DIGITAL LITERACY AND ATTITUDES OF UNDERGRADUATES TOWARDS UTILIZATION OF THE INTERNET IN UNIVERSITY OF ILORIN, ILORIN, KWARA STATE, NIGERIA

BY

JOHN, SHEDRACK OJIBO

MATRIC NO: 15/77JD114

BEING A RESEARCH REPORT SUBMITTED TO THE DEPARTMENT OF SOCIOLOGY, FACULTY OF SOCIAL SCIENCES, UNIVERSITY OF ILORIN, ILORIN - KWARA STATE, NIGERIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN SOCIOLOGY

AUGUST, 2019.

CERTIFICATION

This is to certify that this research work entitled "Digital Literacy and Attitude of Undergraduates Towards Utilization of the Internet in University of Ilorin" was carried out by JOHN, SHEDRACK OJIBO (15/77JD114) and has been read and approved as meeting part of the requirements of the Department of Sociology, Faculty of Social Sciences, University of Ilorin, Ilorin Nigeria, for the Award of Bachelor of Science (B.Sc.) Degree in Sociology.

_____ _____

Dr. A.G. Olatunji **Date**

Project Supervisor

_____ _____

Dr. O.A. Fawole **Date**

Head of Department

_____ _____

PROF. G.T. Ijaya **Date**

Dean of Faculty of Social Science

_____ _____

External Examiner **Date**

DEDICATION

This project is dedicated to the Almighty God, The Creator of heaven and earth For Being Everything to me. Also to my parents, Mr. and Mrs. John Ojibo who have borne the burden of my education up to this level through their moral and financial supports.

ACKNOWLEDGEMENTS

With a grateful heart, I acknowledge and appreciate God Almighty, The Author and Finisher of my faith, for creating, keeping, strengthening, and for bringing me this far. He has been my encourager, help and spring of wisdom.

My profound gratitude goes to my supervisor, Dr. A. G. Olatunji, who guided me through in my research work. The Lord will reward you (Amen). To my level adviser Mr. T.O. Tejideen and all my lecturers in the Department of Sociology, University of Ilorin, thank you all for the moral, academic support and knowledge impacted in me throughout my course of study.

To my wonderful family starting from my parents, Mr. and Mrs. John Ojibo for their love, care, advice, guidance and for providing for my educational needs, I say thank you. The Lord will surely reward you and enable you to eat the fruit of your labour (Amen). I love you so much. Also to my ever loving and supportive siblings Favour, Jennifer, Hannah, David, Abraham, Abednego, Susan, Meshach, Samuel, Deborah, Emma, Joshua, Caleb, Paul, Victoria, and Greatness thank you for your prayers and care. My love for you is deep. I am also indebted in no small measure to my friends, Shola, Pelumi, Precious, Favour, Oluchi, Omolade, Omowunmi, Morenike, Blossom, Kehdor, Ebunlomo, Moira, Deborah and Dayo for the prayers, financial and moral support they gave me.

My special thanks goes to Mr. Solomon and Miss. Hannah for supporting me through the course of this degree. My sincere gratitude goes to my able respondents and who supplied me with copious data during this research. To all my course mates (Soc'19), I will miss you all seriously, and to those who have in one way or the other contributed to the success of this research. God will continue to bless you all.

JOHN, SHEDRACK OJIBO

AUGUST, 2019.

TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

Digital literacy and attitudes of undergraduates towards utilization of the Internet is a survey study that is meant to determine the attitudes of undergraduates of University of Ilorin towards utilizing the Internet. The study has three specific objectives which include: to examine the level of digital literacy among undergraduates, to assess the attitudes of undergraduates towards utilization of the internet in and to know the significant effect of digital literacy on the attitudes of undergraduates towards utilization of the Internet. Cluster sampling and convenient sampling techniques were used to select two faculties in the university and a systematic random sampling method was used to select the respondents from the faculties using 270 questionnaires to collect data from the two faculties selected. The major findings of the study revealed that 88.9% of the undergraduates of the university enjoy using digital services and 65% opined that students should use the internet for academic purpose more; 59.6% said they are fully aware of the various types of digital services available to them and 44.4% of the respondents agreed that students should use the internet for communication purpose more; 97% opined that they are still open minded to opportunities to learn more about digital services and 72.2% of the respondents agreed that students should use the internet for entertainment purpose more; 43.7% were of the opinion that they feel they are still way behind some of their colleagues as far as knowledge of digital services is concerned and 74% of the respondents agreed that students should use the internet for economic purpose more. 97% think its important for them to improve their digital ability and 24.8% of the respondents agreed that students should use the Internet for information purpose more. The research also indicated that 70% undergraduates of the university are addicted to internet utilization. Furthermore, the study revealed that there is a significant relationship between digital literacy and utilization of the internet for academic purpose. Also, the study revealed that there is no significant relationship between digital literacy and utilization of the internet for entertainment and communication purposes. The study revealed that digital literacy influences Internet addiction among Undergraduates. The study therefore recommended that the university should improve the quality of its Internet services; give proper orientation on the importance of good uses of the Internet; provide counselling for those who are addicted to internet use; make current and relevant websites available to the students and upload course materials online especially in friendly websites and social networks that are frequently patronized by the students as this will facilitate on-line academic exchange.

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Development in technology in recent years has grown rapidly having a lot of impact on the lives of humans. As technology grows, there are many ways that it can be applied to different things, education is of no difference. There are many technological advances that have changed the world of education in the 21st century. These different technologies used in the class room and school environment have a vast impact on the overall education of students around the world and their behaviors as well. The advancement in technology has led to the era of learning through the internet.

Undeniably, the use of internet has grown rapidly in the educational system especially up to the tertiary level. Internet use has become a way of life in higher education institutes where information can be obtained easily with just one click of a mouse. Internet has simplified the way teachers reach their students and it has also helped students learn from anywhere as well as enable them access to academic information at anytime from anywhere. Information is power, so both students and teachers can use internet for education to make research on subjects of interest.

Internet use has brought a lot of significance to university students by enhancing their academic performance and also influencing their academic behaviors as positive academic behavior results to better academic achievements. One of the roles of the internet in education has been identified as the provision of instant access to available information around the world. Education could be provided remotely across the world through the medium of internet and its resources. Traditional learning and teaching processes are changing due to the plethora of information available through internet resources. Teachers and students both have instant access to the information on virtually any subject.

The rapid development of internet resources and its availability to conduct learning in the university environment lead students and teachers to adopt new mechanisms and techniques during the process learning and teaching. It is obvious that learners may use the internet for information related purposes during learning processes in the class rooms. Several studies have been conducted in different places of the world. the study about use of Internet for academic purpose conducted at the University of Carnegie Mellon in America where result indicated that more than 73% of the respondents go on Google for searching their academic information other study showed that most students use internet for academic as well as social connection (George 2006; Lubans, 1998; Matthew Ciolek 1998; Rena 2007). The Internet is a worldwide phenomenon which has connected the globe. Moreover, Laite (2000) surveyed 406 undergraduate students from Shippensburg University, the survey showed that 57.6% of the undergraduate surveyed used the Internet 1-2 times per week and another 37.1% used it 1-2 times daily. However, some students may use the internet to communicate with friends and families through available social applications and other networking sites.

Researchers have suggested that using the internet for non-academic purposes (e.g., leisure, entertainment, socializing) displaces time that could be used for academics (Huston, Wright, Marquis, & Green, 1999). In other words, watching a movie online or chatting with friends over social media may be more entertaining and less mentally tasking for college students and therefore chosen as an activity in place of academics. As a result, assignments are not completed on time or at all, exams are not prepared for, and grades drop. The internet therefore has influence on the academic behavior of students. Studies have shown that access to internet has birthed some technological behavior, such as not visiting the library, not attending night classes, cheating, not attending classes, procrastination, not doing assignments etc. Due to the easy access to documents and historical background or origin on the internet, students prefer to seat in the comfort of their hostels and browse out these documents rather than visiting the library to read textbooks and journals. All these and more birth laziness amongst students of which its utmost effect will be seen in the academic performance. In a study conducted in University of Malaysia Sarawak, It was indicated that students

are supposed to learn how to use the internet for collecting the information about latest research (Hong 2003).

Despite the widespread belief that the use of internet in education is generally good, such may not always be the case. Burbules & Callister (2000) suggest that internet can be used well or poorly, and thus its effectiveness is dependent on how it used, by whom and for what purpose. Although the motivation may differ, theoretically the overall expectation is that the use of internet will improve the course, engage the students and enable them to learn more. There may also be at least the implicit hope by the faculty member that teaching evaluations will improve. Clearly, utilization of internet can impact several of these identified characteristics or traits. Thus, in recent years, the proliferation of internet use in an educational setting has sparked considerable interest on the part of researchers, and a number of studies have focused on the positives and negatives of internet use from the perspectives of the institution, student and professor. Overall, Apperson (2006) believe that the use of internet in classrooms causes students to have a more favorable attitude toward their education, and benefits accrue to instructors who utilize it in their classes. It may also be the case that the internet is not being used in an appropriate manner, that is, as a transformative, student-centered tool for learning, a concern expressed by Burbules & Callister (2000). Internet use may also better support diverse needs and capacities of students, providing the potential for deeper processing and understanding of information (McCombs, 2000).

To make proper use of Internet in schools, colleges and universities there is a need to understand the attitudes of students towards the use of it.. For the student's attitude toward Internet applications, university administration should know the purposes for which students are using it whether for entertainment and sports, for academic purposes, business and social purposes, etc. Increasingly, universities are investing in Internet service, school is also making its teaching materials available online. While universities and academics are trying to build the Internet as a valuable learning tool, it is necessary to understand the attitudes of their students' towards the use of internet and it applications.

Several studies has been conducted on attitudes of students towards utilization of the internet in different parts of the world and in Nigeria in particular. However, this study is different from previous studies because it seeks to examine the attitudes of undergraduates in University of Ilorin towards utilization of the internet as no study relating to this topic has been carried out within the geographical space of the University of Ilorin.

1.2 Statement of the Problem

The Internet, as a modern technology, has a lot of applications in various educational, economical, political and health fields which directly affect the nature of people's lives. However, it is not necessary that the influence of the Internet is always positive, as it might take an opposite direction.

Despite the educational and social benefits of internet use, there are risks associated with it use, particularly for students in tertiary institutions. For instance, internet addiction has grown rapidly and is affecting more students. Chao & Hsiao (2010, as cited in Akhter, 2013) defined internet addiction as "an individual's inability to control his or her use of the internet, which eventually causes psychological, social, school, and/or work difficulties in a person's life". It is also suggested that university students are more vulnerable to internet addiction due to the free internet service provided and the availability of free hours during the day (Young & Rogers, cited in Akhter, 2013). Noreen Akhter (2013) found out from her study that excessive use of internet leads to a decline in study habits resulting in a gradual drop in academic grades, delaying assessment task leading to procrastination and skipping of lectures due to the fact that students don't get enough sleep because much of the sleep time is spent online. Students tend to spend less time on their studies but spend more time on the internet for leisure and recreational purposes leaving their assessment tasks behind till the due date is near as a result they (students) become under pressure with incomplete tasks and homework eventually score low marks. Furthermore, internet use also tends to make student lazier in some many areas of their academic life, such as attending classes cause they see no need to since they have

access to necessary materials on the internet, also in the aspect of doing assignments, copy and paste is the trend now a days. This follows from the study of Scanlon & Neumann (2002) which revealed that students in Universities do direct copy and paste from the internet sources or electronic documents without proper citation and referencing. Such academic dishonesty has raised concerns over the academic integrity of the University and begs the question whether students are learning the content of the course syllabus provided in the course or not and whether students have acquired all necessary requirements of the four year course knowledge to obtain the Bachelor Award from the University.

Moreover, students face the risks of exposure to material that is pornographic, sexually explicit or offensive, hateful or violent, or that encourages activities that are dangerous or illegal; such materials can be accessed via the World Wide Web or newsgroups, or sent via e-mail or instant messaging services. In fact, the rapid growth of the information highway has been said responsible for the emergence of cybercrime.

Cybercrime has been used to describe a wide range of offences, including offenses against computer data and systems (such as 'hacking'), computer-related forgery and fraud (such as 'phisling'), content offences (such as disseminating child pornography) and copyright offences (such as the disseminating of pirated content). Based on the study carried out by Adeniran (2011), the overwhelming majority of the cybercrimes in Nigeria are committed by the 'yahooboys' who are also present in higher institutions. According to him, the 'yahooboys' criminal applications of Internet in Nigeria can be attributed to the failure of the government to create jobs for the youths. Due to the remarkable development and impact of technology that has been witnessed in the educational system especially in computers and Internet, there is a dire need to study the attitude of undergraduates towards utilization of internet in university of Ilorin.

1.3 Research Questions

Below are the research questions for this study;

i. What is the level of digital literacy among undergraduates in University of Ilorin?
ii. What is the attitude of undergraduates towards utilization of the internet in University of Ilorin?
iii. Could digital literacy have significant effect on the attitudes of undergraduates towards utilization of the internet in University of Ilorin?

1.4 Research Objectives

The objectives of this study are to;

i. Examine the level of digital literacy among undergraduates in University of Ilorin.
ii. Assess the attitudes of undergraduates towards utilization of the internet in University of Ilorin.
iii. Know the significant effect of digital literacy on the attitudes of undergraduates towards utilization of the internet in University of Ilorin.

1.5 Significance of the Study

The outcome of this study aims at determining whether or not digital literacy has any significant influence on the attitudes of undergraduates towards utilization of the internet in the University of Ilorin. Therefore this study can help universities in general and university of Ilorin in particular to know how much attention is required in improving ICT facilities so that students will be exposed to ICT before going out into the workforce. On the other hand, universities will be enlightened on the measures to take in order to reduce the negative effect of technological advancement on its students such as better cyber counseling courses which should be offered to all freshmen intake in order to build a good foundation to avoid social networking site addiction, deviant acts and internet surfing apart from academic studies.

The findings of the study can be utilized in revealing the nature of the university students' attitudes to the use of the Internet according to a number of variables, such as the rate and the place of the Internet use. Which might help us explore the possibility of setting up instructional and precautionary programs for university students which guarantee their benefits from the applications of the Internet positively.

Students can also know how to manage their time responsibly to avoid abuse on the ICT privileges provided by the university. This study can present to them the benefits of using internet in University learning and the problems faced with the study life.

This study will enable information professionals and information users to have a deep understanding of the relevance of digital literacy skills possessed by undergraduates to enhance their academic pursuit within the academic environment and beyond. Also it will enable information professionals and academia to be aware of the level of digital literacy skills of undergraduates and strategize on innovative ideas on how to develop, use and improve students' digital literacy skills.

There is finite policy and research attention paid to issues related to digital literacy in Nigeria, there is still relatively little information on how the inadequacy of digital literacy skills affects the quality and quantity of knowledge acquired by undergraduate students in universities in Nigeria. This study will be beneficial to lecturers, teachers and school leaders in all facets of education programmes who are interested in creative and critical uses of technology in teaching, learning and research processes. Also, the finding of this study will help government in enacting educational policies that will encourage inculcation of digital literacy skills in students at early stage. And finally, the finding of this study will also add to existing literature on digital literacy and attitudes of undergraduates towards utilization of internet or research purpose.

1.6 Scope of Study

In this study, the researcher inquire to know the influence (+ & -) digital literacy has on the attitude of undergraduates in University of Ilorin towards utilization of the internet. Considering the fact that the dependent variable (attitudes towards utilization of internet) is broad, the aspects that will therefore be considered are attitudes towards utilizing the internet for academic, entertainment and communication purposes. However, digital literacy which is the independent variable of this study is not a continuous one, that is to say, it is either you are digitally literate or digitally illiterate.

For the nature of the research being an undergraduate research, the time frame is limited to a period of six (6) months for completion with detailed findings. The proposed population sample will be gotten from the undergraduates of university of Ilorin as the research will be carried out within the geographical space of the University of Ilorin which is because no research related to this topic has been carried out within the geographical space of University of Ilorin.

1.7 Operational Definition of Terms

The following concept clarified will be used in this study in order to ascertain easy understanding by the reader. The concepts include:

Academic: pertaining to school

Academic Behavior: The attitude of students towards learning and academic activities...

Academic Performance: There is no standard definition for student academic performance but in this study academic performance is defined as the performance a student has maintained in his/her academic career. At university level, it is a student's persistent maintenance of his/her GPA.

Attitude: The disposition or state of mind of an individual.

Communication: Information exchange between people.

Digital Literacy: Having the knowledge of computer.

Entertainment: An activity designed to give pleasure or relaxation to an audience.

ICT: This means all devices, networking components applications and systems combined that allow people and organizations to interact in the digital world.
Internet: It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies.
Procrastination: Procrastination is the act of delaying due to laziness.
Technology: All the different and usable technologies developed by a culture or people.
Undergraduate: Undergraduates are students in the tertiary institutions pursuing their first degree programme in various disciplines.

