitates the professoriate to make effective use of library resources?

2.   What challenges are faced in providing information services to the professoriate?

3.   To what extent is the university library meeting the information needs of the professoriate?

4.   What policies or strategies if any support the information needs of the professoriate?

5.   What are the preferred information sources of the professoriate?

6.   What is the attitude of the professoriate towards the information services provided by the library?

7.   What is the library doing to enhance access to information by the professoriate?

8.   What differences if any exist between the information behaviour of professoriates and other academics in the university?

APPENDIX V: LETTER SEEKING PERMISSION: UNIVERSITY OF IBADAN

University of KwaZulu-Natal
(UKZN), Pietermaritzburg Campus
Private Bag X01

Scottsville 3209
South Africa
18th December, 2014.

The Deputy Vice Chancellor (Academics)
University of Ibadan
Nigeria.

Dear Sir,
RE: Request for Permission to access the professoriate in your university and collect data for PhD research

Mr Nwone, Simeon Ambrose, a doctoral student of Information Studies, School of Social Sciences, University of KwaZulu Natal, South Africa. As part of the requirements for the award of PhD degree he is expected to undertake empirical study in organisations of his choice.   The aim of this study is to investigate the "**Information Behaviour of the Professoriate in selected Federal Universities in South West Nigeria**". Mr Nwone has identified your university for his research. The questionnaire is to be completed by the selected professoriate. Any professor who wishes to refrain from participating in the survey is obliged to do so. Permission is also sought to conduct an in-depth interview on the study with some selected librarians responsible for user services. The data obtained will be used solely for research. The study will examine how professors in the social sciences actively seek, access, use and share electronic information resources.

I would appreciate your cooperation in granting the permission for Mr Nwone to undertake the said research in your university

Prof Stephen M. Mutula

Dean & Head of School
School of Social Sciences
University of KwaZulu Natal
Private Bag X01 Scottsville, 3209
Pietermaritzburg Campus
Tel: +27 (033) 260 5571

APPENDIX VI: APPROVAL LETTER FROM UNIVERSITY OF IBADAN

EmilOlorun A. AIYELARI
MNSE, MNIAE, MASAE
B.Sc., M.Sc., Ph.D. (Ibadan)
Professor of Agricultural Engineering

UNIVERSITY OF IBADAN
IBADAN, NIGERIA

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21 January, 2015

Dean and Head of School,
School of Social Sciences,
University of KwaZulu Natal,
3209, Pietermaritzburg Campus
Private Bag X01 Scottsville,
South Africa

Re: Request for Permission to access the Professoriate in your University and
collect data for PhD. Research - Mr. Simeon Ambrose NWONE

I write to acknowledge receipt of your letter dated 18 January, 2015 on the above
issue. In the said letter you introduce Mr. Nwone and his research focus. You also
requested the permission of our University for the undertaking of the said research
by granting acess to required facilities and relevant members of our community.

On behalf of the Management of our Universty, I wish to convey the permission
for access to facilities and staff in our University for this purpose as necessary.
Kindly note however that the permission here authorized would entail no financial
commitments on the part of our University.

Please accept the assurance of our highest regards.

Sincerely

21·01·2015

Professor E. A. Aiyelari
Deputy Vice-Chancellor (Administration)

Our Vision:
To be a world-class institution for academic
excellence geared towards meetings societal needs

Our Mision:
• To expand the frontiers of knowledge through provision of excellent conditions for learning and research.
• To produce graduates who are worthy in character and sound judgement.
• To contribite to the transformation of society through creativity and innovation.
• To serve as a dynamic custodian of society's salutary values and thus sustain its integrity

University of KwaZulu-Natal
(UKZN), Pietermaritzburg
Campus
Private Bag X01
Scottsville 3209
South Africa
1st December, 2014.

The Registrar
Obafemi Awolowo University
Ile Ife
Osun State
Nigeria.

Dear Sir,

RE: Request for Permission to access the professoriate in your university and collect data for PhD research

Mr Nwone, Simeon Ambrose, a doctoral student of Information Studies, School of Social Sciences, University of KwaZulu Natal, South Africa. As part of the requirements for the award of PhD degree he is expected to undertake empirical study in organisations of his choice. The aim of this study is to investigate the "**Information Behaviour of the Professoriate in selected Federal Universities in South West Nigeria**". Mr Nwone has identified your university for his research. The questionnaire is to be completed by the selected professoriate. Any professor who wishes to refrain from participating in the survey is obliged to do so. Permission is also sought to conduct an in-depth interview on the study with some selected librarians responsible for user services. The data obtained will be used solely for research. The study will examine how professors in the social sciences actively seek, access, use and share electronic information resources.

