UNIVERSITI PUTRA MALAYSIA

FACTORS INFLUENCING E-LEARNING SYSTEM UTILIZATION AMONG LECTURERS IN UNIVERSITIES OF NORTH-EASTERN NIGERIA

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By

KABU MADU

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

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DEDICATION

This work is dedicated to my beloved wife – Saratu Madu, my children and my Mother-Kyellu Adamu for their enduring love, being supportive and understanding even when I had to be away from them for the sake of this research!

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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Chairman : Professor Ahmad Fauzi Mohd Ayub, PhD
Faculty : Educational Studies

The main objective of this study is to develop a fit structural model that would predict and explain the factors that influence e-Learning utilization among university lecturers on the basis of interrelationships that exist between technology readiness, subjective norm, job relevance, perceived enjoyment, technology self-efficacy facilitating conditions and perceived usefulness, perceived ease of use, attitude towards use, behavioural intention and e-Learning use based on Theory of Reasoned Action, Theory of Planned Behavior, Technology Acceptance Model and Technology Readiness. This study employed a correlational study and done in the Northeast zone of Nigeria, comprises of six (6) states of Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe. The instrument for data gathering used was a survey. A pilot study was done with a sample of 30 lecturers and Cronbach alpha stanch quality of the instrument from the pilot examines was .75 while it extended from .810 to .956 at the last study led on an example of 230 university lecturers. Data was examined utilizing SPPSS 22 for descriptive analysis and AMOS v22 to predict structural equation modelling. The model of this study has 21 paths for both path analysis and the test for mediation that was tried and discovered fitted according to the set fit criteria. Out of the 19 paths in the model, 11 paths have confirmed significant impacts in the interrelationships explained by the model, while nine paths did not. The paths that reflected notable impacts are: university lecturers' technology readiness exhibit no significant influence on perceived usefulness ($\beta = .024$, $p>.005$); technology self-efficacy has a significant influence on perceiving the usefulness of e-Learning utilization ($\beta=.127$, $p<.047$); job relevance has no significant influence on perceived usefulness ($\beta=.130$, $p>.005$); subjective norm has no significant influence on perceived usefulness ($\beta=.016$, $p>.005$); perceived ease of use has a significant influence on perceived usefulness ($\beta=.780$, $p<.000$); technology readiness has a significant influence on perceived ease of use of e-learning ($\beta=.280$, $p<.000$); technology self-efficacy has no significant influence on perceived ease of use ($\beta=.003$, $p>.005$); job relevance has no significant

influence on perceived ease of use (β=.096, p>.005); perceived enjoyment of using e-Learning has no significant influence on perceived ease of use for e-learning (β=.096, p>.005); facilitating conditions has significant influence on perceived ease of use (β=.148, p<.011); perceived usefulness has a significant influence on attitude towards to use (β=.145, p<.046); perceived ease of use has a significant influence on attitude towards to use (β=.379, p<.000).; perceived enjoyment has significant influence on behavioral intention to use (β=.306, p<.000); facilitating conditions has significant influence on behavioral intention to use (β=.198, p<.024); subjective norm has significant influence on behavioral intention to use (β=.150, p<.016); perceived usefulness has a significant influence on behavioral intention to use (β= -053, p>.005); attitude towards use e-Learning utilization has a significant influence on behavioral intention to use (β= .383, p<.000); technology readiness has a significant influence on e-learning utilization (β=.167, p<.039); behavioural intention to use utilize has no significant influence on e-Learning utilization (β=.051, p>.005). The outcomes of mediation tests demonstrated that among the four mediators, perceived usefulness, perceived ease of use attitude towards use and behavioural intention has indirect effects, partial mediation and full mediations respectively. Earlier, it has been established that there are mediation effects among the variables. The overall, the structural model of the study has explained about 18.3% of perceived usefulness, 21% of perceived ease of use, 42% of attitude towards use, 33% of behavioral intention to use, and 36.1% of the variation in the e-Learning utilization of lecturer in tertiary universities of North-eastern Nigeria. The researcher recommended that there should be more support from the universities in providing lecturers with sufficient tools and strong legal policy that will assist the mechanism of utilizing the e-Learning system in Nigerian higher education institutions.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

MODEL PERAMAL FAKTOR YARY MEMPENGARUHI SISTEM e-PEMBELAJARAR PENGURUSAN DALAM KALANGAN PENSYARAH UNIVERSITI DI TIMUR LAUT NIGERIA

Oleh

KABU MADU

Disember 2019

Pengerusi : Profesor Ahmad Fauzi Mohd Ayub, PhD
Fakulti : Pengajian Pendidikan

Tujuan kajian ini adalah untuk membangunkan model struktur yang sesuai di mana boleh meramal dan menjelaskan penggunaan e-pembelajaran pensyarah di kalangan pensyarah universiti berdasarkan kesalinghubungan yang ada di antara kesediaan teknologi (TR), norma subjektif (SN), kaitan kerja (JR), keseronokan yang diyakini (PE), keberkesanan kendiri teknologi (TSE), kemudahan memudahkan (FC)), penggunaan kemudahan (PEU), sikap terhadap penggunaan (ATT), niat tingkah laku (BI) dan penggunaan e-pembelajaran (ELU) berdasarkan teori akal yang beralasan, teori tingkah laku yang dirancang, model penerimaan teknologi (TAM) dan kesediaan teknologi. Kajian ini menggunakan kajian korelasional dan dijalankan di zon timur laut Nigeria. Ia terdiri daripada enam (6) negeri, iaitu; Adamawa, Bauchi, Borno, Gombe, Taraba, dan Yobe. Instrumen pengumpulan data yang digunakan adalah soal selidik tinjauan. Satu kajian perintis dijalankan dengan sampel 30 pensyarah dan kualiti storan Cronbach alpha instrumen dari kajian perintis diperoleh pada .75 sementara ia dilanjutkan dari .810 hingga .956 pada siasatan terakhir yang membawa kepada contoh 230 pensyarah universiti. Data diperiksa menggunakan SPPSS 22 untuk analisis deskriptif dan AMOS v22 untuk meramalkan pemodelan persamaan struktur. Model kajian ini mempunyai 21 laluan untuk kedua-dua analisis jalur dan ujian untuk pengantaraan yang telah dicuba dan dijumpai sesuai dengan kriteria yang sesuai. Daripada 19 laluan dalam model itu, 11 laluan telah mengesahkan kesan yang signifikan dalam hubungan yang dijelaskan oleh model, sementara sembilan laluan tidak. Laluan yang mencerminkan kesan yang ketara adalah: kesediaan teknologi pensyarah universiti, yang tidak menunjukkan pengaruh penting terhadap kegunaan yang dilihat (β = .024, p> .005); keberkesanan diri teknologi mempunyai pengaruh yang ketara dalam mengamati kegunaan penggunaan e-pembelajaran (β = .127, p <.047); perkaitan pekerjaan tidak mempunyai pengaruh penting terhadap kegunaan yang dilihat (β = .130, p> .005); norma subjektif tidak mempunyai pengaruh penting terhadap kegunaan yang dilihat (β = .016, p> .005); Mudah dilihat penggunaan