\

CHAPTER TWO
LITERATURE REVIEW

2.1 Preamble

The focus of this chapter is literature review. The review of the literature provides the background and context for the research problem. This chapter would be focusing on the reviews related or have direct inference on the study "Digital literacy and attitudes of undergraduates towards utilization of the internet". The importance of a literature review include the fact that it will help Identify areas of prior scholarship to prevent duplication of effort,. This implies that the work will not be a duplicate of an already existing similar work. Furthermore it helps to sharpen research focus and create a good connection with the reader or audience to whom the work will be presented.

2.2 Conceptual Clarification

This sub-section of the study contains concepts that are made clear with reference to related works that have being previously studied in accordance to the purpose of this study.

2.2.1 The Concept of Digital Literacy

Paul Gilster first popularised the term in his book, 'Digital Literacy', published in 1997. He conceived of digital literacy as simply, 'literacy for a digital age'. Like any fashionable term, "digital literacy" has enjoyed a broad range of uses in the literature, from reference to technical aspects (e.g., Bruce & Peyton, 1999; Davies, Szabo, & Montgomerie, 2002; Swan, Bangert-Drowns, Moore-Cox, & Dugan, 2002), to cognitive, psychological, or sociological meanings (e.g., Gilster, 1997; Papert, 1996; Tapscott, 1998).

Digital Literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills. It further states that a digital literate person possesses the variety of skills – technical and cognitive – required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats; is able to use diverse technologies appropriately and effectively to retrieve information, interpret results, and judge the quality of that information (ALA Digital Literacy Taskforce, 2011).

California ICT Digital Literacy Assessment and Curriculum Framework provides a more detailed definition of digital literacy as the ability to use digital technology and communications tools, and/or networks to access, manage, integrate, evaluate, create and communicate information in order to function in a knowledge society (California Emerging Technology Fund, 2008).

Jones Kavalier & Flannigan (2008) state ability to perform tasks effectively in a that digital literacy represents a person's digital environment; digital means information represented in numeric form and primarily use by a computer, and literacy includes the ability to read and interpret media, to reproduce data and images through digital manipulation and to evaluate and apply new knowledge gained from digital environments.

Similarly, digital literacy as used by the European Reference Framework (2010) is the confident and critical use of information technology for work, leisure and communication, underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information and to communicate and participate in collaborative networks via the internet (European Communities, 2007).

Aviram & EshetA lkalai (2006) describe digital literacy as a combination of technical procedural, cognitive and emotional-social skills. Sefton-Green, Nixon & Erstad (2009) explained that the concept is used to describe our engagements with digital technologies as they mediate many of our social interactions; they say, however, that the literacy participation in digital practices and cultures are complex associated with. Further they opined that to be digitally literate is to have access to a broad range of practices and cultural resources that you are able to apply to digital tools. It is the ability to make and share meaning in different modes and formats; to create, collaborate and communicate effectively and to understand how and when digital technologies can best be used to support these processes.

Eshet-Alkali & Amichai-Hamburger (2004) give a broad meaning to the term: they suggested digital literacy is to consist of five major digital skills: photo-visual skills ("reading" instructions from graphical displays), reproduction skills (utilizing digital reproduction to create new, meaningful materials from existing ones), branching skills (constructing knowledge from non-linear, hyper-textual navigation), information skills(evaluating the quality and validity of information), and socio-emotional skills (understanding the "rules" that prevail in cyberspace and applying this understanding in online cyberspace communication).

Digital literacy is the ability to understand and use information in multiple formats from wide range of sources when it is presented via computers effectively in a digital environment. A person's ability to perform tasks Literacy includes the ability to read and interpret media, to reproduce data and images through digital manipulation knowledge gained from digital environments. Furthermore, digital literacy is the skills, knowledge and understanding that enable critical, creative, discerning and safe practices when engaging with digital technologies in all areas of life. Some people associate digital literacy simply with the functional skills of being able to use a computer or particular software package effectively. But digital literacy is about much more than having access to or being able to use a computer. It is about collaborating, staying safe and communicating effectively. It is about cultural and social awareness and understanding and it is about being creative. Being digitally literate is about knowing when and why digital technologies are appropriate and helpful to the task at hand and when they are not. It's about thinking critically about all the opportunities and challenges digital technologies present.

2.2.2 The Meaning of Internet/internet Utilization

The Internet is a globally interconnected set of computers through which information could be quickly accessed. Internet has become an invaluable tool for learning, teaching and research. Internet could be regarded as technology evolved in furtherance of the concept of paperless society. It is a super high wave invention, which is already advancing the cause of humanity of the greatest height especially in this millennium (Onatola, 2004). Jones (2003), stated that the services derived from the internet are many and may not be exhausted. These include: File sharing and topic searching, Education or Elearning, Virtual Libraries (V.Libs), Technology and Communications, Archival Information Storage, Chatting, Electronic Mail (e-mail), Surfing the Internet, Entertainment, Electronic Commerce, Blog amongst others.

The Internet sometimes simply called "the Net" is a worldwide system of computer network- a network of networks in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users at other computers). It was conceived by the Advanced Research Projects Agency (ARPA) of the U.S. government in 1969 and was first known as the ARPANET. The original aim was to create a network that would allow users of a research computer at one university to be able to "talk to" research computers at other universities (http://searchwindevelopment.techtarget.com).

The concept of utilizing the internet services and access, according to Wikipedia (2007), is that the process enables individuals and organizations to connect using computer terminals, computer networks. Once connected to the internet, users can access internet service such as E-mail and World Wide Web (www). Internet Service Providers (ISPs) offer internet access through various technologies that offer a wide range of data signalling rates (speeds).

According to the Middle-belt Journal of Library and Information Science, (2016), the internet is a worldwide system of computer networks, a network of networks in which users at any one computer can get information from any other computer if given the permission (and sometimes talk directly to users at other computers). In view of this, to connect to the internet via a range of device, desktop and laptop computers, mobile phones and tablets are the most commonly used devices. However, in order for any device to actually get connected online, requires signing up for a specialized service for accessing the internet. According to Gray, (1999), the internet access services are generally

of two types: The internet fixed to a specific location and provided by internet service providers and Mobile phone networks. The Internet is a computer mediated communication tool, providing the individual with access to a broad spectrum of information and unique communication technologies. It allows students to broaden their academic experience, access important information and communicate to others within academic community. Today, the internet comprises more than 45,000 regional, national and international networks, which connect more than 30million people in over 200 countries (ibid).

The Internet has become a public, cooperative, and self-sustaining facility accessible to hundreds of millions of people worldwide. The Internet has broken down barriers of communication and information access from anywhere in the world. It is often referred to as "Information Highway" because of its capacity to transmit a vast amount of information to anybody anywhere in the world. It is fast, reliable and does not have much restriction on content, format or geographical location. It also has a wide range of facilities which assist users to access the almost infinite information on the net. It thus offers the opportunity for access to up to date research reports and knowledge globally. It has thus became an important component of electronic services in companies, organizations, government, individual set-up as well as institutions especially libraries.

The Internet is a valuable source of information used by students. It can be used as a supplement to traditional instructional methods. To complete a lecture, instructors may ask students to find specific web sites to gain more in-depth knowledge about a particular topic. Internet resources provide the flexibility necessary to approach a concept from various perspectives.

2.2.3 The Concept of an Undergraduate

Undergraduates are students in the tertiary institutions pursuing their first degree programme in various disciplines (Osunade, Philips & Ojo 2007). Due to their heavy workload, the undergraduates usually search for information in various sources to support their learning activities. Depending on the mode of study, an average undergraduate is expected to spend a minimum of three years and a maximum of six years in the university (Osunade, Philips & Ojo 2007). They also pointed out that academic performance of an undergraduate in this century depends on his/her digital literacy skills to identify the credible information on the internet. Information and Communication Technology has pervaded all sectors of human endeavours.

Undergraduates are students of universities and colleges. These individuals have definitely finished high school or secondary school learning and have been accepted or admitted into a university or college to study a course of their choice but yet to graduate for example in Nigeria, a student is expected to take whole level exams such as WAEC or NECO after which apply for JAMB examination to choose a university programmer, he or she is expected to sit for the JAMB examination and also take the university POST-UTME examinations in order to accredit such a student for the undergraduate program. It is a tertiary entrance procedure that confirms an aspiring undergraduate or O-level graduates to become an undergraduate. The term "under" is added to specify these university of college students because there are also graduate students. By graduate students, I imply students who have a college or university degree such as Bachelor in Science (B.Sc.). This certifies that such individuals have completed their university program and as such no longer regarded as undergraduates. These individuals set on a chase after an advanced degree such as Master's degree or Ph.D.

2.2.4 The Concept of Attitude

The dictionary meaning of 'attitude is settled behavior as indicating opinion'. Thurstone (2008), has defined attitude as "the sum total of man's inclination and feelings, prejudice or bias, preconceived notions, ideas, fears, threats and convictions about any specific topic". Further, Thurston says about Attitude: "The degree of positive or negative affect .associated with some psychological object."

The concept of attitude has several characteristics that differentiate it from other concepts referring to internal states of the individual. Sherif & Sherif, (2003) state:

i. Attitudes are innate. They belong to that domain of human motivation variously studied under the labels of "social drives", "social need", "social orientation" and the like. It is assumed that the appearance of an attitude is dependent on learning.
ii. Attitudes are not temporary states but are more or less enduring once they are formed. of course, attitudes do change, but once formed, they acquire a regulatory function, such that, within limits, they are not subject to change with the ups and downs of homeostatic functioning of the organism or with every first-noticeable variation in the stimulus conditions.
iii. Attitudes always imply a relationship between the person and the objects. In other words, attitudes are not self generated. Psychologically they are formed or learned in relation to identifiable referents, whether these be persons, groups, institutions, objects,
values, social issues, or ideologies.
iv. The relationship between person and object is not neutral but has motivational affective properties. These properties derive from the context of highly significant social interaction in which many attitudes are formed, from the fact that the objects are not neutral for other participants, and from the fact that the self, as it develops, acquires positive value for the person. Therefore, the linkage between self and the social environment is seldom neutral.
v. The subject-object relationship accomplished through the formation of categories, both differentiating between the objects and between the person's positive or negative relation to objects in the various categories. The referent of an attitude constitutes a set that may range theoretically from one to a large number of objects. However, in actually the formation of a positive or negative stand towards one object usually implies differential attachment to others in the same domain.

Anastasi, (2008) conceived of attitude to be often defined as a tendency to react favourably or unfavourably towards a designed class of stimuli, such as a national or racial group, a custom or an institution. From this, it is clear that in actual practice, the term "attitude" has been most frequently associated with social stimuli and with emotionally toned responses.

Freeman, (2003) defined attitude as a dispositional readiness to respond to certain situations, persons, or objects in a consistent manner which has been learned and has become one's typical mode of response.

Allport, (2007) explained attitude to be a mental and neutral state of readiness, organized through experience exerting a directive or dynamic influence upon the Individual's response to
all subjects with which it is related.

Brown, (2005) has defined attitude as, "An attitude acquired and relatively fixed tendency to react in a given way in relation to other persons or things."

Skinner, (2009) says: "It deals with emotional content, important beliefs, prejudices, biases, predispositions, appreciations and states of readiness or set.

Attitudes are individual's mental processes which determine both the actual and potential responses of each person in a social world (Guilford, 2009). Since an attitude is always directed towards some object, it may be defined as" the state of mind of the individual towards a value". Attitude is a mental and neural state of readiness organized through experience exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related (Drever, 2007). Attitude is the predisposition of the individual to evaluate some symbol or object or aspect of his world in a favorable manner. An enduring system of positive or negative evaluations, emotional feelings, and pro and con action tendencies with respect to a social object (Stephens, 2001). An attitude is the degree of positive or negative affect associated with some psychological object. An attitude, roughly, is a residuum of experience, by which

further activity is conditioned and controlled. We may think of attitudes as acquired tendencies to act in specific ways towards objects (Bombay, 2008).

Attitudes are overall evaluations that express how much we like or dislike an object or an action. Attitudes are learned, and they tend to persist over time. Our attitudes reflect the overall evaluation of how much we like the concept based on the set of associations linked to it. Similarly, just as we have schemas for brands, products, ads, people, activities, and countries, we also have attitudes toward brands, product categories, ads, internet, people, countries, types of stores, universities etc.

2.3 Origins: Information and Computer Literacies

Gilster's idea of digital literacy did not appear "out of the blue." There was already a substantial set of literature and practical experience around the ideas of information literacy and computer literacy: for detailed accounts of the early history of these ideas; see Bawden (2001), Snavely and Cooper (1997), & Behrens (1994); for accounts of later developments, see Andretta (2005, 2007), Virkus (2003), & Webber and Johnson (2000). Both of these terms (together with equivalents such as "IT literacy") originated largely to describe sets of specific skills and competences needed for finding and handling information in computerized form. "Computer literacy" was the term mainly in vogue through the 1980s, with "information literacy" gaining popularity in the 1990s. The former term, still in use in some quarters, has for the most part retained its original and straightforward "skill set" implication, based on being able to operate commonly used software packages effectively. The latter has broadened its meaning, has been accepted as a multifaceted concept, and has been understood in various ways. The information literacy concept has been largely, though not exclusively, promoted by the academic library community. It slowly grew to take on a wider meaning than its original skills-based formulation, and started to encompass aspects of the evaluation of information, and an appreciation of the nature of information resources. Though still focused on computerized information, which was believed to be most problematic to its users, it grew to encompass the use of printed resources, and hence to overlap with such concepts as "library literacy" and "media literacy" (Bawden, 2001). At a relatively early stage in the development of the concept, in 1989, the American Library Association promulgated a six-stage model for information literacy, which has had great influence. This regarded information literacy as comprising six aspects of a linear process of information handling:

- recognizing a need for information
- identifying what information is needed
- finding the information
- evaluating the information
- organising the information
- using the information

This still forms the basis for most approaches to information literacy to the present day, though much elaborated, extended, and refi ned, and with numerous variants differing in detail and emphasis. Usually this involves adding extra aspects, e.g., splitting "finding information" into "choosing resources" and "searching" and "accessing the items identified," or adding aspects such as "communicating information," or "storing / archiving / deleting information," where they are important in a particular context. An example is the "seven pillars" model, developed by SCONUL (Society of College, National, and University Libraries) in the UK (SCONUL, 2006), which distinguishes the following seven aspects:

- recognize information need
- distinguish ways of addressing gap
- construct strategies for locating
- locate and access
- compare and evaluate

- organize, apply and communicate
- synthesize and create

This understanding of information literacy goes somewhat beyond the skills-based computer literacy model, by including softer skills such as evaluation of information and recognition of information need, but is still a rather prescriptive and formulaic approach, based upon the assumption of a formally expressed information need. It is also very much a model used for planning training courses in information literacy, and widely used for that purpose within academic libraries, also forming the basis for interactive tutorials. During the 1990s, an alternative viewpoint emerged, although it never challenged the popularity of the "six stages" style of model. This viewpoint saw information literacy less as a series of competences to be mastered and more as a set of general knowledge and attitudes to be possessed by an information literate person. Notable is the set of seven key characteristics presented by Bruce (1994, 1997), such that the information literate person is one who:

- engages in independent self-directed learning
- uses information processes
- uses a variety of information technologies and systems
- has internalized values that promote information use
- has a sound knowledge of the world of information
- approaches information critically
- has a personal information style

Somewhat similar broad concepts, combining general knowledge and attitudes with specific skills, have also been described under the headings of "network literacy" (McClure, 1994), "informacy" (Neelameghan, 1995), and "mediacy" (Inoue, Naito & Koshizuka, 1997). For comparisons, see Bawden (2001) and Bawden & Robinson (2002), but, in essence: the first focuses on digital information in networked form, and is synonymous with "Internet literacy"; the second implies traditional literacy, plus information literacy; while the third emphasizes an ability to deal with digital information in a variety of media.

It seems clear that Gilster's digital literacy is to be located among these proposals; as a very broad concept, not restricted to any particular technology or form or information, and focusing on personal capabilities and attributes, rather than on any particular skill set. Its advantage over the others is its combination of the specific and the general, and (perhaps ironically) its lack of a strong structure, so that it is a general concept adaptable to changing times and concerns. What Gilster wrote with examples of search engines, databases and mailing lists works just as well with examples of folksonomies and social media, social networking sites, and weblogs. The principles outlast the specific systems and technologies.

As noted above, for most of the decade following the publication of Gilster's book, the concept of digital literacy received relatively little attention, compared with the enthusiasm for the more prescriptively defined "information literacy," used as the basis for many training programs and tutorials, particularly in higher education. Some attempts were made to derive specific lists of competences from Gilster's conception for use in training programs (Bawden, 2001), but these seem a somewhat inappropriate development, and have not gained wide interest.

