LAPPEENRANTA UNIVERSITY OF TECHNOLOGY

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Masters in Global Management of Innovation and Technology

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ANALYSIS OF THE READINESS OF NIGERIAN UNDERGRADUATES FOR eLEARNING COURSES: Understanding their Perspective.

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ABSTRACT

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There is much enthusiasm about developing eLearning in Nigeria, but majority of the eLearning platforms introduced from developed countries to Nigeria hardly resulted in desired outcomes. Proposed reasons are lack of infrastructures such as stable electricity, inadequate rate of internet penetration, low bandwidth and low accessibility of undergraduates to sophisticated devices. This seems valid initially, but findings of this study proved otherwise. This study took a deeper evaluation of the scenarios and made viable discoveries which deviates from early findings. First, the former attempts to introduce eLearning for students in Nigeria were implemented with a rural mindset. Secondly, the undergraduate student`s technical readiness were not properly studied, their technology user acceptance was also not properly checked and the eLearning platforms were not localized. This study conducted interviews among tertiary students at Yaba College of technology and gathered valuable information towards their readiness for eLearning.

Keywords: eLearning, technical readiness, eLearning technologies, technology acceptance, Absorptive capacity, Absorptive theory, Nigerian Education, Undergraduates, UTAT,TAM, Developing countries.

DEDICATION

This thesis is dedicated to my bereaved parents. They told me, that I should always strive for excellence, no matter what it takes. I also dedicate this thesis to my lovely wife – Funmilayo and my three children – David, Elizabeth and Samuel who stood by me during my whole study periods. I cherish them and will always do. I can`t but mention their troubles, jumping over me when am studying for examinations, sometimes tearing my books and othertimes they throw them all over the house. It all adds to the beauty and fun of the process. Most importantly, I dedicated this thesis to God for preserving me so far.

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I can`t but mention the tens of teachers who taught me different courses from Advance course in strategy for product development to Research methods , academic writings, technology management and many more. Also to my Vietnamese school mate Doan Tien, who we graduated same bachelor`s degree together and find ourselves as master `s course mates again. We did most assignment together and he also assisted me in proof reading. I say a big thanks you to everyone.

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ABBREVIATIONS

eLearning	Electronic Learning
MUAPC	Model of User acceptance of PC
MOOC	Massive Open Online Course
PC	Personal Computers
ICT	Information Communication and Technology
IME	Industrial Management Engineering
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
TAM	Technology Acceptance Model Theory
UTAT	Unified Theory of acceptance and Use of technology
YABATECH	Yaba College of Technology, Lagos- Nigeria

INTRODUCTION

The scope of this study is in the context of evaluating the readiness of undergraduates of Yaba College of Technology in Lagos, Nigeria for eLearning courses. The findings of the study were done by interviewing a representative sample of students at Yaba college of technology and a resource person at the directorate of the Ministry of information, communication and technology in Lagos state. This thesis intends to information directly from the undergraduates via in-depth verbal interview which ranged from their previous experiences with eLearning to their perceived technical readiness to embrace eLearning technology and undertake eLearning courses

1.1 BACKGROUND

This chapter discusses background information in chapter 1, sub-chapter 1.2 introduces the goal of the study and proceeded to the research questions and objective in sub-chapter 1.3. In sub-chapter 1.4 and 1.5, the study presents structure of the thesis by a diagram and limitations of the study respectively. In sub-chapter 1.6 and 1.6.1, the study accounts for the situation of eLearning in Nigeria in previous years and proceeded to differentiate between eLearning, distance learning and online learning. In sub-chapter 1.7, it relates 1.6 and 1.7 by highlighting the ten defining features and future development of eLearning in Nigeria. At this point, the author defines the reason, motivation and benefits of this study. then proceeded to explain in sub-chapter 1.7, the influence of living and studying in Finland on chosen topic.

Sub-chapter 1.10 has to deal with the history of Nigeria, map and population were paraphrased with the picture of Nigeria`s Map. In 1.11, the structure of the Nigerian educational system was represented by a diagram and brief history of Yaba College of technology and ministry of information, communication and technology in Lagos state were discussed in sub-chapter 1.11 and 1.12 respectively. Sub-chapter 1.14 rounded up with highlighting the understanding of the changing university learning culture in Nigeria and ushers in chapter 2 of the literature review on page 15.

1.2 GOAL OF RESEARCH

The goal of the study is to analyze the technical readiness of undergraduates for eLearning in tertiary institutions at Yaba College of Technology. Such analysis will assist national education policy makers, eLearning technology providers, teachers and other stakeholders in understanding undergraduates students perspective and readiness before introducing eLearning courses and technology. They will also identify resources that are needed before an introduction of eLearning.

1.3 RESEARCH QUESTION AND OBJECTIVE

The goal of the study is to analyze and provide information about the readiness of students of Yaba college of Technology in Lagos, Nigeria in eLearning courses. The study objectives are to identify the readiness for eLearning of the students of Industrial maintenance engineering at Yaba College of technology, Lagos-Nigeria. To give information about the technology obtainable for starting e-Learning courses at Yaba College of Technology, Lagos-Nigeria and student`s preferred courses for e-Learning.

These objectives seek to answer the following research questions:

What is the readiness of undergraduate students of Yaba College of Technology to start eLearning courses ?

Sub-questions:

- *What technologies and infrastructures for eLearning are available in Yaba College of Technology?*
- *What is the most preferred course for eLearning?*
- *Is eLearning a feasible form of teaching and learning in Nigeria?*

1.4 STRUCTURE OF THESIS

Figure 1, presents the structure of the thesis, chapter one briefly discusses the background information, goal of the study, research question and objective, structure of the thesis, limitation of the thesis, the situation of eLearning in Nigeria for previous years, defining features of eLearning in Africa. The second chapter is the literature review part and it discusses previous literature on the topic, which is closely followed by review of articles such as e-Learning Africa report, The EDUCAUSE report, Mental model of e-Learners, technology acceptance model and all the individual gaps in these previous literatures on e-Learning.

This study summarizes the literature gaps in subheading 2.5. It continued with a detailed discussion the theoretical framework in 2.6. Furthermore, the adopted theories from UTAT and conceptual framework. Chapter 3 is the methodology section and it presents a guide for the interview questions, subheading 3.2 analyzed the case study selection, followed by the case study strategy, interview methods and questionnaires, data collection techniques, procedures, data analysis, validity and reliability in subchapter 3.2-3.5 respectively.

Chapter 4 analyzes the results from interviewees as well as from stakeholders. And it summarizes all the tables as well as respondents demography. Chapter 5 is the empirical part it contains, validity and reliability. Chapter 6 is the discussions and recommendations. The thesis rounded up in chapter eight with conclusions, references and appendix.

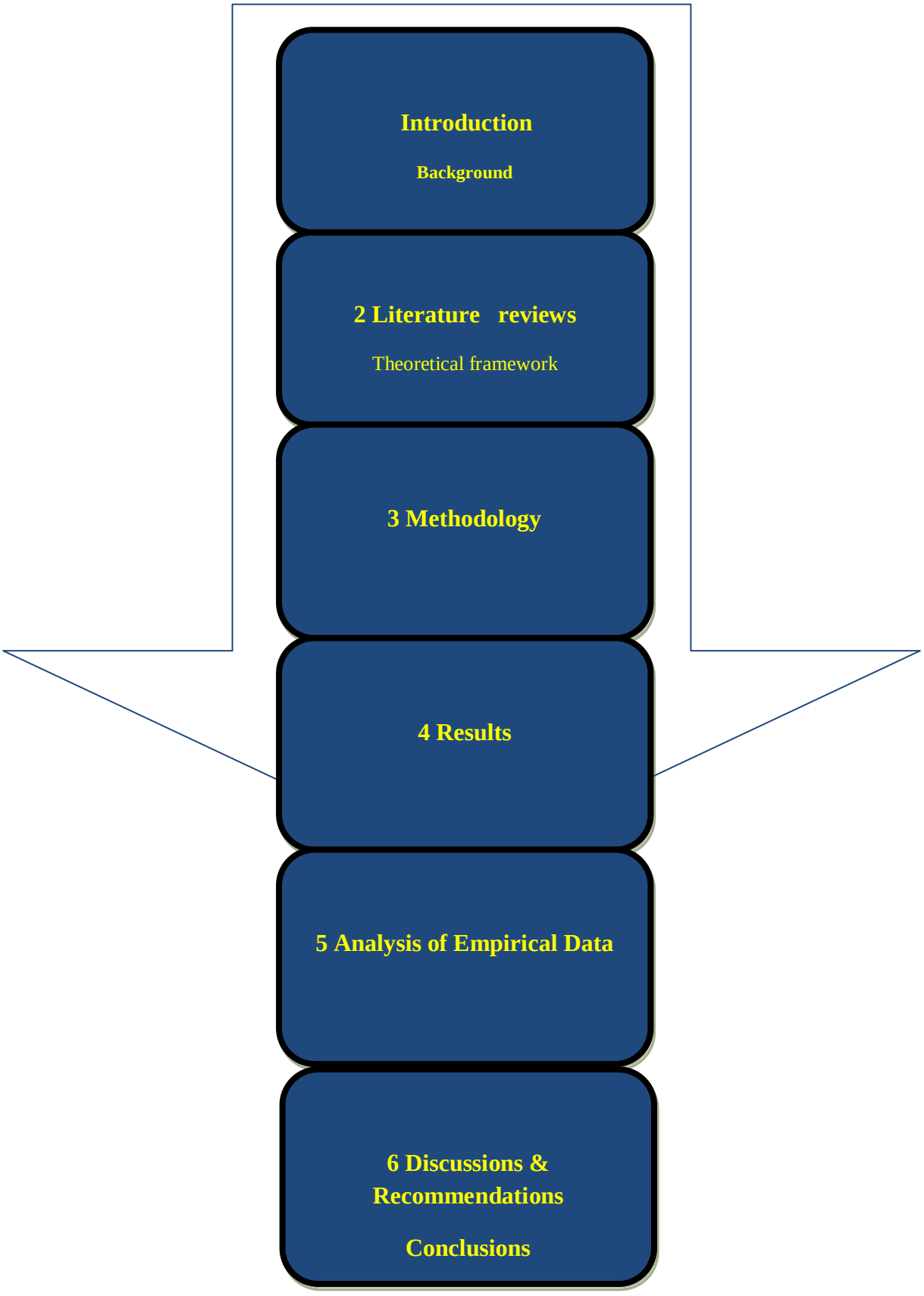

Figure 1: Structure of the thesis

1.5 LIMITATION OF THE STUDY

The research will be limited to Lagos-Nigeria and it is covering only students of Industrial Maintenance Engineering at Yaba College of Technology and one person from the Ministry of Science and technology in capacity of the Director of Operations. This information does not give a basis to make proper statistical analysis due to shortages in basic data and sampling, therefore, the generalization of the results is not possible. The analysis gives information only to the case of undergraduates in the particular tertiary institution concerned, if the results need to be generalized, wider survey is needed.

The research framework of this study is not assertive on encouraging any institutions to export education to Nigeria but will only present information about readiness of undergraduates in adopting eLearning technologies and the infrastructure on ground within the limit of this study to anyone interested in commencing successful e-Learning studies in Nigeria. Views of university management and e-Learning technology providers were not included in this study.

This information will not give a basis to make proper statistical analysis due to shortages in basic data and sampling, therefore, the generalization of the results are not possible. The analysis gives information only to the case concerned, if the results need to be generalized, wider survey is needed.

1.6 THE SITUATION OF ELEARNING IN NIGERIA IN THE LAST FIVE YEARS

The quality of educational system in Nigeria is unequally distributed from region to region. In urban areas, the classes are better equipped, while in rural areas, the classes and teacher are behind. Many students in Nigeria are interested in education, but the conventional traditional classrooms. Reason for this can be unreadiness for eLearning or the discipline and self-motivation associated to pursue online education. In addition, the situation of Nigeria`s Information and telecommunication infrastructure is a big determinant of the growth and proliferation of eLearning in Nigeria.

Also, Nigeria has epileptic supply of power, irregular infrastructural development across the Nation and this can create many challenges for students to realize the full benefits of eLearning. Top and leading institutions are mostly located in capital cities and very urban states like Lagos, Abuja and Kano. Unlike the urban cities, the rural areas do not have basic IT infrastructures which inhibit the spread and growth of anything digital education. The undergraduates in rural areas and smaller cities face serious challenges accessing quality and up to date education and in most cases emigrate to big cities. In cities, university fees and standard of living are high, the need for eLearning started to surface . Despite, the systemic challenges, how ready are these rural students for eLearning?

There are varieties of eLearning practices in Nigeria and eLearning it still at its infancy stage. There are a lot of willingness and enthusiasm about developing the potential of eLearning in Africa, but eLearning is still very much in a developing stage across the African continent. There are many constraints which includes infrastructure, connectivity, appropriate training, capacity development, inadequate digital content as well as the low readiness of students in use of technologies that support eLearning as well as their absorptive capacities. Unwin (2008)

1.6.1What is eLearning, Online Learning and Distance learning ?

There are many confusions in the use of the following three terminologies among scholars - eLearning, Online Learning and Distance learning. This study gave a brief explanation of each of the terminologies and wherever the terms are referred to, they are referred to in the context of the definition given for the purpose of this study.

Distance learning is the set of activities of providing access to learning resources for those who are geographically away. The instructor is physically located in different places away from the learner and possibly providing the instruction at disparate times (Dede, 1996).

Online learning is considered as a newer version of distance learning and it is described by most authors as access to learning experiences via the use of some technology (Benson, 2002).

eLearning is the type of learning accessible by using technological tools that are either web-based, web distributed , or web-capable. It can also include audio and videotape, satellite

broadcast and interactive TVs (Ellis, 2004). This study will concentrate on eLearning from the perspective of Ellis definition of eLearning. Though, class-thought courses still holds the largest share of education, but enrolment by non-traditional students in eLearning courses continues to grow gradually in the educational sphere. Another class of eLearning consumers contributing to the popularity of eLearning is post-traditional or graduate students, who now wish to further their academic education after securing a job. Irrespective of class, age, location, previous education or career, their common goal is to get knowledge anytime and without borders (Bichsel, 2013).

There are pockets of institutions in Africa working on the advancement, promotion, education and deployment of eLearning in Africa. eLearning Africa is one of them and it represents the largest gathering of ICT supported education and training professionals in Africa. The organization conducts annual surveys, publish annual reports and books with stakeholders in Africa enabling participants to develop multinational and cross –industry partnerships and contacts, as well enhancing their knowledge, expertise and abilities. The report has essentially been crafted to inform practice and policy, with an emphasis on actionable knowledge. eLearning Africa (2012)

1.7 TEN DEFINING FEATURES AND DEVELOPMENT OF ELEARNING IN AFRICA

The eLearning African report findings in 2012 proposes ten defining features of eLearning in Africa in the last five years. It reported that many of the ten features are interrelated and cross-cutting, reflecting the multi-faceted nature of change and challenge within the sector. eLearning (2012)

The first relates to the accessibility and connectivity which indicated that there is improved access to the internet by most African nations at increased speed and reduced cost, along with more reliable electricity. This has liberated new opportunities and made it more realistic to use and to share online resources in the classroom and for training purposes. eLearning (2012) .

