The Adoption of Mobile Technology for Learning in Public Universities in Ogun State, Nigeria

Adegboyega S. Oyewole [1], Anu K. Toriola [2], Adekunle A. Adebayo [3], Sururat O. Shabi [4], Iyoho O. Edith [5]

[1] Michael Otedola College of Primary Education, Nigeria

[2] Hallmark University, Nigeria

[3] Michael Otedola College of Primary Education, Nigeria

[3] Michael Otedola College of Primary Education, Nigeria

[3] Nigeria Institute of Social and Economic Research, Ibadan, Nigeria

Corresponding Author: Adegboyega S. Oyewole   E-mail; oyewoleas@mocped.edu.ng

ABSTRACT

This study examines the characteristics that influence undergraduate students in public universities in Ogun State to use mobile learning technologies. Based on primary data collected using self-designed questionnaire, the study explored the effect of undergraduate students' perceived satisfaction, perceived ease of use, and perceived accessibility on the use of mobile devices in the classroom, as well as whether there is any difference in undergraduate students' perceptions of the usefulness of mobile technology for learning based on sex and age. Data from a random sample of 400 students from two public colleges in Ogun State was analyzed using the regression Analysis of Variance (ANOVA) technique. Undergraduate students' evaluations of satisfaction, ease of use, and accessibility have been found to have a direct impact on the usage of mobile technology for learning in public universities. Furthermore, it was discovered that, while age and gender have no significant joint and independent influence on the use of mobile technology for learning in public universities, undergraduate students' perceptions of accessibility, satisfaction, and ease of use have a positive significant joint and independent influence. The study discovered that undergraduate students' evaluations of satisfaction, ease of use, and accessibility encourage them to adopt mobile technology for studying in public universities in Ogun State. Undergraduates should be encouraged by obtaining, providing, or funding mobile learning technologies, according to the study. A section for M-learning applications should also be created to provide students with a visual and auditory tutorial.

Keywords: *Mobile Technology, Public Universities, Undergraduate Students*

INTRODUCTION

The primary purpose of any educational institution is to teach so that students can learn. This suggests that how well students learn is determined by the efficacy of the teaching experience. As a result, if teaching is unsuccessful, then learning will be as well.

Meanwhile, the best option for learning is to have good teachers who can facilitate effective learning. Learning is also performed through the use of a variety of sensory organs. In order for instruction to be effective and create the desired attitudinal change, students must understand what is being taught, and e-learning technologies are critical for this. Computer and communication technology advancements have opened up a host of new learning opportunities. New communication opportunities have emerged as a result of the widespread availability of mobile and wireless devices. Kim, Rueckert, Dong-Joong, and Seo (2013) stated that technological improvements have enabled educators to provide instructional messages in more flexible ways.

Mobile learning, also referred to as m-learning or m-education, is the practice of using mobile or wireless devices to learn while on the go. Using modern technology such as mobile computers, Pocket PCs, Apple iPhones, Android phones, and tablets, instructors and students can communicate by voice, image, and text. Furthermore, unlike traditional learning settings, mobile technology can connect pedagogically designed learning contexts, promote learners' generated contexts and content (both personal and collaborative), and provide personalisation and pervasive social connection. Because portable mobile devices are used in teaching, learning, and training, learners and trainees can access learning materials at any time and from any location, and instructors and trainers can quickly offer homework exercises to learners and trainees without interruption.

Mobile learning systems have the following characteristics: portability, compact size, interaction, and ubiquity. All of these features add to the importance of these devices (Sönmez, Göçmez, Uygun, & Ataizi, 2018). Because of their ease of use, mobility, and relatively low acquisition cost, mobile technologies are good aids for learners in general. Davis (1989) established the Technology Acceptance Model (TAM), a theoretical model that depicts how individuals accept/adopt and use new technology. When someone is first exposed to new technology, he claims that a variety of factors determine how and when they can use it. This refers to both its perceived utility and its perceived simplicity of use. These attitudes toward device acceptance are predicted by these ideas. As a result of the mindset, the intentions to use expand, and the intentions lead to actual device usage. With the effect of pre-existing external variables, TAM assumes that perceived usefulness (the degree to which an individual believes that using a particular system will improve his or her performance) and perceived ease of use (the degree to which an individual believes that using a particular device will be stress-free) are the main influencing factors.