2.4 Digital Learning and It Challenges

Digital learning also known as E-learning refers to learning that occurs through computer-mediated opportunities, such as using computers or mobile phones, to access content made available online. Researchers have observed that e-learning transcends time and place, enabling learning and teaching to occur at any location at any time, as well as facilitating wider inclusion of learners, such as the unemployed (Islam, Kunifuji, Hayama & Miura, 2011). In addition, researchers have noted a positive student attitude toward e-learning, where systems are easy to use and relevant to course

work (Ademole-Odeshi, 2014). E-learning is widely employed in higher education, as well as in the more public domain, via a range of tools supporting digital learning, such as instructional videos produced by subject experts and members of the public.

Digital learning opportunities, such as the e-tutorial, can offer critical learning points during the learning process, enhancing and deepening students' understanding of particular topics. Students, however, can have mixed experiences of digital learning. For instance, Loh, Wong, Quasi & Kingshott (2016) found that students identified flexibility and learning achievements as the strengths of e-learning. Flexibility offered self-paced learning and anywhere-anytime completion. On the downside, students perceived difficulties with collaborative opportunities and accessing materials online. Students also have expectations, such as the incorporation of visual information in online learning, to help them stay alert and focused (Michael, 2012).

Mestre (2012) compared students' use of a screencast library tutorial with a web-based tutorial with screenshots and found that students were better at re-creating tasks when using the screenshots in the web-based tutorial. Paechter, Maier & Macher (2010) found that students who took advantage of self-paced and collaborative learning opportunities were more likely to learn more. Students' achievement goals were related to perceived learning goals, leading the authors to suggest e-learning course design should provide self-paced learning and self-testing to measure continuous learning progress. In addition, students valued instructors' expertise with e-learning and support for learning online, suggesting that instructor training is a key component of learning in the digital environment. Carré (2017) found that an instructional designer can also effectively help faculty members convert their courses to online offerings.

Although e-learning has now been around for some time, there are still many instructors who have not adopted this form of learning (Vandenhouten, Gallagher-Lepak, Reilly, & Ralston-Berg, 2014). They identify team collaboration in the shift from face-to-face learning to e-learning as a significant challenge. Barber and King (2016) observed that digital teaching and learning pose significant pedagogical changes for higher education instructors, enabling them to become "facilitators, guides, collaborators and learners themselves," as opposed to traditional instructors. In spite of the potential for instructor learning, Gonzáles (2012) found that university instructors held mixed perceptions of e-learning opportunities; some instructors perceived a number of challenges to implementing e-learning, including a lack of training to use technologies supporting e-learning, additional time needed for teaching, computer competencies needed, and perceptions of students' abilities to take advantage of e-learning. Martins & Nunes (2016) suggested that the development of faculty trust, supported by an institutional approach, is essential to achieve the uptake of e-learning in higher education. This finding is echoed by the Organization for Economic Cooperation and Development (OECD) (2016), which reported that teaching should precede technology in importance, with digital technologies incorporated into education where they will have a positive impact on learning.

Digital learning can span multiple online learning opportunities, of which the e-tutorial represents one form. An e-tutorial captures information about a particular topic visually and orally, providing instruction in a brief session online, often interactively and/or incorporating multimedia elements, such as video, screen-casted instructions, and quizzes. Software products, such as Articulate, Camtasia, and Captivate, support the development of e-tutorial content, enabling student access through institutional virtual learning environments (VLEs).

2.5 Importance of Digital Literacy to Undergraduates

University remains the chief agents of progress in the society and progressive nations are those with flourishing universities. University helps in the development of nations by providing the high as well as the

middle level manpower needed for the social, economic and political advancement. This is done through the programme of teaching, learning, research and community services (Okiy, 2003). This places university education at the apex in the ranking of educational system, as it is designed to accommodate knowledge acquisition and production (Anunobi & Nwogwugwu, 2013). According to Merriam Webster Online Dictionary, Universities are institutions of higher learning that provide facilities for teaching and research and are authorized to grant academic degrees such as bachelor, master and doctorate.

Undergraduates are students in the tertiary institutions pursuing their first degree programme in various disciplines (Osunade, Philips & Ojo 2007). Due to their heavy workload, the undergraduates usually search for information in various sources to support their learning activities. Depending on the mode of study, an average undergraduate is expected to spend a minimum of three years and a maximum of six years in the university (Osunade, Philips & Ojo 2007). Academic performance of an undergraduate depends on his/her digital literacy skills to identify the credible information on the internet.

According to Thomas (2004), the Pew Research Center in 2001 reported that ninety-four percent (94%) of teenagers with access to Internet rely on online information for research tasks and seventy-one percent (71%) of them used the Internet as the major source for their most recent school projects. Fifty-eight percent (58%) of the students have used websites set up by the school or a class, thirty-four percent (34%) has downloaded a study guide while 17% have created a web page for a school project.

The preference of the electronic resources by undergraduates may be attributed to what Salaam, (2008) observes about its flexibility in searching than their paper-based counterpart, and that they can be accessed remotely at anytime. The emergence of electronic resources has removed the barrier to valuable information resources which until now were difficult to access (Mandinaeh, 2004). This attitude has affected the use of the library's collection and students' perception of library. Undergraduates reacquire skills and knowledge which can be dependent on many factors, such as level of digital literacy skills, academic status and ranks, ages, access (hardware and location) to electronic database resources and training.

Factors motivating use of electronic recourses can be level of importance allocated to e-resources, how useful they have found them, and for which purposes they use e-resources (Edewor, 2008). Undergraduates' purpose of using Electronic Database Resources (EDR)/ICT could be for assignment, research report, term paper, seminar, preparing for examination, preparing lecture notes, or/and for self development (Adetinmirin, 2011).

A study conducted in Australia by Deng, (2010) found that there were various purposes for a user to use e-resources including: gathering information on a specific topic, gaining general information, obtaining answers to specific questions, completing assignments, reviewing literature, writing essays and helping decision making. It also found that respondents use e-resources for each of the above purposes. Such an observation reflects the fact that currently users are dependent on the availability of e-resources for meeting many of their academic needs (Dolo Nadlwana, 2013). Therefore, Computers and related electronic database resources have come to play a central role in education (Lang, 2008).

For undergraduates to enjoy the benefit provided by electronic database resources, undergraduates need a composite skill which is referred to as digital literacy skills. This skill will help them to acquire information literacy skill, media literacy skill, and ICT literacy. All these skills will enable them to connecting to library database resources. Digital literacy skill is vital to enhance their confidence in use of electronic databases in the library.

Therefore, Digital literacy skill is necessary for retrieval of relevant and up-to-date information for student's work. Kari (2004) explained that skills required to use electronic database resources are higher than the one required for searching printed sources and that students need to master certain skills to exploit and use the growing range of e-resources (Margaret-Mary Ekenna & Mabawonku Iyabo, 2013). Undergraduates therefore need skills such as, informational literacy skills, ICT literacy and media literacy skills for speedy retrieval of the exact information needed from electronic resources.

Okello-Obura & Magara (2008) stated that computer skills of students should be improved for accessibility and utilisation of e-resources. According to Mutshewa (2008), skill is improved through practice and frequent use of information retrieval system such as electronic database resources. Mutshewa pointed out that there is a need for well-defined development programmes that could help people to be competent in the use of information retrieval system. Also, Oliver (1995) stated that users should have appropriate instructions and frequent activity with electronic information system.

In light of the rapid and continual development of digital technology, undergraduate students are required to use a growing variety of technical, cognitive, and sociological skills in order to perform tasks and solve problems in digital environments. These skills are referred to in the literature as "digital literacy" (Pool, 1997).

Inferring from the above, digital literacy gives undergraduates the ability to take advantage of the wealth of new and emerging opportunities associated with digital technologies whilst also remaining alert to the various challenges technology can present. In short, digital literacy is the 'savvyness' that allows students to participate meaningfully and safely as digital technology becomes ever more pervasive in society.

2.6 Undergraduates' Attitude Towards the Internet

Attitudes have been shown to be an important predictor of usage and implementation of technology (Rodgers &Chen, 2002). While attitudes are not directly observable, they can be inferred from responses given that show some state or disposition that has been engaged (Eagly & Chaiken, 1993). The assumption by researchers is that attitudes are formed through a cognitive learning process where one gains information and then form beliefs. The information is gained through experiences with the object, such as the internet or a particular website (Eagly & Chaiken, 1993). With the high usage of the internet, it can be assumed that undergraduate students have had many experiences on the internet and have formed attitudes towards its educational usage. As more and more undergraduate students and educators are envisioning the internet as a source for information to be used in the classroom, it is important that we monitor students' attitudes and usage to ensure curriculum is developed to meet the needs of this technology rich generation. Today, the internet comprises more than 45,000 regional, national and international networks, which connect more than 30million people in over 200 countries. The networks include organizations, schools, universities, companies, government, groups and individuals (Gray, 1999). Levin (2003) stated the internet as a new invented technology, holds the greater promise humanity has known for learning and universal access to quality education. It allows students to broaden their academic experience, access important information and communicate to others within academic community.

By and large, vast majority of undergraduates in universities world over, recognized the importance of computer literacy and the Internet as the key for success in their personal and professional lives (Sanders & Morrisson-Shetlar 2001).

In general, Katz, Gurevitch & Haas (1973) summarized the basic needs which Internet users intends to gratified while using the Internet - cognitive needs (acquiring information, knowledge, and understanding), affective needs (emotional, pleasurable, or aesthetic experience), personal integrative needs (strengthening credibility, confidence, stability, and status), social integrative needs (strengthening contacts with family and friends) and tension release needs (escape and diversion). Furthermore, Slone (2003) identified three reasons for using the internet as business, personal and academic purposes. The reasons were also presented to be for entertainment, socials, ecommerce (e-marketing, e-shopping) and games (Olasina, 2006). Confirming young people's use of internet for entertainment.

Investigations of student Internet use have proven especially insightful, as research on this group allows for an examination of gender differences within an institution in which the male and the female generally have equal access to the Internet (Odell, Korgen, Schumacher & Delucchi,2001

cited in Ozoemelem, 2010). The most pronounced gender difference in Web use is found in the online applications used by males and female. Male undergraduates are more likely than their female counterparts to use the Internet for recreational purposes (e.g., playing games online, visiting adult-only sites, gambling, accessing news groups and discussion forums, staying abreast of news developments, and seeking information for personal use), while females are more likely to use the Internet to talk to family and friends (Goodson, McCormick, & Evans, 2001; Jackson 2001; Odell 2000; Scealy, Phillips, & Stevenson, 2002 cited in Ozoemelem2010). These findings appear to reinforce the widespread assumption that men prefer to use the Web for information gathering and entertainment and women prefer to use the Internet for communication (Shaw & Gant, 2002).

On one hand, Jackson, (2001) in Ozoemelem (2010) found that females in general tend to exhibit less favorable computer attitudes. Similarly, Schumacher & Morahan (2001) ascertain that participation by females on the Internet is hampered by their attitudes towards computers, which in turn is reflective of their attitudes towards new technology. On the other hand, Zhang (2002) asserts that female students possess more positive attitudes than male peers. Other several investigations subsequently carried out have reported that gender has no significant effect on user attitude (Jennings 2001; Shaw 2002). The inconsistencies in these findings revealed how the increasing number of female Internet users is altering women's attitudes regarding computers and the Internet as well.

Slone (2003) observed that 50% of 13 - 17 years age group in America use internet for recreational goals while the remaining 50% use it for educational purposes. Meanwhile, a review of the literature concerning the Internet usage among the Americans revealed that once stark gap between the male and the female is closing rapidly, but disparities remain in the purposes for which males and females use the Internet (Odell, 2001 cited in Ozoemelem, 2010). This therefore means, even with the rapid increase in availability and accessibility of the Internet facilities and services, there may still be differences in the purposes for which male and female students use the Internet.

Precise data on Internet usage and purposes of using it are extremely difficult to obtain, especially from developing countries, and the available data lack reliability and comparability (UNCTAD, 2002). Nonetheless, statistics on Internet access and patterns of its usage across countries reveal gender as one of the most important factors influencing Internet adoption and usage. The degree of gender bias in the adoption of the Internet varies widely across the world. Among Internet users, the male-female ratio ranges from 94:6 in Middle East to 78:22 in Asia, 75:25 in Western Europe, 62:38 in Latin America, and finally 50:50 in USA. There is great variability even within a region. In Western Europe, for instance, the male-female ratio in Internet use varies from 70:30 in Italy to 55:45 in Germany (IWS, 2012).

In Nigeria, Anunobi (2006) revealed that 81% of students at Federal University of Technology Owerri, Nigeria, used Internet for academic purposes as compared to 15% who used it for entertainment purposes. Adekunmisi, Ajala & Iyoro (2013) in a survey on Internet access and usage by undergraduate students of Olabisi Onabanjo University, Nigeria posit that ―majority of the respondents used the Internet for personal communication purposes, for academic and research activities, for leisure/entertainment, for general knowledge and for current news. Fasae & Aladeniyi (2012) in a survey in two Nigerian Universities on Internet use by students found that ―out of the total number of students, 78% of them used the Internet for communication purposes, 89% for educational purposes and 58% for entertainment purposes. Buhari, (2013) found that undergraduates used the Internet purposely for e-mail (17.2%), for information (16.2%), for conduct of research (29.0%) and for entertainment (2.6%).

Wilkinson (2003) reported that most of the links between universities home pages were associated with information on research or education. Hence, education today no longer begins and ends within the four walls of schools and universities. In the same vein, Chavez (1997) opined that

internet and computer usage has impacted positively on critical thinking, problem solving, prompt feedback and networking. The strength of internet lies on the unprecedented growth of its network world wide and its ability to connect computers and several individuals without the barrier of geographical space. The use of the internet in education allows a wide range of international resources to be accessed. Resources can be very well organized on the internet, which allow for easy information access and exchange (Hicks, 2002). Through the internet, many different activities can be assigned to the students, which will enhance their education (Hicks, 2002). One of the most basic uses of the internet by students is to search for sources and information to complete course assignments. The internet's ability to provide students quick access to government documents, scholarly listservs, and databases located at geographically-removed institutions makes it a valuable information source for students (Benson, 1994; Browne, 2000; Lubans, 1998; Ryan, 1994). Anything from having discussions with foreign students to research about the universe is possible. Hicks (2002) conclude that the internet is a double-edged sword, as students can access any educational data-base, learn about any country, they can also be subjected to perverse and deviant topics. Faculty can use the internet infrastructure to improve and supplement traditional courses and degree programs. Library holdings can be digitized and made available both on and off campus. Guernsey (2002) noted that universities in New York routinely provide internet connections in residents' rooms, a circumstance that brings together the most powerful predictors of greater use, access, and education.

Mathew & Schrum (2003), in a random survey of 364 students in an Australia university on internet use, revealed that students use the internet for communicating with the professors through emails by asking for clarification or reporting information, e-mailing papers, and getting feedback. Secondly, they use the internet to get materials (web links, notes, practice, quizzes, hints for test etc.) from professional websites, checked grades, and accessed resources from WebCT. A survey of a large Australian university by Council of Australian University Librarians (CAUL) (2001) revealed that 88% students used Internet for course related research. In a related survey, NCES (2001) in the U.S. found that 715 of online students said they relied mostly on internet sources for the last big project they did for school and 345 of online young people aged 12-17 downloaded study aides from the internet (Lenhart, 2001). Mashra and Bisht (2005) conducted a study on internet utilization pattern of undergraduate students in College of Agriculture and Technology, Pantnagar. The findings showed that 61.5 respondents of the males and 51.6 of the females used the internet for the purpose of preparing assignments. Papastergious & Solomonidou (2005) in a study conducted among high school students in Greece to find out the gender issue on use of the internet and favourite activities. They reveal that of the majority of the students, 73 out of 124 students (58%) searched the web for information about school courses, while fewer of them engaged in communication activities via chart, e-mail or video conferencing and in web page creation. Krant (1998) & Scherer (1997) show that electronic mail and World Wide Web browsing were the most often used internet applications.

Mishra (2009), studied the use of internet at the University of Maiduguri, Nigeria, the findings showed that internet was very important for 60.8% of the respondents, with 71.5% using the internet for research; 71.5% mentioned Google as their preferred search engine and concluded that necessary facilities should be put in place for faculty and students to make optimal use of information resources available on the internet..

Adomi, Okiy & Ruteyan (2003) reported that the use of Internet has grown in most urban areas in Africa. Reporting further that as at 1966, 33 of the 54 African Nations have Internet public access services. Some of these countries include; Algeria, Angola, Central Africa Republic, Benin, Cote d'ivore, South Africa etc, while Nigeria had no live Internet public access services in her cities at that time. However, as at now every capital city and major towns in Nigeria now have Internet Public Access Services and as indicated by 2002 status report on the African Internet by Ojedokun

(2001), the number of dial-up Internet subscribers was close to 1.7 million in Africa. Adomi et al (2003) further noted that there are now many thousands of cybercafes business centers in the major cities of Nigeria.