Others are the amount of research and the impacts they created, this includes amount of follow-up on the ICT projects, through research and evaluation. Unfortunately, many

research projects are uncompleted. Shift in attitudes and awareness. eLearning needs to be embraced across the board- learners, teachers and policy makers, politicians and communities all need to get involved, so that everyone becomes gradually enlightened on the subject. The rise of social medias – Africans are not new to social medias, but it has practically being used as a form of connecting socially, however, there is a rising awareness of how it can be used in education, by encouraging the sharing of knowledge, commencing engaging learning experiences and increasing involvement from learners. eLearning Report (2012)

Political will and policies: Political will drives changes and where national policies are based on ICT development, it naturally has spillover effects on ICT facilitated learning. Curriculum integration : Curriculum integration helps reduce the anxiety of teachers by integrating ICT curriculum training for teachers which makes them feel included in the process, this will facilitate delivery of ICT related courses in the classroom. Leadership and strategy : the duo of leadership and strategy are very important to executing ICT and eLearning successfully in Africa. eLearning Report (2012)

Costs and financing- with state telecoms holding the monopoly of bandwidth of internet access, bandwidth comes at a high price. increased competition would increase cost and bring bandwidth within the reach of more Africans. Cheap bandwidth will allow educational institutions to be technological and technical ready for flow of knowledge via online and distance learning. Skills and Training : The advantages of ICT and eLearning may be recognized by policy makers, educational organizations or charity organizations and opportunity. However, many African tutors actually see introduction of elearning as somehow unsafe for the security of their jobs and this can hamper efforts to use ICT effectively. Despite the stated nine defining features of eLearning in Africa. The report concludes that provision of hardware, resources and software are very important. eLearning Report (2012)

Previous studies both within and outside Africa has focused heavily on institutional factors such as infrastructures, Internet connections and availability of computers as core determinants of readiness for eLearning in Africa. This study intends to indicate that there are more core determinants to the successful introduction, implementation or acceptance of eLearning technologies than the previously held notions of infrastructures as the only core determinants.

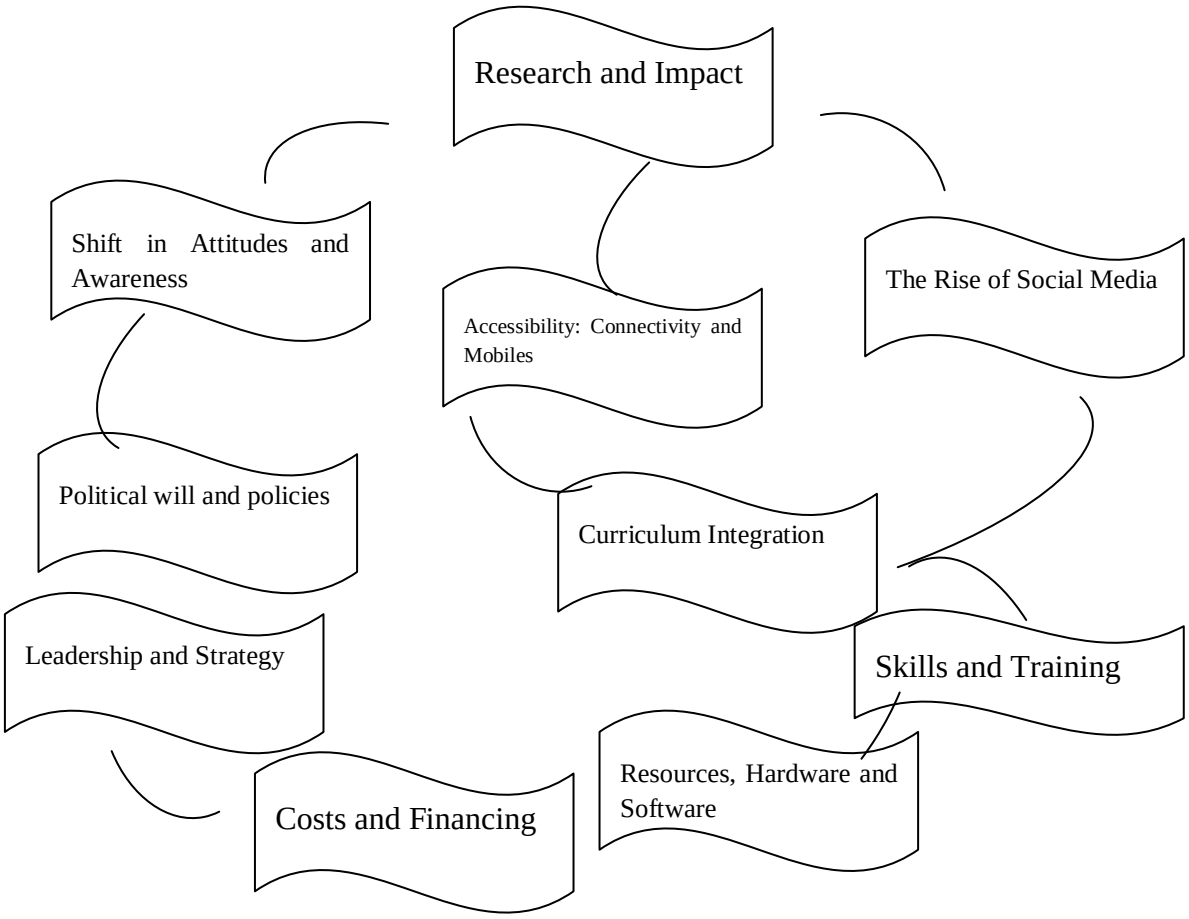

Figure 2: Ten defining features of eLearning in Africa (eLearning Africa report, 2010)

1.8 REASONS, MOTIVATION AND BENEFITS OF STUDY

My motivation for writing this thesis, is because I had the privilege to study in tertiary institutions both in my home country, Nigeria and in Finland. Having gained knowledge in both societies, I`d like to point out that there are abundant opportunities in introducing eLearning to developing countries provided there are required conditions, the students have absorptive capacities for technology student`s readiness are known. Introduction of knowledge from the west to developing countries via eLearning can attempt to utilize these abundant opportunities. This may be achieved firstly, by identifying all the stakeholders that are involved in eLearning technology and deployment ecosystem. Followed by, a proper need base assessment of student`s preferred online courses and evaluating the readiness of

universities undergraduates in target countries for eLearning. This, we considered important determinants.

In addition, the reason for choosing this thesis topic is that, I observed there are huge gaps in quality of knowledge deployed in developed and developing countries and therefore, there is a need to reduce the gaps to better empower developed countries. eLearning can be a vital means to reduce this gap or simply put it can be an affordable platform cheaper to transfer knowledge. The reason for this study is to highlight the important steps in deployment of eLearning to developing countries. To evaluate the readiness of potential students in developing countries for eLearning, to present results of the findings and deduce possible conclusions from the findings.

The benefits of this study are, knowledge from this research may provide valuable information to evaluate and know the readiness of undergraduates in Nigeria for eLearning and serve as a knowledge pool for education providers. It can as well be used to determine by observation the level of absorptive capacity of undergraduates as regards acceptance of eLearning technology and courses. Knowledge from this report may assist in developing need-based eLearning content gathered from undergraduates with the intention of later offering preferred eCourses by universities or external web based education providers.

Furthermore, eLearning can help educators and higher institution education providers to better understand how students can experience technology in their campuses and the ways in which new, better, or more technology can impact students relationship with information technology. eLearning can as well reach under-educated population in rural areas especially in developing countries. Another benefit of eLearning is, it has a dual effect of both increasing enrolment of students and generating revenues for the providers as well as creating literacy without bothers in the society (Bichsel, 2013).

In lieu of the benefits above, many tertiary institutions have stepped up their efforts to garner more revenues to their coffers by embracing deployment of distance and online education. While, some argue that eLearning is a passing trend, some say it is here to stay. Either way, eLearning presents a viable and untapped opportunity for revenue generation for smart, vibrant and flexible educational institutions who can capitalize on its infancy, explore the first mover advantage and expand it to all categories of eLearning consumers. Kuper (2013)

“E-Learning therefore presents an interesting dynamics because they represent the new digital destiny of higher education” Kuper (2013). Knowledge from this research can be used to reach critical decisions on the feasibility of electronic education export. It can also assist educational policy makers in critical decisions for resource allocation to the development of eLearning technologies and content. Kuper (2013)

Knowledge from this report may assist in developing need based eLearning content gathered from undergraduates with the intention of later commercializing it. It can assist in the selection of the right technology and platform to use. Research findings from Nigeria can allow eLearning providers gain internationalization strategies to education in developing countries. This may further familiarize potential students from developing countries with a modern trend in digital literacy.

1.9 INFLUENCE OF STUDYING AND LIVING IN FILAND ON CHOSEN TOPIC

It is also important to mention, that my education, residence and life in Finland is a contributory factor to my motivation for writing this topic. During my first day at University of Applied sciences, I was astonished to the ease of use and accessibility of technological facilities, computer password and username are issued to me and I was familiarized with some other computer programs. I also took courses via eLearning from other institutions which were counted towards my final bachelor `s degree credits via eLearning. I use the Moodle learning platform both in my bachelor`s and master`s degree which I never used in my entire educational life in Nigeria back in my home country. These platforms have changed a lot how, I perceive education via computer technology.

1.10 BRIEF HISTORY OF NIGERIA, POPULATION AND MAP

Nigeria is a federal constitutional republic comprising thirty-six states and one federal capital territory located in the centre of the country and it is called Abuja. The country is located in

West Africa and shares bothers with Lake Chad, Republic of Benin and Niger. The three largest ethnic groups are Hausa, Ibo and Yoruba. About Nigeria (2013)

The name of Nigeria was formulated from Niger – area which now became a compound word "Nigeria". Nigeria has a population of 150 million people which makes it the most popular black nation in the world and it is a member of the commonwealth of nations. The economy of Nigeria is gradually increasing with international monetary fund projecting it to be 9.8% growth in 2009. Fig 3 shows the visual map of Nigeria.

Figure 3: Map of Nigeria (Source: Infoplease, 2014)

1.11 STRUCTURE OF THE NIGERIAN EDUCATIONAL SYSTEM

The structure of Nigeria educational system is termed 6-3-3-4 system and Fig. 4 below gives more details. The first six years is for basic education and students proceed to Junior high school, where they are introduced to secondary learning. After completing the three years

compulsory junior high school, they move to another level of education called the senior secondary school, where they specialize into science, business or humanities. After that is completed, they either move to vocational schools, polytechnics or universities. This translates to a total of six years of basic or primary school, three years in Junior high school, three years in senior secondary or high schools and four years in university studies. About Nigeria (2013)

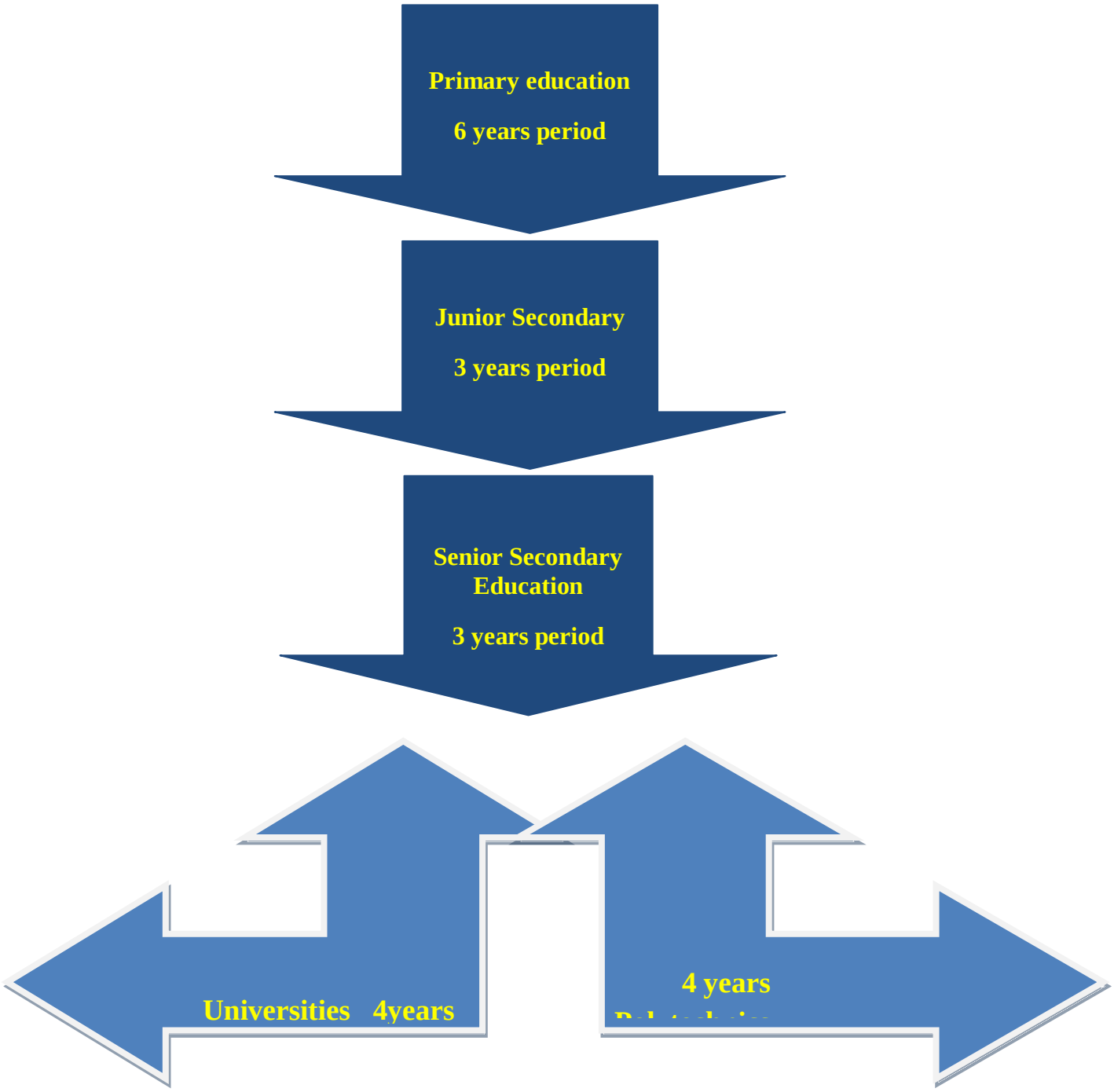

Figure 4: Structure of the Nigerian educational system

1.12 YABA COLLEGE OF TECHNOLOGY

Yaba College of technology is one of the leading schools in technology and business education in Lagos, Nigeria. It is the first tertiary institution in Nigeria and located in Yaba area of Lagos state. It was established in 1969 and offers degree in technology and business education. The main objective of the college is to provide full and part-time practical training in technology and business to Nigeria students. It is made of nine academic units called schools and thirty-four departments. It has about forty thousand students (40,000) which comprises of full and part –time students. At the moment. the colleges have no eLearning classes either within the institution or from external providers and the majority of the students are class-thought. As part of its drive for internationalization, the institution partnered with the French government, through the French embassy in Nigeria to deliver qualitative education to the students of Industrial Maintenance Engineering at the school of Engineering. Yabatech (2013)

1.13 MINISTRY OF INFORMATION, COMUNICATION AND TECHNOLOGY (YABATECH)

The ministry of science and technology was created in year 2004, it provides supervisory roles in science and technological education in Lagos state, it also provides professional information, communication technology services to residents of Lagos. The mission of the ministry is to employ science and technology in all activities towards improving the lives of people of Lagos and transforming Lagos state through strategic and coordinated utilization of available resources into a developed, industrial and modern state of international status. The centre aims to establish an eLearning facility where students can take courses online. MST (2013).

1.14 THE CHANGING UNIVERSITY LEARNING CULTURE

There is actually a shift in the mindset of most students, they are now used to the fact that ICT bridges the gap between their teachers and students. Undergraduate students understand

that now they can have a tele-education courses irrespective of their geographical location in Nigeria. Recently, university undergraduates in Nigeria are undergoing a changing learning culture. Characteristics of such emerging culture among undergraduate learners includes ; Learners want to learn more independently, provided they are guided by experience teachers, learners want to have access to quality learning materials due to development in information, communication and technology (ICT), they see ICT as a motivation to learn, ICT is making distance learning easier to the internet savvy generation. Learners also want to produce knowledge themselves with local content.