mempunyai pengaruh yang signifikan terhadap kegunaan yang dilihat (β = .780, p <.000); kesediaan teknologi mempunyai pengaruh yang signifikan terhadap kemudahan penggunaan e-pembelajaran (β = .280, p <.000); keberkesanan diri teknologi tidak mempunyai pengaruh yang signifikan terhadap kemudahan penggunaan (β = .003, p> .005); Perkaitan pekerjaan tidak mempunyai pengaruh yang signifikan terhadap kemudahan penggunaan (β = .096, p> .005); Kesedaran penggunaan e-pembelajaran tidak mempunyai pengaruh yang signifikan terhadap kemudahan penggunaan e- pembelajaran (β = .096, p> .005); keadaan memudahkan mempunyai pengaruh penting terhadap kemudahan penggunaan (β = .148, p <.011); Kesimpulan yang dirasakan mempunyai pengaruh yang signifikan terhadap sikap terhadap penggunaan (β = .145, p <.046); Penggunaan mudah dilihat mempunyai pengaruh yang signifikan terhadap sikap terhadap penggunaan (β = .379, p <.000); Keseronokan dirasakan mempunyai pengaruh penting ke atas niat tingkah laku untuk digunakan (β = .306, p <.000); keadaan memudahkan mempunyai pengaruh penting ke atas niat tingkah laku untuk digunakan (β = .198, p <.024); norma subjektif mempunyai pengaruh penting ke atas niat tingkah laku untuk digunakan (β = .150, p<.016); Kesimpulan yang diperolehi mempunyai pengaruh yang signifikan terhadap niat tingkah laku untuk digunakan (β = -053, p> .005); Sikap terhadap penggunaan penggunaan e-pembelajaran mempunyai pengaruh yang signifikan terhadap niat tingkah laku untuk digunakan (β = .383, p <.000); Kesediaan teknologi mempunyai pengaruh yang signifikan terhadap penggunaan e-pembelajaran (β = .167, p <.039); niat tingkah laku untuk digunakan tidak mempunyai pengaruh yang signifikan terhadap penggunaan e-pembelajaran (β = .051, p> .005). Hasil ujian pengantaraan menunjukkan bahawa di antara empat orang mediator, yang dianggap berguna, dilihat penggunaan, sikap terhadap penggunaan dan niat tingkah laku mempunyai kesan tidak langsung, pengantaraan separa dan pengantaraan penuh. Terdahulu, terdapat kesan pengantaraan di kalangan pembolehubah yang telah ditubuhkan. Secara keseluruhannya, model struktur penyiasatan menjelaskan bahawa 18.3% kegunaan yang dirasakan, 21% daripada kemudahan penggunaan, 42% sikap terhadap penggunaan, 33% niat tingkah laku untuk digunakan, dan 36.1% variasi dalam e-pembelajaran penggunaan pensyarah di universiti-universiti tertua di timur laut Nigeria. Penyelidik mengesyorkan agar terdapat lebih banyak sokongan daripada pengurusan universiti dalam menyediakan pensyarah dengan alat yang mencukupi dan dasar undang-undang yang kuat yang akan membantu mekanisme penggunaan sistem e-pembelajaran di institusi pengajian tinggi Nigeria.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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LIST OF ABBREVIATIONS

AGFI	Adjusted Goodness of Fit Index
AIC	Akaike's Information Criterion
ATT	Attitude towards Use
AVE	Average Variance Extracted
BI	Behavior Intention to Use
CA	Cronbach's Alpha
CAI	Computer-Assisted Instruction
CBT	Computer Based Training
CD-ROM	Compact Disc- Read Only Memory
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CR	Construct Reliability (Composite reliability
DSTV	Digital Satellite Television
DVD	Digital Video Disc
GFI	Goodness of Fit Index
GUI	Graphical User Interface
ELU	e-Learning Utilization
FC	Facilitating Conditions
HEIs	Higher Education Institutions
ICAN	Institute of Chartered Accountants of Nigeria
ICT	Information and Communication Technology
JR	Job Relevance
IS	Information System
LAN	Local Area Network

LMS	Learning Management System
MDGs	Millennium Development Goals
MI	Modification Index
MOOC	Massive Open Online Courses
MP3	Moving Pictures 3
NFI	Normed Fit Index
NUC	National Universities Commission
NUS	Nigerian University system
NITDA	National Information Technology Development Agency
NOUN	National Open University of Nigeria
NPE/FRN	National Policy on Education of the Federal Republic of Nigeria
ODL	Open Distance Learning
PC	Personal Computer
PDA	Personal Desktop Assistants
PE	Perceived Enjoyment
PEU	Perceived Ease of Use
PNFI	Parsimony Normed Fit Index
PU	Perceived Usefulness
RMR	Root Mean Square Residual
RMSEA	Root Mean Squares Error of Approximation
SEM	Structural Equation Modeling
SMS	Short Messages
SN	Subjective Norm
SQAVE	Square Root of Average Variance Extracted
SRMR	Standardized Root Mean Squared Residual

TAM	Technology Acceptance Model
TLI	Tucker Lewis Index
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TR	Technology Readiness
TRI	Technology Readiness Index
TSE	Technology Self-efficacy
TV	Television
UNESCO	United Nations Educational Scientific and Cultural Organization
UNESCO-UIS	United Nations Educational Scientific and Cultural Organization Institute for Statistics
USA .	United States of America
VLE	Virtual Learning Environment
VOIP	Voice Over Internet Protocol
WAN	Wide Area Network

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The 21st century is considered as the information age, such that e-Learning have advanced dramatically in every nation of the world (Babaoglu & Oktem, 2018; Samsudeen & Mohamed, 2019; Bystrova, et al., 2015). The e-Learning utilizes the power of the web, interface are designed for distant learning student's, by provision of modules from teachers/lecturers of Universities. These modules are made available on web portals to be accessed by registered students (Bystrova, Larionova, Osborne & Platonov, 2015; Arkorful & Abaidoo, 2015). e-Learning has been progressively embraced as a type of learning that can be done external the University premises (Mohebi, 2019) in the university premises (Ahmed, Sangi & Mahmood, 2018; Ordóñez, Giraldo, Muñoz, Ordoñez & Rosero, 2018; Parkavi, Karthikeyan & Ellington, 2018; Wong & Ng, 2016). These flexibilities are due to the rapid changes and advancement being witnessed in the fields of Information and Communication Technology (ICT) worldwide.

There have been some concerns in the early years of ICT that led to slow adoption of the e-Learning system, these concerns were the out lined studying procedures and unfamiliar web systems (Mohammadi, 2015; Chen, 2011). Regular instructing and online-learning varies by the ways scholars get guidance, how lecturers spread guidance, the way lecturers instruct their scholars, the way scholars handle responsibility for studies procedures, ways that studying tools are being displayed, and the resource person responsible for data sharing (Villa, 2018; Renau & Renau, 2012). As opposed to conventional norm where the lecturers meet students' simultaneously at the same place and time, in online learning, lecturers and students are isolated by location and time (Moore & Kearsley, 1996). Specifically, distance education (DE) is about giving instructions and receiving feedback via a corresponding medium between the lecturer and students since learning doesn't happen on a real-time or on a shared physical space (Bozkurt, 2019; Moore & Kearsley, 2012).

As stated by Finch and Jacobs (2012), if any element of learning takes place in a separate location and time, it can be classified as e-Learning. As stated, e-Learning is a type of distance learning that utilizes the internet as a medium for dissipating academic instruction (Bozkurt, 2019; Moore et al., 2012). e-Learning is not limited to any environment, or time (Tseng et al., 2018; Behera, 2012; Chen, 2011; Chen & Tseng, 2012). Despite is conventionally adaptable and mobile (Jefferson & Arnold, 2009). People living in different part of the globe can easily utilize the e-Learning, this eliminate the opportunities differences between those who are privilege to have the traditional learning system and those who are not (Tseng et al., 2018; Chen & Tseng, 2012).

e-Learning is versatile, such that it provides an online-learning space that is acceptable, suitable, and available at different places at the same time (Cady, Aydeniz & Rearden, 2011; Chen & Tseng, 2012). The lecturers are not the sole authority of the essential materials that are in use on e-Learning systems. The learners are also facilitators in the learning process Bahhouth, Bahhouth & Maysami, 2011). Most of the lecturers sees e-Learning as time consuming, this is so because the e-Learning is fiscally prudent in providing several resource personnel from different geographical locations without having to bring them over as the case in conventional learning systems, hence it is economical for the educational establishment (Bair & Bair, 2011) Additionally, e-Learning offers the educational freedom that connects the existing gaps due to limitations such as location and social constrain (Schulte, 2011).

ICT in Schools have been given great attention due to the administrative ease and learning flexibilities it brings (Al-Zaidiyeen, Leong Lai & Fong Soon, 2010; Romero, 2012). The e-Learning concept brought the concept of virtual Secondary School (Belair, 2012). More so, e-Learning has built up its incentive in higher institutions framework by offering an adaptive and inventive option for students (Al-Rahmi et. al., 2018; Duncan & Barnett, 2009). Due to the present and anticipated development opportunities being anticipated from internet technologies, many universities now rely on e-Learning systems to provide instructions to students via respective institution's web portals (Revythi & Tselios 2019).