Though there is dearth of research on the use of Internet services in higher education in Nigeria, research elsewhere have indicated that various categories of the university community member are using Internet for various educational purposes. For instance, the works of Dyril (1994), Gallo & Horton (1994), Bruce (1995) & Fabry and Higgs (1997) who all studied different aspects of ICT implementation for educational purpose were of particular relevance.

In Nigeria, Jagboro (2003) evaluated the level of utilization of Internet for academic research among postgraduate students spanning art and science based programmes at the Obafemi Awolowo University, he revealed that respondents ranked the use of research materials on the Internet fourth (17.3%) and concluded that the use of the Internet for academic research would significantly improve through the provision of more access points at departmental and faculty levels. Aduwa-Ogiegbaen (2005) in this work on "Extent of faculty members' use of Internet in the University of Benin, Nigeria" found out that lecturers of this university popular Internet uses were in searching for journals to write and publish their research articles; word processing; searching for relevant instructional materials; accessing of reference materials and the use of Internet in course.

Similarly, a study conducted by Anasi (2006) at University of Lagos, Nigeria on pattern of Internet use by undergraduate students revealed that the level of Internet use is low among the respondents from the Faculties of Education and Law. The study further revealed that though majority of the students browsed the Internet, many of them cannot design search strategies even though their Internet use had very high impact on their academic or career related activities. In another study conducted at Hezekiah Oluwasami Library by Olufemi (2006), her findings revealed a high percentage use of the Internet among the undergraduate students even though the access point for them was through the commercial cyber cafes where they paid for access time through their pocket money but however concluded that their use of Internet had not affected their use of the library.

Ebersole (2000) in his study reported that respondents to the internet usage among undergraduate students gave the following reasons for using the internet:

i. Research and learning (52%)
ii. Communicate with other people (7%)
iii. Access to material otherwise unavailable (5%)
iv. Find something existing/ fun (8%)
v. Finding something to do when bored (5%)
vi. Sports and game information (1%)

A number of universities in Nigeria are now making frantic efforts to improve on their ICT infrastructure; the Obafemi Awolowo University (OAU) became a leader among the universities in establishing internet and computing infrastructure through assistance from foreign agencies. OAU began with the establishment of a campus wide-area wireless network funded by the World Bank through the international centre for Theoretical Physics (ICTP) based in Trieste Italy. The network is tagged OAUNet (INTECU, 2006). Now, the academic subnet of OAUNet currently connects 2 colleges and thirteen faculties equipped with a 20km of 2 Gigabit fibre and connects to the internet on a bandwidth of 6Mbps/1.5Mbps bandwidth (INTECU, 2006). In addition to this, OAU also have in her premise eight cyber cafes namely; Eldorado, Infinite grace, Awo internet café, Rotunda, Conference centre, Firstnet, Cyber haven, UNIFECS with VSAT installation of varied capacities. All these are to promote students' educational use of the internet. Goldman (1999) has argued that computer usage has numerous benefits as it primarily assists students'

learning. Chavez (1997) argued that internet and computer usage can also impact positively on critical thinking, problem solving, prompt feedback and collaborative instruction. Therefore, online learning, using ICT and e-learning, have become the norm across tertiary educational institutions where students have been identified as stakeholders in the development and implementation of e-online learning.

2.7 Constraints Encountered in Internet Utilization Among Students

The challenges of internet resources are those things that affect the resources of the internet or those things that makes information on the internet inaccessible. Researches have been carried out by different scholars on internet, its accessories, its challenges etc. at different points of view. Ezeani & Igwesi (2012), stated that the issue of insufficient bandwidth is one of the challenges facing the undergraduate students in using internet resources for academic purpose. According to the authors, it was frustrating and most university only go for higher bandwidth during accreditation time. Ezeji (2008), also pointed out that the major challenge that affects undergraduate students in the use of internet resources is inadequate power supply. For instance, one may be in the middle of an important work and suddenly there is power outage which results in wasted efforts, time and frustration may set in. Lack of information technology to effectively utilize the services is another challenges facing the undergraduate students in accessing the internet for academic purpose.

Lack of training of staff in the use of computer and associated technologies was identified by (Opeke & Onuorah, 2013). In their study stated the challenge hinders effective delivery through the use of internet resources in libraries. Most library staff lacks skills that are required to adopt social networking tools for effective services. It is important to train libraries to manipulate the technologies that those tools are housed in the library.

A pilot study done by Harris (University of Texas at Austin) and Grangennett (University of Nebraska at Omaha) made reference to several well known researchers. Computer anxiety levels have been found to be better predictors of success in using computers that is extent of prior computer experience (Marcoulides, 1988), but computer anxiety scores are not related to amounts of computer experience (Rosen, Sears & Weil, 1987; Marcoulides). Computer experience appears to effect attitudes about computers, rather than computer anxiety (Gressard & Loyd, 1986, Igbaria & Chakrabarti, 1990).

Brown & Vician (1997) reported that computer anxiety has been associated with decreased use and worse, avoidance of information technology. Avoidance of computer use can seriously affect some students‟ academic progress, which may cause lower performance in business settings and ultimately affect career opportunities.

Hamizatul (1997), Yeap (1998) and Pang (1997) identified several factors that learn Internet skills were even stronger because of “a shortage of teaching staff” as well as equipment in institutions of higher learning. They further observed that students faced several major barriers to their successful use of library resources through Internet were genuine, students perceived that access was denied because of the inability to access databases remotely due to password requirements and/or license restrictions, difficulty in searching and justifying within the library and its websites costs of copying and printing at the library shortage of knowledge able librarians, lack of the customer orientation they have come to expect as consumers.

Mishra (2005) observed that the obstacles encountered by the students in internet use were 83.03 per cent male and 61.29 per cent females said slow functioning, 35.38 per cent male and 41.94 per cent females aid lack of skills for using the new medium, 32.31 per cent male and 29.03 per cent female said costly and 32.31 per cent male and 16.13 per cent female said poor facilities of internet in college as barriers in internet use. Some other problems were difficult in finding scientific materials related to their field (18.46%) male and 29.03% female), electricity failure (24.62% male

and 19.35% female), language (15.38%) male and 6.45 % female only) and internet oriented education is not being imparted (1.54% male only).

Singh (2002) reported that while using internet, two common problems are of Junk mail and spam. Spam is flooding the internet with many copies of the same message in an attempt to send massage to people who would not otherwise choose to recipient but spam causes inconvenience and costs the recipient money to receive it.

2.8 Internet Addiction Among Undergraduates

The excessive use of the Internet may have contributed to the destruction of many undergraduates that were not aware of the disadvantage of the Internet. For example, accessing porn websites, gambling, academic cheating, face-booking, chatting during lectures, playing games, listening to music, over night browsing are detriment to their studies and academic work. However, when the use becomes obsessive and at the expense of other aspect of life of the undergraduates, this use could be problematic and could be classified as Internet addiction (Shu & Chiehju, 2007). Although the positive aspects of the Internet have been readily praised, there is a growing amount of literature on the negative side of its excessive and pathological use (Frangos & Frangos, 2009).

Anderson (2000) noted that for many undergraduates, university is the first place where students gain their independence. Moving away from home means no curfews, no more asking for permission and no parents looking over them. In such environment, wireless connections allow students to access Internet from laptop computers and other hand-held devices without been monitored.

Excessive use of the Internet phenomenon may affect undergraduates with negative impacts on the academic, relationship, and other aspects of people lives (Griffiths, 2001; Young, 1998). Specifically Young (1996) in her study found that "many students are academically impaired to the use of the Internet across various application formats which may lead to student's difficulty in completing homework, assignments and late night sleep due to such Internet misuse . This will eventually result in poor grades and in some extreme cases withdrawal from the university.

Internet addiction has been described as a 21st century epidemic with prevalence estimates ranging from 0.3% in the USA to 18.3% in Great Britain (Christakis, 2010). In spite of the widely perceived use of the Internet by undergraduates of Nigerian universities, psychologist and educators have noted the negative impacts of its misuse, especially the problematic Internet use which is generally termed Internet addiction (Chou, 2001).

Undergraduates could manifest Internet addiction behavior in many ways such as losing track of time while on the Internet, intense preoccupation with the Internet without being conscious of it and a too much time spent on it, becoming irritated if disturbed while online, decreased social interaction with "real" people, feeling that the world outside of the Internet is boring, isolation from friends and family (Truer, Fabian & Furedi, 2001; Chou, 2001). All these may not only work against academic achievement but also hamper emotional stability and contribute to physical discomfort of students manifesting as sleeplessness, dry eyes or strained vision, severe headaches, back and neck ache (Joanna, Melinda, Lawrence & Jeanne, 2014).

Several researches have been carried out to explore the situation of Internet addiction in different places. Moraham-Martin and Schumacher (2000) finds that 8.1% of their 283 US students had four or more symptoms on Internet addiction. Also Johanson & Gotestam (2004) in their study applied Young's Diagnostic Questionnaire (YDQ) to study Internet addictive behaviors among Norwegian youth and they found out that "10.66% of the respondents had problematic Internet use. Arun (2015) investigated the problem of Internet addiction and their determinants among arts, engineering and medical college students in South India and found that the prevalence of Internet addiction is high among the college students, more than half of the study group (56.5%) showed

addiction; hence the problem of Internet addiction should gain significant attention. Young & Rodgers (1998) reported that the average Internet use among problematic Internet users is 38.5 hours a week and among healthy users is 4.9 hours a week.

Okwaraji, Aguwa, Onyebueke, Shiweobi-Eze (2015) studied the assessment of Internet addiction and depression in a sample of Nigeria university undergraduates and found that more male undergraduates were addicted to the Internet than females undergraduates.

Inferring from the above, internet may be seen as a global connection of computers that allows sending and receiving of all kinds of information such as text, graphics, video, voice and computer programmes and so Internet addiction is the excessive use of the Internet at the expense of undergraduates other academic engagements. The Internet has the propensity to divert its users' attention. Most times users spend more time on the Internet than they originally planned and may affect their overall productivity in other areas of life. The Internet is known to be addictive, since there are many activities on it that can hold its users spell bound for a long period of time. All these will lead the user to derail from his focus.

2.9 Appraisal of Literature

The forgone discussions revealed that in the existing body of literatures on the uses of the Internet reviewed by the researcher, not many and specific studies have been conducted in relation to digital literacy and attitudes of Nigerian university undergraduates towards the internet and their purpose of using it. This clearly indicates the gap in the literature which this study intends to fill. This study therefore, will cover undergraduates of the University of Ilorin. However only a sample of their total population will be used to make generalizations.

In review of the literature, researches done were mainly western which seem like an alienation of the black race point of view. This study intends to contribute to the previous research on digital literacy and attitude towards utilization of the internet from the perspective of Africans specifically Nigerian. Also the Nigerian university undergraduates, depending on their attitude and purpose of using the internet, have the potential to change the future of the technological level of the Nigerian society. If they have good behavioural intentions towards the uses of the Internet then the level and skills of Internet adaptation in our society will be brighter and if otherwise, then there is the urgent need to reorient and redirect their thinking.

CHAPTER THREE
THEORETICAL FRAMEWORK AND METHODOLOGY

3.1 Preamble

This section deals with the theoretical assumptions and methodology used in the course of this study. According to Hammond, Cheney & Pearsey (2014), "sociological theories are the core and underlying strength of the discipline". They guide researchers in their studies. They also guide practitioners in their intervention strategies. And they provide researchers with a basic understanding of how to see the larger social picture in their personal life. Broadly speaking, social theories are analytical frameworks or paradigms used to examine social phenomena. The term social theory encompasses ideas about societal change development, behavior, power, social structure, gender, ethnicity, modernity, civilization, revolutions and utopias (Harrington, 2005). Methodology in sociology refers to the scientific way that a researcher chooses to test a social theory, concept or hypothesis. According to Pearson (1990), the unity of all science consists alone in its methodology using distinct techniques depending on its peculiar problem and phenomena of study. On account of the level of variability and the desire to duplicate research work, there arise the need for this section in order to build a solid stand point for findings validation.

3.2 Theoretical Framework

The theoretical framework of this study contains the theory aimed at backing up and justifying the findings. The theoretical assumptions that would be used to guide the course of this study are:

- Social Action Theory
- Theory of Reasoned Action (TRA)
- Rational choice Theory

3.2.1 Social Action Theory

The concept of social action is the center of all social ideas of Max Weber. According to Weber, social action is that action of an individual which is influenced by the actions and behavior of other persons and by which its direction determined. Thus behaviours of individuals which are somehow influence, guided or determined by the actions of other individuals is called social action. Social action may be influenced by an act of the past, present or future. Talcott Parsons an American sociologist and scholar whose theory of social action influenced the intellectual bases of several disciplines of modern sociology, his work is concerned with a general theoretical system for the analysis of society rather than with narrower empirical studies. He is credited with having introduced the work of Max Weber and Vilfredo Pareto to American sociology. Parsons united clinical psychology and social anthropology with sociology, a fusion still operating in the social sciences. His work is generally thought to constitute an entire school of social thought. In his first major book, The Structure of Social Action (1937), Parsons drew on elements from the works of several European scholars (Weber, Pareto, Alfred Marshall, and Emile Durkheim) to develop a common systematic theory of social action based on a voluntaristic principle which implies that the choices between alternative values and actions must be at least partially free. Parsons defined the locus of sociological theory as residing not in the internal field of personality, as postulated by Sigmund Freud and Weber, but in the external field of the institutional structures developed by society. In The Social System (1951), he turned his analysis to large-scale systems and the problems of social order, integration, and equilibrium. He advocated a structural-functional analysis, a study of the ways in which the interrelated and interacting units that form the structures of a social system contribute to the development and

maintenance of that system. The social action theory is aimed at observing how human behaviours relate to cause and effect in the social realm.

The theory of social action, more than structural functionalist positions, accepts and assumes that humans vary their actions according to social contexts and how it will affect other people; when a potential reaction is not desirable, the action is modified accordingly. Action can mean either a basic action (one that has a meaning) or an advanced social action, which not only has a meaning but is directed at other actors and causes action (or, perhaps, inaction). Based on this, in relation to digital literacy and attitude towards utilization of the internet, a digital literate may tend to use the internet for any purpose dependent on his/her ability to create an analysis of the variation in choices or purposes before a decision is made on what purpose to use the internet for. Furthermore, in making these decision on what purpose to use the internet for, the individual may be rational or instrumental. By being rational, the individual will engage in actions which are taken because it leads to a valued goal, but with no thought of its consequences and often without consideration of the appropriateness of the means chosen to achieve it (the end justifies the means). On the other hand, instrumental actions are actions which are planned and taken after evaluating the goal in relation to other goals, and after thorough consideration of various means (and consequences) to achieve it. For example, a digital literate student may tend to use the internet for academic purpose in order to improve his/her academic performance.

3.2.2 Theory of Reasoned Action

The Theory of Reasoned Action (TRA) was developed in 1967. During the early 1970s the theory was revised and expanded by Ajzen and Fishbein. By 1980 the theory was used to study human behavior and develop appropriate interventions. TRA is a widely studied model from social psychology, which is concerned with the determinants of consciously intended behaviors (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975). Specific purposes of this theory are as follows:

1. To predict and understand motivational influences on actual behavior that is not under the individual's volitional control.
2. To identify how and where to target strategies for changing actual behavior.
3. To explain virtually any human behavior such as acceptance of internet shopping, why a person buys a new car, votes against a certain candidate, is absent from work or engages in premarital sexual intercourse.

According to TRA, a person's performance of a specified behavior is determined by his or her behavioral intention (BI) to perform the behavior, and behavioral intention is jointly determined by the person's attitude towards using and subjective norm (SN) concerning the behavior in question. Behavioral intention is a measure of the strength of one's intention to perform a specified behavior (e.g., Fishbein & Ajzen 1975), attitude is defined as an individual's positive or negative feelings (evaluative affect) about performing the target behavior (e.g. Fishbein & Ajzen 1975). Subjective norm refers to "the person's perception that most people who are important to him think he should or should not perform the behavior in question" (Fishbein & Ajzen 1975).

According to TRA, a person's attitude toward a behavior is determined by his or her salient beliefs about consequences of performing the behavior multiplied by the evaluation of those consequences. These Beliefs are defined as the individual's subjective probability that performing the target behavior will result in consequence. The evaluation term refers to "an implicit evaluative response" to the consequence (Fishbein & Ajzen). This theory posits that external stimuli influence attitudes only indirectly through changes in the person's belief structure (Ajzen & Feishbein 1980).