2 LITERATURE REVIEW

In chapter two, this study discussed many literatures, it first analyzed the eLearning Africa Report in chapter 2.1 because the study area is in Africa. The eLearning Africa articles were reviewed and the gaps were stated in sub-chapter 2.1.1. Then, the study proceeded to EDUCAUSE REPORT (ECAR) which basically talks about deficiency in infrastructures in eLearning development in Africa, it was reviewed in sub-chapter 2.2 and gaps were stated in sub-chapter 2.2.1. Followed by a review of Johnson`s report on the mental model of eLearners which makes us understand how eLearning is perceived mentally.

In sub-chapter 2.4, the technology acceptance model will be analyzed which describes the process of adoption and acceptance of technology. In sub-chapter 2.5, all the individual gaps in the articles, report, theories were summarized together to create the basis of the conceptual model. Based on the gaps found in all the previous study reviewed, the study`s theoretical framework started to emerge in sub-chapter 2.6. But, these theories did not in themselves emerge in isolation. They were an extension of existing theories such as the theory of reasoned action or planned behavior in sub-chapter 2.6.1 as well as motivational model theory and unified theory of technology acceptance model (UTAT).

The need to elaborate on absorptive capacities and how it relates to eLearning lead this study to sub-chapter 2.7 and 2.8 respectively which are itemized the relations between absorptive capacity to technology acceptance model and user readiness.

The advancement of technology and the arrival of the internet during the nineteenth century changed the way we communicate and learn. It allowed our contents to be shared and transmitted electronically. Internet technology made it possible to transmit data over the web and this has ushered in new forms of learning which gave birth to web-based or online learning. eLearning is therefore an acronym for electronic learning. Ellis *et* al., (2004) describe eLearning as the type of learning accessible by using technological tools that are either web-based, web-distributed , or web-capable. It can also include audio and videotape, satellite broadcast and interactive TVs.

The study evaluated the eLearning Africa report, The EDUCAUSE report, Johnson`s report on mental model of eLearners as well as all the literature gaps. Sub-chapter 2.8 emphasizes

on the “Technology acceptance model theory (TAM)”, supported with a diagram. In 2.10, we rounded-up with the summary of all the literature review gaps. Sub-chapter 2.12 started with theoretical framework, 2.12.2, adopted theories of UTAT and new conceptual framework to support theory. Sub-chapter 2.9 connects the relation of absorptive capacity to technology acceptance model and it is supported with a diagram and chapter two rounded up with the delimitations of the study.

This study will consider series of literatures on eLearning, previous research articles on subject matter, brief history of Nigeria as a country, structure of the Nigerian educational system and her population. Furthermore, the study will give a brief background about the target tertiary institution in which the undergraduates are interviewed- Yaba College of Technology as well as brief background information on the undergraduates researched in the study.

In addition, brief information about Ministry of Information, Communication and Technology (ICT) and the stakeholder interviewed at the ministry. The literature review will proceed to give insight on the changing university learning culture in Nigeria. Lessons from eLearning African reports will be paraphrased, the EDUCAUSE report , Johnson`s report, the technology acceptance model theory as well as all the gaps in this reports will be summarized. Sub-chapter 2.10 will start with the research objectives and questions. Then, study proceeds to the theoretical framework with the unified theory of acceptance and use of Technological model (UTAT), adopted theories of UTAT and conceptual framework and finally round up with the limitations of the study

2.1 THE ELEARNING AFRICA REPORT

ELearning Africa (2012) report highlights what survey respondents believe are the five most significant developments in African eLearning over the next five years: “Africans will have better access to ICT, they will become even more mobile and will have created new ways to learn, we will witness the emergence of improved leadership, with stronger political will and economies will reap the benefits of increased investment in ICT”. These are the dominant views of the survey respondents regarding the future in eLearning Africa`s survey.

E-Learning is an acronym for electronic learning. Ellis (2007, p.60) defines E-Learning as "learning facilitated by ITC, computers, internet, audio (radio, podcasts), video (tape, DVDs), satellite broadcast, interactive TV, CD-ROM and telephones". E-Learners are people of all ages and belong to all cadres of life situations ranging from adults to children, males to females, employed to the unemployed. "E-Learning allows students to have the options of choosing most appropriate eCourses from streams of education providers other than the ones they are geographically tied to". (Concannon *et* al. 2005)

One of the leading organizations in Africa promoting eLearning to Africa is the "E-Learning African organization". E-Learning Africa organization is largest gathering of ICT supported education and training professionals in Africa. The organization conducts annual surveys, publishes annual reports and books with stakeholders in Africa enabling participants to develop multinational and cross –industry partnerships and contacts, as well enhancing their knowledge, expertise and abilities. The report has essentially been crafted to inform practice and policy, with an emphasis on actionable knowledge. eLearningAfrica (2012)

E-Learning Africa (2012) report highlights what survey respondents believe are the five most significant developments in African eLearning over the next five years: "Africans will have more better access to ICT, they will become even more mobile and will have created new ways to learn, we will witness the emergence of improved leadership, with stronger political will and economies will reap the benefits of increased investment in ICT". E-Learning Africa approach shares the view that inter – country comparisons are same, in spite of the technological and regional variety encountered in them.

2.1.1 Gaps in eLearning Africa report

Though, the respondent views from eLearning Africa surveys provided a good direction as regards future expectations in eLearning in Africa, but the views appear overly optimistic.

This proposal indicates that these views or variables are broad generalization for advancement of eLearning in Africa. For example, there may be sharp differences in readiness for ICT among undergraduates between South Africa and Somali, though they are both African countries. These variables omit specific cases and therefore can`t be generalized.

But, our findings indicated that these views are broad generalization of advancement for eLearning in Africa. For example, there are sharp structural differences in ICT infrastructures between South Africa and Somali, though they are both African countries. These approaches share the view that inter – country comparisons are same, in spite of the technological and regional variety encountered in them.

Western education are cherished in a number of developing countries including Nigeria and there are increasing international students eager to either complete a bachelor`s, master's or doctoral degrees in Western countries. Unfortunately, only few percentages of them make it abroad. There are also recent renewed interests at different governmental levels across the west to exporting Western education via eLearning. At this point, there is a `PUSH & PULL `effect in eLearning deployment.

Such exportation and commercialization plan may be better realized, if it extends to both traditional and nontraditional students in developing countries. Unfortunately, the readiness of these categories of knowledge consumers are understudied and therefore little is known about eLearning courses that are provided in developing countries.

Other notable factors are moderate drive to export education via eLearning by developers of eLearning technologies. Most eLearning technology providers are not interested in research and intelligence gathering about the total ecosystem of eLearning which involves the technology, the platform, the content producers, the facilities, the resources, and personnel's involved , the absorptive capacities and the readiness of the end users.

A combination of these problems portrays a challenge to both providers and consumers of eLearning contents and technology. This report will evaluate the readiness of undergraduates in Yaba College of technology in Lagos, Nigeria through verbal interviews. The thesis will proceed to present its findings and seek to recommend its findings for possibility to gather information that could lead to the commencement of eLearning in tertiary institutions in Lagos, Nigeria.

The availability of eLearning technology, technological devices and internet is not guaranty that eLearning will become popular or patronized. A ready example is high technological countries, most of these conditions are met. However, eLearning still has some challenges as regards popularity and acceptance. It can be suggested that, availability of these resources is

not a criterion for eLearning adoption and can`t be used to make future predictions as regards readiness for eLearning.

2.2 THE EDUCAUSE REPORT (ECAR)

Other previous findings on evaluating the readiness of students for eLearning stem from EDUCAUSE Centre for Analysis and Research (ECAR), a nonprofit organization and the foremost community of IT leaders and professionals committed to advancing eLearning in higher education in Canada. ECAR programs are focused on analysis, advocacy, community building, professional development and knowledge creation. The 2013 ECAR study of eLearning was designed to describe the current state of e-Learning in higher education and to identify areas in which institutions can grow or improve on their eLearning initiatives. ECAR (2013)

Dahlstrom *et* al. (2013, p.10) pointed in out in ECAR report "that student's relationship with technology is complex"…. "They recognize its value but still need guidance when it comes to better using it for academics". The report concluded that: "students are not really interested in taking separate "digital literacy" courses, rather, students seek greater clarification about technology use expectations and they look forward to technology training that applies to their course work".

2.2.1 Gaps in EDUCAUSE Report

The conclusion by Dahlstrom *et* al. (2013, p.10) of ECAR that "students are not really interested in taking separate digital literacy", can be considered right at the initial stage. This study supports and will attempt to show that most students are actually interested in preliminary digital literacy, but technical readiness and absorptive capacities need to first be established before introduction of eLearning.

2.3 JOHNSON`S REPORT ON MENTAL MODEL OF ELEARNERS

Other argument was proposed by Johnson (2009) to explain mental readiness of e-Learners and the focus is on the evaluating the readiness of learners, they include but are not limited to the following: Constructivism, constructionism and social constructionism.

"Constructivism, asserts that people create and gain knowledge through social interaction… Constructionism is an educational theory built around the assumption that learners understand the world according to mental models they have constructed and learn most efficiently when interacting with the world and experimenting…, Social constructionism highlights the difference of social relationships on learning; meanings are interpreted through social interaction….Educational practices fitting the description of instructionism are teacher-focused, prescribed and skill-based", Johnson (2009).

2.3.1 Gaps in Johnson`s report

Johnson`s report and approaches were able to describe the mental models which many learners belong and possible influence on readiness of eLearning adoption, but none of these approaches bothered about evaluating the actual readiness of potential learners before commencement of learning. The terminologies in Johnson`s report may be too ambiguous for comprehension when we are considering undergraduates from developing countries interaction with new eLearning technologies and participation in eLeaning courses.

2.4 TECHNOLOGY ACCEPTANCE MODEL THEORY

Technology acceptance model (TAM) was originally founded by Ajzen and Fishbein, and then further developed by Fred Davis, Richard Bagozzi and Warshaw. It is a theory of information systems that describes how users accept and use technology.The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. (Davis *et* al. 1989, p.60-70). Katunzi (2011,

p.93) added construct of "trust" to the technology acceptance model as an important factor for eLearning adoption.

TAM based its conclusions on two constructs or variables which are firstly, perceived usefulness; the degree which a person believes that using a particular system would enhance his or her performance and the second is perceived ease-of-use; the degree by which a person believes that using a particular system would be free of efforts. (Davis *et* al. 1989, p.982-1003)

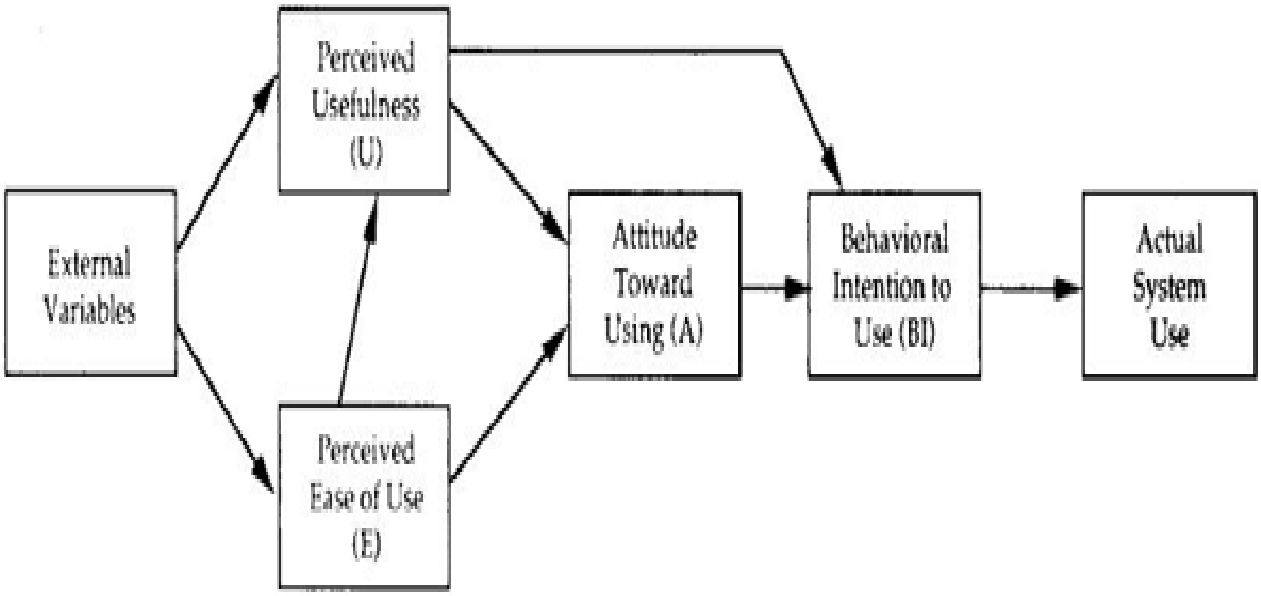

Figure 5: Technology Acceptance Model (Source: Davis et al.1989, p.982)

2.4.1 Gaps in technology acceptance model theory (T A M)

The Technology Acceptance Model theory (TAM), gave right direction to this study, it gave clue to such constructs as perceived usefulness of technology and perceived ease of use, but ignored the possibility of readiness or level of readiness, which neither is related to the two TAM theory constructs. This study will consider " READINESS" as a main social factor or construct that can stimulate or enhance participation in eLearning courses. it will also use absorptive capacity theory to further explain undergraduate`s readiness. Davis (1989)

2.5 SUMMARY OF LITERATURE GAPS

E-Learning Africa report concluded that there are five significant criteria for successful eLearning delivery, which includes: more mobility, better access to ICT, new ways to learn, improved leadership and increased investment in ICT.

EDUCAUSE centre of analysis and research (ECAR) in the report by Dahlstrom (2013) claimed, uninterestedness of students in eLearning, students seek greater clarification about technology use expectations, and look forward to technology training that applies to their course work.

Johnson (2009) proposes different mental approach for readiness for eLearners which includes constructivism, constructionism and instructionism.

Davis *et* al. (1989) were able to give explain in their proposed Technology acceptance model of perceived use and perceived ease of use, but ignored readiness as one of the constructs which is a social factor.

As a summary, the respondent views in eLearning Africa surveys provided a good direction as regards future expectations in eLearning in Africa, but the views appear overly optimistic. But, this proposal indicates that these views or variables are broad generalization for advancement of eLearning in Africa, for example there may be sharp differences in readiness for ICT among undergraduates between South Africa and Somali despite they are both African countries. These variables omit specific cases and therefore can`t be generalized.

The availability of eLearning technology, technological devices and internet as pointed out by eLearning Africa are no guaranty that eLearning will be patronized. For example in highly technological countries, most of these conditions are met, yet eLearning still has some challenges as regards acceptance and patronage.

It can be suggested that, availability of these resources is not a criterion for eLearning adoption and can`t be used to make future predictions as regards readiness of undergraduates for eLearning. The conclusion by (Dahlstrom *et* al. 2013) of ECAR that "students are not really interested in taking separate digital literacy," can be considered right at the initial stage. This study supports that most students are actually interested in eLearning or digital literacy,

but technical readiness needs to first be established and this would be the hub every other thing rotate. Regarding Johnson`s submissions, these approaches were able to describe the mental models which many learners belong and its possible influence for eLearning adoption, but none of these approaches bothered about evaluating the readiness of potential learners before commencement of learning. After looking at the literature, the study posits the following concepts or hypotheses;

H1: Readiness needs be evaluated, if undergraduates will embrace eLearning.

H2: Preferred eCourses need be known, it will influence willingness, thus readiness

H3: Perceived usefulness for embracing eLearning courses will influence readiness

H3: Mental approach is confused with undergraduates readiness.

