

**COMPUTER LITERACY SKILLS AND USE OF ELECTRONIC INFORMATION
RESOURCES BY LIBRARY AND INFORMATION SCIENCE (LIS)
POSTGRADUATE STUDENTS IN KWARA STATE**

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ND/23/LIS/FT/0026**

**BEING A PROJECT SUBMITTED TO THE DEPARTMENT OF LIBRARY AND
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CERTIFICATION

This is to certify that this project titled “*Computer Literacy Skills and Use of Electronic Information Resources by Library and Information Science (LIS) Postgraduate Students in Kwara State*” has been read and approved as meeting the requirements of the Department of Library and Information Science, Kwara State Polytechnic, Ilorin, for the Award of National Diploma in Library and Information Science.

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DEDICATION

This research is dedicated to Almighty God.

DECLARATION

I, ABUBAKAR, Zainab Opeyemi, an ND student in the Department of Library and Information Science, Kwara State Polytechnic, Ilorin, hereby declare that this research project titled “*Computer Literacy Skills and Use of Electronic Information Resources by Library and Information Science (LIS) Postgraduate Students in Kwara State*”, submitted by me is based on my actual and original work. Any materials obtained from other sources or work done by any other persons or institutions have been duly acknowledged.

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Abstract

The study investigated the computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students in Kwara State. Four research questions were raised. The research design adopted for this study was the descriptive survey design. The sample for the study consists of 156 postgraduate students from the universities offering Library and Information Science at postgraduate level in the state. The total enumeration sampling techniques was employed for the study. The instrument for data collection is the questionnaire titled, “Computer Literacy Skills and Use of Electronic Information Resources by Library and Information Science (LIS)”. The face and content validity were established by the supervisor. The reliability of the instrument was found to be 0.84 using the Pearson’s Product Moment Correlation Coefficient Statistics. The data collected were analyzed using descriptive statistics such as frequency and percentage to answer the research question. The findings of the study include: postgraduate students in universities in the state make use of E-book, E-journal, E-thesis/dissertation. E-dictionary, Online data base, CD-ROM, OPAC, E-encyclopedia, E-newspaper and E-article; Most of the postgraduate students are computer literate; A high percentage of postgraduate students possess information skills, operational skills and strategic skills and postgraduate students have negative attitude towards the usage of electronic information resources. It was concluded that a positive relationship exists between postgraduate students’ attitude towards the use of electronic information resources. It was recommended among others that curriculum planners should formulate policies that will support the frequent use of electronic information resources both at the undergraduate and postgraduate levels in order to change their attitude, and to equip them in this 21st century.

Keywords: Postgraduate Students; Computer Literacy Skills; Electronic Information Resources; Library and Information Science (LIS); Kwara State.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Information is the pivot on which the survival of any society rests. It remains the major ingredient of decision making and assists in reducing the degree of uncertainty. Information and its uses are as old as man. Indeed, without information, there cannot be communication. The acceptance of these technologies has led to the proliferation of electronically available information resources. These resources include CD-ROM databases, electronic mails, Online Public Access Catalogues (OPAC) and Internet browsing (Oduwale & Akpati, 2013). One of the major channels to get access to electronic information in this electronically embraced era is the Internet. The Internet is a network of networks which consists of millions of private, public, academic, business and government network linked by an array of electronic, wireless, and optical networking technologies.

The Internet carries an extensive range of information resources and services, such as, the inter-linked hypertext documents and applications of the World Wide Web (WWW). It is the most prominent of these sources and has made it possible to access electronic books and journals of various databases and search engines. All these resources constitute Electronic Information Resources. Electronic information resources (e-resources) can be defined as those information resources and services that users access electronically via a computing networked system (Shim, 2011). Electronic information resources include e-books, e-journals, e-newspapers, e-theses, e-dissertations, e-databases and CD-ROMs, which are found in electronic media and they are alternatives to print media. Electronic information resources (EIR) according to Konappa (2014) are diminishing the central role of traditional libraries.

This makes electronic information resources valuable research tools that complement the print-based resources. They give access to more current information, and provide extensive links to additional resources of related contents to users that might be restricted due to geographical location or finances. As a result of the advantages of electronic information resources, they are becoming more and more important for the academic community in this era of embraced technology. An area that has been affected by the information technology embrace is education. It has affected the way education is delivered and researches conducted, especially in the universities. Agboola (2013) while discussing the ways Information and Communication Technologies (ICTs) have affected the education sector, stressed that with the use of ICT, it is possible for researchers to access full text digital contents of local and distant libraries and databases using computers and the Internet irrespective of the researchers' location.

This recent advancement in ICT has brought a revolutionary change in the information seeking pattern of the populace. This gave rise to a number of options in handling various information sources conveniently and effortlessly. As a result of this, electronic information resources have become very important in satisfying various needs of students, teachers and researchers even in the education sector. In the education sector however, ICT is one of the important tools and means for retrieving and processing information. Information and communication technology has led to the availability of electronic information resources in libraries and it plays prominent roles in facilitating access to the required information to the user.

The availability of electronic information resources provides access to electronic information which supports research and curricula of both staff and students. It also provides a world-class environment for learning. In order to achieve this, students should effectively and consciously utilise ICT applications. With the availability of ICT applications, users are no longer obliged to visit the library at regular opening hours, to meet all their information needs. They can search the online catalogue, use a subject guide or database to access a citation from the Internet, or access a full text article from Web-based journals. They may browse an electronic journal, e-mail a reference question through the ask-a-librarian service or borrow an e-book, all by remote access through the Internet.

The Internet gives access to electronic information resources, and it is constantly influencing the way information is gathered, stored, organized, accessed, retrieved and used. These developed new modes of scholarly communication and their potential for delivering information is quite vast and fast, as they overcome successfully the geographical limitations associated with the print media. The digital revolution has an impact on every sphere of academic activity. Despite the choices, opportunities and enhanced flexibility that electronic information resources provide through the use of Internet and web search engines for academic activity, students do not make adequate use of these great benefits. Mufutau, Afolake and Oluwadamilare (2012) observed that undergraduate students do not avail themselves of the opportunities made available by electronic information resources.

Research findings have identified some of the determinants of the usage of electronic information resources among undergraduate students some of which include computer literacy, electronic information retrieval skills etc. According to Richter, Naumann and Groeben (2011), computer literacy comprises of procedural computer-related knowledge, familiarity with computers and self-confidence in using the computer. It is and understanding

of the concepts, terminologies and operations that relate to general computer use. Computer literacy does not mean that one needs to know how to use every piece of software, nor how to write programme or network a computer but refers to the comfort levels with which one can use computer programmes, and other applications that are associated with computers.

Another determinant is the information retrieval skill. These are the skills a person needs to possess before he/she can make adequate use of electronic information resources. Digital libraries, e-journal platforms, portals, e-prints and other web-based information systems, provide services supporting users to perform intense work that requires complex interactive activities. According to Gui (2017), information retrieval skills entail being able to handle the changing contents of computer and information sources and knowing where and how to look for the information resources. This implies that, students cannot access electronic information resources without adequate information retrieval skills. Students sometimes lack information retrieval skills and so, do not find the best and appropriate information, tempting them to use whatever information they can find first and the ones with full text.

More importantly, even with a good, easy to use integrated system, students very often, need the services of an expert, to apply search techniques and find the information they need. The third determinant is perception. Perception is the organization, identification, and interpretation of sensory information in order to represent and understand the environment (Schacter, 2011). It involves deciding which information to be noticed, how to categorize this information and how to interpret it within the framework of existing knowledge. The interpretation given to the information within the framework of our existing knowledge, influences the way we think about or understand the information, because of the selection stimulus process in the perceptual process. There are two factors that influences the selection.

these are the external and internal stimulus factors. The internal factors consist of the learning, needs, age and interest of the perceiver.

The external factors on the other hand, according to Bashorun, Isah and Adisa (2011) "are lack of time (because of the time required to focus on teaching); lack of awareness of available electronic resources; power outage, ineffective communication channels, slow network and inadequate searching skills, were responsible for negative perception towards the usage of electronic information resources". The fourth determinant is Attitude. Attitude on the other hand, is an expression of favor or disfavor towards a person, place, thing, or event (the attitude object). It could be negative or positive. Once one has a negative or positive attitude towards an object or innovation, it influences the usage of such person, either positively or negatively. Velnampy (2018) stated that, attitudes are the feelings and beliefs that largely determine how a person perceives his environment, commit himself to intended actions, and ultimately behave. Paul, Rosnold and Adeyemo (2017) stated that attitudes are inclinations and feelings, prejudices or bias, preconceived notions, ideas, fears, and convictions about anything.

