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FACTORS INFLUENCING STUDENTS' ADOPTION OF E- LEARNING AT POST COVID-19 ERA IN NIGERIA

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Abstract: The outbreak of covid-19 certainly increased the engagement in online services worldwide, Nigeria inclusive. Certain restrictions against personal contact, public gathering, travelling, long working hours, and crowding were well observed during covid-19. The restriction order brought about the closure of many organizations including universities. As a way of survival, many organizations including higher institutions of learning engaged in online services. This invariably resulted to saving of time, customized services and cost effectiveness among other things. As if the online service practice would decline at the post covid-19 reverse was the case as many higher institutions of learning continued to engage in e-learning. This study therefore interrogates whether less time investment, customized services, cost effectiveness and accessibility that are inherent in e-learning, respectively, resulted to the continuous and increase adoption of e-learning at post covid 19 era. The study respondents comprised students of National Open University of Nigeria (NOUN) Asaba Study Center and ESUT Business School Enugu Nigeria. After the analysis of the data collected from the respondents and test of the hypotheses using regression analysis, it was discovered that less time investment, cost effectiveness, customized learning and service accessibility respectively has positive relationship with the adoption of e-learning at post covid 19 era. It was concluded that e-learning consumes lees time, leads to customize services, is cost effective and also accessible. It was thus recommended that higher institutions of learning in Nigeria should improve their e services, especially through the deployment of qualified personnel and the use of appropriate technologies so as to save more time, money, health, serve the customers better and be easily accessed.

Key words: e-learning, less time, customized services, cost effectiveness, accessibility healthiness, personnel, technologies.

INTRODUCTION

Physical contact has been the early and popular mode of learning world-over. However, with the trends in civilization occasioned by the improvement or advance in science and technology, a good number of institutions

now engage in e-learning or online learning. E-learning started in 1960 by Donald Bitzer, a laboratory assistant in the university of Illionis. The first e-learning system he created was called the Plato. E-learning is a form of studying utilizing electronic technologies to access educational curriculum outside of the normal face to face classroom. It is a sying visual effects to students accessing academic materials online and teaching delivered entirely with the use of computer (Abdodein, 2015)

It is inferred that e-learning when compared with traditional learning, significantly reduces the time required to collect information. Humayun Kabir et al (2022) stated that the covid 19 pandemic jeopardized the traditional academic learning calendars due to closing of all educational institutions across the globe. Universities globally has embraced digital learning in order to sustain the academic activities (Stephen et al, 2021).

E-learning according to Hedge and Hayward (2004) is an innovative approach for delivering electronically mediated and well-designed learner centered and interactive learning environments to anyone, any place anytime through the aid of the internet and digital technologies in connection with instructional design principles. The e-learning program is more popular in developed countries than the developing nations largely due to the advanced in technology in developed countries.

In Nigeria, the emergence of COVI-19 witnessed floud in to e-learning programs by all levels of education. As viewed by Dagogo (2021) the reason for integrating diverse technologies into learning and teaching and learning process is to create more rooms for remote learning, which is among the focus of education 4.0

The Covid-19 pandemic witnessed the close down of all forms of business essentially associated with gathering of people. Education at all levels were closed. However, as the pandemic lingered, online transaction started gaining ground. As stated by Mohammad (2020) e-learning was the best solution for continuing education during the pandemic especially as it concerns tertiary education.

Customized learning is among the driving forces to engage in online learning. However, among the advantages of online learning according to Priyanka (2020) are; accessibility save of time, place and affordability.

The COVID-19 pandemic opened the floodgates for e-learning in Nigeria which was expected to decline at the post COVID-10 era but reverse was the case as the interest and participation in e-learning is increasing rapidly even at the post COVID-19 era. It is against this backdrop that this study sought to:

1. Establish whether less time investment significantly determine students' adoption of e-learning.
2. Ascertain if cost effectiveness is a significant driving force for e-learning adoption
3. To discover whether customized learning experience provided by e-learning significantly determines students adoption of e-learning.
4. To find out whether accessibility significantly determines students' adoption of e-learning

The hypotheses to guide the study were formulated in line with the above stated objectives.

REVIEW OF RELATED LITERATURE

Conceptual Review

E-LEARNING

E-learning encompasses ICT on websites personal computer, portable PCS, mobile phones, learning management system (LMS) radio as well as other forms enhancing teaching and learning. (ElenaYu, 2021) According to Oye et al (2010) E-learning is equally a form of unifying term used to describe the areas of the Network and the technology direct cline. Holley (2012) observed that students from Universities who typically engage digitally or in electronics hit much higher levels than students who investigate conventional approaches. Elenayi (2021) opined that electronic learning is currently becoming a significant priority of education as advances are taking

place in educational technologies, which are among the reasons many higher education entities are already introducing e-earning Holley (2012) contended that e-learning is a technology, organization and government-based framework that enable students to study through the web and to learn easily. Students trained in multimedia techniques gained and recollected more than students trained in the conventional techniques (Lorrin, 2010) Zameni and Kardan (2011) pointed out that e-learning is the application of interactive education platforms like machines, the internet, multimedia disks, electrical papers simulated newscasts for the purposes of minimizing time and costs to develop, speed up, and equally promote learning.