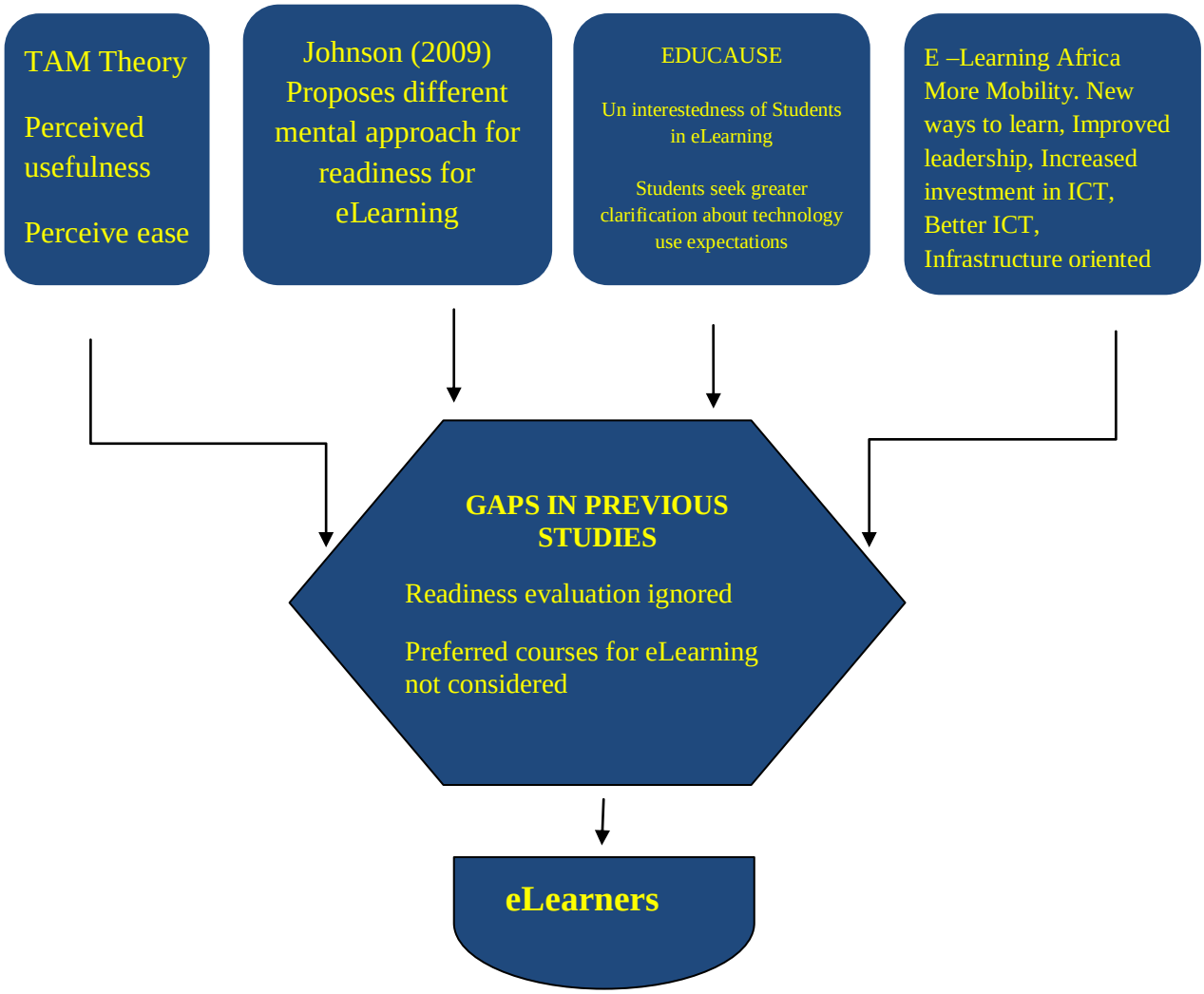

Fig 6: Literature Review Gaps

2.6 THEORETICAL FRAMEWORK

In this sub-chapter, related theories to user acceptance of new technologies and model`s of user`s adoption of technology were discussed. The study reviewed the `Theory of Reasoned Action` (TRA) in sub-chapter 2.6.1 and supported it with a diagram in Figure 7. Motivational model (MM) is explained in sub-chapter 2.6.2 and Unified theory of technology acceptance model (UTAT) supported by a diagram in Fig 8, while the ending part in sub-chapter 2.6.3 analyzed the concepts derived from UTAT for this study.

2.6.1 Theory of Reasoned Action / Planned Behavior

The theory of reasoned action (TRA) was originally introduced from the field of Social psychology and then adapted in different studies. It originated from learning theory and assumes that behavior toward a particular object is approximated by an intention to perform that behavior. While the intention is a deliberate and calculated effort. (Fishbein and Ajzen, 1975)

TRA hypnotizes that the behavior is predicted by an individual`s intention to engage in a given behavior. That individual`s intention is in turn predicted by two factors, the individual attitude towards the outcome of the behavior and by the opinions of the person`s social environment, which is called the subjective Norm. (Fishbein and Ajzen, 1975)

Ajzen (2006) states that two constructs, control and guided human action. His beliefs are based on certain outcomes of behavior, appraisal of these outcomes (Ab Attitude), beliefs about the normative anticipation of others and motivation to comply with this anticipation (SN- Subjective Norm). Thus, behavioral beliefs and normative beliefs can be the foundation on which to build any further explanation for certain actions toward a certain target. The following formula can explain the diagram of Theory of Reasoned Action. (Fishbein and Ajzen, 1975)

$$[BI= (Ab) + (SN)]$$

BI refers to individual behavior intention which is a function of both Ab- (Attitude towards performing the behavior and SN is individual subjective norm is regarded to certain behavior performing. Ajzen (2006). The TRA was later extended to Theory of Planned Behavior (TPB). This will include consideration of a situation where people do not have complete control of their behavior, which was limited in TRA. Theory of planned behavior is based on " the perceived ease of difficulty of performing the behavior" or a perception of internal and external constraints". (Fishbein and Ajzen, 1975)

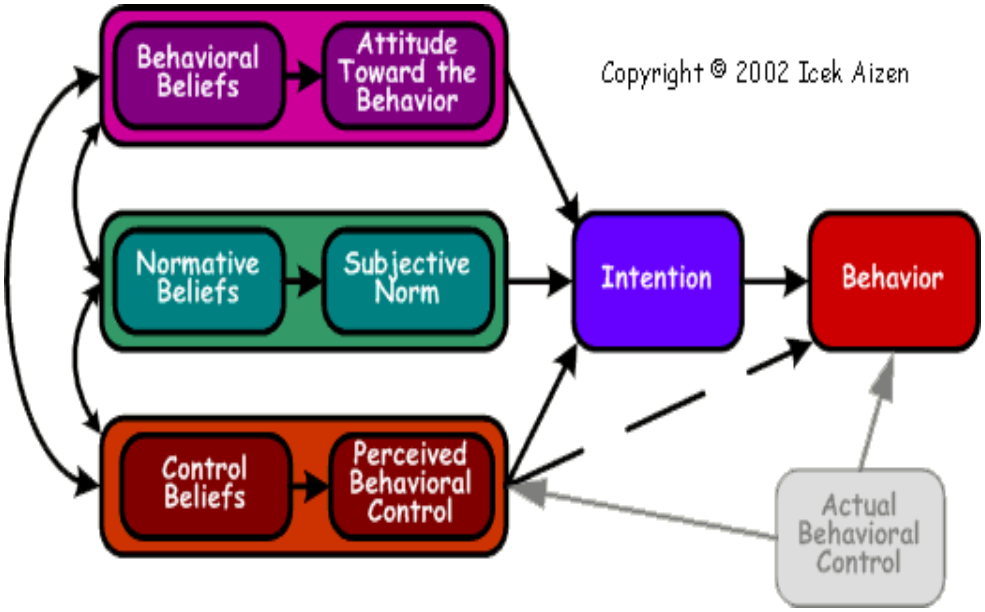

Figure 7: Diagram of Theory of Reasoned Action and Planned Behavior

Source: Ajzen, I. (1991). p.179 ; as cited in copyright- Icek A. (2002)

Based on Fig. 5, theory of reasoned action and planned behavior works for behaviors that are within contexts or provided all conditions are constant. It assumes a form of utopia, that every condition is well or in a nutshell. It works for habitual behavior under normal circumstances and environment. In the case of adopting eLearning by undergraduates of universities such as Yaba College of Technology. The study proposes that adoption of

eLearning by students is not habitual and the environments are not stable. The study proposes that the environment are not normative as eLearning is not done by everyone and it yet to be popular. So, there are no surrounding pressures for joining or we describe it as " the bandwagon effect" or doing what everyone does. Thought the TRA is very fundamental in introducing Technology acceptance model (TAM) and very useful in explaining user acceptance of technology. But, the point here is that it was founded under stable conditions assuming all conditions are right. This study is based on developing country where conditions are very unstable and therefore the user acceptance process is different.

2.6.2 MOTIVATIONAL MODEL AND UTAT

Motivational model originated from Davis *et* al. (1992) and it is basically all the amount of internal and external social influences from the members of the social group on a potential user to use a computer technology. The findings by Davis showed that worker`s intent to use a new technology or computer emanated from their perceived usefulness of computers for work performance supported by "expected" results of usage and perceived `enjoyment ` when using the technology. Perceived expectation is extrinsic and perceived enjoyment is intrinsic. Davis (1992)

In relation to adoption of eLearning, eLearning technology and courses needs to be perceived as useful, popular, accepted, fun and enjoying. The motivational model can`t provide all these. Therefore, additional research are needed. Many theories have been proposed to explain user behaviors of e-Learning and new technologies. This study adopted part of the "Unified Theory of Acceptance and Use of Technology acceptance model (UTAT)" as shown in fig. 5. This is done, because it provides a useful tool to assess the likelihood of success for new technology introductions. It helps to understand the drivers of acceptance of new technology in order to proactively design a framework and it targets populations of users that may be less inclined to adopt and use new systems. (Venkatesh *et* al. 2003)

UTAT has ten (10) constructs or variables and defined below as `1) Behavioral intention, this is the degree to which a person has formulated conscious plans to perform or not perform some specified true behavior, .. 2) Performance expectancy this is the degree to which an individual believes that using the system will help him or her to attain gains in job

performance…, 3) Voluntariness of use, it explains the extent to which potential adopters perceive the adoption decision to be non-mandatory,…, 4) Social influence explained as the degree to which an individual perceives how important others believe he or she should use the new system…, 5) Effort Expectancy- This is the degree of ease associated with the use of the system…, 6) Image: The degree to which use of innovation is perceived to enhance one`s status in one`s social system…, 7) Facilitating condition: The degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system…., 8) Age: The Age of users…, 9) Experience**:** Previous experience with technology.., 10) Gender: Influence of gender, (Venkatesh et al. 2003, p.425-478) `.

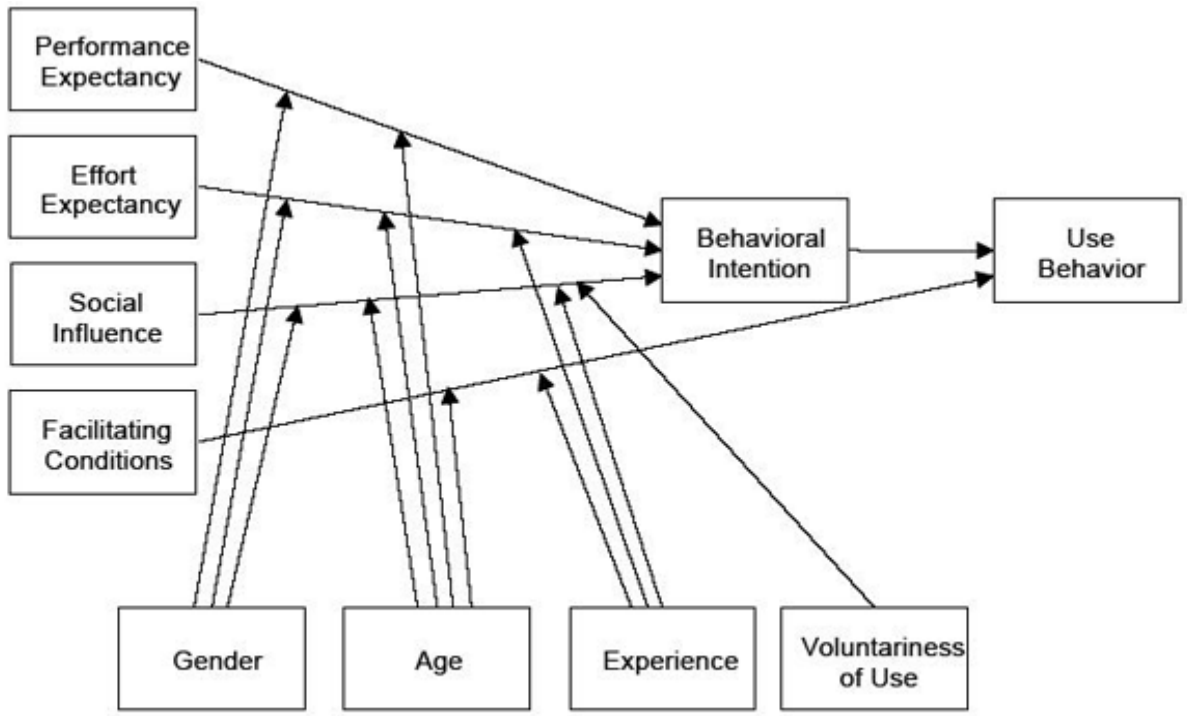

Figure 8: Unified theory of acceptance and use of technology (UTAT)

(Source: Venkatesh et al. 2003, p.425)

2.6.3 Adopted theories of UTAT and new conceptual framework

This study adopted three constructs from UTAT and added an additional construct to further make this proposal understandable. The three constructs taken from UTAT which are

facilitating conditions, behavioral intention and social influence and the fourth and fifth constructs proposed by the author of this study is "readiness" and absorptive capacity. The following is a brief of the three constructs adopted:

Facilitating condition is the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system, Behavioral intention is the degree to which a person has formulated conscious plans to perform or not perform some specified true behavior, Social influence; the degree to which an individual perceives how important others believe he or she should use the new system. (Venkatesh *et* al. 2003)

New frameworks were arrived at and this study hopes this can stir new curiosity and knowledge-driven research in areas of eLearning development, deployment and user`s perspective in Nigeria.

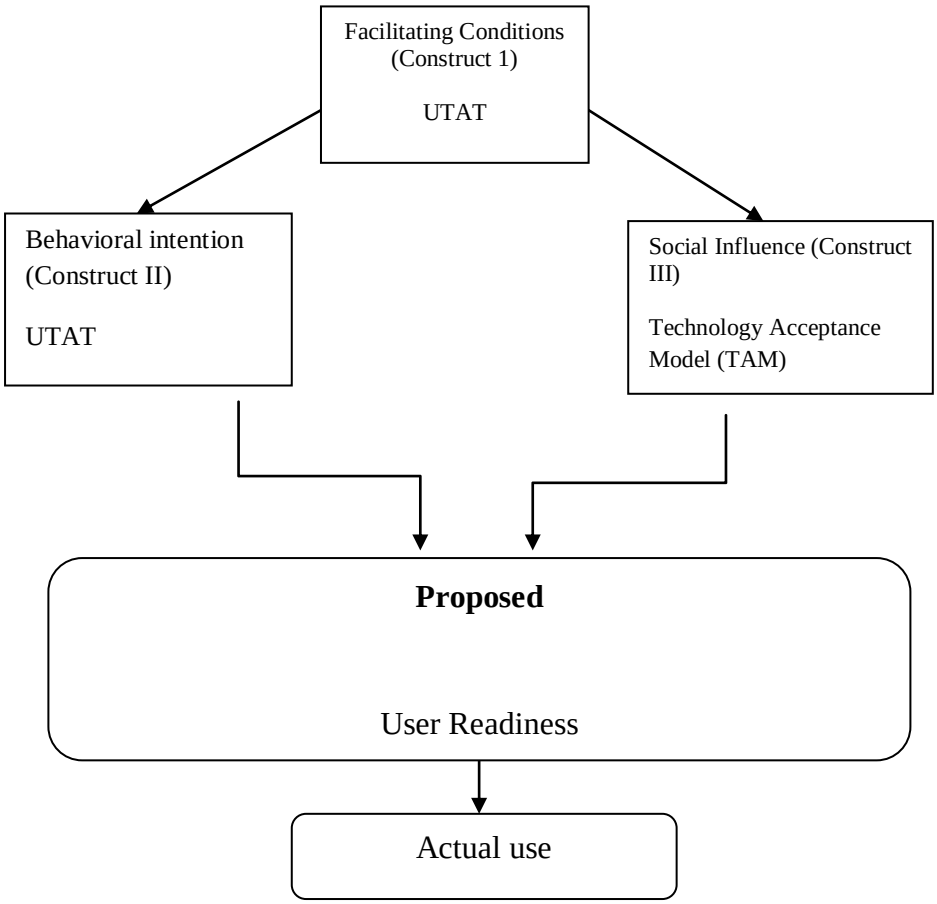

Figure 9: Proposed new construct and conceptual framework to support theory

2.7 RELATION OF ABSORPTIVE CAPACITY TO RATE OF LEARNING

Though, many firms use the absorptive capacity theory as a basis of determining a firm`s ability to recognize the value of new, external information and assimilate it for competitive advantage. It can as well be applied on an individual or group of people to know how their previous knowledge could determine their rate of absorbing new knowledge and in the case of eLearning- undergraduate rate of technology acceptance. In the next paragraph, this study will further explain the role absorptive capacity of undergraduates can play in the adoption of eLearning technologies.