According to Zhang (2012), attitude is an individual's tendency toward a specific thing and environment. It is a person's inclination with persistence and consistency. In addition, this inclination could be inferred by the individual's behavior. However, the intention in an attitude is not discerned only through behavior but encompasses general knowledge, and comprises the cognitive, emotions and actions of the individual. More recent research indicated that, attitude represents the summary evaluation of a psychological object, and is described both internally and externally in dimensions such as, good-bad, likeable-dislikeable, harmful beneficial, pleasant-unpleasant (Ajzen & Fishbein, 2000). Ajzen (1988) described attitude as, predisposition to respond favorably or unfavorably to an object, person, event or

innovation. As implied in this definition, attitudes possess cognitive (beliefs, knowledge, and expectations), affective (motivational and emotional), and performance (behavior or actions) components.

Attitudes toward ICT usage have been defined as a person's general evaluation or feeling towards ICT and specific computer and Internet related activities (Smith, Caputi, & Rawstone, 2020). This attitude also affects the usage of electronic information resources because, electronic information resources is one of the services provided by ICT facilities. The issue of gender is another determinant that has been found to influence the usage of ICT among students. According to Oyeniyi and Adetimirin (2013), the issue of gender gap in technology usage is gaining ground, and attracting the attention of academic researchers. Some researchers have noted that gender difference towards ICT affects individual's interest, attitude towards ICT and its use, and that if gender is related to computer and other ICT anxiety, then the issue of gender is so relevant in this age when considering students' proficiency level in ICT usage (Whitmire, 2011; Weiser, 2020).

Based on this therefore, it becomes necessary to access the determinants of the use of electronic information resources by postgraduate students. As such, this study accessed the computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students in Kwara State.

1.2 Statement of the Problem

The new trend in the use of ICT is the adoption and use of electronic information resources for research activities. This has influenced the teaching and learning process because, most of the assignments, research, thesis and class activities given are carried out and answered using electronic information resources. A person can have access to these resources irrespective of time and distance, once he/she has the enabled facilities like computers and Internet services

which make research work easier to carry-out. As a result of this evolution, researchers can have access to free scholarly resources which are available over the Internet with wider range of information to choose from.

Students who need to do research will benefit from effective electronic information resources as it will provide a combination of digitally delivered content with learning support and services to them at any particular point in time. In spite of the choices, opportunities and enhanced flexibility that electronic information resources provide, the researcher observed in the course of his study at masters' programme that postgraduate students do not take advantage of these opportunities made available to them. Also, from literature available and consulted by the researcher, it was seen that students don't make adequate use of the electronic information resources. Could this be as a result of their computer literacy level, information retrieval skills, perception, attitude, gender and age? It is to this end, that this study sets out to investigate the computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students in Kwara State.

1.3 Research Objectives

The main objective of the study is to examine the computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students in Kwara State. The specific objectives are to:

- i. Ascertain the levels of computer literacy skills of postgraduate students in the Kwara State;
- ii. Examine the attitude the postgraduate students exhibit towards the use of electronic information resources in Kwara State;
- iii. Determine the types of electronic information resources used by postgraduate students in Kwara State; and

- iv. Highlight the electronic information retrieval skills possessed by postgraduate students in Kwara State.

1.4 Research Questions

This study is guided by the following research questions:

- i. What are the levels of computer literacy skills of postgraduate students in the Kwara State?
- ii. What is the attitude the postgraduate students exhibit towards the use of electronic information resources in Kwara State?
- iii. What are the types of electronic information resources used by postgraduate students in Kwara State? and
- iv. What are the electronic information retrieval skills possessed by postgraduate students in Kwara State?

1.5 Scope of the Study

The study focuses only on the computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students in Kwara State. The universities covered include: University of Ilorin, Ilorin; Kwara State University, Malete; and Al-Hikmah University, Ilorin because, they are the only universities offering LIS course at postgraduate levels. The issue of interest to this study include: the computer literacy skills; the use of electronic information resources of postgraduate students in Kwara State; the electronic information retrieval skills possessed by postgraduate students; and the attitudes postgraduate students exhibit towards the use of electronic information resources in the universities.

1.6 Significance of the Study

This study is of great benefits to students, administrators, curriculum planners and future researchers in the following ways: This study is of great benefit to postgraduate students because the findings has shown a negative perception and attitude of postgraduate students towards the use of electronic information resources, and at the long run the recommendations will change their perception and attitude positively for survival in this 21st Century, for self-reliance. It is also beneficial to school administrators because, when the perception and attitude of postgraduate students are positive, it will boost the image of the university to the outside world in this computer era.

It will be of great importance to curriculum planners, the findings of this study will serve as empirical evidence for them to design policy that will support the regular use of electronic information resources to boost the interest of postgraduate students. Lastly, to future researchers who are interested in a similar topic, the study will be useful because it will serve as background information to them. The findings of this study will also add to the body of knowledge in the field of Library and Information Science.

1.7 Operational Definition of Terms

The following terms were defined as used in the study:

Electronic Information Resources: These are those information resources and services that users access electronically, via computers and computer network.

Use of Electronic Information Resources: Can be seen as the searching, browsing, examining, and visiting of an electronic information resource and/or service by a user.

Computer Literacy Skills: It encompasses the knowledge and ability to use computers and related technologies effectively, ranging from basic operations to advanced problem-solving and programming.

Library and Information Science (LIS): It is an interdisciplinary field that focuses on the organization, management, and access to information, encompassing both physical and digital formats, and aims to connect people with the information they need.

Postgraduate Students: Are someone who has already completed an undergraduate degree and is pursuing further, advanced academic study, typically at a master's or doctoral level.

Kwara State: It is located in the North Central region of Nigeria. The principal ethnic groups in Kwara State are Yoruba, Nupe, Fulani, and Baruba. The main languages indigenous to Kwara are Yoruba, Hausa, Tapa, and Baruba.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter focused on extensive review of related and relevant literature on computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students locally, nationally and internationally. Review of related literature gives an evaluation of previous literature to the researcher's area of study. The review of this study is guided by the following research outlines/subheadings.

2.2 Computer Literacy and Use of Electronic Information Resources;

2.3 Use of Electronic Information Resources in Universities by Postgraduate Students;

2.4 Information Retrieval Skills possessed by Postgraduate Students in Universities;

2.5 Attitude of Postgraduate Students towards the use of Electronic Information Resource;

2.6 Theoretical Framework; and

2.7 Appraisal of the Reviewed Literature.

2.2 Computer Literacy and Use of Electronic Information Resources

Computer literacy refers to the comfort levels one has, with using computer programmes and other applications that are associated with computers. Similarly, application of computer literacy in literature searching could be described as, the extent to which the students are capable of conducting electronic information searches, or use computer facilities to locate relevant sources and information, for academic or research purposes. Computer literacy does not mean that one needs to know how to use every piece of software, nor how to write programme or network a computer. Wikipedia Encyclopedia (2016) states that, computer

literacy is the knowledge and ability a person has to use computers and technology efficiently, which include:

- i. *Plugging in and turning the computer on;*
- ii. *Composing, editing and printing documents;*
- iii. *The ability to communicate with others using computer through electronic mail (e-mail) or instant messaging services;*
- iv. *Managing and editing pictures (from cell phones, digital cameras and even scan); and*
- v. *Opening files and recognizing different types. That is to perform several common functions such as; open a file, save a file, quit the programme e.t.c.*

Computer usage for electronic information resources searching, depends on the user's knowledge of the search system, as well as, the ability to identify the information problem at the starting point of the search. In a related study, Bashorun, Isah and Adisa (2011) found that, there was no ICT use skill among the respondents at the University of Ilorin, Nigeria and, this was a barrier to the use of electronic resources. Moreover, McGuigan (2011) observed that, the level of computing and Internet experience with which students enter higher education, might influence whether or not, they will use electronic resources. In order to utilize the growing rate of electronic resources, students must acquire and practice the skills necessary to exploit them. The ability to find and retrieve information effectively, is a transferable skill useful for future life, as well as, enabling the positive and successful use of the electronic resources while in the university. Students need to possess both computer and information literacy skills, in order to access electronic information on the Internet. A study by Obuh (2019), on use of electronic resources by postgraduate students of the Department of Library and Information Science, Delta State University Abraka, revealed that there was low level of

skillfulness in the use of ICT among the respondents. Lack of search skills, was found to be a major hindrance to the respondent's use of electronic resources.

Also, Emwanta and Nwalor (2013) carried out a study on the Influence of computer literacy and subject background on use of electronic resources by undergraduate students in universities in South-Western Nigeria. The study investigated the influence of computer literacy and subject background on the use of electronic resources by undergraduate students in two universities in South-western Nigeria. The survey research design was adopted in the study, with the questionnaire as a major instrument for data collection. Simple random sampling and purposive sampling techniques were adopted, to select three faculties and two departments each from the universities, and 275 respondents out of 904 undergraduate students. Simple descriptive statistics was used to analyze the data. Results of the study revealed that 8 (7.1%) of the respondents at the Federal University of Technology Akure (FUTA) and 30 (19.0%) at the Obafemi Awolowo University Ile-Ife (OAU) visit the library to consult electronic resources. Although electronic resources in general are very important for academic tasks, 30(26.8%) of the respondents at FUTA and 32(20.3%) at OAU indicated that the Internet is most useful in discovering literature relevant to their subject background. Computer literacy and subject background influenced use of electronic information resources by the students.