Teaching online is a new system for many traditional university lecturers and although, not all people have adopted this advancement in learning, e-Learning have reduced the rigors attached with regular teaching (Bacow, et. al., 2012). Lamentably, some academic management still have a low acceptance pace of e-Learning systems, which at some point turns into an obstruction to the use of the e-Learning systems. (Allen and Seaman, 2013; Bair & Bair, 2011). A review study led by Babson Research Group, demonstrated that 58% of employees announced that they are afraid than hopeful about web based education. The Babson Research Group detailed that 66% of overviewed lecturers accepted that the study results for a web based adapting course were inadequate to the learning outcomes of the conventional system (face to face in class learning).

At the point when lecturers have inspirational frames of mind towards innovation, they are increasingly disposed to acknowledge and gain proficiency with the abilities expected to utilize the innovation, however when lecturers have negative demeanors toward innovation, they are less disposed to acknowledge and get familiar with the aptitudes needed to be utilized for innovation (Al-alak & Almnawas, 2011; Valencia-Arias, Chalela-Naffah & Bermúdez-Hernández, 2019). Furthermore, if instructor have low mentalities with regards to e-Learning and have no expectation of utilizing it later on, it introduces an issue in light of the fact that online instructive systems cannot either utilize or hold existing lecturers, that hinders the development of e-Learning (Allen & Seaman, 2013).

In order to meet the fast growing change in the world we live today, there is a need to adopt fast method of learning in order to catch up with the present challenges of the day. This solution is what e-Learning offers the world today (Nebeolisa 2014; Depover & Orivel, 2013). Without a doubt, the mix of e-Learning use in advanced education has empowered a sensational change in instructing and learning practice. The achievement of e-Learning appropriation in educational establishments relies upon a few variables; Al-Adwan, and Smedley (2012) for instance, the accessibility of innovation, how teachers are bolstered in utilization and the combination of innovation inside the student learning knowledge

Lamentably, the integration of the learning style is faced with a few difficulties as integrating changes in the attitudinal desires and acceptance enhancements through advancement of high-tech aptitudes of staff which made it difficult for many countries, people, organizations especially in Nigeria to make use of it to solve their educational needs (Kpolovie & Awusaku, 2016; Osuafor & Emeji, 2015; Chiedu, 2010). This study focused mainly on conditions that motivates electronic learning utilization in Nigeria. The main purpose is to make a discovery on the circumstances that impact e-Learning utilization among Nigerian university lecturers and to evolve a model that can describes and forecast e-Learning utilization in teaching.

Therefore, it is worthy to know that the utilization of innovation is very important in our today's world of social, economic and educational matters. (Joo et. al., 2018; Mbengo, 2014). Today's world continue to promise new dimensions in ICT, internet technologies, computer-based learning, web-based, and electronic learning applications, in which they are offering unconventional methods of teaching and learning techniques which makes the e-Learning process more useful and easier with much better understanding for both learned and learner. Therefore, it is momentous that every nation, organization, and institution irrespective of whether elevated or little identifies and embrace it (Abu-Shanab & Ababneh, 2015; Grosseck, 2009). Interestingly, the increase in acceptance is becoming more relevant and it is widely spreading throughout university education globally (Mbengo, 2014).

As ICT continues to develop, innovation coordinated learning has likewise developed, and the interest for innovation in training has expanded (Joo, Park & Lim, 2018; Mbengo, 2014). In this period, ICT gives various chances to schools and universities so as to improve their instructive framework to meet lecturers and students needs and set up the new generation for difficulties of tomorrow's reality. Because of specialized changes in teaching settings, lecturers, as specialists, must both locate the difficulties of educating with innovation and keep up a decent handle of topic content. Innovation incorporated learning and educating has turned out to be progressively common, with cutting edge learning situations, for example, versatile innovation, internet based life, smart study halls, flipped studies, and live webcasts (Lee & Park, 2016). Exceptionally esteemed high-tech information is significant for lecturers to build up an integrated learning system as recommended by Ogunnowo (2016).

Ever since 21st century, the bountiful utilization of advanced innovations (e-Learning Africa, 2013) associated with computerized systems (Mansell and Tremblay, 2013) have altered how data, particularly interactive media data, is being archived, accessed and disseminated (Al-Azawei, Parslow & Lundqvist, 2017; Agyei & Keengwe, 2014). New generation users of ICT today basically need data conveyed to them (Sauers & McLeod, 2018). This has been especially relevant to institutions of higher education that always need to assess instructional arrangements and specialized systems to oblige new teaching methods and instructive innovations needed by a quickly developing age of students with various study expectations, and various requirements for innovation reconciliation (Agyei & Keengwe, 2014).

Hence, universities were faced with numerous adjustments, both external and eternal conditions. They are compelled to react quickly to the rising difficulties in order to proceed with development in technology utilization (Bhuasiri, Xaymoungkhoun, Zo, Rho & Ciganek, 2012; Chang, 2016).

Developed Nations are conditioned with the use of innovation from the onset in the class room as previous lectures has concentrated on the labors, essential to enhance use of innovation in these nations (Yakubu & Salihu, 2018). For instance, according to Dias, Aires and Moreira (2018), in 2013, about 82% of European higher education institutions were accessible via online learning courses using technology, as a result of charitable increase to an educational support where different University institutions coexist with difference of teaching methods and pedagogical models (Gaebel, Kupriyanova, Morais & Colucci, 2014). Innovations have a vital role in the advancement of quality education by providing a different approach to improve information and knowledge content. Interactive and communicative technology may support the development of skills in students (called "21st Century Skills") such as decisive thinking and problem solving, communication, teamwork, and inventiveness as well as provides lecturers' and students' ICT skills (Chan & Holosko, 2016).

Consequently, the UNESCO (2011) has realistically contended that some parts of the world do make their educational institutions to embrace the integrated technology revolution. This will put together capable human resources to utilize technology to its standard in effective classrooms environment. While on the other side of the coinage, some parts are yet to start. The break between the advance and developing nations of the world in integration of technology is widely described, for instance, places like Europe, America, Australia and most of Asia, lecturers have gone advance in technology for instructing and acquiring knowledge (Acemoglu, Moscona & Robinson, 2016; Hur & Choo, 2017; Tondeur et. al., 2017).

Therefore, integrating technology into the classroom by lecturers provides them with the diversity of opportunities that help to guide learners to the greater idea and expand useful mutual projects amongst them (Saadé, Morin & Thomas, 2012; Smaldino, 2011). However, an important position that needs to be reached is the point of expansion, where the innovation is utilized everywhere. Thus, to create innovative perceptive in teaching (e.g., e-Learning, studies management structure and online-

learning) which were not known hitherto is essential (Folden, 2012; Wagner, Barbosa & Barbosa, 2014). This necessitates the lecturer's policymakers and curriculum planners to put together new innovation with curriculum for more advancement in technology integration into education.

According to previous study by Lwoga and Komba, (2015) and Tossy and Chigona, (2017) said e-Learning produces powerful learning for better instruction and gives an incredible chance to the learners to increase knowledge and information with no impulse for going to the classroom. A few organizations and institutions by virtue of fiscal resources cannot manage the cost of the number of trainers because of some money-related issues; but, have endeavored to actualize the idea of e-Learning because of its potential advantages, for example, economically enhancing the learning contents and minimizing the conventional face to face personal learning. Garg and Jain (2017) and Zaman et al., (2012) posits that the achievement of e-Learning utilization relies upon contents, administration, and framework. Presently the importance of e-Learning utilization is at an exceptionally rapid rate, so it turns out to be harder to choose the best e-Learning platform among the accessible ones. e-Learning system as an instrument has supported curriculum re-design and lecturers' academic beliefs, shifting from lecturer-cantered to student-centred (Garg et al., 2017).

e-Learning is becoming a required specialization for lecturers in new learning environments in the 21stcentury (Joo et. al., 2018). The concept bestows students the advantage of having more time to process and digest materials; lecturers share lesson videos with the students which can be accessed on the web via cell phones prior to the lesson period. Students would thus be able to study the lesson items and materials ahead of time, this will effectively enable the students to have an interactive class session. These advantages had resulted in favourable academic outcome on the constructive output of the e-Learning approach on students' accomplishment (Chao et al., 2015; Zainuddin & Halili, 2016). To make such an innovation to be amicable with the study condition, lecturers' constructive encounters with utilization of innovation and their expectation to utilize e-Learning systems are critical (Kim & Kim, 2013; Baek et al., 2008).