Cohen and Levinthal (1990:128,140) defined absorptive capacity as the ability to collectively evaluate and utilize outside knowledge which is a function of the level of prior related knowledge. At the most elemental level, this prior includes basic skills or even a shared language but may also include knowledge of the most recent scientific or technological developments in a given field. Thus, prior related knowledge confers an ability to recognize the value of new information, assimilate it and apply it for own advantage. The ease of learning is in turn determined by the characteristics of the underlying scientific and technological knowledge which includes complexity of the knowledge to be acquired. As stated by (Cohen *et* al., 1990); undergraduates basic skill or even the language of the eCourse, as well as their knowledge of the technological and scientific developments can assist in recognizing new form of learning, absorb it and apply it for personal development.

Lindsay and Norman (1977: 517) further suggested that knowledge may be nominally acquired but not well utilized subsequently because the individual did not already posses the appropriate contextual knowledge necessary to make the knowledge fully intelligible. As a consequence experience and performance on one learning task may influence and improve on some other learning tasks (Ellis, 1965).

Bower and Hilgard (1981:424) suggested that memory development is self-reinforcing in that the more the objects, patterns and concepts that are stored in the memory, the more readily is new information about these constructs acquired and the more facile is the individual in using them in new settings. Cohen and Levinthal (1990: 148) concludes that the ease of learning and thus technological adoption is affected by the degree to which an innovation is related to the pre-existing knowledge base of prospective users. For example, personal computers were

quickly adopted by people who had previous experiences on mainframes and mini-computers.

Further example are the Chinese manufacturing assemblies, though many companies export final assembling and production to China, over time due to large and continuous production, Chinese have absorbed some of technologies, they can therefore mechanically produce these products themselves. If same product was shipped to other under developed countries and same conditions were available, it is possible that they can`t produce those products themselves overtime. The point here is that the Chinese already have a high absorptive capacity that makes them master assemblage faster, assimilate the process and used it for efficient output and mass production. In some cases, start a green operation with absorbed knowledge due to practice.

Therefore understanding the level of absorptive capacity of an undergraduate students is valuable for the prescriptive analysis for eLearning developers as its application can be a positive model of individual behavior in adopting eLearning technologies. The introduction of sophisticated eLearning applications for regions with lower internet penetration, bandwidth and less-sophisticated devices is probably a project heading for the rocks. eLearning platforms should go hand in hand with available infrastructures as well as the absorptive capacities of eLearners. Simple iterative, simple to use applications should be the first on the board and it can be scaled– up gradually as infrastructures, absorptive capacities, user acceptance of technology improves. eLearning platforms should not be too disruptive as it discourages its adoption and eventual actual use.

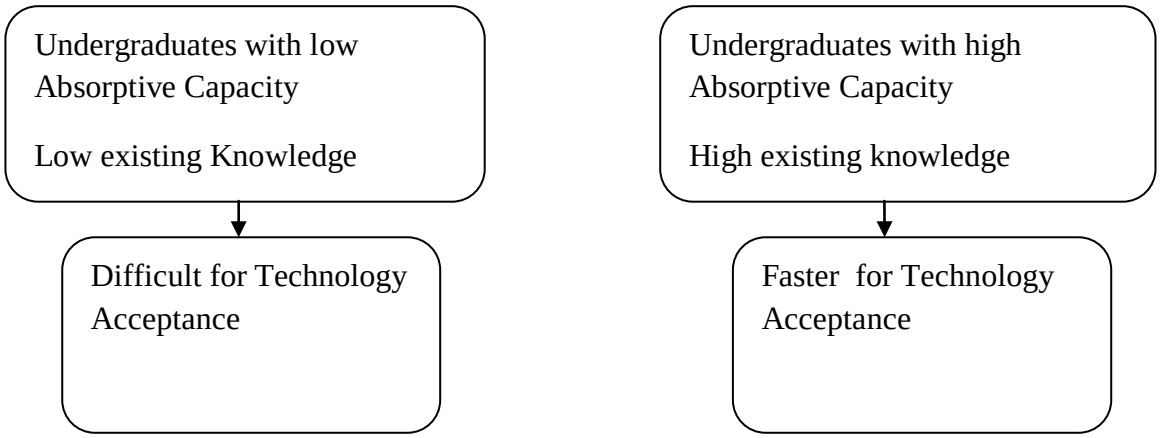

Figure 10: Logic of absorptive capacity theory

2.7.1 User readiness and absorptive capacity

User readiness from the perspective of this study is the total ecosystem, surrounding the ability of a potential eLearning participant to recognize, accept and adapt to new form of learning , new form of technology, new form of vocabulary without the locally obtainable factors hindering the delivery and being able to develop educational value.

“Absorptive capacity is the ability learn, assimilate and adapt to new knowledge based on existing or surrounding knowledge. It can also be utilizing outside knowledge which is a function of the level of prior related knowledge”, Cohen (1990). It can as well be one of the determinants of readiness. Students living in urban areas who are familiar with computers, social medias and internet use are more likely to quickly absorb new form of learning using technological tools, than undergraduate in remote institutions without access to computer, internet and social medias. Chinese are people with high absorptive capacities and can easily learn, for example via repeated tasks, assemblage of machineries and electronics due to deposit or latent knowledge of various repeated tasks.

3 METHODOLOGY

Chapter three is the methodology session and it is supported with a navigation diagram of the methodology used in figure 11. Subchapter 3.1 and 3.2 are the guides for the qualitative interview questions to undergraduates and case study selection. Sub-chapter 3.3 and 3.4 talks about the reason for the case study selection and the case study strategy used. Sub-chapter 3.5 is the Interview method and questions. Sub-chapter 3.6 is the data collection technique and procedures used both in the interview questioning at Yaba College of Technology and the interview at the directorate of ICT.

An evaluation of undergraduates in the tertiary institution is an excellent approach to know the readiness for eLearning among undergraduates as well areas they would prefer to study via eLearning. Their level of readiness and preferences for eLearning courses can be interpreted and presented to stakeholders such as University managements, content developers and eLearning technology providers. Bichsel (2013).

The method this study adopted is qualitative. Fig 6 illustrates the qualitative approach, which involves the location where the study will be carried out , reasons for the chosen location, case study selection, in this case, only one study case is used, which is couple of representative tertiary institution undergraduates, they were asked verbal, non-standardized , semi-structured face to face interview questions. In addition, a stakeholder from the Ministry of Information, Communication and Technology (ICT), Lagos state was also interviewed to err views of the government on eLearning in the state.

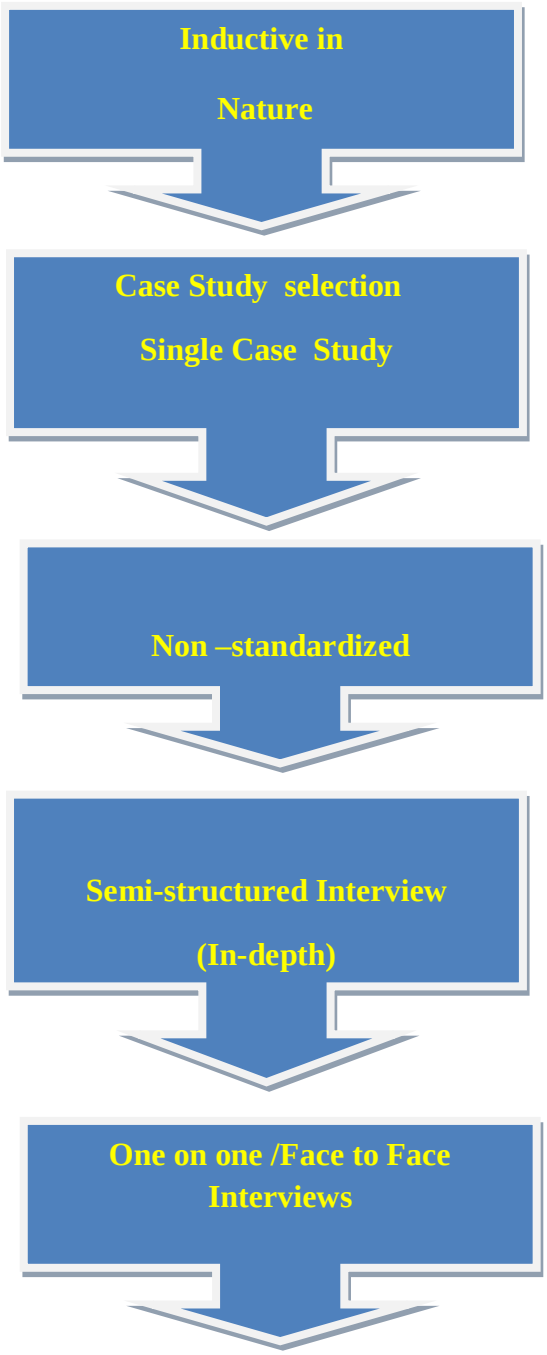

Figure 11: Navigation diagram of methodology used

A qualitative verbal, non-standardized, semi-structured face to face interview questions. method was used for the thirty randomly selected undergraduate students. A random

representative sampling was conducted at the department of Industrial Management, the department is in Faculty of Engineering.Yaba College of Technology, Lagos between 18th November and 2nd of December 2013. "A representative sampling is one that exactly represents the population from which it is taken", (Saunders et al., 2009).

3.1 GUIDE FOR INTERVIEW QUESTIONS

The interview language was English, because it is the national language in Nigeria. Both open and closed questions were asked and interview questions contains ten major parts; the first part is the researching the computer proficiency, the second part is the previous eLearning participation, the third part is titled reasons for non-completion of eCourses,,other parts tested the preferred discipline for eCourses, choice devices of internet access at home and at university, access to internet at home and at university and the final question expected final certificates and choice method of learning.

Main Variable	**Interview Questions**
Computer Proficiency	How would you describe your level of computer knowledge in three categories of basic, proficient and expert.?
Previous eLearning Participation	Have you ever studied an online course
Reason for Non-completion	Single most important reason for non-completion of eLearning courses

Preferred Discipline	What discipline would you like to study via eLearning courses among business, technology and arts courses ?
Choice Devices in Internet access	On what devices, do you frequently access the internet at university?
Internet availability at University	Do you have access to internet at university?
Internet availability at home	What type of devices do you use to access the internet at home?
Willingness to purchase eCourses	Would you be willing to pay for an online course?
Expected Certification Preferred method of eLearning	9) What type of confirmation or certificate would you hope to obtain after participation in eCourses ? 10) Which method of eLearning would you prefer most?

Table 1: Guide for interview questions

3.2 CASE STUDY SELECTION

The interview was limited to students in tertiary institutions and the age bracket was between 18 and 35. The student respondents that answered the paper survey don`t have a computer back ground, but an engineering background.

The study sampled undergraduates of the department of Industrial Maintenance Engineering, Faculty of Engineering, Yaba College of Technology, Lagos state and a representative from the Ministry of science and Technology, Lagos state as its case studies. The period of conducting the interview was between 18th November to 2nd of December 2013. Student category are chosen as case study because students represent the largest category of learners and also because, this study intends to evaluate readiness of students in eLearning among tertiary undergraduates as a core objective.

This case study will represent a single case study; "a single case study is often used where it represents a critical case or alternatively, an extreme or unique case", Yin (2003). Therefore, the study will use this single case study as a basis for evaluating readiness of students of Industrial Maintenance Engineering at Yaba College of Technology only, a factor which we consider critical in eLearning ecosystem.

3.3 THE CASE STUDY STRATEGY

This study will capture via verbal interview students responses concerning readiness for eLearning. "The case study approach, usually asks questions as to as "why, what and how", because of this, the case study strategy is been used in explanatory and exploratory research"….. "This type of strategy is exploratory and explanatory in nature" (Saunders *et* al. 2009, p.146). This study will explore students perspectives and gives information about readiness of students for e-Learning, therefore it fits into the study`s intention of explanatory nature and meets the objective of readiness and absorptive capacity evaluation of this study.

Robson (2002, p.178) defines "case study as a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence".

3.4 INTERVIEW METHOD

This study used in-depth interview method as primary data collection technique. "An interview is a purposeful discussion between two or more people" (Kahn *et* al. 1957). Open-ended question will be asked and few background questions which are tagged optionally. The open- ended questions provided a room for interviewee have deeper reflections of their thoughts and express themselves satisfactorily (Cohen *et* al. 2000).

The interview questionnaire attempt to discover respondent`s first general perception of eLearning and then went into brief details. The interview questions were developed based on gaps in the literature reviews as well as from the background section. The questions were subdivided into various categories ranging from open and closed questions. Verbal responses from these questions lead to hypothesis and related concepts and theoretical development.

The questions followed a particular pattern with each interviewee and it can be modified if need be as the interview session progresses. The question contains ten major parts based on gaps from the literature review. A detailed sample of the guide of interviewee questionnaire is available in the appendix.

3.5 DATA COLLECTION TECHNIQUES

The data collection is primary data collection via semi-structured interviews. The interview question was based on the gaps in literature reviews as well as on the constructs of the "Unified Theory of Acceptance and Use of Technology" and the absorptive capacity theory.

The interview question was designed to explore the actual readiness of students based on literature review gaps as well as theories adopted. The identity of the study population are undergraduates of Industrial Maintenance Engineering department of Yaba College of Technology, Lagos-Nigeria.

3.5.1 Data privacy

The researcher assured interviewee before commencing the interview that the purpose of the interview is basically for academic purposes and precisely for this study; this was possible with an introductory letter from the thesis supervisor. A qualitative method is used for analysis, which involved interviews conducted among couple of tertiary institution students and a stakeholder, each interview period lasted between fifteen to twenty-five minutes and notes were jotted down.

3.6 DATA COLLECTION TECHNIQUES AT ICT AND MINISTRY

Yaba College of Technology in Lagos, Nigeria is the target institution, because it has intentions to provide digital literacy. The department of Industrial Maintenance Engineering is identified and an introductory letter from the author`s supervisor in LUT was presented to the head of department in Yaba College of Technology for permission to interview department students.

Face to face interview was conducted for each of the undergraduates and the interviews were done in batches and lasted for a period of two weeks. All the participants were asked open-ended questions. Their responses were jotted down, notes were taken and an audio record as a backup. Some of the comments and speeches are quoted verbatim in the report later on.