In addition, Abubakar and Adetimirin (2015) carried out a study on the influence of computer literacy on postgraduates' use of electronic resources in Nigerian university libraries. The study investigated how computer literacy, predisposes postgraduate students to use electronic resources. The survey research design and multi-stage sampling technique were used to select 2726 postgraduate students from 16 Nigerian universities. A questionnaire and computer test were used to collect data and, data was analyzed using percentages and Pearson's product

moment correlation. The study revealed that 56.3% of postgraduate students are computer literate. They also found out that few of the electronic resources in their libraries were used and the frequency of usage was low. And lastly, computer literacy had positive relationship with postgraduates' usage of electronic resources.

Furthermore, Ikolo and Okiy (2012) carried out a study on gender differences in computer literacy, among clinical medical students in selected Southern Nigerian Universities. The study employed a descriptive survey method, which affords the researcher the opportunity to study the present condition of the computer literacy skills, of the clinical medical students. The population of the study comprised of 93 clinical medical students, of Delta State University, Abraka and University of Benin, Benin who are in 400 level. The total population was used as the sample size for the study. Data were collected using a self-constructed, structured questionnaire that was divided into two sections. Section A was designed to gather bio data while B was meant to obtain data on computer literacy skills of the students. A total of 86 questionnaires were returned.

The demographic characteristics of the respondents revealed 50 (58.1%) as males and 36 (42%) as females. Data was analyzed using simple percentages. The findings of the study showed that the male students highest access avenue was through personal computers and their lowest access avenue was home computers. The highest percentage for the female students shown in the library, only 8% did not use computers at all, there was a gender difference in the number of hours students spend with a computer weekly. Of the male respondents 28 (56%), indicated that they spent between 11-15 hours using a computer each week, while the highest for the female students was 19 (52%), between 1-5 hours, females use Microsoft word and email (86% and 77.7%) more than their male counterparts, whereas, the males are seen to use Internet browsing, Acrobat reader and play games more.

The lowest score generated from the responses from data analysis is for both genders as only 16% of male students can use it while, 0% for female students. Fewer males (12%) experience fear of computers as compared to female students (33.3%). Also, fewer male students (10%) indicated inadequate computer skills as a problem, while for the female students, it was 50%. Results for lack of interest for female students were not as high (28%) as it is for the male students (10%), but there is a slight difference. However, inadequate power supply was indicated by both genders as a problem, and with the high percentages recorded (males: 96%; females: 67%), it can be said to be a common problem, hindering the students use of computers.

2.3 Use of Electronic Information Resources in Universities by Postgraduate Students

Electronic information resources are those information resources that can only be accessed by the use of computers and other ICT devices. These materials may require the use of a peripheral device directly connected to a computer. For example, CD-ROM drive or a connection to computer network, for example, the Internet. There are different types of electronic information resources such as, Compact Disc Read Only Memory (CD-ROM), Internet, online public access catalogues (OPAC), electronic books, electronic journals and electronic index. Electronic information resources are popularly used by students for information retrieval. This is due to their time saving qualities and, the convenience of remote access to full-text journals (Barret, 2015). The use of electronic information resources has given rise to, new modes of organizing the educational environment in tertiary institutions. It has also introduced a new concept of the teaching-learning process, and recast the role played by the participants in the education process. They are potentially powerful tools for extending educational opportunities.

Siddiqui (2017) emphasized access to remote learning as a development that electronic information resources have brought into education. Consequently, teachers and learners no longer have to rely solely on printed resources housed in libraries, which are available in limited quantities for their educational needs. With the Internet and the World Wide Web, abundant learning materials in almost every subject in a variety of media, can now be accessed from any part of the world. Electronic information resources, when appropriately used, are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by making teaching and learning an active process and connected to real life. Dadzie (2015) posited that, electronic information resources are convenient to use, since users are able to access information from the library, Internet café, offices and private residences at any time of the day or night.

Frequency of library use by students, is another factor influencing the use of electronic information resources. However, if students use the library primarily, as a quiet and convenient place of study, they may not be aware of its resources at all, as compared to the student who never puts a foot in the library (Waldman, 2013). Also, Dadzie (2017) stated that, “electronic information resources are invaluable research tools that complement the print-based resources in a traditional library setting”. Their advantages, according to her, include access to information that might be restricted to the user, due to geographical location or finance, access to more current information, and provision of extensive links to additional resources related contents. The facilities make possible, a synchronous learning, or learning characterized by a time lag, between the delivery of instruction and its reception to learners. The use of electronic information resources has been established as very essential for communication, as well as make for interactive sessions, with groups and individual students in distant locations (Mabawonku, 2014).

This has enhanced learning and teaching, both far and near, as the facilities provide both teachers and students with vast quantities of information, in an easily accessible and non-sequential format. The impact of using electronic information resources is very significant. This is simply because, it supports high quality information service network which provides access to full range of learning and teaching materials, in various formats (Mcharazo, 2016). Students' use of information systems can be in the form of communicating or posting of information or material by way of electronic mail, bulletin boards, World Wide Web (Internet), or other such electronic tools (Mischnick, 2015). In recent years, the use of electronic information resources has become prominent in the drive for making information and data transfer available to users, especially students. The need for electronic information resources for the purpose of research and learning in various institutions, has posed challenges in relation to system connections, working ability, and access.

Electronic information resources have many functions and benefits, which can be of immense use to students in schools and educational sectors, particularly research institutions. Once the user is connected to the Internet, the user can link up with any part of the world for whatever purpose he/she intends (Osunrinde, Adekiya & Adeyemo, 2012). Electronic information resources serve as a motivating factor to students, as it provides opportunity to transmit, acquire or download, process and disseminate information on a subject of interest. Electronic information sources offer today's students opportunities, different from their predecessors (Ray & Day, 2015). Brophy (2015) details the advantages of networking for the user as being the information needed which can be delivered from the most appropriate source to the user; the user can re-specify his or her needs dynamically; the information is obtained when it is wanted, and so, becomes 'just in time' rather than 'just in case'; the user selects only the information needed to answer the specific question and finally, the information is only stored should user wish.

Other advantages according to Ray and Day (2015) include the fact that electronic information sources are often faster than consulting print indexes, especially when searching retrospectively and they are straight forward when wishing to use combinations of keywords. They open up the possibility of searching multiple files at one time, a feature accomplished more easily than when using printed equivalents. Electronic information resources can be printed and searches saved, to be repeated at a later date. They are updated more often than printed tools. Related to these, Internet is used as a medium of expression to educate the learner, provide information needs at their desktop, and send hitch-free and cross-referenced data to the appropriate location. It could be said that improved data transmission facilities, will go a long way to reducing the incessant hardship faced by students in the acquisition and generation of data, which serves as the basis for research and academic performance improvement.

This is because, it seems that the use of electronic information resources by students enhances their performance in academic activities. Among the electronic information systems that students use to get most of their information are: Internet, email, electronic journal, e-bulletin boards, telephone, telex, CD-ROM databases and electronic books. Day and Bartle, (2015) revealed that, the academic community has accepted that, electronic information sources have an impact on their work. However, services currently available to academic staff and students are not being used to their full potentials, and some are hardly being used at all. These same authors report that, 43% of social sciences respondents never referred to electronic journals. About a third of the respondents hardly consulted the Internet but, about two-third did so on almost daily basis.

There is a large number of reasons for the use and non-use of the Internet but mainly, it was how the academics perceived the Internet, and what it was capable (or not capable) of doing, which influenced the extent it was referred to. Swan and Brown (2015) reported that in the academic situation, a large proportion of respondents had access both to Internet facilities and online services provided by the library, yet usage figures for these media were quite low. Corporate respondents indicated that, they are not confident of their abilities to use these media effectively, and anecdotal evidence suggests that academic end users feel similarly. Academic end users rated journals as, the most important sources of information, with 86% undertaking a systematic search for these journals in print form in their institutional library.

The academic respondents were overwhelmingly in favour of greater access to electronic information resources. High usage was attributed to a number of factors, including the freely available access, the ease of use and its currency. The ability to find and retrieve information effectively, is a transferable skill useful for future life, and for enabling the positive and successful use of the electronic information resources for students, whilst at university (Tella, Ayeni & Omoba, 2017). Therefore, universities must reach a position where, the acquisition of information skills is acknowledged as one of the key objectives for every student entering the university. According to Levey (2011), information access isn't necessarily the problem but careful utilization is. This is because users do not always understand which information resources are most appropriate for their needs. Users need skills to make comparisons between paper, CD-ROM and electronic resources. Agaba (2003) carried out a study on e-resources usage at Makerere University and the result of this study indicated low usage.