However, despite the dominance of ICT in universities of the developed world and the role played by technology in education development, in Nigeria, it has been unpleasantly in an average condition. Such that, no accurate attempt has been made in technological evolution both at individual and corporate levels (Akuegwu et al., 2011). Consequently, according to Garba (2014) lecturers' proficiency toward the integration of technology in their instructive practices is dependent relative on lecturers' skills and tuition on one hand; and, lecturers' educators on the other hand. For this reason, most instructors/lecturers in Nigeria are yet to obtain the pre-requisite for technology abilities where opportunities exist for them to do such, they avoid them in light of the distress they have created over the technology utilization (Onwuagboke et al., 2015; Adelabu & Adu, 2015; Chiedu, 2010; Bingimlas, 2009)

Integrating e-Learning into the educational system as the strategy in teaching and learning in Nigeria is viewed as imperative and is one of the methodologies to make lecturers and instructors, as well as students, meet the standards for business employment and have confidence in being self-reliant (NPE 2004; Aluede et al., 2012). In this manner, it is critical for instructors and lecturers to acquire technology abilities to meet the specialized guidelines set by the national policy to upgrade his/her educational needs by adopting a suitable learning process. Enemali et al. (2016) in a study recommended that it is required for each lecturer and educators to present a specific technology oriented subject to enable them acquire the needed aptitudes that will upgrade teaching quality in Nigerian educational system framework, since e-Learning utilization is likely going to be an instructional delivery among university lecturers in Nigeria. Indeed, even at that, the needed instruments were constrained to parts of ICT, for example, print, sound/videotapes and computerized radios (Olutola et al., 2018; Ifijeh et al., 2015).

1.2 e-Learning in Education

The advancement of ICT and e-Learning had developed as an imaginative methodology for the advancement of learning in advanced Schools (Al-Samarraie et al., 2018; Al-Samarraie et al. 2016; Goi & Ng, 2009). e-Learning contributes to the development of new educational concepts and new teaching models (Al-Samarraie et al., 2018) indicate that at the heart of such models and concepts is individual oriented learning, with a focus on the learner, on individual characteristics. The utilization of e-Learning begins in 1990s (Bystrova et al., 2015). Today, e-Learning is famous and a known learning platform, its importance in Universities and most of the higher institutions are obvious and increasing in capacity building of learning in general (Mohamad et al., 2019; Álvarez et al., 2013; Dutta et. al., 2013; Islam, 2013). For example, in 2002 nearly one-fifth of university courses in the United States of America used e-Learning (The 2002 Campus Computing Survey, 2002).

In the USA today, the relationship between education and technology is longstanding over the years (Allen & Seaman, 2016; USA department of education, 2013), while in 2012, 93% of universities were equipped with e-Learning (The Campus Computing Project, 2012). In Canada and Australia, the use of technology for online courses keeps increasing by the year (GAC and Educsillium, 2015; Department of Education and Training, 2017). In Malaysia, studies show that all Institution of higher learning (IHLs) (90%) have e-Learning methodologies and their own execution plans. Out of all the IHLs, which have e-Learning about 70% make the use of it, as it is required among their lecturers and student. Practically 50% of the IHLs (40%) had completed their e-Learning procedures in more than three years or between one to three years.

Widespread utilization of new advancements of innovation, for example, the Internet, social networks and cell phones, influences the procedures of instruction at University level (Urh et al., 2015). Innovation importantly affects learning, improving communication and correspondence by execution of the most up to date data systems helpful for learning and lowering the cost of learning (Marandu et al., 2019; Bedrule-

Grigoruta & Rusua, 2014). The benefit of e-Learning is to bolster personal learning, peer group learning, learning content administration, learning management by the executives, formal learning, casual learning, and working environment learning in the universities globally (Valsamidis et. al., 2014). Opportunities created by using e-Learning and the use of new technology cannot be overemphasized, as such, several studies had been carried out to analyze better education internationally (Adel, 2017). Open educational resources provided the aid of e-Learning utilization, which is a new technique for the educational system. Universities are required to undergo structural and modern adjustments through use of the internet, intranets/extranets, audio and videotape, satellite for computer broadcast, interactive television, while CD-ROM, is best for content material conveyance only (Richter & McPherson, 2012).

Integrating e-Learning in education is a tremendous way by which to ensure facts delivery, the impaction of skills and learning of knowledge which is not confined to specific courses, innovation or infrastructure. However, in Nigeria despite the efforts by the National Universities Commission (NUC) in encouraging the use of e-Learning at higher education, only few universities have complied (Etudor-Eyo et. al., 2016). According to studies some of the lecturers have negative feelings and sentiments about using a new technology, hence, are unwilling to accept e-Learning utilization (Kpolovie & Awusaku, 2016; Osuafor & Emeji, 2015; Kocaleva et al., 2014; Oye et al., 2011; Chiedu, 2010).

Therefore, venturing on e-Learning by the school education is influencing research interest and survey, with several reports that lecturers of different faculties are not interested in using innovation (Hadjipavli, 2011; Stantchev et. al., 2014). However, there are several factors affecting e-Learning utilization. Nonetheless, the important models in considering the predictors that affects data structure are prevalent (Scherer et al., 2018). The most wide spread and accepted model is TAM which investigates factors that influence technology utilization and performance of individuals (Scherer et al., 2018; Davis, 1989; Venkatesh & Bala, 2008). This model investigates and improves users' positive perception of e-Learning and several more factors influencing its use in teaching (Cheung & Vogel, 2013; Teo et al., 2008).

1.3 e-Learning Acceptance Model Conceptual Setting

When the factors that impede acceptance are revealed, recommendations can then be made to the appropriate persons regarding the policies, approaches, practices, and trainings that would best suit the needs of their population of teachers (Renda & Okazaki, 2016; Bolliger & Wasilik, 2009). Since e-Learning system is generally and quickly embraced by educational systems in the whole country (Hawkins et al., 2011; Dumpit & Fernandez, 2017), lecturers' response is key to effective execution (Bair et al., 2011), it is important to distinguish the variables that lead to its acceptance (Aristovnik et al., 2016; Davis et al., 1989). The Technology Acceptance Model (TAM) is information system theory that reveals how users come to acceptance of technology, dependent on the users' disposition toward utilization and combined aims (Davis, et. al., 1989; Chang, *et. al.*, 2017). In utilizing the TAM model, this study looks

at the factors that predict the e-Learning system utilization and acceptance of public virtual universities and higher institution lecturers.

In view of the presumption that individuals' activities are guided by their feelings or how they feel (Hayes, 2013), it has been hypothetically demonstrated that users underlie response to a frame of mind with regards to ICT and IS innovations, which influences the goals, thus feeling and emotions will impact their real utilization of such advances in learning (Venkatesh et al., 2003; Davis, et. al., 1989). Hayes (2013) explains that a linear regression model is essentially condition that connects at least one information element to yield variable by adopting information contained in the relationship among sources of information and vintage.

In this study, the external factors, otherwise called independent variables, include Technology Readiness, Subjective Norms, and Technology self-efficiency, Job Relevance, Perceived Enjoyment and Facilitating Conditions while the eternal factor, generally called dependent variable, is the e-Learning utilization. Following a deducible study proposal this study takes attention to different theories that can explain user assertion and the determination to utilization of both ICT and IS with concern on e-Learning system. This proposition include the main Theory of Reasoned Action (TRA) created by Fishbein and Ajzen in 1975 and streamlined in 1980 (Ajzen, 2008); the TAM by Davis et. al., in 1989 and; the Theory of Planned Behavior (TPB) created by Ajzen in 1991 (Ajzen, 2008).