The procedure used in interviewing the director at the Ministry of Information, Communication and Technology department in person of Mr Yinka Sorule is simple free-flow questions . After several interviews, the results were present in chapter four.

4 RESULTS

Chapter four started with presentation of findings of the interview session of undergraduates of Industrial Management of Yaba College of Technology and the summary of individual tables and respondent`s demography and rounded up in sub-chapter 4.3 with the interview of the stakeholder at Ministry of ICT.

The set of pie-charts in figures 1 to 20 shown in percentages indicates different responses from undergraduates students during an in-depth interview session. The tables represent the quantity of "YES or NO" responses from students as well as responses from few multiple choice options questions. Each table was drawn to a pie chart which represent the figures. The following paragraph will itemize the results the tables, pie charts and comments. The second part of the results presented is the interview session of the stakeholders at Ministry of ICT.

4.1 INTERVIEW QUESTIONS FOR UNDERGRADUATES OF IME

A total of thirty randomly selected undergraduate students was interviewed over a two weeks period. The first verbal interview question is to access the level of computer knowledge of undergraduates, followed by the evaluation of the amount of previous engagement with eLearning as well as to know their level of engagement with devices that supports eLearning and their access to internet use. The questions are asked in a very relaxed manner by the interviewer and the interviewee shuffled questions as dimmed fit in different circumstances. Below is first the tabular summary, individual table for each case, pie chart and demography of interviewees.

4.2 SUMMARY OF TABLES AND DEMOGRAPHY

The summary of tables and respondents demography is presented below in table 2. It shows in tabular form the gender distribution across various constants and questions. it also

indicated the percentage of the responses. It presents a quick look to all responses and allows for mental guidance of the following individual`s table and figures. Male interviewees number 19, while female respondent number 11 which represented 63% and 37% respectively. Respondents between 19 and 20, 21-25 and 26-30 are 1, 25 and 4 which represents about 4, 83 and 13 percents respectively.

Factors	Variables		Frequency	Percent (%)		
Gender (Total)	Male		19	63		
	Female		11	37		
Discipline	Humanities & Arts		2	6.67		
	Technologies		20	66.67		
	Business		8	26.67		
Age	19-20		1	3.33		
	21-25		25	83.33		
	25-30		4	13.33		
Computer Literacy	Basic		12	40		
	Proficient		12	40		
	Expert		6	20		
Previous Online study	Male	YES	9	30		
		NO	10	33.33		
	Female	YES	9	30		
		NO	2	6.66		
Reasons for Uncompletion	Power Failures		5	16.67		
	No Internet		6	20		
Uncompletion	No computers		4	13.34		

	No time		0	0		
	Difficult technology		15	50		
Access Device	Phone		10	33.35		
	iPad		5	16.67		
	Desktop		5	16.67		
	Laptop		10	33,35		
Access to Internet	Male	YES	9	30		
		No	10	33.34		
Access to Internet	Female	YES	5	16.67		
		No	6	20		
Willingness to pay	Male	YES	15	50		
		No	1	3.33		
	Female	YES	13	43.33		
		NO	1	3.33		
Expected Certificates	Participation		2	6.67		
	Diploma		15	50		
	Degree		13	43.3		
Preferred Method of eLearning	Online		10	33.33		
	Blended		20	66.67		

Table 2: Summary of tables and respondent`s demography

4.2.1 Tabular and pie chart representation of responses.

Table 2 from sub-chapter 4.2 above represents the summary of all the tables drawn up from responses in 4.2.1. A total of 11 questions and their responses were presented in this sub-

chapter . Each table is supported with a pie chart representation, reasons the question was asked and conclusions from the figures.

1) How would you describe your level of computer knowledge in three categories of basic, proficient and expert?

Computer Literacy	No of Students
Basic	12
Proficient	12
Expert	6

Table 3: Level of Computer Knowledge

A total of thirty people were asked series of verbal questions at the department. Twelve people had abasic knowledge of computer, 12 are proficient, while a total of six people considered themselves as experts. The interview questions were asked randomly and noted. Their level of computer proficiency is one of the fundamental criteria to getting ready for eLearning.

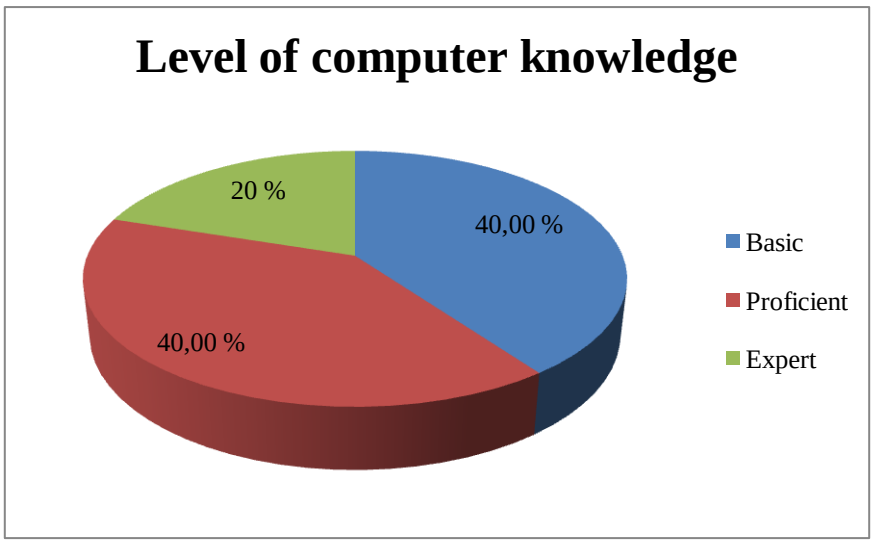

Figure 12: Level of computer knowledge

Responses from 40% of interviewed claimed they have basic computer knowledge, another 40% claims they are proficient users, while remaining 20% consider themselves as experts. The following responses can indicate that a few of undergraduates need be thought preliminary computer and internet navigation. However, a total of 80% expert and proficient users shows that majority of the students already have good computer knowledge and readiness for eLearning courses is a possibility.

2) Have you ever studied an online course?

The second question attempts to evaluate undergraduates previous participation in online courses and also to estimate the students that have participated in online study in the past. from the sample representation. Such findings will assist to know the level of familiarity with eLearning interfaces in the past and can lead to a "do or don`t do" decision for eLearning courses deployment.

Number of Students	Previous Study of Online courses
12	NO
18	YES

Table 4: Previous Online Studies

The verbal responses here indicate that 60% of the undergraduates have not taken online courses in the past and 40% have already participated in some online courses in the past. This trend clearly indicates that there is a very large potential for eCourses introduction as the concept is relatively new and expanding. The 40% who have already participated in eCourses presents a very viable opportunity for continuation of eLearning development.

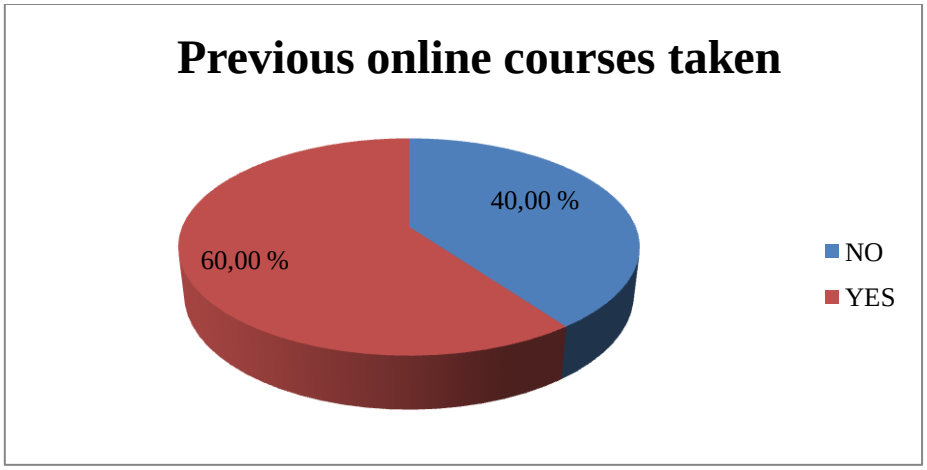

Figure 13: Previous online courses taken

3) What was the single most important reason why online course was not completed?

Question is intended to know reasons undergraduates students were not able to complete previous eLearning courses. Such knowledge will allow eLearning content providers as well as technology providers to understand the total ecosystem of eLearning.

Reasons for not completing an online course	No of Students
Power Failures	5
Unavailability of Internet	6
Unavailability of Computer	4
I don`t have time	0
Too difficult interphase /technology	15

Table 5: Reasons for non-completion

The table above indicates that majority of the student interviewed did not complete previous online courses because the technology or interface was too difficult to navigate.

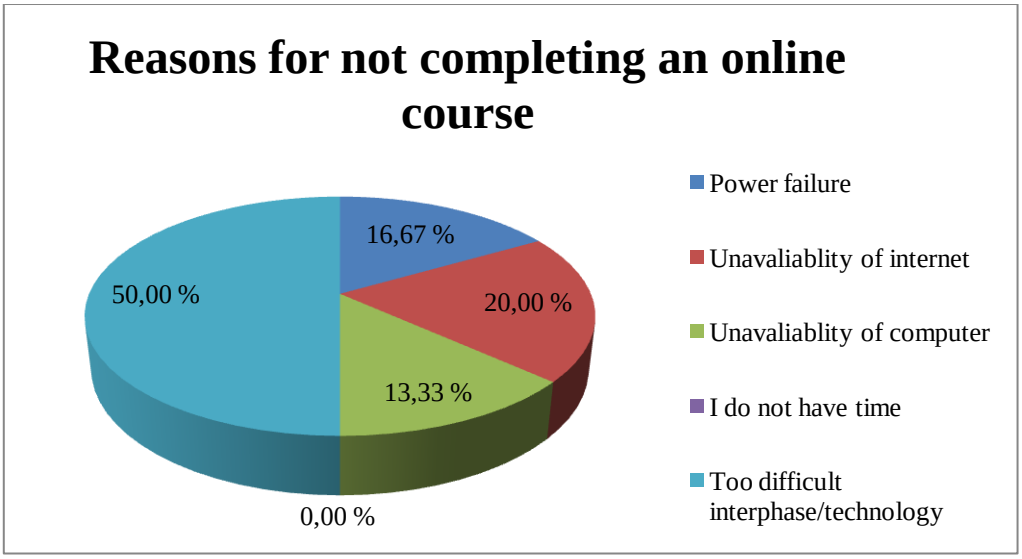

Figure 14: Reason for not completing an online course

The pie chart below represents the amount of undergraduates who gave reasons for non-completion of online course.

4) What discipline would you like to study via eLearning courses among business, technology and art courses ?

The question will attempt to evaluate undergraduate preferred areas of study via eLearning. This can assist the study or indicate what content can be further developed for undergraduates from Nigeria between three disciplines of business, technology or arts.

Business	8
Technology	20
Arts	2

Table 6: Choice Disciplines for eLearning

From Table 4 , most student chose "Technology" as the most preferred choice of eCourses with twenty students indicating their interest, followed by eight people choosing " Business" and the least discipline of choice study for eCourses is " humanities - Arts".

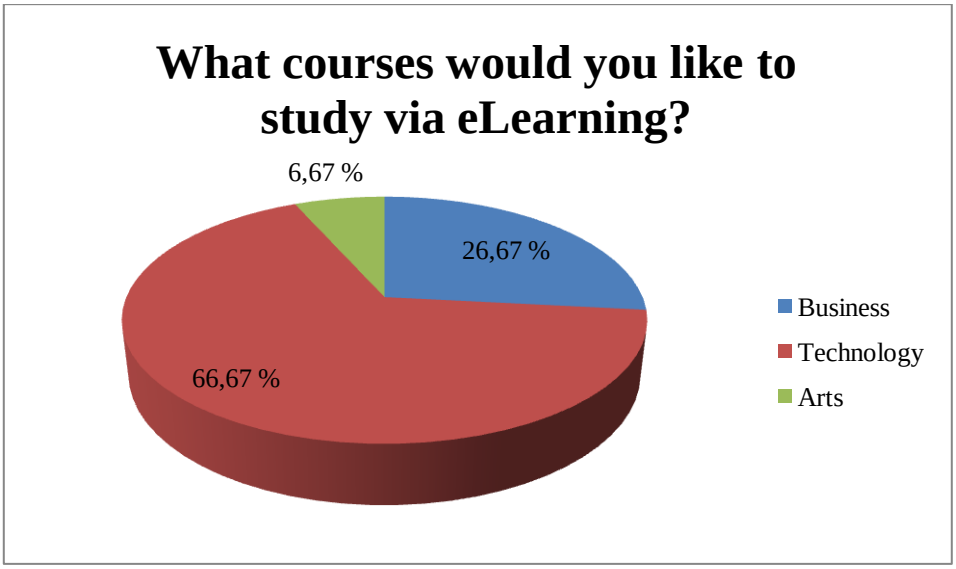

Figure 15: What courses would you like to study via eLearning?

66% of students answered technology courses as their choice courses for online courses, closely followed by business with 27% and very few students answered yes to study art courses via eLearning studies. The response trend from the interview and in the above pie chart indicates that despite general perception of business courses as preferred courses for online education among scholars, most technology students are also interested in doing wholly or part of their courses technological course via eLearning. Different students have preferred choices of eLearning courses, this study through its findings is able to establish that the top on the list of chosen disciplines is "technology" among the research sample. Many undergraduates of the researched sample wishes to study " Technology" by eLearning. This is a pointer for content developers on what direction future students will prefer for digital learning.

(5) On what devices, do you frequently access the internet at University? This interview question is important to know the devices which undergraduate use the most to access internet. That could give a clue to platform and eContent developers in designing eLearning

application for the most used internet access devices and possibility of use in multiple platforms.

Phone	10
iPad	5
Desktop	5
Laptop	10

Table 7: Choice Devices

Despite the popularity of desktop as the dominant computer device used among university students, most undergraduates still use the mobile phone and laptop devices to access the internet more than they used iPads and desktops at university. A total of ten students among the thirty students randomly selected claimed to use the mobile phone to access the internet most in university. Five use the iPad and five have used the desktops and 10 use Laptops.

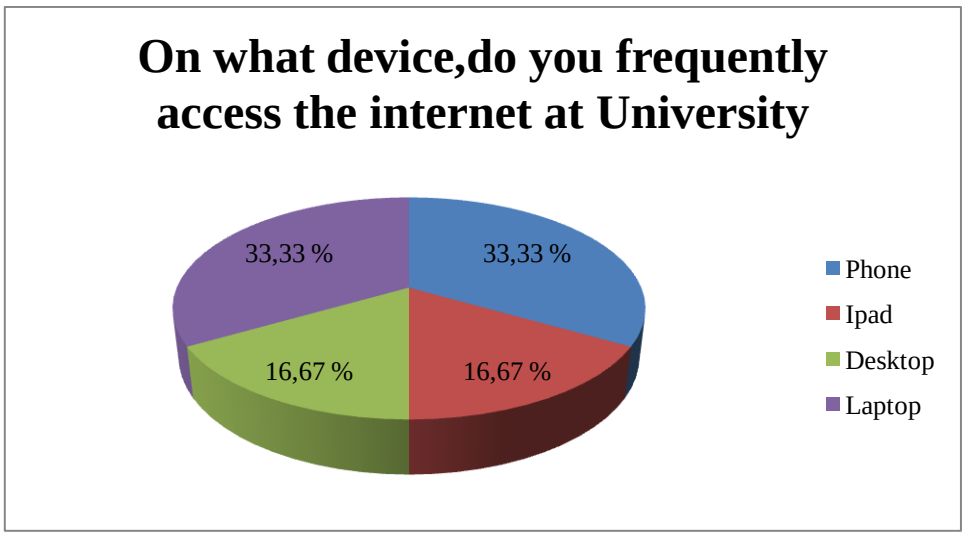

Figure 16: Device use frequency at University

Preferred devices for accessing the internet ended up in ties. Phone and iPad devices came out as the most used devices in accessing the internet among the sample student

representatives with 33.33% each, followed by another tie in Desktop and Laptop as a means of internet access with 16.67% each. eLearning applications compatible with Phone and iPad may increase participation in eLearning courses.