ElenaYu et al (2021) averred that the advert of modern teaching and learning theories has changed the curriculum from teaching to student oriented. Student oriented in the context of the study can be described as the form of teaching that conform with the student wish. Cappel and Hayen (2004) stated that the integration of e-learning has greatly expanded and improved the way of teaching and learning in higher education. In the views of Zaid (2009) e-learning is a term for all types of technology enhanced learning where technology is used to supports the learning process. E-learning can be facilitated by the use of the internet or other type of communication technologies. Falch, (2004) Arthur Nyarko and Karuki (2019) argued that a proven literature shows that learners preference are critical to effective engagement in flexible delivery and resource based learning.

Best colleges (2015) maintained that students demographic and preferences have helped streamline the option available, particularly those that use digital learning formats on online platforms. Arthur-Nyarko (2019) contended, that such factors as social interaction, academic skills, technical skills, learner motivation, time and support for studies cost and access to the internet, as well as technical problems have been identified as part of the key factors that represent barriers in online learning uptake.

Dhawan (2020) stated that most educational institutions in Nigeria are currently based only on traditional methods of learning including schools, colleges and Universities. Further, he observed that some academic units have introduced the use of technology to facilitate academic activities and revamp old procedures. The face of educational sector in Nigeria is changing gradually as evidenced in the obvious progress of the National open University of Nigeria (NOUN), a distance learning institution whose course delivery is digitally facilitated through a combination of web-based modules, textual materials audio and video tapes and as well as CD-Roms (Ikemenjima; 2005).

Noesgaard et.al, (2015) stated that e-learning is a learning process facilitated by the use of information and communication technology.

X-raying the benefits accuring from e-learning, Young and Norgard (2006) contended that the benefits associated with the use of a web-based learning environments to the learner include convenience

and flexibility. In the views of Kallou, A1-Lozi and Alrowwad (2016) the efficiency of e-learning is significance depending on the extent students are inclined to adopt and accept technology in the learning process.

However, as opined by Kim and More (2005) the adoption of e-learning amongst students is not strictly dependent on the adoption of technology rather on a myriad of factors that play an important role in the way technology is implemented and used.

E-Learning and Time Saving

Steve (2010) argued that online courses can provide great time saving if used appropriately, though e-learning does not suit everyone's learning style. Objectives can be achieved in the shortest time with least efforts through e-learning (AL Rawashdeh, A.Z et al [2021). The classroom or face to face learning method, attracts a lot of

procedure and arrangements which definitely. Consuming time: In the words of Georgi (2017) e-learning is unlike classroom learning requiring a specific place to be and at a specific time.

The online requires one to set aside some time to study and as well go through the lessons, Adding to the time saving of online learning studies show that students have an opportunity to learn at any convenient time using different technologies, such as desktop tablet instead of sitting for long hours in the classroom. Rosenberg and Brandon (2001) indicated that e-learning reduces time usage by at least 25 to 60 percent when compared to traditional learning.

E-Learning and Cost Effectiveness

Engaging in online classes save money, essentially as it is devoid of physical classroom, space, textbooks among others.

Meenaksh and Vasantha (2018) observed that prior reviews indicated that e-learning can result in significant cost saving when compared to traditional instructor-based learning. Financial feasibility of online is explained by the availability of free technology. Studies reveal that economic burden generated in seeking traditional learning is relieved by the e-learning system.

Lawrence (2012) aver that in a recent study, out of University of Taras, shows that University can gain operating saving of as much as 50% when engaged on online program. Jeffrey (2018) contended that many college leaders looked to online course delivery as a way to reach more students at a reduced cost.

E-Learning and Course Customization

Customized learning is the personalization and a range of educational strategies intended to address the distinct learning needs of individual.

Marina (2015) stated that personalization is required to make a product or service more endearing to the largest audience, and this is especially true for learning. Personalized e-learning encompasses the ability to customize such aspects as:

a. Content to be delivered as part of learning experience
b. How the content should be delivered
c. Sequence of its delivery
d. How students will be evaluated
e. What feedback mechanism will be offered.