TRA theorizes that an individual's subjective norm (SN) is determined by a multiplicative function of his or her normative beliefs, i.e. perceived expectations of specific referent individuals or groups, and his or her motivation to comply with these expectations (Fishbein & Ajzen 1975)

In relation to digital literacy and attitude towards the use of the internet, this theory is of the view that the performance of a digital literate person while utilizing the internet is determined by his or her behavioral intention (BI) to use the internet and the behavioral intention is also determined by the person's attitudes towards the use of internet and the person's perception that most people who are important to him wants him to use the internet for the intended purpose.

Furthermore, this theory is of the view that a digital literate person's attitude towards using the internet is determined by his or her salient beliefs about consequences of using the internet multiplied by the evaluation of those consequences. These Beliefs are defined as the individual's subjective probability that using the internet for whatever purpose will result in consequences. For example, a student might want to use the internet for research or academic purpose because he believes that it can improve his academic performance.

3.2.3 Rational Choice Theory

The rational choice theory, also known as choice theory or rational action theory, is a theory for understanding and often modelling social and economic as well as individual behaviour. It is the main paradigm in the currently-dominant microeconomics school of thought. It is also central to modern political science, as well as other disciplines such as sociology and philosophy. Becker (1976) recorded that "the rational choice theory was early popularized by a 1992 Nobel Memorial Prize Laureate in Economics Science, Gary Becker, who was one of the first to apply rational actor models more widely". Elster (1989) stated the essence of rational choice theory when he said that "when faced with several courses of action, people usually do what they believe is likely to have the best overall outcome". The 'rationality' defined by the rational choice theory adopts a more specific and narrower definition, which simply means that "an individual acts as if balancing costs against benefits to arrive at action that maximizes personal advantage." (Friedman, 1953) The rational choice theory is argued to be the result of the envy of other disciplines on economics, and its principles of choice in human behavior.

Rational Choice Theory is an approach that could be used by social scientists to understand human behavior. Green (2002) identified that the spread of the rational choice approach beyond conventional economic issues is discussed by Becker (1976), Radnitzky & Bernholz (1987), Hogarth & Reder (1987), Swedberg (1990), and Green & Shapiro (1996), among others.

There are a few assumptions made by rational choice theorists. Abell (2000) noted the assumptions made by rational choice theorists. These assumptions include:

- **Individualism –** it is individuals who ultimately take actions. Individuals, as actors in the society and everywhere, behave and act always as rational beings, self calculating, self-interested and self-maximizing, these individual social actions are the ultimate source of larger social outcomes. From this first overarching assumption derives the four other major assumptions summarized below.
- **Optimality –** Individual choose their actions optimally, given their individual preferences as well as the opportunities or constraints with which the individual faced. Abell (2000) defines optimality as taking place when no other course of social action would be preferred by the individual over the course of action the individual has chosen. This does not mean that the course of action that the actor adopts is the best in terms of some objective, and outside judgment. The rational choice theory, therefore assumes, according to Abell (2000), that individuals "do the best they can, given their circumstances as they see them".

- **Structures -** Abell argues that structures and norms that dictate a single course of action are merely special cases of rational choice theory. In other words, the range of choices in other circumstances differs from choices in a strong structural circumstance, where there may be only one choice. Although these structures may be damaging to the rational choice model, individuals will often find a way to exercise action optimally, hence the rational choice model may not necessarily show harmony, consensus, or equality in courses of action. Again, structures, as we know them, may not be optimal from the viewpoint of an individual with few resources, however, the rational choice approach will attempt to explain is how this situation emerges and is maintained through rational choices
- **Self-Regarding Interest** – This assumption states that the actions of the individual are concerned entirely with his or her own welfare. Abell (2000) noted that in as much as this is a key assumption in the rational choice approach, is not as essential to the approach as the assumption on optimality. He also noted that various types of group sentiments could exist, such as cooperation, unselfishness, charity, which initially may seem to be contrary to individual optimality. Rational choice theorist may argue that these sentiments can be incorporated into the rational choice model by observing that such sentiments may ultimately be aimed at pursuing some form of self-interest. For instance, charity movements or efforts Abell says, could ultimately be aimed at making an individual feel good or could be a means of raising one's social esteem in the eyes of others.
- **Rationality** – This appears the most predominant assumption of the rational choice theory. All individuals, according to this assumption act in ways that would benefit them more; every individual is most like to undertake courses of actions that they perceive to be the best possible option and one that would immensely be to their own advantage.

Inferring from the above, people who are digital literate have a choice on what purpose they want to use the internet for. When faced with several courses of action, people usually do what they believe is likely to have the best overall outcome. For instance, a digital literate student might be of the view that using the internet for academic purpose will have the best overall outcome thus making him or her have positive attitudes towards utilizing the internet for academic purpose. This might not be the case for another person, as he or she might feel that using the internet for communication purpose meets his or her overall needs.

This theory is useful to this study as its of the view that people use the internet base on the purpose or objective the want to achieve at a particular time. Further people choose what they want to use the internet for optimally. That is, they choose base on what they feel is most favourable and ideal to them given their individual preferences as well as the opportunities or constraints with which they are faced.

3.3 Methodology

Methodology offers the theoretical underpinning for understanding which method, set of methods, or best practices can be applied. It seeks to give an in-depth analysis of the study. It is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge.

3.3.1 Research Design

The research design adopted for this study is survey. This design was chosen because of the nature of the research topic which demands the collection of significant amount of data from a meaningful population size in an efficient manner. According to Tull & Dell (1993), survey research method enables a researcher to systematically gather information from respondents for the purpose of

understanding and predicting some aspects of the behaviour of the population of interest. Sambo (2005) explained that a survey research method is a type of research in which information is obtained from a sample of respondents for the purpose of testing hypothesis or answering research questions concerning the states of a given problem.

Survey research method allows social science researchers to measure characteristics, opinions or behaviours of a population by studying a small sample from that group, then generalizing back to the population. The logic of survey assumes that it is impossible or impracticable to observe all members of a given population. This therefore means that the method is efficient in getting information on the opinions, feelings and attitudes of the respondents, in this case, towards utilization of the Internet.

3.3.2 Population of the Study

Population refers to the aggregation of elements from which a sample is usually selected (Babbie, 2010). This means the population is the bigger group from which the sample which is usually smaller is generated from. The population is the combination of members with similar characteristics where the sample is picked from in the belief that generalization can be made.

The population of study will be female and male undergraduate students in the University of Ilorin, Ilorin, Kwara State, Nigeria. This is specifically shown in the Table 3.1.

Table 3. 1 Distribution of Undergraduates of University of Ilorin by Faculties

S/NO	FACULTY	POLULATION
1.	Agriculture	5304
2.	Arts	4632
3.	Basic Medical Science	1193
4.	Clinical Science	1089
5.	CIS	2134
6.	Education	10377
7.	Engineering & Technology	3577
8.	Environmental Science	1227
9.	Law	979
10.	Life Sciences	3637
11.	Management Sciences	3765
12.	Pharmacy	336
13.	Physical Sciences	3340
14.	Social Sciences	3094
15.	Veterinary Medicine	235
	TOTAL	**44,919**

Source: Academic Support Services, University of Ilorin (2019).

3.3.3 Sampling Techniques and Sample of the Study

A sample is a smaller collection of units from a population used to determine truths about that population (Field, 2005). The reasons for sample are: resources (time, money) and workload and likewise, to give results with known accuracy that can be calculated mathematically. Sampling is the process of selecting units e.g., people, organizations, from a population of interest so that by studying, fairly generalized results would be gotten in respect to the population from which they were chosen.

This study will be using the multi-stage sampling procedure. This involves the combination of various probabilistic techniques in the most efficient and effective manner possible. The process of estimation is carried out stage by stage, using the most appropriate methods of estimation at each stage.

Due to the fact that the target population is widely dispersed geographically, the researcher will be using cluster sampling technique to partition the population into different clusters, so that the population in each cluster ideally share some common trait, often proximity according to some defined distance measure. A "cluster" is an aggregate or intact grouping of population elements.

Based on secondary data from the University of Ilorin Academic Support Services (2019), the school is made up of 15 faculties, each of the 15 faculties will be representing 1 cluster, which makes it 15 clusters in total. Further, the researcher will be using convenience sampling technique to select 2 clusters (faculties) from 15 clusters for the purpose of this study. The selection was done based on closer proximity between the researcher and the faculties selected. The selected faculties are Social Sciences and Communication and Information Sciences, with a population of 3094 and 2134 respectively. The researcher will hereby take five percent (5%) each from the selected faculties' population to make up a sample size for the study. Based on the proportionate sampling method, five percent (5%) of Social Sciences and Communication and Information Sciences are 154.7 and 106.7 respectively, which summed up to 261.4 approximated to the nearest whole number is 262. However, to cushion the effect of unanswered and poorly filled questionnaire, a total of 270 respondents will be considered for the study. Where the remaining 8 questionnaire will be distributed equally (4 each) among the selected faculties. This implies that the sample size for this study will be 270. The researcher will further make use of simple random sampling method to choose the subjects or respondents in the process of administering the questionnaire in each of the faculties chosen by the researcher for this study.

3.3.4 Instrument of Data Collection

Due to the fact that this study is quantitative in nature, questionnaire was used to collect data for the study. The questionnaire was used to survey undergraduate students of the University of Ilorin.

Best (1981) viewed questionnaire as an instrument for data collection which has some advantages over other research instruments. The advantages include, giving the researcher the opportunity to establish rapport with the respondent to explain the purpose of the study and to explain the meaning of some items. Similarly, Sarantakos (1993) noted that questionnaire enables the researcher to collect information in a systematic way avoiding bias and distortion, and on a specific research question or purpose. Thus, it gives opportunity for assessing situations as well as obtaining data on the feelings, perceptions or attitudinal dispositions of a certain group towards a particular problem.

The questionnaire is divided into 3 sections. Section A is used to generate data on the independent variable of the study (Digital literacy), Section B is used to retrieve information relating to the dependent variable of the study (Attitudes towards utilization of the internet).and section C deals with socio-demographic characteristics of the respondents.

3.3.5 Validity and Reliability of Instrument

Validity is the extent to which a concept, conclusion or measurement is well-founded and corresponds accurately with the real world (Osuala, 2005). Babbie (2010) describes validity as the requirement that an instrument should reflect the meaning of the concepts under the study.

In order to ensure that the instrument measures exactly what it is intended to measure, the questions in the instrument were made relevant, clear and unambiguous. Furthermore, it was ensured that the questions cover all the dimensions of the variables included in the study.

Reliability looks at the consistency, precision and accuracy of a variable. Ojebode, Onekutu & Adegbola (2010) expressed that in order to know that a study is reliable, repeated measurement of the same

material will result in a similar conclusion and decision. This means that if a variable is reliable, it does not fluctuate overtime; in other words, it is stable.

To ascertain the reliability of the instrument using Cronbach's alpha coefficient, a pilot testing will be done using the questionnaire which will be administered to a smaller subset (10%) of the sample size. A pilot study will hence be conducted using 27 respondents. Ary (2006) opined that an instrument must have a Cronbach's value of 0.7 or above to be considered adequate, consistent and reliable for the use of the general sample size which is 270.

3.3.6 Hypotheses of the Study

Hypothesis is a tentative statement taken to be true for the purpose of argument or investigation, which can be tested by further observation, investigation or experimentation.

This study raised four hypotheses in the null form, following the argument of karl popper on the falsification of every idea and also in order to strengthen the objectivity of the study. The hypotheses are as follows;

H_0i Digital literacy has no significant effect on the attitudes of University of Ilorin undergraduates towards utilization of the internet for academic purpose.

H_0ii Digital literacy has no significant effect on the attitudes of University of Ilorin undergraduates towards utilization of the internet for entertainment purpose.

H_0iii Digital literacy has no significant effect on the attitudes of University of Ilorin undergraduates towards utilization of the internet for communication purpose.

H_0iv Digital literacy does not influence internet addiction on undergraduates of University of Ilorin.

3.3.7 Methods of Data Analysis

In carrying out the data analysis, the information gathered from respondents will be interpreted in order for the information to be readable, accessible and understandable. This process involves tabulating, editing and coding data in order to know the level of significance of digital literacy and attitude towards utilizing the internet for communication, entertainment and academic purposes. Quantitative data collected from respondents through questionnaire will be analyzed and presented based on the objectives of the study. To this extent, frequency and simple percentage table will be utilized to achieve objectives one and two of the study while regression analysis will be used to achieve the main objective of the study. The statistical software that will be employed to engage in the statistical analysis is SPSS.

CHAPTER FOUR
DATA PRESENTATION, INTERPRETATION AND ANALYSIS

4.1 Preamble

In this chapter, the data collected were analysed to answer the relevant research questions and to test the research hypotheses respectively. The two hundred (270) copies of questionnaire that were administered were all retrieved. This gave a response return rate of 100%.

4.2 Socio-Demographic Characteristics of Students

This section presents the results of data obtained from the respondents in frequencies and percentages. The variables were gender, age, current academic grade point, level of study, parents socio-economic class.

Table 4. 1 Frequency Distribution of Respondents based on Gender

Gender	Frequency	Percentage
Females	142	52.6%
Males	128	47.4%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.1 indicated that 128 of the respondents which represents (47.4%) are males while 142 of the respondents which represents (52.6%) of the respondents are females. Thus majority of the respondents are females. The reason for the wide disparity between the number of male and female undergraduates can be perceived from the ideology of empowering more female children through education in order to reduce gender segregation in terms of function in the society.

Table 4. 2: Frequency Distribution of Respondents based on Age

Age	Frequency	Percentage
15-20years	35	13%
21-25 years	207	76.7%
26-30 years	26	9.7%
31-35 years	2	0.7%
Above 35 years.	0	0
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.2 revealed that 35 (13%) of the respondents are between the ages of 15 to 20 years, 207 (76.7%) of the respondents are within the age range of 21 to 25years, while 26 (9.7%) of the respondents are within the age range of 26-30 years, 2 (0.7%) are within the age range of 31-35 years. From the data above, it can be deduced that a larger percentage of the undergraduates are within the age range of 21-25 years.

Table 4. 3: Frequency Distribution of Respondents based on Current academic grade point

CGPA	Frequency	Percentage
4.50-5.00	6	2.2%
3.50-4.49	70	26%
2.40-3.49	105	38.9%
1.50-2.39	89	32.9
Total	**270**	**100.0%**

Source: Researcher's Survey (2019)

Table 4.3 indicated that 6 of the respondents which represent (2.2%) are within 4.50-5.00 cgpa. 70 of the respondents which represents (26%) are within 3.50-4.49 cgpa. 105 of the respondents which represent (38.9%) are within 2.40-3.49 cgpa While 89 of the respondents which represent (32.9%) are within 1.50-2.39 cgpa. This depicts that a larger percentage of the respondents falls within 2.40-3.49 cgpa (Second class lower).

Table 4. 4: Frequency Distribution of Respondents based on level of study

Level of study	Frequency	Percentage
100L	56	20.7%
200L	89	33%
300L	94	35%
400L	31	11.3
Total	**270**	**100.0%**

Source: Researcher's Survey (2019)

Table 4.4 revealed that 56 of the respondents which represent (20.7%) are in 100L, 89 of the respondents which represent (33%) are in 200L, while 94 of the respondents which represent (35%) are in 300L, while 31 of the respondents which represents (11.3%) are in 400L. From the statistic above, we can deduce that majority of the respondents are in 300 level.

Table 4. 5: Frequency Distribution of Respondents based on Parents Socio-economic class

Socio-economic class	Frequency	Percentage
High	63	23.5%
Average	142	52.5%
Low	65	24%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.5 indicated that 63 of the respondents parents which represent (23.5%) are of the high class, 142 of the respondents parents which represent (52.5%) are of the average class, while 65 of the respondents which represents (24%) are of the low class. This information shows that most of the respondent's parents are basically on the average or middle socio-economic class.

4.3 Assessment of Undergraduates' Digital Literacy Dynamics

This sub-section deals with the measurable variables on digital literacy dynamics of undergraduates of University of Ilorin which is the independent variables and is the section A of the questionnaire.

Table 4. 6: Distribution of Responses on Enjoying Using Digital Services

Enjoying D.ss	Frequency	Percentage
Yes	240	88.9%
No	20	7.4%
No idea	10	3.7%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.6 reflected the responses of the respondents based on whether they enjoy using digital services or not. From the statistics above, 240 (88.9%) respondents enjoy using digital services, 20 (7.4%) respondents do not enjoy using digital services, while 10 (3.7%) of the respondents do not have an idea whether they enjoy using digital service or not. We can infer from the statistics above that majority of the respondents enjoy using digital services.

Table 4. 7: Distribution of Responses on Awareness of Various Types Of Digital Services

Awareness of D.ss	Frequency	Percentage
Yes	161	59.6%
No	75	27.8%
No idea	34	12.6%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.7 revealed the responses of the respondents based on whether they are aware of various types of digital services. From the statistics above, 161 (59.6%) respondents are aware of the various types of digital services, 75 (27.8%) respondents are not aware of the various types of digital services, while 34 (12.6%) of the respondents do not have an idea whether they are aware of the various types of digital service or not. We can infer from the statistics above that majority of the respondents are aware of the various types of digital services.