M-learning is not intended to replace or augment traditional classroom or other learning techniques; rather, it is intended to complement and enhance them. It might be designed to accept modern classroom learning technologies as well as distance learning and e-learning, allowing lectures to be delivered to people all over the world from far away. To move m-learning gadgets into the mainstream of educational equipment, three tactics are used. Support, training, and assessment can all be done with an M-learning device. A mobile device can be used as a tool for communication between students and teachers, as well as a file sharing mechanism, a conversation medium, and a search engine

for information. Instructors can use mobile devices to distribute e-books, educational information, and other learning materials to students as an instructional tool. Learners, for example, can use mobile devices to complete their educational tasks. M-learning devices can also be used as an evaluation tool to assess students' learning activities. Above all, m-learning devices may be used to make ICT programs, particularly in game programming, more accessible.

Although mobile learning supports flexibility as a new educational strategy, students do not need to be a specific age, gender, or member of a specific group or area to participate in learning opportunities. The constraints of time, space, and location have all been abolished. Mobile learning expands educational opportunities. Students' views and behavior toward academic engagement are affected by their possession of a mobile phone on social, economic, psychological, and educational levels. Mobile devices and educational apps, in whatever manner they are used, do not "complicate the learning process, but rather promote mobile learners' learning". The problem is that some mobile educational applications are difficult to use, causing students to have negative experiences with the tools. Children can easily become distracted when multitasking on computers, and their use of technology can potentially disrupt other students.

Mobile phones have been instrumental in the rapid spread of telecoms connection in Nigeria. It has become a significant part of the daily life of the general public and college/university students. Mobile phones have proven to be an excellent tool of spreading information since their introduction in the late 1990s in Nigeria and most developing countries. Its advent in the country, together with the availability of internet services, has resulted in a massive and diverse collection of information. However, it has unintentionally inhibited students' commitment to serious academic work, having a negative impact on their cognitive processes, communication, and linguistic ability. It has a negative impact on the conscious efforts required for effective teaching and learning because its use has become routine among students. Students who are not separated from their phones during exams use them to answer examination difficulties by typing the problem into the web and carelessly pasting the result onto response papers. As a result, inattention, disruption, and distraction are some of the hurdles to successful learning that mobile phone ownership presents. These difficulties are linked to the use of mobile phones during lecture hours, which cause noise and distraction.

Nigeria's university system has expanded at a breakneck pace. The desire to increase access to higher education is the motivation for this growth. As part of this initiative, the Nigerian government established the National Open University of Nigeria for distance education. Policies have also been put in place to take advantage of the potential of new technology in terms of increasing access to higher education. The majority of previous studies in Nigeria on the perceived usefulness of mobile technologies for learning focused on students' and teachers' perceptions and attitudes toward using mobile technology for teaching and learning, indicating that none of these studies that the researchers were aware of focused on individual and technological determinants of mobile technology use. Few studies have been done in Nigerian colleges to investigate if putting lecture notes and

slides on mobile devices helps students study and if m-learning has a real impact on students' academic achievement. As a result, any investigation into the impact of mobile learning on learning perspectives in a developing country such as Nigeria must be regarded carefully.

The overarching objective of this study is to investigate the factors that influence undergraduate students in Ogun State's public universities' use of mobile technology for learning. The investigation will focus on the following specific objectives:

a. The impact of undergraduate students' reported satisfaction on the use of mobile technology for learning in Ogun State; and ii.

b. Examine the impact of undergraduate students' perceptions of ease of use on their use of mobile technology for learning in Ogun State.

c. investigate the impact of undergraduate students' perceptions of accessibility on their use of mobile technology for learning in Ogun State.

d. Determine whether there are any gender or age differences in undergraduate students' perceptions of the effectiveness of mobile technology for learning.