It is learner centric. Aurora (2023) view that it has become clear that one-size fits-all training, doesn't suit every learner therefore organisations are increasingly leveraging on technology that allows them to tailor instruction as well action to individual learners ability needs and interest. It has been observed that implementing the right technology is among the challenges facing personalization. Personalized training however can boost learner engagement and motivation level. It can optimize learning outcome and ensure that each learner is engaged and as well challenged at their appropriate level in each case.a

Accessibility as a driving force for e-learning

Describing accessibility as a factor promoting e-learning, Susan (2015) stated that access limited by the location of student, life circumstances that cannot be changed, or responsibilities that cannot be ignored, no longer act as banners to higher education. It was inferred by Whtaker, (2007) and Appana (2008) that intuitional factors necessary to successful launch and maintain e-learning programs are documented elsewhere. Studies show that information communication technology now available to a large number of rural students has increased the higher education opportunities for these students, but that E-learning for rural students is facing challenges by a number

of barriers. Adam (2023) reported that students are becoming more intentional about the comfort level being provided by online learning. Accessibility to higher education is highly enhanced through online learning.

Theoretical Framework

Two theories were developed to guide this study viz:

- Technological Acceptance Model (TAM)
- Theory of Reason Action (TRA)

Technological Acceptance Model (TAM)

Technology acceptance model was developed by Davis in 1989. It focuses on how users come to accept and use a technology

Thus, stipulates that when users perceive that a type of technology is useful and easy to use they will be interested to use it. E-learning as technology based to be effective, requires the provision and easy to use technologies. The technologies and method of uses are expected to be users friendly.

Theory of Reasoned Action (TRA)

Theory of reasoned action was developed by Fisbin and Ajzen in 1975

The theory is used to predict how individuals will behave based on their pre-existing attitudes and behaviourial intentions.

It is used to explain that one's action is basically on the likely reward but where otherwise, one will not attempt to engage in such behavior. Considering the study and its objectives, the study is therefore anchored on theory of reasoned action. Both the operators and those that adopt e-learning, do so because of inherent benefits.

Extant literature on the preference for e-learning especially in developing countries like Nigeria is sparse, thus this study intend to fill the gap by establishing the driving forces for the adoption of the e-learning program.

Methodology

Research Design

Survey method was adopted for the study. This was adjudged suitable for obtaining data directly from the respondents.

The study was conducted in Asaba Delta state and Enugu, Enugu State where the two institutions; National Open University of Nigeria (NOUN) Asaba Study Centre and ESUT Business School, Enugu are situated.

Population of the Study

The study population comprised of the students of both the National Open University of Nigeria (NOUN) Asaba Study Center and Enugu State University of Science and Technology (ESUT) Business school both of which are currently engaged in online learning.

Sample Size/Sampling Method

The study sample size is made up of 300 students of 18 years and above conveniently selected from NOUN Asaba Study Center and ESUT business school. However, proportional stratified random sampling was applied to achieve this, 130 and 180 respondents were selected from NOUN, Asaba study center and ESUT business school respectively.

Research Instrument

Questionnaire was the research instrument designed to elicit relevant information from the respondents

The instrument was validated through content validity whereas the reliability of the research instrument was achieved through test-retest approach which yielded combach alpha coefficient value of 0.8.0 considered to be adequate for the study.

DATA PRESENTATION AND ANALYSIS

Although a total of 300 respondents were issued with the questionnaire, only 270 were correctly returned and used for the study. Below provides necessary information relating to the analysis of data for the study.

Table 4.1 Respondents Demographic Variables

Gender	Frequency	Percentage (%)
Male	104	38.5
Female	166	61.5
Total	**270**	**100.0**
Age		
18 – 30 years	215	79.7
31 – 45 years	30	11.0
46 years and above	25	9.3
Total	**270**	**100.00**
Academic Qualification		
M.Sc/MBA	25	9.3
B.Sc/HND	133	49.3
NCE/OND	82	30.4
WAEC/NECO	30	11.0
Total	**270**	**100.0**

Source: Survey Data 2024

Table y4.1 above shows that 38.5% of males and 61.5% of females participated in the study. 79.7% of the participants were aged 18-30 years. 11% were aged 31-45 years whereas 9.3% were aged 46 years and above. More participants had basic degree certificates as 9.3% held MSc. MBA 49.3% held B.Sc/HND; 30.4% held NCE/OND; while 11.1% held WAEC/NECO. These indicate that participants were adults, knowledgeable and that they had the capacity to participate in the survey.