Many research conducted in Africa, have also identified, the challenges of using electronic information resources in the colleges and universities to include, low ICT skills, lack of adequate infrastructure for using electronic information resources, especially epileptic power supply (Ani & Ahiauzu, 2018; Dadzie, 2019; Obuh, 2019). Ali and Wajeeh (2010) carried out a study on factors influencing students' use of electronic resources and their opinions about this use: The case of students at An-Najah National University. The aim of the study was to verify what influences first degree university students' use of electronic resources and their opinions regarding this use. Data collected from 202 students and analyzed using SPSS, they found that more than one half of the participants had high level of electronic media use and more than one third had moderate level of electronic media use.

These levels of usage indicate the students' awareness of the role and benefits of electronic media use. Regarding the factors that influence the students' use of electronic information resources it was found that the student's use of electronic information resources had significant strong positive relationships with the provision of electronic information resources by the academic institution. It had significant moderate positive relationships with the resource characteristics and the course requirement, and had significant weak relationships with the instructor's support and the student's characteristics. They explained these relationships as resulting from the influence of the surrounding community. Regarding the students' opinions about the use of electronic resources, it was also found that the student's opinion of electronic resources has significant strong positive relationships with student's use of electronic resources, level of this use, the academic institution available facilities, student's characteristics and resources characteristics. It does not have significant relationships with the instructor's support or the course requirement.

The power and influence which Information and Communication Technology (ICT) has for education in general, and Library and Information Science Profession in particular, is undeniable and, is also considered as all-encompassing to Library and Information practice and training. However, in Nigeria, the situation on ground has made the field still to suffer from such concepts as the ‘digital-divide’ that is, the differences in the technological competencies of the country. It is this fact today which makes education distinct in quality and skills, which vary among the developed and developing countries. In another review, Manir (2018) stated that, for the last two decades we have heard about computers or Information Technologies that are changing/transforming higher institutions. They would provide a new way on how teaching and research are conducted, and the way students will learn.

This environment has made it important for LIS education and training, to strive to improve their quality of programmes on one hand, and to be able to participate in educational networks and, develop innovative strategies in planning and administration of LIS education (Minishi-Manjaja, 2017). The major objectives of the adoption of electronic information resources are to facilitate access to international information resources, via the Internet, as well as, the timely dissemination of both local and international research output (Okello-Obura & Magara 2018). This should result in efficient research by enabling access to up-to-date international literature, as soon as it is published; and ensure satisfaction of user needs. Electronic information resources have many functions and benefits, which can be of immense use to students in schools and, particularly in research institutions. Once a user is connected to the Internet, such user can link up with any part of the world for whatever purpose the user has in mind (Osunrinde, Adekiya & Adeyemo 2012).

Generally, users print out the relevant articles for detailed reading. They used the two important features in e-journals viewer-friendly formats, such as HTML, and printer-friendly formats, such as PDF. It seems that concerns over the quality of e-journals are diminishing as most peer-reviewed journals are digitized. On the other hand, concerns remain over the quality of web resources, particularly among faculty and librarians, who fear that students are using the web indiscriminately. In spite of all the above, there is still some type of confusion over the variety and relative quality of electronic information resources, in particular among novice users or students (Tenopir, Hitchcock & Pillow, 2013). Herman (2011) pointed out that, integration of electronic media into academic work, is progressively harnessing the new technologies to scholarly information activity of the university faculty in an increasingly electronic environment. According to David and Felix (2016), “the dynamics of globalization, plus the introduction of ICT, resulted in a tidal wave of information that has, in many cases, overwhelmed many countries around the world”.

There are several reasons for using Internet and electronic information resources by teachers, researchers, undergraduate and postgraduate students. They include:

- i. *Electronic information resources can be accessed from different location;*
- ii. *Electronic information resources are very easy to access;*
- iii. *Electronic information resources can be accessed in full text from remote place;*
- iv. *Electronic information resources are very much user-friendly interface;*
- v. *Through the Internet libraries can be able to share their resources; and*
- vi. *User can easily enter others virtual library, which is in different place e.t.c*

Computer technology and electronic information resources are likely to become increasingly popular amongst the users, as these resources bring about qualitative improvement in making information available and accessible.

2.4 Information Retrieval Skills possessed by Postgraduate Students in Universities

A person needs to possess electronic information retrieval skills before he/she can conveniently make use of electronic information resources. As noted by Tsakonas and Papatheodorou (2016), digital libraries, e-journal platforms, portals, e-prints and other web-based information systems, provide services supporting users to perform intense work tasks that require complex interaction activities. This implies that, students cannot access electronic information resources without adequate computer skills. How do you access electronic information resources when you are not comfortable with computer usage? How can you, when you do not know how to navigate through the Internet? These are some of the questions that confront electronic information resources users.

According to Toner (2018), “Advances in technology have made virtual classrooms, online courses, and distance learning possible”. This, coupled with the growth in society’s access to information via ICT, has altered student perceptions of what the library has to offer. If libraries are to maintain their relevance in the cycle of student needs, then they must adapt and change (Toner, 2018). MacWhinnie (2013) and Thachill (2018) stated that, students sometimes lack technical and research skills, and so do not find the best and appropriate information, tempting them to use whatever information they can find first. More importantly, even with a good easy to use integrated system, students very often, need the expertise of a librarian to apply search techniques and find the information they need (Thachill, 2018).

Electronic information resources are the bedrock of provision of accurate and timely information, for better educational outcomes (Ekenna & Mabawonku, 2013). They aid in the retrieval of huge amount of information for teaching, learning and research. Owing to information explosion and, the emergence of new technologies, information needed by students are now, majorly found in electronic sources in university libraries, information

communication technology centres and computer laboratories. These technologies have brought an alternative, to facilitate access to scholarly information from around the world, which enhances learning. In this era of competitive research and knowledge acquisition, university students now patronize ICT centers and Internet enabled devices to retrieve accurate and current information from electronic sources available in all subjects.

There are three main types of information retrieval skills and, they include informational retrieval, operational retrieval and strategic retrieval skills, to make the process of retrieving information a simple task. According to Gui (2017), Informational skills include “those skills needed to navigate, select the appropriate information, evaluate the information and re-use the information”. This informational retrieval skills entail being able to handle the changing contents of computer and information sources and, knowing where and how to look for the resources. Gui (2017) further stated that operational skills include the ability to operate computers, Internet connection and their basic applications. Also, for operational retrieval skills, students need to learn to operate the computer and understand how the information systems are organized, by learning the basic skills such as use of keyboard, mouse, and disk management.

Learning the standard software (word processing, databases and others) and network applications such as Internet, electronic mail and others are also required for retrieval of information. For instance, McGuigan (2001) is of the opinion that, the level of computing and Internet experience gained by students prior to entering higher education, might influence their readiness to use the library’s electronic information resources. Students also need to have strategic skills for retrieving information from electronic sources. Gui (2017) defined Strategic skills as the capacity to use computer and network sources as, the means of achieving particular and general goals of improving one’s position in society. For strategic

retrieval skills, students also need the ability to plan, create appropriate queries and search terms, which would enable the students to retrieve information.

Undergraduates' ability to develop their strategic retrieval skills would aid them, in retrieving relevant information from electronic sources for academic purposes and self enhancement. Although print resources in Nigerian university libraries are systematically being complemented by electronic information resources, however, use of these resources may be related to functions of factors such as, awareness of the existence of the resources by students and students' skills to manipulate the hardware and software prior to retrieving information. Tella, Ayeni and Omoba (2017) stated that, the students' ability to find and retrieve information effectively, is a transferable skill useful for their future life, as well as, enabling the positive and successful use of the electronic information resources at school. They noted that in this digital era any student at the higher level, who intends to achieve better educational and research goals, should have the ability to explore the digital environment.

Students are increasingly expected to use electronic information resources whilst in the university. To make use of the growing range of electronic information resources, students must acquire and practice the skills necessary to exploit them (Okello-Obura & Magara, 2018). Skill learning is essential in a technology driven environment, but can be enhanced tremendously through the use of innovative learning strategies (Lawson, 2015). Ray and Day (2020) were of the opinion that, the skills required to access the maximum potential of electronic information resources, are much greater than those required for searching printed sources. These skills include knowledge of the structure of the database and, the instructions which must be input into the computer by the searcher, as well as, an understanding of the ways in which the instructions are linked to one another.

Okon (2015) stated that, the core skills traditionally associated with information professionals, which include information handling skills, training and facilitating skills, evaluation skills and concern for the customer, are all still relevant. The ability to find and retrieve information effectively is a transferable skill. It enables students to use electronic information resources positively and successfully while in the university. This aids them also in their future lives. According to Brophy (2019), libraries must, reach a position where the acquisition of information skills is acknowledged as one of the key learning objectives for every student entering a university, so that no student leaves without being fully equipped to cope up with the information intensive world, the information society - as an end-user. The library has not only ready information resources but, also the adequate and efficient means of making this information available, which allows the readers to use the electronic tools to obtain the information they need (Shuling, 2017).