Over two decades now, researchers were trying to explain innovation acceptance in research. The presentation of extended TAM by Davis (1989) to explain circumstances that may have an influence on system utilization have been going under modifications and advancement. The proposed TAM is to emphasize the reason users adopt or decline the use of innovation. TAM originated from the TRA postulated by Fishbein and Ajzen (1975). TRA is a social psychology theory that has been fruitful in predicting and clarifying social human conduct in the space of data structure; however it is said to be a general model, which is not fit for clarifying explicit convictions (Davis, 1989; Davis, 1993; Pituch & Lee, 2006). However, Davis (1989) argued that there are varieties of external variables in TAM that can or may determine its two main beliefs perceived ease of use (PEU) and perceived usefulness (PU) to have an effect on a system used indirectly.

However, various prototype have been developed and tested over the years, to predict technology use and to help in tackling e-Learning utilization problems. Among such models are the TRA by Fishbein and Ajzen (1975), TPB by Ajzen (1985), TAM of Davis (1989), TAM 2 of Venkatesh and Davis (2000), Model of the Determinants of Perceived Ease of Use by Venkatesh (2000) and TAM 3 of (Venkatesh and Bala, 2008). From the perspectives of such models, this study will investigate e-Learning utilization variables such as the antecedents and determinants of attitudes of individuals toward technology utilization as they apply to university lecturers (especially those in faculty of education) in universities of Northeastern Nigeria.

This study is quite crucial now, especially because Nigeria as a country still being bedeviled by e-Learning utilization crisis in its educational sector (Kpolovie & Awusaku, 2016; Osuafor et al 2015; Ololube, 2014; Asogwa & Eze, 2013; David, 2012). Technology is capable of overcoming some limitations of time and space and provides an optimal learning environment according to the individual learning styles (Hernandez, 2011). However, when a new technology finds its way into education, lecturers have no option than to be faced with the challenges of how to integrate it with their past educational experiences (Niederhauser & Lindstrom, 2018; Teo et al., 2018; Teo et al., 2015; Richardson, 2010). In this situation researchers should focus mostly on the factors that make lecturers accept or rejects new technologies (Venkatesh & Bala, 2008; Abbas, 2016)

Hence, when considering the factors and the factors impacting e-Learning utilization, the personal viewpoint as well as the effective edge should be considered. Based on the theories to be used in this study, predictors for the variables of lecturers' e-Learning utilization will be explored by investigating the relationship linking the factors and how they influence utilization of e-Learning system in educational contexts.

1.4 Problem Statement

The call for the utilization of new technology for classroom activities to adapt changing ideas about knowledge and learning is on the increase (Patrick, 2017) According to literature this call has mounted pressure on tertiary institutions to focus more on the teaching skills of 21st century (Louise, 2011; Lim, *et. al.*, 2013; GU and Belland, 2015; Patrick, 2017). Researchers have endeavored to pinpoint factors that are favorable to user utilization of e-Learning system (GU & Belland, 2015; Patrick, 2017). For new ICT system (such as e-Learning) to be embraced and executed adequately or for a recent system to be adopted effectively, a strong comprehension of user utility must be addressed in light of the fact that a lecturer's goal and attitude toward the agenda assumes a significant role in the use of the framework (Attis, 2014; Little, 2016). Consequently, with the fast development of e-Learning system in innovative education establishments (Demirkan et al., 2010; Loh *et. al.* 2016; Weng, et al., 2015), a triumphant e-Learning utilization has been examined and study have been made in many researches, from various viewpoint, and in different contexts (Alias *et. al*. 2012; Bhuasiri *et. al*. 2012).

However, these empirical studies have not been able to adequately examine e-Learning utilization by suitable methodologies or approach with regards to lecturers at tertiary levels (Raman et al., 2019; Al-Samarraie et. al., 2018; Mohammadyari & Singh, 2015; Ahmed, 2010; Farahat, 2012). Mostly the studies process has not been concerning lecturers' at tertiary institutions (Al-Samarraie et al., 2018; Ahmed, 2010; Chen et al., 2012). These studies have emphasized on mostly the qualities of e-Learning system as an option in contrast to regular face to face system of educational instruction. e-Learning have been known to be beneficial to both the students and lecturers, but its spread among advanced education organizations, have been very low

especially in the north eastern Nigeria. This is related to factors influencing its utilization. According to Bervell and Umar, (2018) available literatures relating to tertiary e-Learning utilization in developed countries cannot be generalized or replicable to developing countries at levels of university lecturers, due to their distinctions.

Today most universities are investing huge budget on these learning technologies to close the gap the raising challenges of information technology and e-Learning utilization in supporting teaching and learning process (Islam, 2013). Still, the educational process depends on lecturers to accept or reject using the new technology (Jang & Tsai, 2012, 2013; Koh & Chai, 2014). Nevertheless, empirical evidence indicated that most lecturers in higher education are being reluctant to embrace ideas of different forms of online teaching (Bacow et al., 2012; Hawkins et al., 2012).

In the 21st century, students are not dormant collectors of instructions and information. They are proactive supporters of the learning procedure that is coordinated and assessed by virtual teacher (Renau, 2012). Several studies have featured the upsides of an e-Learning form over a conventional domain; be that as it may, several lecturers have indirect responses to the utilization of an e-Learning condition (Hawkins et al., 2012). Additionally, innovation utilization study centers on innovation reception and factors that impact an end user choice to either use or stop the use of innovation (Buche et. al., 2012). e-Learning is a novel methodology in tertiary virtual universities (Bahhouth et. al., 2011) and with an expansion of educational institutions utilizing the web for training, lecturers use of innovations are impacted by an assortment of factors (Teo, 2010). Those factors are the focus of this study. Several studies have been conducted since 2000 on the acceptance and utilization of technology (Al-alak & Almnawas, 2011; Behera, 2012; Chen & Tseng, 2012; van Raij & Schepers, 2009). However, a dearth of empirical studies exists that evaluate the factors that impede or encourage utilization of e-Leaning among university lecturers in e-Learning environments (Barbour, McLaren & Lin, 2012).

Davis et al. (1989) deposited that TAM is a powerful, concise data structure hypothesis that is applied to describe and predict how users come to utilize and positively acknowledge innovation (Venkatesh and Morris, 2000). Excluding e-Learning acceptance and utilization, TAM has been used repeatedly, and validated in several experimental studies, in a variety of fields, to evaluate the selection, utilization, and acceptance of information correspondence and innovation in educational instruction (Cheng, 2012; Chen et al., 2012; Masrom, 2007). In this manner, TAM is an appropriate model to gauge an instructor's use of e-Learning. TAM was developed from the TRA, which endeavors to foresee and clarify social beheviours dependent on an individual's attitudinal and normative convictions (Al-alak & Almnawas, 2011; Chi-Cheng et al., 2012; Durndell & Haag, 2002; Fishbein & Ajzen, 1975). The TAM hypothesis proposes that an individual will look into the implications of their activities before a choice is made to either take an interest or not. In particular, TRA postulate that a person's goal and behavior are legitimately identified with a lot of convictions, which at that point prompts a conduct (Fishbein & Ajzen, 1975). Davis (1989) built

up a variety of TRA, TAM, which is explicit to computer utilization conduct. TAM suggests that acceptance of innovation (i.e., the user frame of mind and conduct, aims toward innovation) depends on and identified with two central beliefs: perceived ease of use and perceived usefulness. (Davis et al., 1989; Teo, 2010). Previous study revealed that technology readiness can be considered as external factor because TR can be used to investigate the corresponding external variables related to system use as well (Parasuraman & Colby, 2001, 2007 & 2015; Punnoose, 2012; Godoe & Johnson, 2012; Van Der Rhee et al., 2007; Parasuraman, 2000)

Considering the hypothesis of the research, TAM clarifies university lecturers' on e-Learning utilization by proposing a reasonable model which will analyze the impacts of external factor on system utilization (Hong et. al., 2001). As regarded by TAM, lecturers' response and use of e-Learning is legitimately associated to the measure of exertion they will apply when utilizing the framework (Perceived ease of use) and if the framework will profit their activity execution (perceived helpfulness) (Davis, 1989; Venkatesh & Morris, 2000; Venkatesh & Bala, 2008; Al-Khasawneh & Obeidallah, 2019). Lecturers who have inspirational dispositions toward e-Learning will probably have higher use by volume instead of lecturers with negative frames of mind with regards to e-Learning; these lecturers will probably have lower utilization levels (Alalak & Almnawas, 2011). What's more, perceived convenience directly affects perceived usability (Teo, 2010).