6) Do you have access to internet at home?

This verbal interview question intends to know the amount of access to internet at homes. This is important in completing e-Courses effectiveness largely depends on internet access both in University and at home. It could be taken irrespective of location and access to internet at University premises as well as home. This is very essential for efficient eLearning engagement.

Answers	No of Students
YES	20
NO	10

Table 8: Access to internet at home

Table 6 shows the total number of students that responded. Twenty students responded positively to the question by saying "YES" and ten undergraduates responded negatively saying they do not have internet at home.

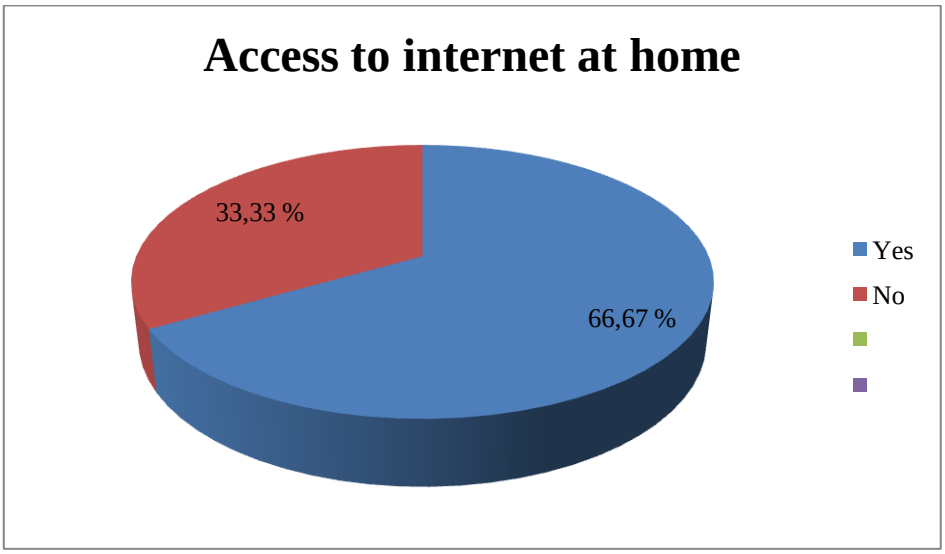

Figure 17: Access to internet at home

A total of 66.7% of undergraduates answered " YES" which indicates that majority of them have some type of access to internet at home. This is a good indicator that, their participation in eCourses can continue , when not in university premises. Such home access will give undergraduates extended time in having access to any ongoing eCourses even back at home.

7) What type of devices do you use to access the internet at home?

This question is important to know undergraduate preferred choice of devices for accessing internet at home. Most frequent platform can be further developed to increase participation in eLearning courses. According to the Table 7, most undergraduate access the internet via their mobile phones.

Phone	12
IPAD	2
Desktop	8
Laptop	8

Table 9: Choice Devices for accessing internet at home

A total of 12 students among thirty students randomly selected claimed to use the mobile phone to access the internet mostly at home. Only two use the iPad and 8 have used the desktop at home to access the internet. A total of 10 answered they use Laptops. More student have used phone devices in accessing the internet at home. This agrees with Bischsel`s projection that "The greatest benefit of eLearning will emerge when implemented with mobile technology which will provide the ability to access knowledge anytime and anywhere" (Bichsel, 2013).

The following pie chart shows the device use representation at home;

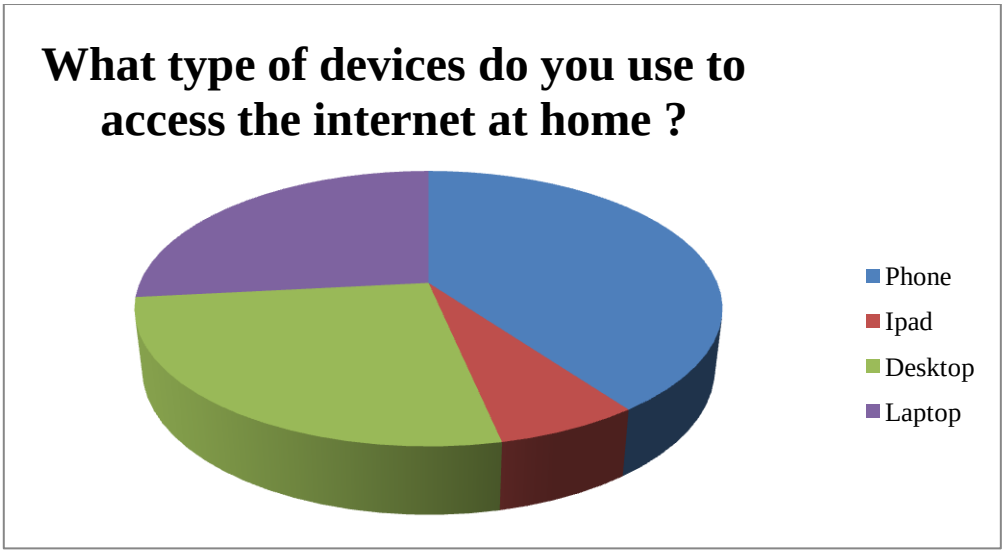

Figure 18: What type of devices do you use to access the internet at home ?

8) Would you be willing to pay for an online course?

This question is to elicit the amount of undergraduates that are actually participated in eLearning courses as well as paid eLearning courses, this is very important for the purpose of this study as it will assist to determine their level of completing, potent technological knowledge/ absorptive capacity available .

Answer	No of Students
YES	28
NO	2

Table 10: Willingness to pay

Table indicates the verbal responses of undergraduate students as regards willingness to pay for eLearning courses, it is obvious from the table that twenty eight students are willing to pay and that is also a good indication for market viability in situation when eLearning is to be commercialized.

Figure 19: Would you be willing to pay for online courses?

9) What type of confirmation or certificate would you hope to obtain after participation in eCourses ?

The question is very important to know undergraduates expectation or outcomes after participation in eCourses. Two students who answered to question 9, would like to receive a certificate of participation, thirteen a degree and fifteen a diploma.

Certification Expected	
Certificate of participation	2
Degree	13
Diploma	15

Table 11: Expected final certificates

From table 11, it shows that students don`t just want knowledge transferred via eLearning, they also want to concretize the knowledge by obtaining a degree certificate. Thirteen students wanted a real degree from participation in eLearning. This agrees with one of the constructs in figure 5, page 21 of Perceived Usefulness - The degree which a person believes that using a particular system would enhance his or her social status and performance. (Davis *et* al. 1989, p.982-1003)

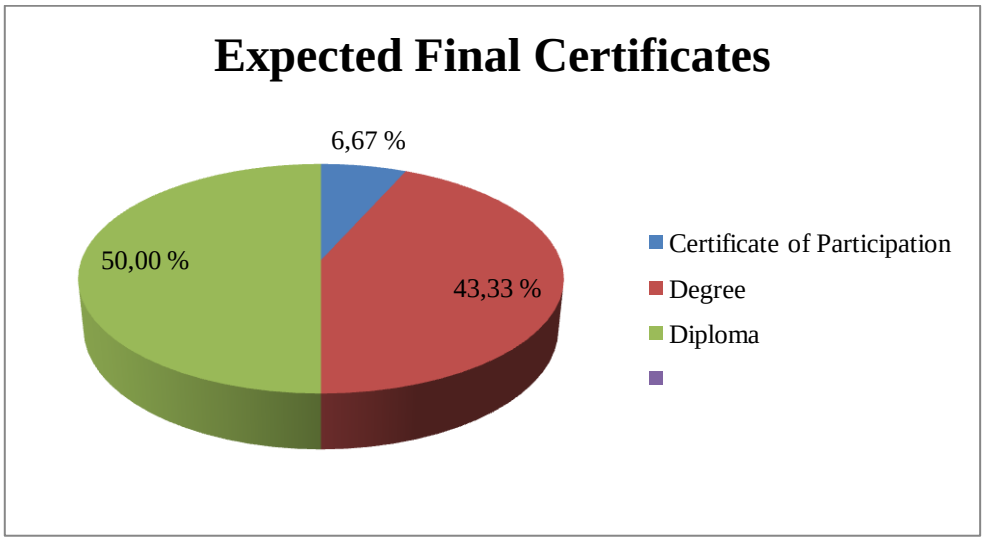

Figure 20: Expected Final certificates

Figure 20 shows that very few students want a mere certificate of participation with 6.67%, while others will prefer a diploma. The pie chart shows thae majority wants something more concrete such as a complete degree. This is a very important bases. It points that for any eLearning to survive, it must not only show give knowledge via eLearning, it must as well lead to higher certification such as a degree. Majority of eLearning now called Massive open online learning now do not lead to degrees and may be responsible for the low patronage from Africa.

10) Which method of eLearning would you prefer most?

This question is very important to know preferred methods of eLearning, such as wholly hundred percent web-based course or partial web-based course as well as class-taught. Some students would generally want more freedom, while other want to have the class-feel as well.

Method	No of Students
Online	10
Blended	20

Table 12: Method of eLearning

Table 10 indicates that, more students wants blended learning method in participation in eCourses, while fewer want complete web-based learning. This is an indication that eLearning courses offered should be in blended mode with conventional universities where they are presently enroll. For example in business area, all theoretical courses can be done online and practical ones can be done in university which will satisfy the wishes of blended learning in potential students.

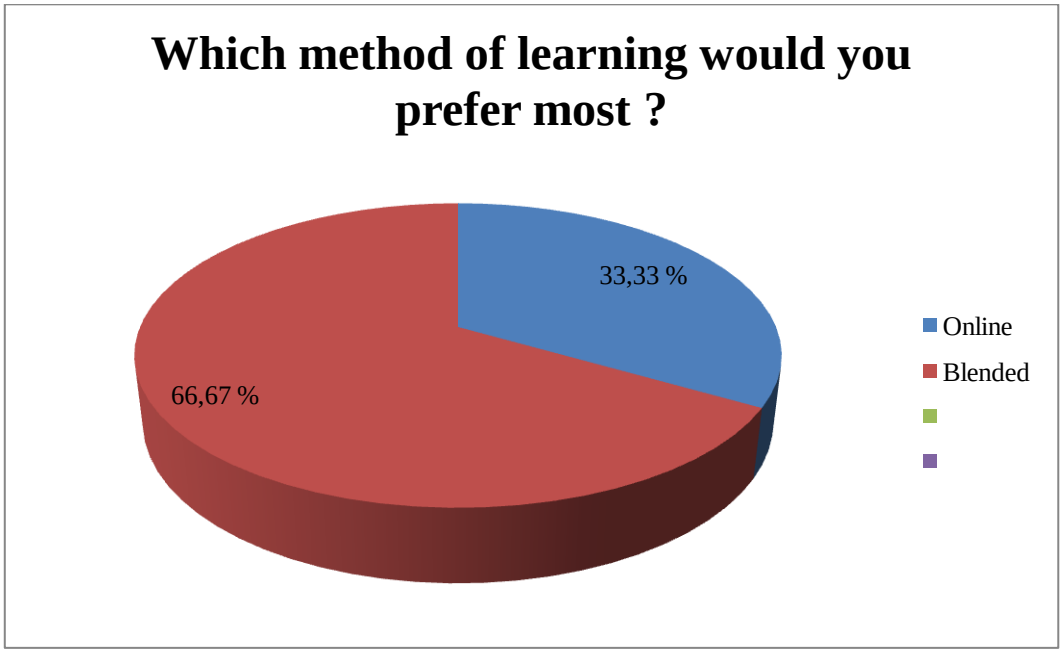

Figure 21: Which method of eLearning would you prefer most ?

The following session is the second part of the result presented, it is the interview response from the director of information, communication and technology in Lagos state.

4.3 STAKEHOLDER INTERVIEW AT MINISTRY OF EDUCATION, LAGOS STATE

This study interviewed the representative of the ICT, Mr Yinka Sorule who is serving in the capacity of Director, Information, Communication and Technological department (ICT), Ministry of Education in Lagos State. The verbal interview questions range from his general perspective of the situation of eLearning in Lagos state, provision of adequate power supply by the state, the target student for Lagos state proposed eLearning as well as general advice for potential investors in eLearning technologies. Interview was done in the official premises of the Ministry. The following short in-depth interview questions were asked:

Stakeholder interview

Question 1

Can you tell us the situation of eLearning in Lagos State?

Response

In terms of eLearning, we have made tremendous progress. In a couple of months, we will be carrying out many computer-based tests and that is a subset of eLearning, but there are general challenges. Firstly, we have a huge population, infrastructural problem and also power which is a federal issue and the state can`t control. We are undergoing a pilot project with over 120 schools in Lagos state with a full ICT Lab powered by independent power supplies, but we still have over two hundred more to go. Our capacity can only equip between 30-40 ICT Labs annually. So, I would say in that area we need some assistance.

Our major problem is content conversion, we have millions of hard copy books, but they are not in electronic form. So, we have been talking to the authors and publishers of those books. Can you give us soft copies? It is interesting to know, that some of them don`t have the soft copy of their original manuscript. The area we have the greatest problem is the conversion of those hard copies to soft copies. We have our localized education and we won`t buy content

from other developed countries, their curriculum does not carry our Nigerian values. Our curriculum is entirely different from other western nations and we do have a lot of teachers that writes books. It is those locally written books, that we need to put online or convert from hard copy to soft copy for ePublishing. That is one of our challenges.

Again, we are not where we wanted to be and we are not moving as fast as we should, this can be seriously attributed to a limiting factor of inadequate infrastructure. If, our government can provide adequate power supply, life would be a lot easier for everyone. As we are thinking of the facilities, equipping the schools and all other logistics, we are as well thinking of how to power them. Just imagine that public power is backed up, these backed up by large power generating sets. Did you get the logic? We have to buy a power generator or an inverter or a solar panel as a back –up for power supply, and we discovered in most cases, those are what are more reliable to run our various e-Centers, not even the national public power.

For example, in our data center now, we have two generators, those two generators are not in serviceable conditions, they are not working. We know, there will always be a power failure and it is logical to think about equipping centers and the possibility to have stable power source. If there is a capacity development that western countries can embark on, first is content conversion. Whereby, we can easily convert the hard copies to soft copies or the authors and writers of those books are empowered to do the conversion themselves.

Question 2

There are about three stakeholders in this process. The Content providers, the education providers and the users. From the research questionnaires, we distributed, the main limitations mentioned mostly is power. I was just wondering about other stakeholders, even if there were adequate power. What do you think?

Response

Yes, they are very right. Power supply is the most limiting factor. If you evaluate the cost of doing business in Nigeria, for example if it requires N10,000,000 to start a business. You will need about 50% of that capital to provide power. I was part of a research sometimes ago on this fast food joints, it cost about N1, 500,000 to set up the fast food joint, but you need a

solidly built power house which costs three times more than the cost of setting up the fast food joint. Lets also look at it from this angle, the state can easily provide schools computers, but they can`t afford to provide also powers for the ICT labs, the cost of powering a single ICT lab cam triple the cost of the ICT facilities itself, so this has proven to be a great challenge.

Question 3

What advice do you have for potential eLearning investors? Can we say, the Nigerian situation is hopeless?

Response

My simple and short advise is that those foreign investors should come for a meeting just like we are having right now and dialogue with us , because we are in this process for a long period and we are finding solution. For example, the Lagos state government is now building independent power plants, the idea is to take-off all state agencies which includes schools, hospitals and power intensive institutions from the National grid. Those are ongoing projects to make life easy. If the foreign investors come in, there are more things to tell them.