Table 4. 8:Distribution of Responses on Willingness to Learn More About Digital Technologies

Willingness to learn more about D.ss	Frequency	Percentage
Yes	262	97%
No	0	%
No idea	8	3%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.8 reflected the responses of the respondents based on their willingness to learn more about digital technologies. From the statistics above, 262 (97%) respondents are willing to learn more about digital technologies, while 8 (3%) of the respondents do not have an idea whether they are willing to learn more about digital technologies or not. We can infer from the statistics above that majority of the respondents are willing to learn more about digital technologies.

Table 4. 9: Distribution of Responses Based on Feelings on Digital Technologies

Digital technologies	Frequency	Percentage
Yes	118	43.7%
No	96	35.5%
No idea	56	20.8%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.9 revealed the responses of the respondents based on if they feel behind their fellow students in using digital technologies. From the statistics above, 118 (43.7%) respondents feels they are behind their fellow students in using digital technologies. 96 (35.5%) respondents do not feel they are behind their fellow students in using digital technologies, while 56 (20.8%) of the respondents do not have an idea whether they feel behind their fellow students in using digital technologies or not. It can be deduced from the statistics above that majority of the respondents' feel they are behind their fellow students in using digital technologies.

Table 4. 10: Distribution of Responses on Importance of Digital Ability

Importance of D.A	Frequency	Percentage
Yes	262	97%
No	0	0%
No idea	8	3%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.10 indicated the responses of the respondents based on if they think it is important for them to improve their digital ability. From the statistics above, 262 (97%) respondents opined that it is important for them to improve their digital ability, while 8 (3%) of the respondents do not have an idea whether they need to improve their digital ability or not. We can infer from the statistics above that majority of the respondents opined that it is important for them to improve their digital ability.

4.4 Assessment of Undergraduates Attitudes Towards Utilization of the Internet

This sub-section deals with the measurable variables on attitudes towards utilization of the internet among undergraduates of University of Ilorin which is the dependent variable and is the section B of the questionnaire.

Table 4. 11: Distribution of Responses on the Use of Internet for Academic Purpose More

Internet for A.P More	Frequency	Percentage
Yes	175	65%
No	56	21%
No idea	39	14%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.11 indicated the responses of the respondents based on what students should use the internet for. From the statistics, 175 (65%) respondents opined that students should use the internet for academic purpose more, while 56 (21%) of the respondents disagreed that students should use the internet for academic purpose more. While 39 (14%) of the respondents were undecided. We can infer from the statistics above that majority of the respondents opined that students should use the internet for academic purpose more.

Table 4. 12: Distribution of Responses on the Use of Internet for communication Purpose More

Internet for C.P More	Frequency	Percentage
Yes	87	32.2%
No	120	44.4%
No idea	63	23.4%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.12 depicted the responses of the respondents based on what students should use the internet for. From the statistics above, 87 (32.2%) respondents opined that students should use the internet for communication purpose more, while 120 (44.4%) of the respondents disagreed that students should use the internet for communication purpose more. While 63 (23.4%) of the respondents were undecided. We can infer from the statistics above that majority of the respondents opined that students should not use the internet for communication purpose only or more but rather should be channeled to other areas too.

Table 4. 13: Distribution of Responses on the Use of Internet for Entertainment Purpose More

Internet for E.P More	Frequency	Percentage
Yes	67	24.8%
No	195	72.2%
No idea	8	3%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.13 reflected the responses of the respondents based on what students should use the internet for. From the statistics above, 67 (24.8%) respondents opined that students should use the internet for entertainment purpose more, while 195 (72.2%) of the respondents disagreed that students should use the internet for entertainment purpose more, While 8 (3%) of the respondents were undecided on the entertainment usage of the internet. We can infer from the statistics above that majority of the respondents opined that students should not use the internet for entertainment purpose only or more but rather should be channeled to other areas too.

Table 4. 14: Distribution of Responses on the Use of Internet for Economic Purpose More

Internet for E.P More	Frequency	Percentage
Yes	56	21%
No	201	74%
No idea	13	5%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.14 indicated the responses of the respondents based on what students should use the internet for. From the statistics above, 56 (21%) respondents opined that students should use the internet for economic purpose more, while 201 (74%) of the respondents disagreed that students should use the internet for economic purpose more, While 13 (5%) of the respondents were undecided on the economic usage of the internet. We can infer from the statistics above that majority of the respondents opined that students should not use the internet for economic purpose only or more but rather should be channeled to other areas too.

Table 4. 15: Distribution of Responses on the Use of Internet for Information Purpose More

Internet for I.P More	Frequency	Percentage
Yes	144	24.8%
No	98	72.2%
No idea	28	3%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.15 above revealed the responses of the respondents based on what students should use the internet for. From the statistics above, 144 (24.8) respondents opined that students should use the internet for information purpose more, while 98 (72.2) of the respondents disagreed that students should use the internet for entertainment purpose more, while 28 (3%) of the respondents were undecided. We can infer from the statistics above that majority of the respondents opined that students should use the internet for information purpose more than any other purposes.

Table 4. 16: Distribution of Responses on Their Addiction to Internet Utilization

Addiction to I.U	Frequency	Percentage
Addicted	187	70%
Not addicted	83	30%
Total	**270**	**100.0**%

Source: Researcher's Survey (2019)

Table 4.16 indicated the responses of the respondents based on the status of the respondents on internet utilization. From the statistics above, 187 (70%) respondents are addicted to internet utilization while 83 (30%) of the respondents are not addicted to internet utilization. In other words, majority of the respondents are addicted to internet utilization.

4.5 Testing of Hypotheses

To ensure empirical and scientific stand, the test of the hypotheses is essential. In testing the hypotheses for this study and because from each hypothesis, an independent variable was tested against one dependent variable as well, Simple linear regression analysis was used and the major focus are to ascertain the effect of the independent variables on the dependent variable. Thus, in general form, the hypotheses to be tested in this research work include the following:

H_0i Digital literacy has no significant effect on the attitudes of University of Ilorin undergraduates towards utilization of the internet for academic purpose.
H_0ii Digital literacy has no significant effect on the attitudes of University of Ilorin undergraduates towards utilization of the internet for entertainment purpose.
H_0iii Digital literacy has no significant effect on the attitudes of University of Ilorin undergraduates towards utilization of the internet for communication purpose.
H_0iv Digital literacy does not influence internet addiction on undergraduates of University of Ilorin.

4.5.1 Hypothesis 1: Digital literacy has no significant effect on the attitudes of University of Ilorin undergraduates towards utilization of the internet for academic purpose

In this section, the dependent variable to be considered is utilization of the internet for academic purpose only while the independent variable is digital literacy. Table 4.17 present the statistical result of the hypotheses tested.

Table 4. 17: Summary of Linear Regression Test of Significance Between Digital Literacy and Utilization of the Internet for Academic Purpose

Variables	**Coefficients**	**Standard Error**	**t-statistics**	**p-value**
Constant	0.603	0.142	4.244	0.000
Digital Literacy	-0.077	0.054	-1.421	0.000
R square: 0.141 **No. of Observation:** 270 **Adjusted R square:** 0.128 **R:** 0.376 **F-statistics:** 10.598				

Source: SPSS computation

Interpretation of Findings

Judging from the regression analysis results in table 4.17, it is revealed that the Digital Literacy (independent variable) has a positive relationship with utilization of the internet for academic purpose (dependent variable). In other words, utilizing the internet for academic purpose is positively influenced by Digital Literacy . The result also shows that Digital Literacy has effect on utilization of the internet for academic purpose.

This could further be seen in the co-efficient constant figure 0.603 which represents the intercept and implies that no matter the level of Digital Literacy there will be an existence of 0.603 utilization of Internet for academic purpose in this study setting.

Exclusively, Digital Literacy (-0.077) represent the magnitude of effect as regards utilizing the internet for academic purpose more. It also shows that there is an inverse relationship between Digital Literacy and Utilization of the internet for academic purpose. Also, from the results of this regression analysis it is revealed that the computed standard errors of the regression model is 0.142 for intercept, while B (0.054) is for the slope. From the standard errors, it is obvious that B (0.054) which is Digital Literacy is greater than half of its numerical value of the parameter estimate. Thus, the standard error of Digital Literacy as an independent variable shows there is a positive relationship between it and utilization of the internet for academic purpose (dependent variable). This implies, the null hypothesis should be rejected because the test is statistically significant.

The empirical value of t-test for the intercept is (4.244) while the slope is (-1.421) with its theoretical value at 0.05 level of significance as 0.000. We therefore reject the null hypothesis and accept the alternative hypothesis, thus we will conclude that Digital Literacy does have significant effect on utilization of the internet for academic purpose.

R-square, figure (0.141) shows that about 14.1 percent of the total variation of the dependent variable is explained by the independent variable (Digital Literacy). Above all, the computed empirical value of F-test is 10.598 while its theoretical value at 0.05 level of significant is 0.000. Since the computed empirical value is greater than its theoretical value. It is concluded that the F-test is statistically significant. Therefore, the regression is statistically significant.

4.5.2 Hypothesis 2: Digital literacy has no significant effect on the attitudes of University of Ilorin undergraduates towards utilization of the internet for entertainment purpose

In this section, the dependent variable to be considered is utilization of the internet for entertainment purpose only while the independent variable is digital literacy. Table 4.18 present the statistical result of the hypotheses tested.

Table 4. 18: Summary of Linear Regression Test of Significance Between Digital Literacy and Utilization of the Internet for Entertainment Purpose

Variables	Coefficients	Standard Error	t-statistics	p-value
Constant	0.532	0.321	3.566	0.000
Digital Literacy	-0.064	0.073	-1.341	0.230
R square: 0.366 **No. of Observation:** 270 **Adjusted R square:** 0.234 **R:** 0.64 **F-statistics:** 9.256				

Source: SPSS computation

Interpretation of Findings

Based on the regression analysis results in table 4.18, it is revealed that Digital Literacy (independent variable) does not have a significant relationship with Utilization of the internet for entertainment purpose (dependent variable). This implies that Digital Literacy does not influence the use of the internet for entertainment purpose more. In other words, the result indicates that Digital Literacy has no significant effect on utilizing the internet for entertainment.

This is emphasized in the co-efficient constant figure (0.532) which represents the intercept and implies that Digital Literacy as an independent variable does not influence the use of internet for entertainment purpose.

Furthermore, Digital Literacy (-0.064) represent the magnitude of effect as regard utilization of the internet for entertainment purpose. The correlation coefficient value (-0.064) shows that there is an inverse relationship between Digital Literacy and utilization of the internet for entertainment purpose. Also, from the results of this regression analysis it is revealed that the computed standard errors of the regression model is (0.321) for intercept, while B (0.073) is for the slope. From the standard errors, it is obvious that B (0.073) which is Digital Literacy is less than half of its numerical value of the parameter estimate.

The standard error of Digital Literacy as independent variable shows there is no relationship between Digital Literacy and utilization of the internet for entertainment purpose (dependent variable). In other words, the null hypothesis should be accepted because the test is not statistically significant.

The empirical value of t-test for the intercept is (3.566) while the slope is (-1.341) with its theoretical value at 0.05, level of significance as 0.230. We therefore accept the null hypothesis thus we conclude that Digital Literacy has no significant effect on utilization of the internet for entertainment purpose.

The R-square figure (0.366) shows that about 36.6 percent of the total variation of the dependent variable is explained by the independent variable (Digital Literacy). Above all, the computed empirical value of F-test is 9.256 while its theoretical value at 0.05 level of significant is 0.230. It is therefore concluded that the F-test is not statistically significant. Therefore, the regression is not statistically significant.

4.5.3 Hypothesis 3: Digital literacy has no significant effect on the attitudes of University of Ilorin undergraduates towards utilization of the internet for communication purpose.

In this section, the dependent variable to be considered is utilization of the internet for communication purpose only while the independent variable is digital literacy. Table 4.19 present the statistical result of the hypotheses tested

Table 4. 19: Summary of Linear Regression Test of Significance Between Digital Literacy and Utilization of the Internet for Communication Purpose

Variables	Coefficients	Standard Error	t-statistics	p-value
Constant	0.214	0.365	3.657	0.000
Digital Literacy	-0.034	0.065	-1.532	0.412
R square: 0.366 **No. of Observation:** 270 **Adjusted R square:** 0.234 **R:** 0.64 **F-statistics:** 9.256				

Source: SPSS computation

Interpretation of Findings

Based on the regression analysis results in table 4.19, it is revealed that Digital Literacy (independent variable) does not have a significant relationship with Utilization of the internet for communication purpose (dependent variable). This implies that Digital Literacy does not influence the use of the internet for communication purpose. In other words, the result indicates that Digital Literacy has no significant effect on utilizing the internet for communication.

This is emphasized in the co-efficient constant figure 0.214 which represents the intercept which implies that Digital Literacy as an independent variable does not influence the use of internet for communication purpose.

Furthermore, Digital Literacy (-0.034) represent the magnitude of effect as regard utilization of the internet for communication purpose. The correlation coefficient value (-0.034) shows that there is an inverse relationship between Digital Literacy and utilization of the internet for communication purpose. Also, from the results of this regression analysis it is revealed that the computed standard errors of the regression model is (0.365) for intercept, while B (0.065) is for the slope. From the standard errors, it is obvious that B (0.065) which is Digital Literacy is less than half of its numerical value of the parameter estimate.

The standard error of Digital Literacy as independent variable shows there is no relationship between Digital Literacy and utilization of the internet for communication purpose (dependent variable). In other words, the null hypothesis should be accepted because the test is not statistically significant.

The empirical value of t-test for the intercept is (3.657) while the slope is (-1.532) with its theoretical value at 0.05, level of significance as 0.412. We therefore accept the null hypothesis thus conclude that Digital Literacy has no significant effect on utilization of the internet for communication purpose.

The R-square figure (0.366) shows that about 36.6 percent of the total variation of the dependent variable is explained by the independent variable (Digital Literacy). Above all, the computed empirical value of F-test is 9.256 while its theoretical value at 0.05 level of significant is 0.412. It is therefore concluded that the F-test is not statistically significant. Therefore, the regression is not statistically significant.

4.4.5 Hypothesis 4: Digital literacy does not influence internet addiction on undergraduates of University of Ilorin.

In this section, the dependent variable to be considered is internet addiction while the independent variable is digital literacy. Table 4.20 present the statistical result of the hypotheses tested.

Table 4. 20: Summary of Linear Regression Test of Significance between Digital literacy and internet addiction

Variables	**Coefficients**	**Standard Error**	**t-statistics**	**p-value**
Constant	0.342	0.253	5.345	0.001
Digital Literacy	-0.017	0.087	-1.234	0.000
R square: 0.129 **No. of Observation:** 270 **Adjusted R square:** 0.284 **R:** 0.206 **F-statistics:** 8.756				

Source: SPSS computation

Interpretation of Findings

Judging from the regression analysis results in table 4.20, it is revealed that the Digital Literacy (independent variable) has a positive relationship with Internet addiction (dependent variable). In other words, Internet addiction is positively influenced by Digital Literacy.

This could further be seen in the co-efficient constant figure 0.342 which represents the intercept and implies that no matter the level of Digital Literacy there will be an existence of 0.342 internet addiction in this study setting.

Exclusively, Digital Literacy (-0.017) represent the magnitude of effect as regards internet addiction . This reveals an inverse relationship between Digital Literacy and internet addiction. From the results of this regression analysis it is revealed that the computed standard errors of the regression model is (0.253) for intercept, while B 0.087) is for the slope. From the standard errors, it is obvious that B (0.087) which is Digital Literacy is greater than half of its numerical value of the parameter estimate.

Thus, The standard error of Digital Literacy as an independent variable shows there is a positive relationship with it and internet addiction (dependent variable). This implies, the null hypothesis should be rejected because the test is statistically significant.

The empirical value of t-test for the intercept is (5.345) while the slope is (-1. 234) with its theoretical value at 0.05 level of significance as 0.000. We therefore reject the null hypothesis and accept the alternative hypothesis, thus we conclude that Digital Literacy influences internet addiction on undergraduates.

For R-square figure (0.129) shows that about 12.9 percent of the total variation of the dependent variable is explained by the independent variable (Digital Literacy). Above all, the computed empirical value of F-test is 8.756 while its theoretical value at 0.05 level of significant is 0.000. Since the computed empirical value is greater than its theoretical value. It is concluded that the F-test is statistically significant. Therefore, the regression is statistically significant.