I would appreciate your cooperation in granting the permission for Mr Nwone to undertake the said research in your university.

Prof Stephen M. Mutula

Dean & Head of School
School of Social Sciences
University of KwaZulu Natal
Private Bag X01 Scottsville, 3209
Pietermaritzburg Campus
Tel: +27 (033) 260 5571

APPENDIX VIII: PERMISSION TO COLLECT DATA- OBAFEMI AWOLOWO UNIVERSITY

OBAFEMI AWOLOWO UNIVERSITY
ILE-IFE, NIGERIA
Office of the Registrar

Registrar:
David Oladotun Awoyemi
B.A. Hons (Phil.), D.I.R., Int. Rel. Ife, AMNIM, MAUA, MIAAP, MANUPA

E-mail:
registra@oauife.edu.ng
dotunawoyemi@oauife.edu.ng
dotunawoyemi@yahoo.com
Telephone: +2348033857858
+2348074579956

RO.141/VOL.IV/8

28th April, 2015

Prof. Stephen M. Mutula
Dean & Head of School,
School of Social Sciences,
University of KwaZulu Natal
Private Bag X01 Scottsville, 3209
Pietermaritzburg Campus
South Africa

Dear Prof. Mutula,

Re: Request for Permission to access the Professoriate in your University and Collect Data for Ph. D Research

Please refer to your letter dated 20th February, 2015, to the Deputy Vice-Chancellor (Academic) on the above subject matter.

This is to convey the approval of the University Authorities to Mr. Nwono, Simeon Ambrose, to enable him collect data from willing Professors and Librarians in the University, for the purpose of research only.

Be assured of our warm regards.

Thank you.

Yours sincerely,

D. O. Awoyemi
Registrar

APPENDIX IX: LETTER SEEKING PERMISSION:
UNIVERSITY OF LAGOS

University of KwaZulu-Natal
(UKZN), Pietermaritzburg
Campus
Private Bag X01
Scottsville 3209
South Africa
1st December, 2014.

The Registrar
University of Lagos
Akoka
Lagos State
Nigeria.

Dear Sir,
RE: Request for Permission to access the professoriate in your university and collect data for PhD research

Mr Nwone, Simeon Ambrose, a doctoral student of Information Studies, School of Social Sciences, University of KwaZulu Natal, South Africa. As part of the requirements for the award of PhD degree he is expected to undertake empirical study in organisations of his choice. The aim of this study is to investigate the "**Information Behaviour of the Professoriate in selected Federal Universities in South West Nigeria**". Mr Nwone has identified your university for his research. The questionnaire is to be completed by the selected professoriate. Any professor who wishes to refrain from participating in the survey is obliged to do so. Permission is also sought to conduct an in-depth interview on the study with some selected librarians responsible for user services. The data obtained will be used solely for research. The study will examine how professors in the social sciences actively seek, access, use and share electronic information resources.

I would appreciate your cooperation in granting the permission for Mr Nwone to undertake the said research in your university

Prof Stephen M. Mutula

Dean & Head of School
School of Social Sciences
University of KwaZulu Natal
Private Bag X01 Scottsville, 3209
Pietermaritzburg Campus
Tel: +27 (033) 260 5571
Fax: +27 (033) 260 5092
Cell: +27 712 750 109

APPENDIX X: PERMISSION TO COLLECT DATA – UNIVERSITY OF LAGOS

UNIVERSITY OF LAGOS

Tel: 08033077442
Website: www.unilag.edu.ng

The University of First Choice & The Nation's Pride
Senate House, University of Lagos, Akoka, Lagos, Nigeria.

E-mail: registrar@unilag.edu.ng,
tipaye2002@yahoo.com,
tipaye@unilag.edu.ng

25th March. 2015

TO WHOM IT MAY CONCERN

Re: Permission To Carry Out Research: Mr. Simeon Ambrose Nwone

I write in response to a letter dated 6th March, 2015, addressed to the Deputy Registrar (Human Resource Management Department), University of Lagos on the above issue. The letter seeks an approval for the above named Ph.D. candidate from the University of Kwazulu-Natal, South Africa to be permitted to carry out aspects of his Ph.D. research in our University.

It is noted that Mr. Nwone's research, titled *"Information Behaviour of Professoriate with special references to Electronic information Resources in selected Universities in South-west Nigeria"* is quite topical and his findings will be found relevant to our University setting. I therefore convey our University's support for him to conduct activities related to this research on our campus.

Yours faithfully

J. Ademola Aliu
Deputy Registrar (Human Resource Management)

Registrar: Mrs. Taiwo F. Ipaye, Ph.D., MNIM

Registry - A Change Agent