Question 4

What category of students is the proposed eLearning planned by the Lagos state government targeting and what is the platform to implement the eLearning?

Response

We are starting from secondary school and then we move to tertiary. We are using goggle docs at the moment and we need firms that convert our traditional library to e-Library without westernizing our Nigerian values.

Question 5

In situation of potential investors willing to invest in this sector, what advice will you give to them considering the Nigerian security situation challenge?

Response

The only advise I have is they should come in through the local people. Work with a local partner, it will solve the challenge, because we understand the local environment.

From the interview at the ministry of education, this study gathered that there are ongoing attempt to build the capacity of eLearning infrastructures in such a way that whole eLearning courses can be completed, evaluated and accessed. The Ministry also has the challenges of infrastructural problems necessary for deployment of eLearning courses.

One of the main problems is also content conversion from hard copy to soft copy and majority of the publishers don`t have their original content archived after publication which means there is no access to the original manuscript. He stated further that other challenges are powering the eLearning facilities. The following chapter analyzes the interview further.

5 ANALYSIS OF EMPIRICAL DATA

This study used qualitative approach; therefore the process of data analysis followed the techniques of these approach and strategy. A semi-structured interview framework with themes was used which can make the categorization and arrangement easier for data analysis.

The open-ended in-depth questions have to do with undergraduate`s `s general perception of eLearning and reasons they preferred certain study modes over others. Interviews were conducted for thirty students and one representative from the Ministry of Science and Technology, Lagos and all the points were jotted down. A video recording clip was also used as a back- up plan. Some of the comments and speeches are quoted verbatim in this report.

The study will attempt to elicit meanings from the interviewee's responses by categorization. Saunders (2009, p.492) indicates that a qualitative analysis can be done using either data summarization, categorization or structuring with narratives. This study will employ the categorization approach as explain below. "The data may be examined using the interpretative analysis to make further conclusions" Leedy (1997).

Fig. 11 shows the data analysis flow, "Categorization involves two activities; developing categories and subsequently attaching these categories to meaningful chunks of data" Saunders (2009, p.493)

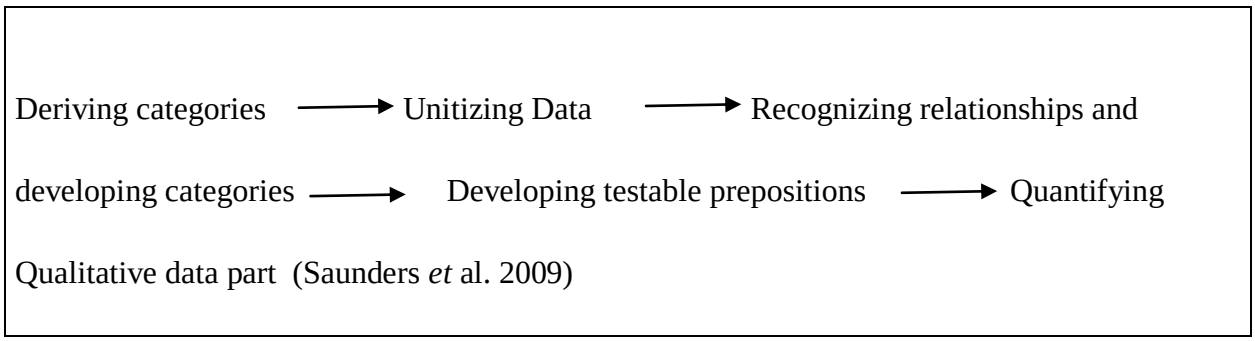

Figure 22: Data analysis flow

The data analysis section will analyze all the responses from undergraduates and proceed to derive meanings and connections from them. This study will also analyze the interview of

the Director at the Ministry of Information, Communication and Technology. The meanings derived from both interview sessions will form the basis of analysis, discussion, recommendation and conclusions.

5.1 VALIDITY AD RELIABILITY

The validity of this study is established by guided in-depth interview questions to a sample of undergraduate representatives and also a stakeholder from the concerned ministry. Generally, the validity of qualitative research is limited and it can`t really be generalized as there are other factors that can`t be considered as exact from interviewees perspective or stakeholder`s perspective. Therefore, validity can be used to suggest whether the findings are accurate from research stand-point, the participants or the reader as well as the relevance stakeholders involved (Creswell & Miller 2000).

5.1.1 Limitations of the Study

Although the results of this study may provide information and analysis for any interested persons in eLearning sector in Nigeria, it still has limitations. The limitations are the interview was conducted in only one department in one higher institution, therefore, the results can`t be generalized. The report will focus on interviews from students and will not take into consideration the view of institution management and eLearning technology providers. In addition to these are inadequate time, lack of funding, geographical problems, cultural attitude of interviewees regarding timeliness and difficulty in arranging face-to- face interviews.

6 DISCUSSION AND RECOMMENDATIONS

Making eLearning effective can be divided into five main categories. Infrastructural effectiveness, eLearners effectiveness, Teachers effectiveness, State effectiveness and Resource effectiveness. Infrastructural effectiveness includes availability of hardware, faster internet connectivity, improved bandwidth, improved eLearning platform or software, availability of reliable electricity. State effectiveness includes appropriate policies favoring eLearning education, lower prices of connectivity, concession for eLearning developing firmsTeachers effectiveness- technical and improved training for teachers on eLearning, provision.Resource effectiveness- Provision of digital content in right languages and provision of expertise

6.1.1 Recommendations

New frameworks were arrived at and this study hopes this can stir new curiosity and knowledge-driven research in areas of eLearning development, deployment and user`s perspective in Nigeria.

Evaluation of readiness of undergraduates for eLearning in developing countries can`t be completed without identifying the role of teachers and mentorship. Either conventional or digital education, the role of guidance can`t be underestimated. No matter the amount of available technological devices, eLearning technologies or promotion of digital education without a guide can lead to failure. Seeking information from the web to guide in embracing eLearning is not enough, because not all web sources are authentic and not all potential eLearners have the ability to judge authentic information from chaffs, thereby necessitating the need of a teacher`s guidance to understand the usage and familiarize with eTechnologies better.

Many undergraduates could get loads of information from the net, they still need a guide, a mentor or a teacher to help them contextualize the information, apply the information and use the information.

The role of teachers in eLearning is, therefore ,very important in getting undergraduates ready for eLearning. As Undergraduates in developing countries are being prepared for

eLearning readiness, teachers technical expertise should also be improved, if they will guide students in eLearning

Furthermore, six conditions are necessary for undergraduates of Yaba College of Technology to embrace eLearning. The six key issues needs be addressed and can be put in a form of questions. The first is about People- Are there sustainable stakeholders and learners and a sustainable change management in place?

The teaching part, Are there sustainable teacher skills and a sustainable design to support the teacher skills? What is the existing educational culture? Does the cultural environment support change and sustainable? What about resources? Are there sustainable resources such as electricity? It is important to talk about cost. Would you get sustainable funding? And finally, is there sustainable technology and maintenance? More emphasis should be on infrastructure and not sophisticated devices. Common mistakes with most eLearners technology companies is to focus on sophisticated devices for eLearners. In the absence of infrastructures, there can`t any meaningful learning in whatever format.

More investment should go on expanding bandwidth, so that accessibility is increased and prices fall. This may mean more deregulation in the private sectors by states and giving many concessions for more networks to be built. Modern economies are highly interested in education of their populace, therefore they placed internet penetration as high priority.

eLearning should be adapted to vocational schools as that is what Africa badly needs and not concentrated only to University undergraduates. While the practical sides are done as both video and hands-on workshops, the theoretical part are done entirely via eLearning. This will safe cost and will make eLearning more meaningful, practical and popular to undergraduates of both vocational and Universities.

There is a need to maximizing mobile learning in Africa, because it has the biggest growth in mobile penetration in the world. In most developing countries, it is used for payment, communicate and get many things done . It is high time, we maximized it for learning, by encouraging and preparing undergraduates of tertiary institutions and vocational studies to access the resources and enroll in mobile courses. It is a great way of bringing knowledge closer to them.

Africa has bandwidth problems, even the best on some campuses are so slow and difficult to access heavy content. It takes forever to watch video tutorials or download contents. In addition to preparing undergraduates for eLearning in normal internet working conditions, Offline learning can as well be utilized temporarily.

When introducing new eLearning technologies in developing countries, considerations and mindset should primarily be to avoid high technologically enabled platform or solutions which are then forced to fit into local environment. This is probably the main reason why many eLearning platforms or eLearning courses designed in the wast and thrown to developing countries find it difficult to penetrate. It is best to utilize the technology on ground, the technology that the targeted developing environment is using and that which is known to them and affordable to them. The introduction of new technology, though innovative in itself can be a milestone for new consumers of eLearning and can therefore discourage embracing eLearning courses or leads to the total rejection of the eLearning ecosystem.

Suddenly, trying to change the old platform of learning to modern ones that utilizes `latest and greatest device or gadget may present lots of new challenges. The devices mostly at hand in developing countries are mostly mobile, laptop, desktop computers and radio. While most internet access are of low bandwidth and sometimes epileptic, efforts can be put to introduce high bandwidth internet access. Such localization of eLearning technology which already exists can be a quick gain and increase interest in enrolment of eLearning courses.

Lots of devices are springing up as technology develops, therefore attention is placed more on devices and gadgets, more attention should be given to contents and how the contents are used, because it will be accessed from multiple devices.

Understanding the educational practice or culture of eLearners matters before introducing eLearning technologies and content. Myths and long –held believes needs to be unseated to create a value for eLearning, old cultures which inhibits the popularity of eLearning courses such as the thoughts that certificates from eCourses is of low-value needs be cracked. For example , many students see the computer and the internet as a place to occasionally check their emails or for social media platforms. These category of undergraduates needs to first undergo a believe system change, paradigm shift in thinking to see it as a potential

educational resource. This can be achieved from awareness by state education providers, universities and national attitude change towards digital learning.

Most supporters of eLearning technology believe that when computers, internet and students are available, eLearning will automatically start. eLearning won`t commence without a deliberate effort to empower and educate the users about benefits of eLearrning. Even, when interest in eLearning manages to start. It needs to be sustained for both the learners and the eLearning providers. This can be achieved by continuous education of participants, testing of roles, education teachers, securing more commitments, simulating possible consequences of the withdrawal of any of the factors of eLearning such as withdrawal of expertise, downtime of eLearning technology servers and other possible unseen events. Preparation for sustainability matters even from initial introduction of eLearning technologies to the very end.

Other recommendations from study findings from undergraduate`s responses show that students prefer blended form of eLearning. The form of learning that will involve learning online as well as class-taught sessions. Students still have a desire to meet face to face irrespective of the sophistication and advancement in eTechnology platforms and these needs to be considered when deploying eLearning platforms.

From study findings and responses, most students want to concretize their eLearning participation, they want the eLearning to lead to a degree, diploma or at least, a certificate of participation.

Students still need guidance in the use of e-Technologies to be ready to participate in digital education. Unlike the social medias which needs little effort in navigation, when it comes to eLearning technologies , students needs to be guided using it for academics preferably by their instructors.

This study showed that Mobile smart phones topped the most used device in accessing the internet. The active use of smart phones and tablets continue to show clearly that people want to learn via highly mobile devices, but do not want to compromise the reliability. Most students make use of mobile phones to access the internet and spend more time on the mobile phone. eLearning technologies that are compatible with mobile phones will become the future of digital education and more needs to be done on Mobile education on mobile platforms.

7 CONCLUSIONS

The goal of the study is to analyze the readiness of undergraduates students for eLearning courses in Lagos, Nigeria by providing information from sample representation. To this extent, the research questions is :

What is the readiness of undergraduate students of Yaba College of Technology to embrace eLearning courses and technology? Sub-questions are ;

- *What technologies and infrastructures for eLearning are available in Yaba College of Technology?,*
- *Is eLearning a feasible form of teaching and learning in Nigeria?*

As a reminder , this study adopted three constructs from UTAT which are facilitating conditions, behavioral intention and social influence and proposed two more, the fourth construct is proposed by this study which is "readiness" and the fifth is rate of "absorptive capacity" .

The following is a brief of the three constructs adopted:

"Facilitating condition is the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system. ..Behavioral intention is the degree to which a person has formulated conscious plans to perform or not perform some specified true behavior… Social influence is the degree to which an individual perceives how important others believe he or she should use the new system, (Venkatesh *et* al. 2003)".

From Table 3 and Table 2 in pages 40-42, the responses from 40% of interviewed claimed they have basic computer knowledge, 40% claims they are proficient users, while remaining 20% consider themselves as experts. In Table 2, summary of table and respondents demography indicate that 60% of the undergraduates have not taken online courses in the past and 40% have already participated in some online courses in the past. In both responses, there is an indication that a small amount of undergraduates needs be thought preliminary computer and internet navigation as well as familiarization with eLearning technologies and increased enrolment in eCoures is a possibility. This shouldn`t be a problem as they already have residual knowledge which can increase their rate of assimilation or absorptive capacities which this study mentioned in page 31, sub-chapter

2.7.1. This also corroborates with one of the constructs of UTAT `s theory of " Experience" mentioned in page 27 and Figure 8. In both cases, certain amount of student have engaged in previous computer use as well as participated in eLearning courses. Experience is vital to rate and quality of assimilation of knowledge which is essential to the construct of "readiness" this study added to UTAT`s theory.

When asked reasons for not completing previous e-Courses, Figure 14 indicates that majority of the student interviewed did not complete previous online courses because the technology or interface was too difficult to navigate. This clearly deviates from traditional beliefs that inadequate power is major reason for uncompletion of eLearning courses. This result agrees with readiness or technical readiness of students which our studies mentioned as a criteria for eLearning.

Preferred devices in Figure 16 for accessing the internet ended up in ties as seen in Table 7. Phone and laptop devices came out as the most used devices in accessing the internet among the sample student representatives with 33.33% each, followed by another tie in Desktop and iPad as a means of internet access with 16.67% each. Nigeria has one of the highest mobile penetration in Africa and the world. Our findings indicated that mobile and laptop is still the most used access point. Relatively, this study can conclude that majority of Nigerian undergraduates are ready for eLearning provided that the eTechnology used are compatible with Latptop and mobile phones. "The greatest benefit of eLearning will emerge when implemented with mobile technology which will provide the ability to access knowledge anytime and anywhere" (Bichsel, 2013). Furthermore, this agrees with UTAT`s theory of facilitating condition in page 27, Figure 8- " The degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" (Venkatesh et al. 2003, p.425-478).

The technologies available for eCourses at the moment are mostly from Massive Open Online Courses (MOOC) and the internet connection is low bandwidth from our findings. There is no way, we talk about available technologies without talking about available hardware used to access this platforms. Our findings indicated that mobile devices and laptops are the still the most desired access devices , though the share of iPADs in accessing the internet is gradually increasing.

eLearning is a very feasible form of learning as few students have already undertaken, though with challenges. Our findings indicated that most of these challenges are not only inadequacy of resources as traditionally believed. It is also due to lack of one or two factors of the eLearning ecosystems such as student`s readiness to embrace eLearning.

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APPENDIX

Main Variable	Interview Questions
Computer Proficiency	How would you describe your level of computer knowledge in three categories of basic, proficient and expert.?
Previous eLearning Participation	Have you ever studied an online course
Reason for Non-completion	Single most important reason for non-completion of eLearning courses
Preferred Discipline	What discipline would you like to study via eLearning courses among business, technology and arts courses ?
Choice Devices in Internet access	On what devices, do you frequently access the internet at university?
Internet availability at University	Do you have access to internet at university?
Internet availability at home	What type of devices do you use to access

	the internet at home?
Willingness to purchase eCourses	Would you be willing to pay for an online course?
Expected Certification	9) What type of confirmation or certificate would you hope to obtain after participation in eCourses ?
Preferred method of eLearning	10) Which method of eLearning would you prefer most?