4.6 Discussion of findings

From the statistics and analysis reviewed , it can be observed that some the tested null hypotheses were rejected and some were accepted. The dependent variable tested is digital literacy while the independent variable is the attitudes of undergraduates towards utilization of the internet. With the use of simple linear regression analysis, the variables were tested to ascertain if the identified dependent(Digital literacy) variable have significant effect on the independent variable (attitudes towards utilization of the internet). With the test, it was found out that the identified digital literacy have significant effect on the attitudes of undergraduates towards the utilization of the internet in University of Ilorin.

The findings of the hypothesis one revealed that there is a positive relationship between digital literacy and the utilization of the internet for academic use more. This supports the findings of Anunobi (2006), where his study revealed that 81% of students at Federal University of Technology Oworri, Nigeria, used Internet for academic purposes as compared to 15% who used it for entertainment purposes. This implies that the knowledge of digital literacy would help students in their academic pursuit.

The findings of the hypothesis two revealed that there is a negative relationship between digital literacy and the utilization of the internet for entertainment use only. This corroborates the findings of Buhari, (2013) who found that undergraduates having knowledge of several digital services used the Internet purposely for e-mail (17.2%), for information (16.2%), for conduct of research (29.0%) and for entertainment (2.6%). This implies that with their knowledge on different digital technologies, they tend not to use the internet for entertainment purpose only. Of course, students make use of the internet facilities to connect with friends and sometimes strangers from any part of the world and aside that digital literacy has exposed students to trending news and innovations across various societies of the world. In other world, digital literacy has not only contributed to knowledge but it has also exposed students to the culture and norms of other societies across countries.

The findings of the hypothesis three revealed that there is a negative relationship between digital literacy and the utilization of the internet for communication use only. This is in tandem with the findings of Adekunmisi, Ajala & Iyoro (2013) in a survey on Internet access and usage by undergraduate students of Olabisi Onabanjo University, Nigeria. They posited that majority of the respondents used the Internet for academic and research activities, for leisure/entertainment, for general knowledge and for current news. However, they posited that only 2% of the respondents use the internet for communication purpose. This implies that when undergraduates are well vast in their digital knowledge and the use of internet facilities, it will also sharpen their communication skills amongst others.

The findings of the hypothesis four revealed that there is a positive relationship between digital literacy and addiction to the internet. This supports the findings of Arun (2015) who investigated on computer literacy and problem of Internet addiction among arts, engineering and medical college students in South India and found that the prevalence of Internet addiction is high among the college students, more than half of the study group (56.5%) showed addiction; hence the problem of Internet addiction should gain significant attention. This implies that if digital literacy is not well managed or if the user is not self controlled, it can lead to internet addiction which may lead to some unpalatable situation.

CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Preamble

This chapter is the concluding part of this research work. The summary of findings in this work as well as its conclusion are highlighted in this chapter. Making use of respondents from University of Ilorin in observing digital literacy and attitudes towards utilization of the internet.

5.2 Summary of Findings

This study examined digital literacy and attitude of undergraduates towards utilization of the internet in the University of Ilorin. Listed below are the findings from the field work carried out by the researcher.

Based on the study, it is revealed that most of the undergraduates fall within the ages of 21 – 25 years with a frequency of 207 (76.7%). These are majorly adolescents who are face with much pressure especially as regards decision making or making choices. Been an undergraduate offers them the opportunity to learn and become better at making decisions as they will be able to imbibe critical reasoning to a situation or phenomenon based on a broader scope of perception. The research also indicated that female undergraduates are more than male with a frequency of 142 (52.6%). This can be justified based on the recent move to empower women in the society through education. This is advantageous to the female as they can make decisions without interference based on gender roles or segregation. Furthermore, The research indicated that a larger percentage (38.9%) of the respondents falls within 2.40-3.49 cgpa (Second class lower). The research also revealed that that 56 of the respondents which represent (20.7%) are in 100L, 89 of the respondents which represent (33%) are in 200L, while 94 of the respondents which represent (35%) are in 300L, while 31 of the respondents which represents (11.3%) are in 400L. This implies that majority of the respondents are in 300 level. Majority of the respondents' parents are at average socio-economic status with a frequency of 142 (52.5%). High and low socio-economic status were at 63 (23.5%) and 65 (24%) respectively. This information shows that most of the respondents' parents are basically on the average or middle socio-economic class.

In consideration of the respondents' digital literacy dynamics, this study revealed high level of digital literacy among undergraduates of the University of Ilorin. The researcher wanted to know if the respondents enjoys using digital services, it was discovered that majority of the respondents 240 (88.9%) enjoys using digital services.

On the issue of awareness of the various digital services available to students, it was discovered in the course of the survey that most of the respondents 161 (59.6%) are fully aware of the various types of digital services available to them.

Despite the knowledge of students about the various types of digital services available to them, most of the respondents 262 (97%) still opined that they are still open minded to opportunities to learn more about digital services even as technology advances and more discoveries are made in the area of technology.

Some of the respondents who are basically undergraduates of the University of Ilorin, still feel they haven't learn or know so much about digital services, some of them (43.7%) were of the consensus that they feel they are still way behind some of their colleagues as far as knowledge of digital services is concerned.

It was observed in the course of the study that most of the respondents 262 (97%) despite their awareness of various digital services, still think its important for them to improve their digital ability, hereby increasing their level of digital literacy.

On the issue of undergraduates attitude towards the use of internet, the researcher tried to examine different purposes for the use of the internet and it was divided basically into four sections, which are 1) Academics, 2)Entertainment, 3)Communication and 4) economic. From the data gathered from the respondents, it was discovered that most of the respondents 175 (65%) opined that students should use the

internet for academic purpose more. This is also in line with the tested hypothesis which showed a positive relationship between digital literacy and attitudes of undergraduates towards utilization of internet for academic purpose more. Furthermore, majority 120 (44.4%) of the respondents disagreed that students should use the internet for communication purpose more. This reflected in the tested hypothesis which showed a negative relationship between digital literacy and attitudes towards utilization of the internet for communication purpose more. Similarly, majority 195 (72.2%) of the respondents disagreed that students should use the internet for entertainment purpose more. This also reflected in the tested hypothesis which showed a negative relationship between digital literacy and attitudes towards utilization of the internet for entertainment purpose more. In the same vein, majority 201 (74%) of the respondents disagreed that students should use the internet for economic purpose more. As regards respondents status on internet utilization, the research also indicated that majority 187 (70%) respondents are addicted to internet utilization. This reflected in the tested hypothesis that showed a positive relationship between digital literacy and internet addiction among Undergraduates of the university of Ilorin. This indicates that a higher percentage of undergraduates in the university of Ilorin are addicted to internet utilization.

Therefore, digital services and the use of internet is not just for the communication, entertainment, and economic use only, rather it also exposes to students to various learning techniques and discoveries as far as academics and other purposes are concerned.

5.3 Conclusion

This research work has been carried out essentially to know the influence of digital literacy on attitudes of undergraduates towards utilization of the internet using University of Ilorin as the focus of the study. With this research, it has been revealed that majority of the undergraduates of University of Ilorin are experienced with use of internet, and digital literacy go a long way in influencing undergraduates' attitude towards using the internet for different purposes such as academic, communication, entertainment. Further it was also revealed that digital literacy influences internet addiction on undergraduates.

Based on the findings made in the research certain important recommendations were made, so as to encourage more positive usage of Internet facilities by undergraduates.

5.4 Recommendations

Based on the findings of this study, a number of issues have to be addressed so that the students would avail themselves of the benefits accruing from Internet use especially good social and for academic purposes. It is in line with this that the following recommendations were made:

From the study it was observed that there is high level of digital literacy among undergraduates of the university. Therefore, the university authorities should improve the quality of the internet services in the university and provide proper and thorough orientation on the necessity of internet knowledge, skills and application for students, so that they can gain from the massive benefits accrued to internet utilization. Furthermore, in order to improve on the academic activities of undergraduates through the use of digital services and Internet, the university should ensure that information regarding the relevant and contemporary academic websites with their addresses be displayed on departmental notice boards, their libraries and lecture rooms. Also, the university should ensure that course materials be uploaded on the internet through friendly websites or social networks that are frequently patronized by the students such as yahoo, whatsapp, facebook, twitter among others using attractive design, pictures animations and charts to attract the attention of the students and sustain their interest. In the same vein, lecturers and other academic staff should use digital media resources in delivery their lecture in order to challenge the confident level of undergraduates in using digital services.

It was also observed from the study that some of the undergraduates of the University of Ilorin, still feel they haven't learned or know so much about digital services, some of them were of the consensus that they feel they are still way behind some of their colleagues as far as knowledge of digital services is concerned. This could be as a result of poor background of computer knowledge and digital services

especially in primary and secondary schools. This calls for the intervention of the government and other stakeholders to strategize on innovative ideas and enforce policies that will support the use of computer and Internet services in primary and secondary schools by providing basic computer and information literacy competences necessary for the effective use of computer and digital resources. Also, there is a need for the University to frequently organize courses and seminars that require the use of the digital services and Internet facilities for the students and the staff alike. As this will go a long way in improving students ability to access online tutorials, e-books and other services that will enhance their digital literacy and increase their confidence level on using digital services.

The research revealed that the undergraduates use the internet for various purposes like for academic, communication, economic and information purposes. As the usage rate of internet increases day by day, so the students should eliminate the negative attitude towards internet. Besides the download rate of music and movies are comparatively higher than the download rate of lecture notes and books. In this regard, the university should ensure that students put more emphasis on downloading study materials rather than downloading other things. In case of online discussion the students are unaware to participate frequently. This shows that the students are not very much conscious about various discussions. As a student of a university, the student should be more concern about universe knowledge and online discussion is one of the important arena where students get knowledge about various topics. In order to achieve this, students should participates in online discussion more frequently. On this note, the university should be clear as to why they are encouraging students to use the internet especially for academic purposes. Students‘ over dependency and too much use of some websites like entertainment and social networks such as facebook, e-mail, twitter, should be discouraged. Furthermore, to achieve success in educational applications of the Internet, they should take students' attitudes and views into consideration.

The research revealed that majority of the undergraduates are addicted to internet utilization. This is a problem which can affect the academic performance of the undergraduates negatively. Hence, there is a need for the University counsellors to provide small group or individual counselling for students who are internet addicted, to make them aware of the hazards in the use of Internet, also positive use of Internet should be encouraged. Furthermore, the university should ensure that time management be incorporated into the curriculum of the University in order to assist students on how to manage their time on campus so they will not spend most of their time surfing the internet.

References

Adekunmisi, S.R., Ajala, E.B., Iyoro, A.O. (2013). *Internet Access and Usage by Undergraduates Students: A case study of Olabisi Onabanjo University, Nigeria.* Library Philosophy and Practice. University of Nebraska-Lincoln.

Ademole-Odeshi, E. (2014). *Attitudes of students towards e-learning in South-West Nigerian universities:* An application of technology acceptance model. Library Philosophy and Practice (e-journal), 1035, 1-18. Retrieved from http://digitalcommons.unl.edu/libphilprac/1035

Adeniran, A. I. (2011). *Café Culture and heresy of yahooboyism in Nigeria*. In K. Jaishankar, Cyber Criminology: *Exploring Internet Crimes and Criminal Behavior* (3-12). London: Taylor and Francis Group.

Adetinmiri, F. O., (2011). *A contents analysis*. Gateway Library Journal, 7(1), 87-98.

Akhtar, N. (2013). *Relationship between internet addiction and academic performance among university undergraduates*. Educational Research and Reviews, 8(19), 1793-1796.

ALA (America Library Association) Digital Literacy Taskforce (2011): office of information technology: retrieved from http://connect.ala.org/files/94226/what%20is%20digilit%20%282%29.pdf

Andretta, S. (Ed.). (2007). *Change and challenge: Information literacy for the 21st century.* Adelaide: Auslib Press. ———. (2005). Information literacy: A practitioner's guide. Oxford: Chandos Publishing.

Anunobi, C. V. (2006). Dynamics of Internet usage: A case of students of the Federal University of Technology Owerri (FUTO) Nigeria. Educational Research and Reviews, 1 (6), 192-195. Retrieved June 10, 2012, from http://www.academicjournals.org/ERR/PDF/Pdf2006/Sep/Anuno bi.pdf

Anunobi, Chinwe V. and Nwogwugwu, Ngozi O. (2013). What resources do Philosophers use for research? Evidence from Postgraduate theses and Dissertations: Journal of Nigerian Libraries. Vol 46, No 1 (15) June, 2013http://www.academia.edu/4993230.

Apperson, J., Laws, E., and Scepansky, J. (2006). *The Impact of Presentation Graphics on Students' Experience in the Classroom. Computers and Education,* 47(1), 116-126.

Ary, D. Jacobs, L.C Razavieh, A and Soorensen, C. (2006). *Introduction to research in education.* Belmont,: Thomson Wadsworth.

Aviram, R. & Eshet-Alkalai, Y. 2006. *Towards a theory of digital literacy: three scenarios for the next steps.* European Journal of Open Distance E-Learning. Retrieved August 20, 2014 from http://www.eurodl.org/materials/contrib/2006/Aharon_Aviram.htm

Babbie, E. (2010). *The practice of social research (12th ed.)*. Belmont, CA: Wadsworth, Cengage Learning.

Barber, W., & King, S. (2016). Teacher-student perspectives of invisible pedagogy: New directions in online problem-based learning environments. *The Electronic Journal of e-Learning,* 14(4), 235-243. Retrieved from www.ejel.org/issue/download.html?idArticle=509

Bawden, D. (2001). *Information and digital literacies: a review of concepts.* Journal of Documentation, 57(2), 218–259.

Bawden, D. & Robinson, L. (2002). *Promoting literacy in a digital age: approaches to training for information literacy,* Learned Publishing, 15(4), 297–301, Retrieved November 30, 2007, from http://www.ingenta.com/content/alpsp/lp/2002

Becker, G. (1976); *The Economic Approach to Human Behavior, Chicago and London:* The University of Chicago Press, pp. 3-14.

Becker, H.J. (1998). *Internet use by teachers* . Retrieved June 26, 2004, from http://www.crito.uci.edu/TLC/findings/Internet-Use/startpage.html

Behrens, S. (1994). *A conceptual analysis and historical overview of information literacy.* College and Research Libraries, 55(4), 309–322.

Benson TW (1994). *Electronic network resources for communication scholars.* Commun. Educ., 43, 120.

Best, J.W. (1981).Research in Education Prentice Hall Inc.New York jersey.

Birkenholz, R.J. and stewart, B.R. (1991). *The use of instructional technologies in agricultural education*, J. Agril Edn., 32 (2) : 4048.

Browne MN, Freeman KE, Williamson CL (2000). *The importance of critical thinking for students use of the Internet*. College Stud. J, 34(3): 391-398.

Brown, S.E. and Vician, C. (1997) *An Examination of the Relationship between Computer Anxiety. Communication Apprehension and Student Experience with Electric Mail*. http: //WWW.Usm.Maine. Edu/~com/l indap~htm

Bruce, C. (1997). The seven faces of information literacy. Adelaide: Auslib Press.

Buhari, S.R. (2013). Iternet Access and usage by Academic staff and students in Nigeria Polytechnics. International Conference on Communication, Media, Technical and Design.

Burbules, N. and Callister, T., Jr. (2000). Watch IT: *The Promises and Risk of New Information Technologies for Education.* Boulder, CO: Westview Press.

California Emerging Technology Fund. (2008) California ICT Digital Literacy Assessment and Framework. [Online]. Available: http://www.ictliteracy.info/rf.pdf

Carré, C. (2017). The challenge of designing blended courses: From structured design to creative faculty support. *Canadian Journal of Learning and Technology,* 41, 1-29. https://doi.org/10.21432/T2NP62

Chandran, D. (2000). Use of Internet resources and services in S. V. University, Tirupathi environment. *Conference on Information Services in a Networked Environment in India*. Organized by INFLIBNET, 18-20 December 2000, Ahemdabad, p.3.124-3.127.

Chavez C (1997). Students take flight with Daedalus: Learning Spanish in a networked classroom. Foreign Language Annals, 30(1): 27-37.

Chi-cheng chang, (2001). "A study on evaluation and effectiveness analysis of web-based learning portfolio". *British Journal of Education Technology*, 32 (4) : 40-48.

Commission of the European Communities (2007) *E-skills for the 21st century: fostering competitiveness, growth and jobs.* European Commission, Brussels, 7.9.

Cotton, S. R. (2001*). Implications of Internet technology for medical sociology in the new millennium.* Sociological Spectrum, 21(3), 319-340.

Council of Australian University Librarians (CAUL) (2001). Making information literacy legitimate. Retrieved July, 2007 from www.caul.edu.au/survrys/info-literacy2004.doc.

Deng, B. A. (2010). Use of Electronic Resources among Academics at the University of Karachi. Library Philosophy and Practice (e-journal), 1381. Retrieved from http://digitalcommons.unl.edu/libphilprac/385

Dolo, N. C. (2013). Educational Research and the Internet.

Eagly AH, Chaiken S (1993).The Psychology of Attitudes. Orlando, FL: Harcourt Brace Jovanovich, Inc.