Table 4.2 Responses to the Determinants of Preference for Online Learning

Question Item	Response Options						
	SA (%)	**A (%)**	**U (%)**	**D (%)**	**SD (%)**	**M (%)**	**SD (%)**
Time saving attracts the adoption of online learning	66 24.4%	50 (18.5)	61 (22.6)	45 (16.7)	48 (17.8)	3.15	1.42309
Cost effectiveness is the driving force for my choice for e-learning	30 11.1	48 (17.8)	67 (24.8)	73 (27.0)	52 (19.3)	2.74	1.26633
Customized services attracted me to online learning	88 32.6%	55 (20.4)	60 (22.2)	28 (10.4)	39 (14.4)	3.46	1.40780

Accessibility is among the factors that lead to my adoption of online learning	70 26%	46 17%	61 23%	65 (24)	28 (10.)	3.27	1.33478

Source: Survey Data, 2024

Table 4.2 shows that 116 (42.9%) respondents maintained that time saving attracted them online learning 61 (22.6%) respondents either maintained or did not support that time saving altercated them to online learning 93 (34.5%) respondents disagreed that time saving was not their main reason for preferring online learning. The mean response was 3.15 while the standard deviation was 1.42309. This explains that majority of respondents maintained that time saving was the major determinants for the preference of online learning. It was indicated that 78. (28.9%) respondents believed that cost effectiveness is the main reason for their choosing online learning, 67 (24.8%) respondents were neutral whereas 125 (46.3%) respondents did not agree that cost effectiveness has a driving force for preference for the online learning. The mean responses of 2.74 and a standard deviation of 1.26633 imply that greater number of respondents agreed that cost effectiveness was responsible for the preference for online learning.

143 (53%) respondents indicated that customized services tenable in on line learning mostly abstract their interest. 60 (22.2%) respondents were natural, respondents did not consider customized services as propeller for their preference for online learning. The mean response of 3.46 and a standard deviation of 1.40780 suggest that majority of respondents are of the view that customized service inherent in the online learning greatly influence their preference for online learning. In another development 122 (45.2%) respondents contended that accessibility is the reason behind the preferring online learning remained neutral. Whereas 89 (33%) respondents did not believe that accessibility accounted for their choice for online learning. The mean response of 3.27 and a standard deviation of 1.33478 entail that greater number of respondents accepted that accessibility is responsible for their preferring online learning.

Test of the study Hypotheses

The hypotheses formulated for the study were tested in this section. The hypotheses one and four were tested using Pearson product-moment correlation analysis. On the other hand, hypotheses two and three were tested using simple linear regression.

Hypothesis one

$H0_i$: There is no significant relationship between time saving and the adoption of online learning

Tale 4.3: The Relationship between time saving and Online Learning.

Correlation			
		Medical Support Programme	Mobile Network Image
Time saving	Pearson Correlation	1	769**
Online learning	Sig. (2-tailed)		
	N	270	000
	Pearson Correlation	769**	270
	Sig. (2-tailed)	000	1
	N	270	270

** Correlation is significant at the 0.01 level (2-tailed)

Source: survey Data, 2024

The relationship between time saving and online learning positive and statistically significant (=r= 0.769.p<0.01) we therefore conclude that time saving is greatly responsible for the adoption of online learning

Hypothesis Two

Cost effectiveness does not significantly influence preference for online learning

Table 4.4: The Extent to which cost effectiveness programme influence preference for online learning

Variable	Beta	T value	R Square	F value	Sig
(Constant)		-3.284			.001
Cost effectiveness	.835	24.844	.697	617.224	.000

Dependent Variable: Online learning

Source: Survey, Data, 2024.

The result established cost effectiveness significantly influenced preference for online learning (Beta = 0.84, t= 24.84, r^2, F = 617.224, p<.001. Based on this, we state that cost effectiveness significantly determine the adoption of online learning.

Hypothesis Three

Ho_3: Customization has no significant influence on the preference for online learning.

Table 4.5: The Extent to which customization Influence preference for online learning.

Variable	Beta	T value	R Square	F value	Sig
(Constant)		.054			.957
Cost effectiveness	.853	26.811	.728	718.803	.000

Dependent Variable: Online learning

Source: Data, 2024

The result indicated a positive, statistical relationship between service customization and preference for online learning (Beta = 0.085, t = 26.81, r^2 = .728, F = 718.803, p<.001).

As a result, we concluded that there is a significant relationship between service customization and adoption of online learning.

Hypothesis Four

Ho_4: Accessibility does not significantly determine the adoption of online learning

Summary of Findings

- Less time investment significantly influences the adoption of online learning r= 0.769, p <0.01
- Cost effectiveness significantly determine students' adoption of e-learning p.<.001
- Service customization significantly determine students' adoption of e-learning p <.001
- Accessibility significantly accounts for the student's adoption of online learning p <0.01

Conclusion and Recommendations

E-learning takes less time investment, is cost effective, operate customized learning and accessible which greatly promote the adoption by students.

It is thus recommended that, institutions of higher learning should improve their learning programme or services as it relates to time saving/cost, customization and accessibility. Mostly achievable through the deployment of qualified personnel and necessary technologies.

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