The literature not only highlights the advantages of electronic over printed sources of information, but also suggests the need for certain skills, in order to access and use electronic information resources effectively. Ekenna and Mabawonku (2013) carried out a study on information retrieval skills and use of library electronic resources by university undergraduates in Nigeria. The study, tried to find the impact of information retrieval skills on students' utilization, of electronic resources in university libraries in Nigeria. The study focused on ten universities in Nigeria. The descriptive research design was adopted and multistage sampling technique was used for the study. Three faculties were purposively selected from the universities, while two departments each, were randomly selected from the faculties. A questionnaire, (Information Retrieval Skills and Utilization of Electronic Resources) was used. Two research questions were posed, and two hypotheses tested at 0.05 level of significance. Informational retrieval skills, operational retrieval skills, and strategic retrieval skills correlated significantly, with students' utilization of electronic resources for

research. The data showed that, undergraduates lacked requisite skills for the use of e-resources.

2.5 Attitude of Postgraduate Students towards the use of Electronic Information Resources

An attitude refers to one's positive or negative judgment about a concrete subject. Attitudes are learnt; they are moldable and, may change with experience of the stimulus objects, and with social rules or institutions (Binder & Niederle, 2017). It is an evaluation of an attitude object, ranging from extremely negative to extremely positive. Most contemporary perspectives on attitudes also permit, that people can be conflicted or ambivalent towards an object, by simultaneously holding both positive and negative attitudes toward the same object. This has led to some discussion of whether individual can hold multiple attitudes toward the same object (Wood, 2020). An attitude can be as a positive or negative evaluation of people, objects, events, activities, and ideas. It could be concrete, abstract or just about anything in your environment, but there is a debate about precise definitions.

Eagly and Chaiken (2020) also define an attitude as a psychological tendency that is expressed, by evaluating a particular entity with some degree of favor or disfavor. Though it is sometimes common to define an attitude as affection toward an object. Affection (i.e., discrete emotions or overall arousal) is generally understood to be distinct from attitude as a measure of favorability (Ajzen, 2011). Attitude may influence the attention to attitude objects, the use of categories for encoding information and the interpretation, judgment and recall of attitude-relevant information (Vogel, Bohnet & Wanke, 2014). They further stressed that these influences tend to be more powerful for strong attitudes, which are easily accessible and, based on an elaborate knowledge structure. Attitudes may guide attention and encoding automatically, even if the individual is pursuing unrelated goals.

Components of Attitude

Every attitude has three components that are represented in what is called, the ABC model of attitudes: A - for affective, B - for behavioral, and C - for cognitive. Attitudes are enduring systems of positive or negative evaluations, emotional feeling and tendencies with respect to social objects. Attitude can be described as settled behaviour or manner of acting, as representation of feeling or opinion. It refers to certain predisposition to act or react in a positive or negative way towards certain situations and ideas. Reactions can be pre-conceived notions, ideas, fears, convictions etc. Behavioural scientists have given high importance to the study of human beings and his surroundings in the context of attitude (Issa, Tunji, Lanre & Tolu, 2011). From a physiological point of view, Anastasi (1992) sees attitude as, “a tendency to react favourably or unfavourably towards a designated class of stimuli, such as a national or ethnic group, a custom or an institution”.

He further explained that in objective terms, the concept of attitude may connote response consistency with regard to certain categories of stimuli. In actual practice, the term was frequently associated with social stimuli and with emotionally toned responses. Although a great variety of definitions of attitude can be found in the psychological literature, the most frequently occurring features are, the positive or negative (affective) tone and, the postural characteristics, that is, always predisposes its holder to one posture or the other.

1. Cognitive component: It refers to that part of attitude which is related in general know-how of a person. Such type of idea of a person is called cognitive component of attitude. It also refers to the beliefs, thoughts, and attributes that we would associate with an object. Many times, a person's attitude might be based on the negative and positive attributes they associate with an object. The cognitive component of attitude is the final component; the belief that has led to the underlying reason for the emotion towards the object or event (Issa, Tunji, Lanre&Tolu, 2011).

2. Affective component: The affective component according to Issa, Tunji, Lanre and Tolu, (2011) refers to the emotional reaction, one has toward an attitude object. This part of attitude is related to the statement which affects another person. It is also known as one's feelings or emotions, linked to an attitude object. Affective responses influence attitudes in a number of ways. There are hundreds of different emotions that humans can experience, and any one of these could be an affective component of attitude.

3. Behavioral Component: The behavioral component refers to that part of attitude, which reflects the intension of a person in the short run or in the long run. It also refers to past behaviors or experiences regarding an attitude object. It can be seen, as this relates to how we behave, when we experience the emotions we feel towards the object, and the idea that people might infer their attitudes from their previous actions (Issa, Tunji, Lanre & Tolu, 2011).

Attitudes towards electronic information resources access could be attributed to problems faced when accessing electronic information resources. For instance, in a situation where there is inadequate computer technologies to access electronic information resources, or poor Internet connections, students' positive attitudes could be affected. That is why the problems that affect electronic information resources access are addressed in higher institutions of learning. The arguments for students using electronic information resources are compelling. An adequate knowledge of computers and retrieval techniques, is desirable to search these resources effectively. It is necessary to establish what attitude students need, in order to access electronic information resources effectively. Amidst all the efforts to access electronic information resources, postgraduate students face a number of challenges. More recent research indicates that, attitude represents a summary evaluation of a psychological object and, it is described both internally and externally in dimensions such as, good-bad, likeable-

dislikeable, harmful beneficial, pleasant-unpleasant (Ajzen & Fishbein, 2000; Eagly & Chaiken 1998).

Ajzen (1988) described an attitude as, a predisposition to respond favorably or unfavorably to an object, person, or event. As implied in this definition, attitudes possess cognitive (beliefs, knowledge, and expectations), affective (motivational and emotional), and performance (behavior or actions) components. Ray and Day (2020) carried out a study on students' attitudes towards electronic information resources. The study reveals that a large number of students, leave universities without necessary skills to cope within the information-based society. Electronic information resources offer today's student, new opportunities that were not available to previous generations. Liew, Foo, and Chennupati (2020) stated that while reading an e-journal is not the same as reading a printed issue, many students now acknowledge that, electronic documents offer users advanced features and novel forms of functionality beyond those possible in printed form.

As argued by Swain and Panda (2019), the library users' attitude to information is gradually shifting from the printed document to electronic information resources. Singh (2019) stated that ICTs have brought a tremendous change in nature, boundaries and structure of information. It is generally agreed that, many factors do influence attitudes towards the usage of electronic information resources. According to Okello-Obura (2010), the advantages of electronic information resources over printed ones include: speed, ease of use, ability to search multiple files at the same time, and ability to access documents from outside the library, among others. Electronic information resources are research tools that complement the print-based in the traditional library. These advantages include, access to information restricted to the user due to geographical location or finances and, provision of extensive links to additional resources or related content.

However, knowledge of computers and retrieval techniques, is needed to search these resources effectively, and this has a bearing to their attitude towards electronic information resources. Waldman (2013) stated that, students with high self-efficacy regarding computers, would be more likely to explore new technologies, software or databases. Attitudes toward ICT usage have been defined as, a person's general evaluation or feeling towards ICT, and specific computer and Internet related activities (Smith, Caputi, & Rawstone, 2020). The learner's attitude towards computer, measures a person's capabilities in effective learning. Garland and Noyes (2015) indicated that, in the educational context, confidence should lead to more positive attitudes toward computers and Internet. This will enhance learning and associated activities. Attitude, in turn, constitutes various dimensions. Some examples of these are perceived usefulness, computer confidence, anxiety, and liking.

Rogers (2020) identified four main attributes of technology that affect its acceptance and subsequent adoption. They are relative advantage, compatibility, complexity and observability. These attributes are investigated as a predictor in determining educators' attitudes toward e-resources. Abedalaziz, Jamaluddin and Leng (2013) carried out a study to Measure attitudes towards computer and internet usage among postgraduate students in Malaysia and discovered that, postgraduate students have positive attitude towards the usage of Internet services, irrespective of their gender. Also, Al-Mahmud (2011) carried out a study on students' attitudes towards Internet: "A study on Private Universities of Bangladesh". This study investigated the attitude of private university students in Bangladesh towards internet. Results from the study indicated that, students had positive attitudes toward using the Internet as a learning tool. They had adequate basic knowledge of the Internet, and viewed Internet as the fastest way to get knowledge. They are also of the view that Internet has a potential to be an effective training tool. The results also revealed that the students exhibited positive attitudes toward the Internet, irrespective of gender.

In the same vein, Sivathaasan, Murugathas and Chandrasekar (2014) carried out a study on attitude towards the usage of electronic information resources in medical library, university of Jaffna, Sri Lanka. The purpose of the study is, to find out whether there are any significant mean differences among personal characteristics, such as readers' type, gender, user category, age group and the year of study, towards attitude of using electronic information resources in Medical Library, University of Jaffna, Sri Lanka, during the year 2013. The study used the questionnaire as a research instrument and, a total of 258 usable responses were obtained using random sampling technique. Further, the study employs independent samples t-test and One-way ANOVA (f-test) for the purpose of data analysis. The results revealed that readers' type, such as, academic staff and students, the year of study of the students and user category, (Lecturer, Senior Lecturer, Professor and students) have shown significant mean difference, towards the attitude of usage of electronic information resources ($P < 0.05$). But gender, both male and female readers and age group have roughly same level of opinion, which is insignificant.