Edewor, H. (2008). Electronic Resource Management in Libraries: Research and Practice: Research and Practice. IGI Global.

Elster, J. (1989); *Social Norms and Economic Theory,* Journal of Economic Perspectives, American Economic Association, vol. 3(4), pages 99-117.

Eshet-Alkali, Y., & Amichai-Hamburger, Y. 2004. Experiments in digital literacy. CyberPsychology & Behavior, 7(4), 421–429.

European Union 2010. 2010 joint progress report of the Council and the Commission on the implementation of the 'Education and Training 2010 work programme'. Official Journal of the European Union, Retrieved from http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:117:0001:0007:EN:PDF

Fasae, K.J. & Aladeniyi, R.F. (2012). Internet Use by students f Faculty of Science in Two Nigerian Universities. Library Philosophy and Practice. Retrieved on September 18, 2012 from http://unilib.unl.edu

Friedman, M. (1953); Essays in Positive Economics, Chicago: University of Chicago Press. pp. 15, 22, 31.

Gilster, P. (1997) *Digital Literacy*, New York: John Wiley & Sons.

Gilster, P. (2006). Digital fusion: defining the intersection of content and communications. In A. Martin & D. Madigan (Eds.), Digital literacies for learning (pp. 42–50). London: Facet Publishing. ——. (1997). Digital literacy. New York: Wiley.

Gonzáles, C. (2012). The relationship between approaches to teaching, approaches to e-teaching and perceptions of the teaching situation in relation to e-learning among higher education teachers. *Instructional Science, 40(6),* 975-998. https://doi.org/10.1007/s11251-011-9198-x

Goodson, P., McCormick, G., Evans. D., (2001). Searching for sexually explicit materials on the Internet: An exploratory study of College students.Archives of Sexual Behaviour 30(2): 101118

Gray D (1999). The Internet in Lifelong Learning: liberation or alienation? Int. J. Lifelong Educ. 18 (2): 119.

Gressard, C.P. and Loyd, B.H. (1986). The Nature and Correlates of Computer Anxiety in College Students. *Journal of Human Behaviour and learning,* 3:28-33.

Guernsey L (2002). Very big pipes. The New York Times, 23-27. Hicks JL (2002). Distance education in rural public schools. USDLA journal, 16(3). Retrieved July 22, 2005, from http://www.firstsearch.org.

Hicks JL (2002). Distance education in rural public schools. USDLA journal, 16(3). Retrieved July 22, 2005, from http://www.firstsearch.org.

Huston, A. C., Wright, J. C., Marquis, J., & Green, S. B. (1999*). How young children spend their time: Television and other activities.* Developmental Psychology, 35, 912-925.

Inoue, H., Naito, E. & Koshizuka, M. (1997). Mediacy: what is it? International Information and Library Review, 29(3/4), 403–413.

Internet world Stats (2012).Internet Usage Statistics for Africa. Retrieved on 12/11/2012 from http://www.internetworldstats.com/stats1.htm

Internet Live Stats (2015). Nigeria internet users. Retrieved from Internet Live Stats website: http://www.internetlivestats.com/internet-users/nigeria

Internet World Stats (2017). *Internet users statistics for Africa.* Retrieved from: http://www.internetworldstats.com/stats1.htm

Islam, S., Kunifuji, S., Hayama, T., & Miura, M. (2011). E-learning in LIS education: An analysis and prediction. Library Review, 60(7), 544-559. https://doi.org/10.1108/00242531111153579

Jennings, S. E., & Onwuegbuzie, A. J. (2001). Computer Attitudes As A Function Of Age, Gender, Math Attitude, And Developmental Status. *Journal of Educational Computing Research,* 25 (4), 367-384.

Jones, Graham (2003). Using the Internet: How to get started and find what you want for business, education and pleasure. Hong Kong, Grolliez International.

Jones-Kavalier, B., & Flannigan, S. L. 2008. *Connecting the digital dots: Literacy of the 21st century*. Teacher Librarian, 35(3), 13-16.

Kari, W. (2004). *Investigation and analysis of current use of electronic resources in university libraries.* Library management, 28(1/2), 72-88.

Katz, E., Gurevitch, M., & Haas, H. (1973).On the use of the mass media for important things. American Sociological Review, 38, 166-167.

Krant R, Patterson M, Lundmark V, Kiesler S, Mukophadiyay T, Scherlis W (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? Am. Psychol., 53(9): 40: 81-86.

Laite, B. (2000). Internet use survey analysis: Retrieved May 21, 2004, from http://www.ship.edu/~bhl/survey/

Lang, X. (2008). *Perceptions of open access publishing among academic journal editors in China.* Serials Review, 33(2), 114-121.

Levin H (2003). Making history come alive. Learning and Leading with technology 31(3): 22-27.

Lenhart A, Rainie L, Lewis O (2001). Teenage life online. Washington, DC: Pew Internet & American Life Project.

Loh, C., Wong, D. H., Quasi, A., & Kingshott, R. P. (2016). Re-examining students' perception of e-learning: An Australian perspective. *International Journal of Educational Management*, 30(1), 129-139. https://doi.org/10.1108/IJEM-08-2014-0114

Lubans J (1998). How first-year university students use and regard internet resources. Available from Duke University Libraries Web site: www.lib.duke.edu/staff/orgzntn/lubans/docs/1styear/firstyear.htm (accessed May 2000).

Magaret, M. E., & Mabawonke I. (2013). Preference for electronic format of scientific journals—A case study of the Science Library users at the Hebrew University. Library & Information Science Research, 27(3), 363-376.

Malhotra, N.K. & Birks, D.F. (2007).Marketing Research: An Applied Approach. Harlow: Financial Times Prentice Hall.

Mandinaeh, N. (2004). The use of electronic resources at IIT Delhi Library: a study of search behavior. The Electronic Library, 23(6), 691-700.

Marcoulides, G.A. (1988). The Relationship between Computer Anxiety & Computer Achievement, *Journal of Educational Computing Research*, 4: 151-158.

Martins, J. T., & Nunes, M. B. (2016). Academics' e-learning adoption in higher education institutions: A matter of trust. *The Learning Organization,* 23(5), 299-331. https://doi.org/10.1108/TLO-05-2015-0034

Mashra OP, Yadav N, Bisht K (2005). Internet utilization pattern of undergraduate students. University News, 43(13): 8-12.

Mathew D, Schrum L (2003). High speed Internet use and academic gratification in the college residence. Internet and Higher Education. 6(2): 125-144.

McCombs, B. (2000). *Assessing the Role of Educational Technology in the Teaching and Learning Process: A Learner-Centered Perspective.* The Secretary's Conference on Educational Technology 2000. www.ed.gov/Technology/techconf/2000/mccombs_paper.html.

Mestre, L. S. (2012). Student preference for tutorial design: A usability study. *Reference Services Review*, 40(2), 258276. https://doi.org/10.1108/00907321211228318

Michael, K. (2012). Virtual classroom: Reflections of online learning. *Campus-Wide Information Systems,* 29(3), 156-165. https://doi.org/10.1108/10650741211243175

Middle-belt Journal of Library and Information. (2016). Accessibility and use of internet facilities in university libraries, Nigeria Library Association, vol. 14.p.212.

Mishra, O.P., Yadava, N. and Bhist, K. (2009). "Internet utilization pattern of undergraduate students". *University News,* 43 (13) : 8.

National Centre for Education Statistics (NCES) (2001). IPEDS college opportunities online: CUNY Bernard M Baruch College, IPED ID: 19051. Washington, DC: National Centre for Education Statistics. Retrieved October 18, 2005, from http://nces.ed.gov/ipeds/cool/Enrollment.asp?

Neelameghan, A. (1995). Literacy, numeracy . . . informacy, Information Studies, 1(4), 239–249.

Ojebode, A., Onekutu. P., Adegbola. T., (2010). *Audience Research method for campus radio station.* Senegal, Institute for media and society and Panos Institute West Africa.

Okello-Obura, C., & Ikoja-Odongo, J. R. (2010). Electronic information seeking among LIS postgraduate students at Makerere University, Uganda.

Okello-Obura, C., & Magara, E. (2008). Electronic information access and utilization by Makerere University students in Uganda. Evidence Based Library and Information Practice, 3(3), 39-56

Okiy, R.B. (2003). Towards Improving The Relevance of Nigerian Academic Libraries And Librarians In The Knowledge Age. The Academic Forum. Vol. 4 (3), 63-68

Olasina, G. (2006). A user Requirement Analysis of Internet Resources by Clients at cybercafés inIbadan.Information Technology. 3: 30-39.

Organization for Economic Cooperation and Development (OECD). (2016). The potential of technology supported learning. In Innovating education and educating for innovation: *The power of digital technologies and skills* (pp. 87-114). Paris: OECD Publishing. https://doi.org/10.1787/9789264265097-en

Osuala, E.C. (2005). Introduction to Research Methodology. 3rd edition. Onitsha: Africana-First Publishers.

Osunade,o., Philips, O. F. and Ojo, O. (2007). Limitations of knowledge shating in academia: A case from Nigeria. Knowledge for Management Development Journal, 3(1), 26-34.

Ozoemelem, O.A. (2010). Web Affinity: A Study of Undergraduate Students in Nigerian Universities. Library Philosophy and Practice.

Paechter, M., Maier, B., & Macher, D. (2010). Students' expectations of, and experiences in e-learning: Their relation to learning achievements and course satisfaction. *Computers & Education,* 54(1), 222-229. https://doi.org/10.1016/j.compedu.2009.08.005

Papastergious M, Solomonidou C (2005). Gender issues in Internet access and favourite activities among Greek high school pupils inside and outside school. Comput. Educ., 44(4), 377-393.

Pool, C.R. (1997). *A new digital literacy: A conversation with Paul Gilster.* Educational Leadership, 55, 6-11.

Rodgers S, Chen Q (2002). Post-adoption attitudes to advertising on the internet. J. Advert. Res. 42(5). Retrieved October 19, 2005, from EBSCO database.

Ryan SM (1994). Uncle Sam online: government information on the internet. Commun. Educ., 43, 151-158.

Salaam, M. O. (2008). "*Option for access to journals, print, CD-ROM, on-line in a Nigerian Agricultural University library Samaru"* Journal of Information Studies, Vol. 7 No. 2, pp. 24-27.

Sambo, A.A. (2005). Research Method in Education. Ibadan: StirlingHorden Publishers.

Sanders, D.W. and Morrison-Shetlar, A.I. 2001. Students' Attitudes Towards WebEnhance Instruction In An Introductory Biology Course. *Journal of Research on Computing In Education,(33), 3: 251-262.*

Sarantakos, S. (1993). Social Research.Australia: Macmillan education press limited.

Schumacher, P. and J. Morahan-Martin (2001). Gender, Internet and computer attitudes and experiences. Computers in Human Behavior, 17(1), 95-110.

SCONUL (2006). SCONUL Seven Pillars model for information literacy, Retrieved November 30, 2007, from: http://www.sconul.ac.uk/groups/information_literacy/seven_pillars.html

Scott, J; Rational Choice Theory in Browning, in G.; Halcli, A.; and Webster, F. (eds.) (2000); *Understanding Contemporary Society: Theories of the Present,* Sage Publications.

Sefton-Green, J., Nixon, H., & Erstad, O. 2009. Reviewing approaches and perspectives on "Digital literacy". Pedagogies, 4(2), 107-125.

Shapira, N. A., Lessig, M. C., Goldsmith, T. D., Szabo, S. T., Lazoritz, M., Gold, M. S., & Stein, D. J. (2003). *Problematic internet use: proposed classification and diagnostic criteria. Depression and anxiety,* 17(4), 207-216.

Shaw, L. H., & Gant, L. M. (2002). Users divided? Exploring the gender gap in Internet use. Cyberpsychology & Behavior, 5 (6),517-527 Mary Ann Liebert, Inc.

Slone, D.J (2003). _Internet search approach: *The Influence of age, search goals, and experience'.Library and Information Science Research. (25), 403-418.*

Snavely, L., & Cooper, N. (1997). The information literacy debate. Journal of Academic Librarianship, 23(1), 9–20.

Springer, M. (2010). *Brain-based teaching: In the digital age.* Alexandra: ASCD

Tarjanne, (1996). *"The internet and the infrastructure : What is the difference"*. World Science News. 33 : 18-21.

Tapscott, D. (2009). *Grown up digital: How the net generation is changing your world.* New York: McGrew-Hill.

Teresa Y. N, Jessame F, Michael Romary, Simmona Simmons-Hodo and Katy Sullivan (2003) Literacy Survey – 2003 ,Executive Summary http: //aok.lib.umbc.edu/reference/informationliteracy/ESinfolit2003.pdf

Thomas, N.P. (2004). *Information Literacy and Information Skills Instruction: Applying Research to Practice in the School Library Media Center.* 2nd .ed. London: Libraries Unlimited, 227p

Tsitsika, A., Janikan, M. (2013*), Internet use and Internet Addictive Behaviour Among European Adolescents: A cross-sectional study,* EU NET ADB.

Tull D. & Dell H. (1993).Marketing Research, Measurement and Method (6th edition). India:Prentice hall.

UNCTAD (2002).E-Commerce and Development Report. Retrieved on September 22 2011 from http://r0.unctad.org/ecommerce/doc/edro2 en/ecdro2ch3.pdf

UNILORIN, Academic Support Services. (2018). *Undergraduates' population.*

Vandenhouten, C. L., Gallagher-Lepak, S., Reilly, J., & Ralston-Berg, P. (2014). Collaboration in e-learning: A study using the flexible e-learning framework. *Online Learning,* 18(3), 1-14. https://doi.org/10.24059/olj.v18i3.404.

Virkus, S. (2003), Information literacy in Europe: A literature review, Information Research, 8(4), paper 159, Retrieved November 30, 2007, from http://informationr.net/ir/8–4/paper159. html

Voorbij, H. (1999). Searching for scientific information on the Internet: A Dutch academic user survey. *Journal of the American Society for Information Science,* 50(7), 598-615.

Webber, S., & Johnson, B. (2000). Conceptions of information literacy: new perspectives and implications. Journal of Information Science, 26(6), 381–397.

Wikipedia, (2017). Internet Access, (2017). Retrieved from http://en.m.wikipedia.org/wiki/internetaccess.

Wilkinson D, Harries G, Thelwall M, Prince E (2003). Motivations for academic website interlinking: Evidence for the Web as a novel source of information on informal scholarly communication. J. Info. Sci. 29(1): 59-66.

Zhang, Y. X. (2002). Comparison Of Internet Attitudes Between Industrial Employees And College Students. Cyberpsychology & Behavior, 5 (2), 143-149.

APPENDIX I

Department of Sociology,
Faculty of Social Sciences,
University of Ilorin,
Ilorin, Kwara State,
Nigeria.
P.M.B, 1515.
3rd june, 2019.

Dear Respondent,

QUESTIONNAIRE

I am an undergraduate student of the above named institution conducting an academic research on the topic "Digital literacy and attitudes of undergraduates towards utilization of the internet in University of Ilorin". In this regard, this questionnaire is designed to obtain relevant information from you as it is relevant to the study.

You are kindly implored to respond objectively to the questions as your responses will be used for academic purpose and will be treated with utmost confidentiality.

Thanks for your cooperation.

Yours Sincerely,
John Shedrack Ojibo
15/77JD114
08134607828

SECTION A: UNDERGRADUATES' DIGITAL LITERACY DYNAMICS:
Instruction: Tick (√) the appropriate box(es)in the tables below:

S/NO	LEVEL OF DIGITAL LITERACY	Yes	No	No Idea
1.	I enjoy using digital devices.			
2.	I am aware of various types of digital devices.			
3.	I am willing to learn more about digital technologies.			
4.	I feel that I am behind my fellow students in using digital technologies.			
5.	I think that it is important for me to improve my digital ability.			

SECTION B: UNDERGRADUATES' ATTITUDE TOWARDS THE USE OF INTERNET:

S/NO	WHAT DO YOU USE THE INTERNET FOR?	Yes	No	No Idea
1.	I enjoy using the internet for academic purpose			
2.	I enjoy using the internet for communication purpose			
3.	I enjoy using the internet for entertainment purpose			
4.	I enjoy using the internet for economic purpose			
5.	I enjoy using the internet for news and information purpose			

SECTION C: SOCIO - DEMOGRAPHIC INFORMATION:

Kindly tick appropriately as it applies.

1. **Age:** 15-20( ) 21 – 25 ( ) 26-30 ( ) 31-35 ( ) Above 35( )
2. **Sex :** Male Female
3. **Current academic grade point:** 4.50-5.00 .49
   2.40-3.49 .50-2.39 -1.49
4. **Level of study:**100 ( ) 200( ) 300( ) 400( )
5. **Parents socio-economic class:** High ( ) Average( ) Low( )

Thank You