This study applied extended TAM to assess how the predictor variables (i.e., Technology Readiness, Subjective Norms, and Technology Self-efficacy, Job Relevance, Perceived Enjoyment and Facilitating Conditions, perceived usefulness, and perceived ease of use, attitudes towards use, & behavioral intention) predict the criterion variable (e-Learning utilization) (Abdullah & Ward, 2016; Schepers & Wetzels, 2007). The predictor variables of interest were defined as external variables, which influence e-Learning utilization. The criterion variable utilization was defined as frequency of using and intention towards utilizing e-Learning system that is predictor from Davis's (1989) technology acceptance model.

The reasons for these extensions is to include a wide range of factors that may affect the utilization of e-Learning systems and to discover the role of these endogenous factors in mediating exogenous factors on e-Learning utilization. Studies offered evidence about the Significant influence of some factors in the utilization of e-Learning systems using the mediators. Conversely, there is a need for study to identify their mediation roles in the utilization of e-Learning, for example, perceived usefulness, attitude towards use and behavioral intention. This study attempts to offer a better theoretical understanding of factors which affect the utilization of e-Learning system among university lecturers. The study may also provide a scientific framework for university lecturers about human performance regarding utilization of technology. In fact, when lecturers become aware of the factors which impact on accepting new technologies by their students, they will be in a better position to guide their students to use e-Learning system and enhance the quality of their learning.

Therefore, it is critical to conduct this investigation on factors influencing the utilization of e-Learning system in universities in the Northeastern Nigeria, because if lecturers are not aware of factors influencing utilization of technology (e-Learning system), its usefulness and effective integration with their teaching methodology, teaching and learning activities will prove to be difficult (Abdullah et al., 2016; Davis et. al., 1989; Venkatesh & Bala, 2008; Jaber, 2016).

1.5 Research Objectives

This study aimed to investigate structural relationships between factors that influence the e-Learning utilization with the view to develop a model that will explain and predict utilization of e-Learning system based on the interrelationships that exist between, technology readiness, subjective norm, job relevance, technology self-efficacy, perceived enjoyment, facilitating conditions, and perceived ease of use, perceived usefulness, and attitude towards technology, behavioural intention and e-Learning utilization and to determine the roles of the mediating variables using the extended TAM.

This fundamental objective is further broken down as follows:

1. To determine the practice of actual utilization of e-Learning system among university lecturers.
2. To determine the relationship between technology readiness, technology self-efficacy, subjective norms, job relevance and perceived ease of use with perceived usefulness
3. To determine the relationship between technology readiness, technology self-efficacy, job relevance, perceived enjoyment, facilitating conditions with perceived ease of use.
4. To determine the relationship between perceived usefulness and perceived ease of use with attitude towards the use of e-Learning system
5. To determine the relationship between perceived enjoyment and subjective norm, facilitating condition, attitude towards use with behavioural intention
6. To determine the relationship between technology readiness and behavioural intention with e-Learning utilization
7. To explain the mediating roles of ATT and BI variables with PU, PEU, PE, FC, SN and ATT variables on e-Learning utilization
8. To develop a model to predict and explain e-Learning system utilization

1.6 Research Hypothesis

Based on the objectives of this study and available evidence in literature, the following hypotheses were developed. Hypotheses (H_{1}- H_{19}) were developed based on the second –sixth objective of this study, which is concerned with the direct relationship between the independent variables and the dependent variable. The seventh objective provides grounds for hypotheses (H_{20} and H_{21}) which are concerned with the

relationship between the independent variables and the mediator variables. Based on the third objective of this study, hypotheses (H_{20} and H_{21}) were developed which are concerned with the role of the mediating variable on the relationship between the independent variables and the dependent variable. Finally, the proposed model eighth objective were developed based on results of hypotheses (H_1 and H_{21}) of this study.

H_1 Technology readiness has a positive relationship with perceived usefulness

H_2 Technology self-efficacy has a positive relationship with perceived usefulness

H_3. Job relevance has a positive relationship with perceived usefulness

H_4. Subjective norms have a positive relationship with perceived usefulness.

H_5. Perceived ease of use has a positive relationship with perceive usefulness

H_6. Technology readiness has a positive relationship with perceived ease of use

H_7. Technology self-efficacy has positive relationship with perceived ease of use

H_8. Job relevance has a positive relationship with perceived ease of use

H_9 Perceived enjoyment has a positive relationship with perceived ease of use

H_{10}. Facilitating Conditions have a direct relationship with perceived ease of use

H_{11}. Perceived usefulness has a positive relationship with attitudes towards use

H_{12}. Perceived ease of use has a positive relationship with attitudes towards use.

H_{13} Perceived enjoyment has a positive relationship with behavioral intention

H_{14} Facilitating conditions has a positive relationship with behavioral intention

H_{15} A subjective norm has a positive relationship with behavioral intention

H_{16}. Perceived usefulness has a positive relationship with behavioral intention

H_{17}. An attitude towards use has a positive relationship with behavioural intention.

H_{18} Technology readiness has a positive relationship with e-Learning utilization.

H_{19}. Behavioural intentions have a direct relationship with e- Learning usage.

1.6.1 Hypotheses of Mediating Roles

The issue of acceptance and utilization of e-Learning systems has received considerable attention. Different factors and theories have been adopted to address this issue. TAM has been used commonly in the e-Learning systems utilization field. Many studies adopted and extended TAM (Revythi & Tselios, 2019; Sakarji, Nor, Razali, Talib, Ahmad & Saferdin, 2019; Hanif, Jamal & Imran, 2018).The main purpose of these extensions is to include a wide range of factors that may affect the utilization of e-Learning systems and to discover the role of these endogenous factors in mediating exogenous factors on e-Learning utilization. Studies offered evidence about the significant influence of some factors in the utilization of e-Learning systems using the mediators. Conversely, there is a need for study to identify their mediation roles in the utilization of e-Learning, for example, perceived usefulness, attitude towards and behavioral intention.

The perceived ease of use can have positive relationship with behavioral intention via perceived usefulness to utilize e-Learning system (Davis, 1989). Considering the relations within the TAM, perceived usefulness, next to the perceived ease of use, significantly predicted behavioral intentions via attitudes toward technology mediation. This means that an attitude towards use mediates relationship between the PU, PEU and BI. In light of the original hypotheses associated with the TAM, this finding confirms the importance of teachers' perceptions (PEU & PU) and attitudes for user intentions (Venkatesh et al., 2003).

Hence, perceived usefulness of technology is a critical factor of user intentions (Scherer, Siddiq & Teo, 2015). We therefore propose that in lecturers' e-Learning utilization development practices consider strengthening PU, PEU, ATT and BI as mediators in connecting external variables and the dependent variable in this study. Specifically, next to the indirect effect of attitudes on technology use via behavioral intentions, evidence for a direct effect could be obtained. Once again, this finding supports the relevance of attitudes toward technology for use behavior (Nistor & Heymann, 2010; Scherer, Tondeur, Siddiq, & Baran, 2018). Such effects were hypothesized and identified as follows:

H_{20a}. The relationship between perceived ease of use of e-Learning system and behavioral intention to use is positively mediated by Attitude towards use of e-Learning system.

H_{20b}. The relationship between perceived usefulness of e-Learning system and behavioral intention to use is positively mediated by Attitude towards use of e-Learning system.