Abedalaziz, Jamaluddin and Leng (2013) carried out a study on measuring attitudes toward computer and Internet usage among postgraduate students in Malaysia. The aim of this study is, to investigate and measure postgraduate students' attitudes toward the Internet and computer use. Specifically, the present study sought answers to the following questions: What is the overall profile of postgraduate students' attitudes toward the Internet and computer use? Do postgraduate students' attitudes toward Internet and computer use, differ in terms of gender? Do postgraduate students' attitudes toward the Internet and computer use in instruction, differ in terms of field of study? Do postgraduate students' attitudes toward the Internet and computer use, differ in terms of ethnicity? Do postgraduate students' attitudes toward the Internet and computer use, differ in terms of age? A total of 289 postgraduate students participated in this study. Attitudes scales to assess postgraduate student's attitudes

toward the use of Internet and computer were used. Results reveal that: (1) participants have a high-level perception of the usefulness and their control of the computer and Internet, (2) no significant differences were found between participants' attitudes, toward the Internet and computer related to gender, field of study, and ethnicity, and (3) postgraduate student's attitudes toward computer and Internet usage are age related.

2.6 Theoretical Framework

This study is anchored on Fishbein and Ajzen (1975) theory of reasoned action. They defined the links between beliefs, attitudes, norms, intentions and behaviors of individuals. According to this model, a person's behavior is determined by his/her behavioral intention to perform the act (behaviour). Intention is itself determined by the person's attitudes and his subjective norms towards the behavior. There are major factors that determine the behavioural intentions. They include personal or attitudinal factors, and social or normative factors. The personal or attitudinal factor is a function of the salient (behavioural) belief about the perceived consequences of performing the behavior and the persons' (outcome) evaluation of these consequences. Fishbein and Ajzen defined the subjective norms as the person's perception of what important specific referent individual or group thinks he or she should do.

Subjective norms are a function of a person's (normative) belief, regarding what each referent thinks he or she could do and, the motivation to comply with this referent. The relative importance of the attitudinal and normative components in determining intention, is expected to vary according to the behaviour, situation and individual differences of the individual.

This theory can be summarized by the following equation:

$$\text{Behavioral Intention} = \text{Attitude} + \text{Subjective norms}$$

According to the Theory of Reasoned Action, the attitude of a person towards a behavior is determined by his beliefs on the consequences of this behavior, multiplied by his evaluation of these consequences. Beliefs are defined by the person's subjective probability that, performing a particular behavior will produce specific results. This model therefore, suggests that external stimuli influence attitudes by modifying the structure of the person's beliefs. Moreover, behavioral intention is also determined by the subjective norms, that are themselves, determined by the normative beliefs of an individual, and by his motivation to comply to the norms.

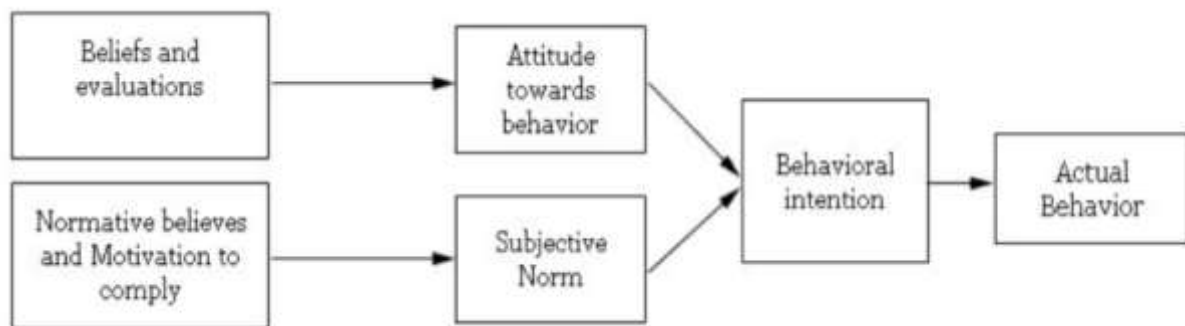


Fig. 2.1: Theory of Reasoned Action model of Fishbein and Ajzen (1975) adopted from Davis, Bagozzi and Warshaw (1989)

Theory of Reasoned Action also claims, that all other factors which influence the behavior, only do so in an indirect way, by influencing the attitude or subjective norms. Fishbein and Ajzen referred to these factors as being external variables. These variables can be for example, the characteristics of the tasks of the interface or of the user; the type of development implementation, the political influences, the organizational structure, etc. (Davis, Bagozzi & Warshaw, 1989). From the theoretical framework of the study, it was discovered that a person's computer literacy level, electronic information retrieval skills, perception, attitude, age and gender are determinants of that person's exhibited behavioral pattern, towards that particular innovation. This in turn, influences the use or lack of usage of that innovation.

This is related to this study in the sense that, a person's computer literacy level, electronic information retrieval skills, perception, attitude, age and gender are determinants of that person's exhibited behavioral pattern, towards that particular innovation. This in turn, influences the use or lack of usage of that innovation. As indicated in the theory of reasoned action by Fishbein and Ajzen, belief and evaluation, normative belief, attitude and subjective norms can be linked to the determinants (computer literacy level, electronic information retrieval skills, perception, attitude, age and gender) that influences the use of electronic information resource. All the factors as indicated in the theory of reasoned action leads to behavioral intention to use, so it is with the determinants leading to behavioral intention to use electronic information resources. Finally, behavioral intention as indicated in the theory of reasoned action leads to actual behavior, which can also be linked to the actual use of electronic information resources.

2.7 Appraisal of the Reviewed Literature

In this chapter, related literature on the various determinants on the use of electronic information resources was reviewed. The theoretical framework adapted for the study is the theory of reasoned action by Fishbein and Ajzen (1975). From the theoretical framework of the study, it was discovered that a person's computer literacy level, electronic information retrieval skills, perception, attitude, age and gender are determinants of that person's exhibited behavioral pattern, towards that particular innovation. This in turn, influences the use or lack of usage of that innovation. The review of literature covered the variables of concern in the study which includes influence of such factors like computer literacy, information retrieval skills. The review of empirical studies within the reach of the researcher on past researches showed that there are limited studies on determinants such as computer literacy skills, electronic information retrieval skills.

Some authors only looked at perception, others worked on computer literacy and the influence of electronic information retrieval skills on undergraduate students' usage of ICT skills and these studies were mostly foreign based, while the few others were carried out in the South-west region of Nigeria. This shows that there is a dearth of literature in these areas and there is need to do more researches in other regions of Nigeria. Therefore, this study investigates computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students in Kwara State. It is this gap, that this study investigated and filled.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that will be adopted for carrying out this study which includes: research design, population of the study, sample size and sampling technique, research instrument, validity of the instrument, reliability of the instrument, procedure for data collection, method of data analysis as well as ethical consideration.

3.2 Research Design

The research design for this study is the descriptive survey design. Whawo (1992) stated that, a survey design can be used for studying people's opinions, attitudes and academic achievements. Therefore, this design is suitable for this study. This design was adopted for this study because, there was no manipulation of any of the variables under study, and findings were only used for descriptive purpose, not to establish a cause-and-effect relationship.

3.3 Population of the Study

The population of this study consists of 156 Library and Information Science postgraduate students in universities Kwara State. The population of the study is shown in Table 3.1

Table 3.1: Study Population

S/N	Name of University	No of Students
1.	University of Ilorin, Ilorin	112
2.	Kwara State University, Malete	16
3.	Al-Hikmah University, Ilorin	28
Total		156

3.4 Sample Size and Sampling Technique

The sample size for the study consists of all the 156 postgraduate students from the three universities offering Library and Information Science at postgraduate level in the region. The total enumeration sampling technique was employed for this study. The entire population was therefore used because of the relatively small size of the population. According to Olaitan and Nwoke (1988), when the research involves a population of very few or few subject, the entire population can be used for the study.

3.5 Research Instrument(s)

The instrument for data collection in this study is the questionnaire titled, “Computer Literacy Skills and Use of Electronic Information Resources by Library and Information Science (LIS) Postgraduate Students in Kwara State”. It was designed by the researcher and consist of five sections; A, B, C, D, and E. Section A is designed to obtain information on the bio-data of the respondents; Section B – E is designed to elicit information on the study’s objectives from the LIS postgraduate students.

3.6 Validity and Reliability of the Instrument

In order to determine the validity of the instrument, it was given to the supervisor to determine its face and content validity. Some corrections were made based on the adequacy and appropriateness of the instrument, and the researcher was asked to increase the sections in the instrument, which were all effected by him. Thus, the content and face validity of the instrument were established by the supervisor and the other expert, which made the instrument valid.

The reliability of the instrument was ascertained using the Pearson's Product Moment Correlation Coefficient. The split half reliability was employed using 20 postgraduate students of Library and Information Science Department, randomly selected from University of Ilorin, Ilorin which is outside the scope of the study. In using the split half method, The Spearman-Brown prophecy formula was used to obtain the reliability of the whole test (Step up). The result yielded reliability coefficient of 0.84. This shows that the test is reliable for measuring the characteristic it was design to measure. (Leedy and Ormrod, 2015 and Johnson and Christensen, 2010).

3.7 Method of Data Collection

The data collection exercise was carried out by the researcher and two research assistants. One research assistant was allocated to each university, for the administration and collection of the questionnaire. The researcher instructed the research assistants to enter the lecture room, as soon as a lecturer is leaving the lecture room, so as to administer the questionnaire to the postgraduate students. The copies of the questionnaire were collected from the respondents on the spot. This was to ensure maximum response rate. The data collection exercise lasted for a period of two weeks.

3.8 Method of Data Analysis

The data collected were analyzed using descriptive statistics of frequency and percentage for all research questions using the IBM Statistical Product and Service Solution (SPSS) software version 26.0. The descriptive statistics includes the frequency counts, percentages, mean and standard deviation. Tables will be used for results presentation and interpretation.

3.9 Ethical Considerations

The study employed the anonymity ethical consideration and follow all the ethics guiding scholarly writing by ensuring the work is original. According to Mugenda and Mugenda (2003), anonymity refers to keeping secret by not identifying the ethnic or cultural background of respondents, refrain from referring to them by their names or divulging any other sensitive information about a participant. This is why, during study, the researcher must promise to protect the information given in confidence by the respondent. But, if any information has to be revealed, then consent must be sought from the respondent(s).

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents and analyses the data presented through primary source. Data collected through questionnaires are presented in tables and analyzed using frequency counts and percentages. The results are presented based on the variables focused in the research objectives. Also in this chapter, the major findings of the study are further highlighted.

4.2 Response Rate

It was observed that 156 copies of the questionnaire were administered and same numbers were retrieved, valid and useful for this study. Thus, the response rate was 100%.

4.3 Bio-data of the Respondents

Table 4.1: Bio-data of the Respondents

Gender	Frequency	Percentage
Male	92	59.0
Female	64	41.0
Total	156	100.0
Age	Frequency	Percentage
20-25 years	11	7.1
26-30 years	57	36.5
31-35 years	69	44.2
36 years and above	19	12.2
Total	156	100.0
Marital Status	Frequency	Percentage
Single	61	39.1
Married	95	60.8
Total	156	100.0
Level	Frequency	Percentage
MLIS	90	57.6
PhD	66	42.3
Total	156	100.0

From table 4.1, it was observed that out of 156 respondents 92 which represent 59 % of the respondents were male while 64 which represent 41% of the respondents were female. This shows that most of the respondents were males. It is also observed that out of 156 respondents, 11.0 which represents 7.1 % of the respondents fell into the age bracket of 20-25 years, 57.0 which represents 36.5% of them fell into the age bracket of 26-30, while 69.0 which represents 44.2% of them fell into the age bracket of 31-35 years and 19.0 respondents which represents 12.2% of them fell into the age bracket of 36 years and above. This shows that most of the respondents were within the age range of 31-35 years. 95(60.8%) of the respondents were married and 61(39.1%) were single at the time of conducting the study. In the level of study, 90(57.6%) were Masters students and 66(42.3%) were enrolling for PhD program.

4.4 Analyses of the Research Questions

Research Question One: What are the levels of computer literacy skills of postgraduate students in the Kwara State?

Table 4.2: The levels of computer literacy skills of postgraduate students.

Computer Literacy Skills Levels	Frequency	Percentage
Skillful	152	97.4
Not Skillful	4	2.6
Total	156	100

Table 4.2 shows that 152 respondents which make up 97.4% of the population are skillful while 4 of the respondents which constitute 2.6 % are not skillful. This shows that most of the respondents are computer literate. This may be as a result of frequent use of electronic and mobile devices for several purposes and assignments they are compelled to do online during their course work at both undergraduate and postgraduate programmes.

Research Question Two: What is the attitude the postgraduate students exhibit towards the use of electronic information resources in Kwara State?

Table 4.3: The attitude the postgraduate students exhibit towards the use of electronic information resources.

Attitude of Postgraduate Students	SA (%)	A (%)	D (%)	SD (%)
I am in favour of all electronic information resources available to me.	37(23.7)	27(17.3)	23(14.7)	69(44.2)
I tend to use electronic information resources regularly because I can do that effectively.	42(26.9)	24(15.4)	23(14.7)	67(42.9)
My quest for knowledge and research has increased as a result of the availability of electronic information resources.	10(6.4)	57(36.5)	23(14.7)	65(41.7)
I avoid the use of electronic information resources whenever I can.	29(18.6)	32(20.5)	24(15.4)	70(44.9)
I like the electronic information resources available to me.	36(23.1)	21(13.5)	62(39.7)	33(21.2)
Electronic information resources are always readily available to use.	10(6.4)	57(36.5)	23(14.7)	65(41.7)

Table 4.3 shows that postgraduate students strongly disagree to the fact that they are in favour of all electronic information resources available to them, that they tend to use electronic information resources regularly because they can do that effectively and that Internet network is always good that's why they use electronic information resources frequently amongst others. They strongly disagreed to the attitudinal statements. In summary, the number of students who strongly agreed to item 1 to 6 ranges from 5 to 60, while the percentage ranges from 3.2% to 27.6%, for those who agreed, the number of students ranges from 6 to 74 and their percentage is 3.8% to 47.4%, whereas for those who disagree, the number of students ranges from 4 to 70, and the percentage is 2.6% to 44.9% and for those who strongly disagreed ranges from 21 to 138 and their percentage ranges from 13.5% to 88.5%.

Therefore 67 which makes up 42.9 percent of the respondent have positive attitude towards the use of electronic information resources, while 89 which makes up 57.1 percent of the respondents have negative attitude towards the use of electronic information resources. This high percentage of negative attitude noticed among the postgraduate students could be as a result of the influence of their perception towards the use of electronic information resources. This finding is in disagreement with that of Al Mahmud (2011) that students have positive attitude towards the use of Internet.

Research Question Three: What are the types of electronic information resources used by postgraduate students in Kwara State?

Table 4.4: The types of electronic information resources used by postgraduate students.

Types of Electronic Information Resources	Response	Percentage
E-book	154	98.7%
E-journal	140	89.7%
E-thesis/dissertation	131	83.9%
E-dictionary	144	92.3%
Online Database	146	93.5%
CD-ROM	133	85.2%
OPAC	136	87.1%
E-encyclopedia	126	80.7%
E-newspaper	138	88.4%
E-article	132	84.6%

Table 4.4 shows that postgraduate students in the state make use of the electronic information resources listed above. This could be as a result of the rigorous assignment given to them during the course of study and the tendency of wanting to beef up lecture notes. The high percentage noticed on the usage electronic information resources is in agreement with the findings of Adeniran (2013) that the on-line data base, CD-ROM and OPAC are some of the major electronic information resources used in Redeemers University library. Also, this finding is in disagreement with that of Swan and Brown (2020) that there is low usage of e-resources despite the fact that a large proportion of his respondents had access to Internet and online services provided by their library.

Research Question Four: What are the electronic information retrieval skills possessed by postgraduate students in Kwara State?

Table 4.5: The electronic information retrieval skills possessed by postgraduate students.

<i>Electronic Information Retrieval Skills</i>	Frequency	Percentage
Information retrieval skill	14	9.0
Operational retrieval skill	5	3.2
Information & Operational skills	5	3.2
All the skills	131	84.0
No skills	1	0.6
Total	156	100

Table 4.5 shows that 14 which constitute 9.0% of the respondents possess information retrieval skills, 5 which constitute 3.2 % have operational retrieval skill, information and operational skills respectively. While 131 which is 84.0% of the respondents have all the electronic retrieval skills and finally, 1 which constitute 0.6% posse none of the skills. The highest percentage of students having all the three skills shows that they possess the skills necessary for proper utilization of electronic information resources. This finding is in agreement with the opinion of Chi and Law (2018) that possession of such skills could contribute to more effective and comprehensive search.

4.5 Discussion of Findings

This finding of this study has thrown more light on the computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students in Kwara State. The first finding of the study showed that a high percentage of postgraduate students frequently and very frequently use electronic information resources. This may be as a result of the nature of assignment and course activities that they are exposed to and availability of Internet. According to Bassi and Camble (2011), Internet connectivity has allowed access to many electronic resources on a range of subjects. With this

connectivity, postgraduate students can access electronic information resources that the libraries provide within and outside the library.