H_{21a}. The relationship between perceived enjoyment and e-Learning utilization is positively mediated by behavioural intention to use e-Learning system

H_{21b}.The relationship between facilitating conditions and e-Learning utilization is positively mediated by behavioural intention to use e-Learning system

H_{21c}.The relationship between subjective norm and e-Learning utilization is positively mediated by behavioural intention to use e-Learning system

H_{21d}.The relationship between perceived usefulness of e-Learning system and e-Learning utilization is positively mediated by behavioral intention to use of e-Learning system.

H_{21e}.The relationship between attitude towards use and e-Learning utilization is positively mediated by behavioural intention to use e-Learning system.

1.7 The Significance of the Study

The underlying principle to this current research will help to address a suitable influence about the magnitude of factors that have a relationship with e-Learning utilization among lecturers in Northeastern Nigeria. A successful and competent e-Learning utilization is important for any sample organization (e.g., business, government, education, health, etc.) because it is used to help employees stay current in their field (Alshehri, et al., 2019; Allen & Seaman, 2013). In the educational field, researchers decided that e-Learning utilization by university lecturers is necessary for academia of the 21st century (Garrison, 2017; Allen et al., 2013). Similarly, educational leaders are lifelong learners and must stay current, they need to be proactive with new educational trends (e-Learning models, theories) and system utilization (Mouza, 2017).

Theoretically, this research will add to the wealth of literature by offering useful information on Nigeria's e-Learning growth and struggles, precisely in its institutional sector. Factual proof has indicated that out of the many e-Learning research in education, only a little have concentrated on how e-Learning are used in fields of education, especially - technology education in Nigerian context. Though, previous studies have reported more on the e-Learning studies that have to do with students, whereas lecturers were neglected. Even so, those studies were illustrative in nature. To occupy the space, this research will be derivable in nature, meaning it would go farther than just describing the problem, to making inferences and predictions about it. Therefore, it will be of enormous advantage to lecturers in Nigerian tertiary universities, especially those in technical and vocation education majoring in business education. By implication, this study will reveal useful information for inspiring lecturers in Nigerian tertiary education towards using e-Learning in facilitating their classroom instructing process and thereby reducing or eliminating the digital divide/gap that exists between them and their counterparts across the globe.

A strong adoption of e-Learning utilization will assist universities and companies to expand their understanding of academic organization (Abdullah et al., 2016). Those forms of studies will assist practitioners to discover factors that put away individuals

from integrating new technology with pedagogical factors (Abdullah and Ward, 2016). The styles and patterns of adoption will differ from one university lecturers and Schools policymakers to another. Certainly, accepting a brand new attitude in teaching may overcome the issues, which affect lecturers' acceptance in the utilization of new technology and innovation (Parasuraman & Colby, 2015). Because the findings of previous studies showed that, with the aid of TAM and TR, we can discover additional factors that influence e-Learning utilization (Godoe et al., 2012). Experiencing additional factors that have an impact on the use of innovation will enlarge the educational capabilities and understanding of lecturers.

This research offers a reliable theoretical knowledge of factors that are affecting the use of e-Learning by university lecturers. This research can also offer a systematic system for measuring a higher education lecturer's overall achievement and performance concerning the utilization of the technology. In reality, while university lecturers are aware of the factors that affect the acceptance of new technology, they have the good opportunity to instruct and guide their students on the e-Learning materials and adorn the best approach in their learning. The materials of this research is likely to assist academics to understand student coursework vigorously with the capability of the e-Learning from the lecturers' point of view. In this way, they could plan the tasks in this kind of manner as to regulate more with system capability.

As administrators are not conscious of lecturers' perspective of using technology, they may make an educated decision that are unfavorably influencing lecturers' job performance. The outcome of the current research will assist colleges and universities administrator and policymakers to study the factors that affect accepting or rejecting e-Learning by university lecturers, this will enable them to make wise choices in its integration and utilization. The results of the current research will also provide facts to help the technological support workforce emerge as privy of their service in students' perspectives. Therefore, the current study is significant to elevate the body of knowledge and to contribute to eliminating the gap in the literature regarding the study and estimation of factors that affects lecturers/instructors e-Learning system utilization in a non-mandatory environment. The findings of the current study could help stakeholders in academia by promoting research and subsequent links to Nigeria universities globally.

1.8 Assumption of the Study

This study made the following assumptions:

e-Learning integration in curriculum in Nigerian Educational system would enhance quality teaching and learning. Lecturers in sampled public both Federal and States universities were willing to participate in this study. e-Learning system utilization by lecturers could lead to increased e-Learning system utilization by their students. The basic e-Learning system infrastructures and equipment is available in the universities.

1.9 Limitations of the Study

The population set for this study is restricted to lecturers in selected Universities in Northeastern Nigeria. However, investigating e-Learning utilization among university lecturers is crucial to integrate it into the university learning contents. The participants of the present study were fulltime lecturers whose major, skills and experiences are likely differ from part-time lecturers. In the 21st Century e-Learning skills for both lecturers and students is necessary (Levy & Ramim, 2017). There are many types of e-Learning, but this study is limited to investigating factors influencing e-Learning system utilization in the public universities in Northeastern Nigeria. Consequently, there are many external influences that have effects on e-Learning utilization, For example, low computer skills, computer anxiety etc., while this research focus on investigative the impacts of six external variables (namely, technology readiness, technology self-efficacy, subjective norms, job relevance, perceived enjoyment and perceived ease of use, perceived usefulness, attitude towards use, and behavioural intention) on e-Learning utilization.

Another limitation is the fact that the predictive power of any user acceptance model is not one hundred percent efficient. The six external variables in the discussion are not the only constructs for e-Learning utilization as earlier narrated, but because of its limitations, it did not consider many external variables that could have effects on e-Learning utilization. For instance, moderators like experience, gender, age, culture, and environment were not considered in this study. Consequently, the reported discoveries depend on respondents' self-reports understanding. Another impediment to this study is that its approach will be restricted uniquely to lecturers in faculty of Education from universities of Northeastern Nigeria; thus, the overall of the results may be limited to that scope. Consequently, this finding is limited by time. Lastly, the current study adopted quantitative questionnaire the only instrument used in gathering the data in this study. The respondents may not always be willing to answer questions correctly. Thus, the responses may not consistently and accurately measure the study variables. It will be of interest if future studies to use four or seven Likert scale to carry out an in-depth investigation on e-Learning system utilization in Nigeria.

1.10 Definition of Terms

1.10.1 e-Learning

e-Learning is the teaching method that utilize ICT for delivery of teaching materials and collaboration between learners and lecturers in a virtual environment (Ibrahim, Leng, Yusoff, Samy, Masrom, & Rizman, 2017; Poonam, 2016), as the unique strategy of learning that combines technologies and specially designed learning materials. e-Learning as an innovative approach to deliver of formal or informal learning materials, electronically-mediated, well-designed, learner-centred and interactive learning environment to anyone, anytime and anyplace by utilizing the internet and digital technologies (Nwokike, 2010). While in Nigerian educational context e-Learning refer to a method of giving access to quality education and value

in educational open doors for the individuals who generally would have been denied and addressing exceptional issues of employees by on courses that will enhance productiveness at workplace using ICT facilities. This was aimed at energizing the internationalization particularly of tertiary educational plans where lecturers utilize and interaction knowledge sharing with students, using web journals, Audio, Chats, Bookmarking, Calendar, Ecommerce, E-mail, Games, e-Learning, correspondence, Forums, Mapping, Multimedia Wiki, Portals, really simple syndication (RSS), Mashups, Tags, and so on. In this study, e-Learning refers to a method of applying ICT to deliver learning materials to the learners in the learning environment (anytime and anyplace).

1.10.2 Subjective Norm (SN)

Subjective norm refer to the feelings of a person altered by individuals that are of high esteem to him/her (Davis, 1989; Venkatesh & Bala, 2008) that person can influenced his/her ways to acceptance to execute particular conduct (Compeau & Higgins, 1991). In this study, the extent to which lecturers perceive that they are expected to use e-Learning system in their teaching activities.