This effort facilitates more use of the electronic information resources. This justifies the primary goal of any library as identified by Nwalo (2013), who stated that the primary goal of any library is to acquire, organize, store, and make accessible to users within the quickest possible time all forms of information materials which they require. These findings is agreement with the findings of Adeniran (2013) that the on-line data base, CD-ROM and OPAC are some of the major electronic information resources used in Redeemers University library. Also, this finding is in disagreement with that of Swan and Brown (2020) that there is low usage of e-resources despite the fact that a large proportion of his respondents had access to Internet and online services provided by their library.

The second findings of the study revealed that most of the respondents are computer literate. This high level of computer literacy may be as a result of the courses they offer during their course work at both undergraduate and postgraduate programmes and their access to electronic and mobile devices. This finding is in agreement with the findings of Stephan and Rein, who found out that computer experience have a positive on computer literacy and also the findings of Akpojotor, whose study also reported that postgraduate LIS students are skilled in the use of electronic information resource and the findings of Abubakar and Adetimirin (2015) who found out postgraduates' who are exposed to computer literacy skills make better use of e-resources for their researches. This finding is in disagreement with that of Abubakar and Airen (2015) that computer literacy level had positive relationship with postgraduate students' usage of electronic resources.

The third finding of the study showed that a high percentage of postgraduates possess the three electronic information retrieval skills. The highest percentage of students having all the three skills shows that they possess the skills necessary for proper utilization of electronic information resources. This finding is in agreement with the opinion of Chi and Law (2018) that possession of such skills could contribute to more effective and comprehensive search. The fourth findings showed that 76 students which represents 48.7% have positive perception towards the use of electronic information resources, while 80 students which constitute 51.5% have negative perception. This high percentage of those with negative perception towards the use of electronic information resources could be as a result of the nature of the work that post graduate students do which in most cases do not give them time to access the internet and other issues associated with the use of electronic information retrieval skills. This finding is in agreement with that of Bashorun, Isah and Adisa (2011) that users have negative perception towards the use of e-resources because of lack of time, slow network, power outage and so on.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions and recommendations of the study in line with the objectives of the study. Covered in this chapter are also conclusion and recommendations. Lastly, the chapter provides possible areas for further studies that were outside the scope of this study.

5.2 Summary

The research design for this study was the descriptive survey of computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students in Kwara State. The population of the study consists of 156 Library and Information Science postgraduate students in universities in the state. The 156 postgraduate students became the sample for the study. Four research questions were raised for this study. All questionnaires administered were retrieved. The data collected were analyzed using descriptive statistics of frequency and percentage. The findings of this study showed that:

- i. Postgraduate students make use electronic information resources;
- ii. Most of the respondents are computer literate;
- iii. A high percentage of postgraduates possess the three electronic information retrieval skills; and
- iv. A high percentage of the students have negative attitude towards the use of electronic information resources.

5.3 Conclusion

It is evident from the study that the computer literacy levels, electronic information retrieval skills and attitude, determinants on the usage of electronic information resources by postgraduate students in Kwara State. The high percentage of postgraduate students in the universities that makes use e-book, e-Journal, e-thesis/dissertation, e-dictionary, online data base, CD ROM, OPAC, e-encyclopedia, e-newspaper and e-article, as discovered in this study shows that they use these electronic information resources for their research work. From the study it can be concluded that a positive relationship exists between postgraduate students' attitude towards the use of electronic information resources, no significant difference on the usage of electronic information resources by postgraduate students based on their computer literacy levels.

5.4 Recommendations

Based on the findings of this study, the following recommendations were made:

- i. Curriculum planners should formulate policies that will support the frequent use of electronic information resources both at the undergraduate and postgraduate levels in order to change their perception and attitude and to equip them in this 21st century.
- ii. Postgraduate students should be taught the basics of computer science irrespective of their level since those with high computer literacy level make use of electronic information resources more than those with low computer literacy level.
- iii. Government should equip universities with adequate and functional infrastructure that will encourage the usage of electronic information resources.
- iv. Lastly, similar research should be conducted in other states to bring about the awareness of the importance of the usage of electronic information resources.

5.5 Contribution to Knowledge

This study has contributed to knowledge in the following ways:

- i. It has revealed the fact that a positive relationship exists between postgraduate students' attitude towards the use of electronic information resources, and that perception and attitude are some of the major determinants of the usage of electronic information resources by postgraduate students.
- ii. The study has also revealed that postgraduate students with high computer literacy level make use of electronic information resources more than those with low computer literacy level.
- iii. The study has also contributed to knowledge in revealing the fact that postgraduate students have negative attitude towards the use of electronic information resources.
- iv. Finally, the study has contributed to the body of knowledge in the field of Library and Information Science education in the area of determinants of the use of electronic information resources by postgraduate students.

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APPENDIX

QUESTIONNAIRE ON:

COMPUTER LITERACY SKILLS AND USE OF ELECTRONIC INFORMATION RESOURCES BY LIBRARY AND INFORMATION SCIENCE (LIS) POSTGRADUATE STUDENTS IN KWARA STATE

Dear respondent,

I am an undergraduate student in the Department of Library and Information Science, Institute of Information and Communication Technology, Kwara State Polytechnic, Ilorin. I am currently undertaking research project titled: *“computer literacy skills and use of electronic information resources by library and information science (LIS) postgraduate students in Kwara State”*. I therefore, request you to kindly provide your opinions to the questions as contained in the attached questionnaire. Information provided in this questionnaire will be held confidential and used for research purpose only.

Your quick response will be highly appreciated.

Thanks for your anticipated cooperation.

ABUBAKAR, Zainab Opeyemi

Researcher

Instruction: *Kindly read the statements in each of the section and tick honestly as it is applicable to you. Your responses will be treated confidentially and only used for research purpose. Thank you.*

SECTION A: Bio-data

Gender: Male [☐]; Female [☐]

Age: 20-25 years [☐]; 26-30 years [☐]; 31-35 years [☐]; 36 years and above [☐]

Name of School:

SECTION B: What are the levels of computer literacy skills of postgraduate students in the Kwara State?

Keys: *VS - Very Skillful; S – Skillful; MS - Moderately Skillful; NS - Not Skillful*

Levels of Computer Literacy Skills	VS	S	MS	NS
Plugging in and turning the computer on.				
Composing, editing and printing documents.				
Ability to communicate with others using computer through electronic mail (e-mail) or instant messaging services.				
Managing and editing pictures (from cell phones, digital cameras and even scan.				
Opening files and recognizing different types (i.e. to perform several common functions such as open a file, save a file, quit the programme).				
Using interactive social website.				
Using multimedia application.				
Use of Internet for entertainment.				
Using chart application.				
Transfer file using Bluetooth.				
Identification of hardware.				
Knowing functions of hardware.				
Using authoring software such as author ware.				
Information search using Internet.				
Using Microsoft word for typing.				
Using Microsoft power point.				
Using Microsoft Excel.				
Identifying various programmes.				
Transfer items using mobile phone.				
Using CorelDraw.				
Using web design.				
Using storage devices.				
Installation of software.				

SECTION C: What is the attitude the postgraduate students exhibit towards the use of electronic information resources in Kwara State?

Keys: SA – Strongly Agreed; A – Agreed; D –Disagreed; SD – Strongly Disagreed

Attitude of Postgraduate Students	SA	A	D	SD
I am in favour of all electronic information resources available to me.				
I tend to use electronic information resources regularly because I can do that effectively.				
My quest for knowledge and research has increased as a result of the availability of electronic information resources.				
I avoid the use of electronic information resources whenever I can.				
I like the electronic information resources available to me.				
Electronic information resources are always readily available to use.				

SECTION D: What are the types of electronic information resources used by postgraduate students in Kwara State?

Types of Electronic Information Resources	Yes	No
E-book		
E-journal		
E-thesis/dissertation		
E-dictionary		
Online Database		
CD-ROM		
OPAC		
E-encyclopedia		
E-newspaper		
E-article		

SECTION E: What are the electronic information retrieval skills possessed by postgraduate students in Kwara State?

Keys: VG – Very Good; G – Good; P - Poor; VP – Very Poor

Electronic Information Retrieval Skills	VG	G	P	VP
Surfing the Internet.				
Locating relevant information on electronic devices.				
Selecting articles with ease.				
Summarizing materials in your own words.				
Understanding terminologies used in databases.				
Use of reference sources to increase familiarity of topics.				
Copying information into your storage device such as flash drive and diskette.				
Retrieving information from flash drive or CD.				
Scanning images.				
Access of on-line databases.				
Download files from on-line databases.				
Use of Boolean operators. (OR, AND, NOT).				
Combining two terms to retrieve information.				
Use of truncation search techniques (\$, *, +) to retrieve information.				
Use of title search for electronic catalogue (OPAC) search.				
Use of author search for electronic catalogue (OPAC) search.				
Shelf search for electronic catalogue (OPAC) search.				
Use of search engines such as Yahoo, Google, Alta Visa and Google scholar, etc.				
Subscribing to get access to subscription electronic information sources.				