1.10.3 Technology Self-efficacy (TSE)

Technology self-efficacy (TSE) is regarded as the extent to which people have confidence in their effort to achieve some task/job using the technology-related tools (Nicholas-Omoregbe et. al., 2017; Compeau & Higgins, 1991; Venkatesh & Bala, 2008; Holden & Rada, 2011; Celik & yesilyurt, 2013; Lee & Lee, 2014). TSE also refers to "individual's judgments of their capabilities or skills to put in order to accomplish a goal (Kim, et. al., 2013). In this study, the degree at which lecturers have the ability to utilize technology for teaching. TSE refers to the lecturers' individual conducts in capacity to utilize technology provided by government is capable of encourage their teaching and achieve instructional goals. TSE also refers to the degree of belief on the ability of working with technology by lecturers for teaching and learning process.

1.10.4 Job Relevance (JR)

Job relevance is the way a person accepts the independent system applicable to his/her activity (Nicholas-Omoregbe et. al., 2017; Venkatesh & Davis, 2000). Job relevance refers to as the degree to which a persons' activity utilizes innovation and the degree to which the innovation is relevant and significant to be applicable to the activity accomplished his/her job (Kim, 2008). In this study, JR is the degree at which a lecturers believes that utilizing e-learning system is applicable to his/her job in the classroom and teaching activities.

1.10.5 Perceived Enjoyment (PE)

Perceived enjoyment is refers to the extent to which “the activity of using a specific system is seen to be enjoyable in its own form, without repercussion or consequences" (Venkatesh, 2000). PE refers to the level to which action of using an explicit framework is discerned as pleasurable in its own true form and that it is pleasant. It is the level to which the expression of using a specific system is agreeable, alongside any application of a system as a result of structure utilization (Venkatesh, 2000). It is considered as utilizing computer in ways that will bring in performance boost (Bagozzi et. al., 1992; Teo & Noyes, 2011). In this research, PE is the extent to which the university lecturers’ perceived that utilizing the e-Learning system is pleasant and enjoyable to his/her teaching job.

1.10.6 Facilitating Conditions (FC)

Facilitating conditions refers to the conditions that enables person’s to confidence and assure authoritative for an innovation’s credibility by long-term to help in the utilization of the system (Venkatesh et al., 2003; Dumpit & Fernandez, 2017). In addition, it refers to the target variables of the setting that people observe and agree to make an act easy to achieve (Higgins & Howell, 1991). Accordingly, it is referred to as the degree to which a user believes in the materials and conditions in his/her environment can be used to achieve the set objective innovation (Teo, 2011; Pynoo et al., 2011). In this research, FC refers to the extent to which lecturers' hope that teaching and learning situation controls his/her choice to use innovation and to a larger extent how much lecturers belief that they are supported with e-Learning hardware/apparatuses provided by their school administrators to encourage their classroom instruction capacities.

1.10.7 Perceived Usefulness (PU)

Perceived usefulness is describe as an personal trusts that utilizing innovation would improve activity performance and that it is useful to one’s job (Ibrahim et al., 2017; Davis, 1989) It can equally be referred to as a prospective user emotional likelihood that utilizing a particular specific framework will build up his or her activity implementation (Teo, 2011b). In this study, it is referred to how much lecturers' are convinced that by utilizing e-Learning system it will make their teaching work more useful and to what level will it build teaching activities in the classroom.

1.10.8 Perceived ease of use (PEU)

Perceived ease of use is refers to a degree at which computer system is used to perform a job without effort and its degree of being stress-free (Davis, 1989; Ibrahim et al., 2017; Teo, 2011b). PEU is how much the university lecturer has a trust that utilizing the e-Learning system for classroom teaching, will be simple and free from putting the excessive effort in teaching and learning process. In the context of this study,

perceived ease of use is defined as the degree to which lecturers believe that using e-Learning system for classroom instructions will be easy for them.

1.10.9 Attitude towards Use (ATT)

ATT refers to as a personal common feeling towards a new innovation particularly to a computer and internet-related activities (Ibrahim et al., 2017; Fishbein & Ajzen, 1975; Kutluca, 2010; Teo & Noyes, 2011). Attitude towards innovation is also how individuals accept and envision a new system, coupled with their conduct and reaction to such technology (Yilmaz & Alici, 2011). In this study, ATT is regarded as a lecturers' e-Learning point of view, i.e., the extent to which lecturers exhibit favorable or unfavourable dispositions toward utilization of e-Learning in facilitating classroom instructions and their perception towards the use of information communication technology in public higher institutions.

1.10.10 Behavioral Intention to Use (BI)

Behavioural intention refers to the perceived likelihood of performing behaviour or actions. BI is a persons' strong intention to achieve and understanding the skills to do his/her work or to use a system. (Ajzen, 1975; Ibrahim et al., 2017; Fishbein and Ajzen, 1985). The quality of a person's behavior, conduct and expectation of an individual's level of preparedness to utilize innovation is referred to as BI (Chu and Chen, 2016; Anderson et. al., 2011; Teo et. al., 2013). It is a behavioural goal that is utilized to obtain the motivational factors which influence a unique behavior (Davis, 1989). BI is how much university lecturers are likely to be committed and prepared to utilize the e-Learning framework for educating students. BI was distinguishing as the quality of an individual's expectation to perform certain behaviour (Kim, 2008). BI expectation has additionally been characterized as the level of a lecturers' readiness to utilize innovation (Teo, 2011). In this study BI is describe as how lecturers are determined and intent to utilize e-Learning system in a learning environment.

1.10.11 Technology Readiness (TR)

Technology Readiness is described as "individuals' tendency to accept new technology for achieving objectives" (Al-araibi et al., 2019; Parasuraman, 2000; Parasuraman & Colby, 2001b, 2007, 2015). Technology readiness consists of four dimensions, viz: optimism, innovativeness, discomfort and insecurity. Furthermore, the four factors that are relatively peculiar, means that a lecturer will acquire many integration of innovation-related behavior, in support for e-Learning utilization in teaching (Parasuraman & Colby, 2001, Henry et. al., 2016, Markel et. al., 2012, Adel 2016, Amita, 2015, Seher et. al, 2016 Issham, 2016). In this study, technology readiness refers to the tendency to which a lecturer can accept and embrace utilization of technology in his/her teaching activities in the classroom.

1.10.12 e-Learning Utilization (ELU)

e-Learning utilization is defined as the frequency of use (how often) and its volume (how much) with which an individual utilizes e-Learning system (Salloum et al., 2019; Baleghi-Zadeh et al., 2017; Khasawneh, 2015; Kim, 2008). e-Learning utilization has also been defined as the extent to which e-Learning are used daily and the frequency of such use in proportion to the amount of task performed, utilizing the e-Learning (Igbaria et al., 1995 wang et al., 2009). e-Learning utilization refers to the behaviour of utilizing innovation in final task, it measures the recurrence of utilization or the range of variety of uses by users (Maruping, Bala, Venkatesh & Brown, 2017; Wang, Hsu, Campbell, Coster & Longhurst, 2014; Davis, 1989). It is viewed as innovation used for features of transmitting information and communication system.

In the present study, e-Learning utilization refers to intent frequency and range of utilizing e-Learning system such as Computers, Audio, Chats, Bookmarking, E-mail, correspondence, Forums, Multimedia, Wiki, Portals, for teaching and learning process. It quantifies the engagement of series of strategy and specialized apparatuses of the scope of e-Learning system in universities situation. It estimated the frequencies of facilities use which were regular in the e-Learning system in higher education institutions by lecturers and the volume of the tasks they perform with these e-Learning for teaching purposes.

1.11 Summary

This chapter has endeavored to present the overall points of this study to the readers by focusing on the e-Learning system utilization condition in Nigeria Universities and has expressed the issues to be considered. It has similarly stated the problems and the rationale behind this study as well as the aims and hypotheses to be ascertained during the study. The investigative theories that will direct this study were mentioned. The study will explore the theories in the proceeding chapter with the view of finding solutions to the problems identified.

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Predicting Factors of e-Learning Utilization among Lecturers in the Universities in the North-eastern Nigeria in *International Journal of Multidisciplinary Research and Development. Online ISSN: 2349-4182, Print ISSN: 2349-5979; Impact Factor: RJIF 5.72*

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