This research will inform educational stakeholders about undergraduate students' opinions of mobile technology adoption and use in the classroom, helping them to assess whether more formal mobile learning initiatives at the university level are required. The results of the study could help the university figure out how to best incorporate mobile learning approaches into teaching and learning. The study will also contribute to a better understanding of how mobile technology is used in university classrooms and how it changes the traditional student-teacher interaction. It will teach university administrators how to address deteriorating educational standards by advising them on how to make effective use of existing m-learning tools and technologies to improve pedagogy at the university. This study will look at undergraduate students at Olabisi Onabanjo University and the Federal University of Agriculture, Abeokuta, from the state's two public universities to see how they feel about utilizing mobile devices for learning.

Davis established the Technology Acceptance Model (TAM) in 1989, which is a theoretical model that describes how humans accept/adopt and use technology. The concept indicates that when a consumer is provided with new technology, a number of factors influence how and when they use it. This refers to the perceived utility as well as the perceived simplicity of usage. The model is based on the theory of reasoned action developed by social psychologists, and it follows a well-established causal chain of "beliefs, mood, intention, and actual behavior." Davis' study concentrates on two main constructs: perceived utility and perceived ease of use. These attitudes toward device acceptance are predicted by these ideas. The mindset leads to intentions to use the system, which then leads to actual system use. TAM assumes that perceived usefulness (the degree to which a person believes that using a particular system will improve his or her performance) and perceived ease of use (the degree to which a person believes that using a particular system will be painless) are the primary determinants of new technology adoption, despite the influence of pre-existing external variables. The perceived ease of use effects the consumer's attitude toward using the system, which influences behavioral

intention to use the system and actual use of the system (Davis, Bagozzi and Warshaw, 2002)
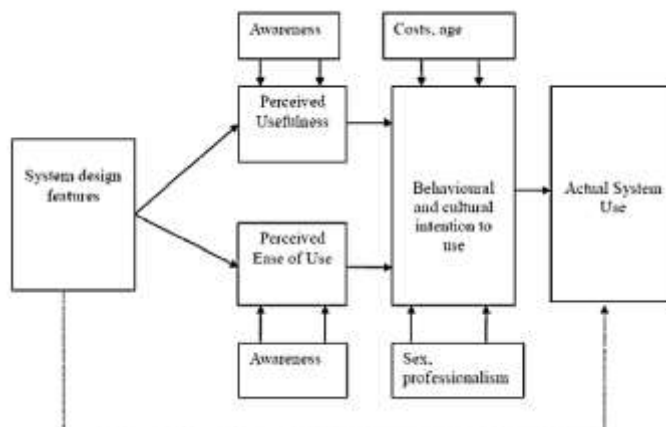

Fig.1: The modified Technology Acceptance Model

TAM is frequently used in modern technology research, and it has been shown to aid in the forecast of individual technology usage (Fishbein and Ajzen, 1975). In contrast, the TAM ignores the effect and personal control components of activities, as well as economic concerns and external influences from producers, consumers, and competitors. The components that impact an individual's decision to implement and use new technology to achieve a personal or group objective are discussed in this theory, which is pertinent to this subject. Perceived usefulness and perceived ease of use are two of these criteria, according to the theory. As a result, a new technology's perceived value and ease of use, as well as the impact of pre-existing external variables, will determine its acceptability (e.g., knowledge, prices, age, etc.).

Rogers' (2003) Innovation Diffusion Theory provided a framework for understanding the concept of innovation diffusion. Diffusion, he claims, is the process by which an invention is passed down to members of a social system through time through specific paths. Rogers believes that diffusion is made up of four basic components: creativity, time, communication networks, and social structures. The definitions for these elements are as follows: Time, which is defined as the rate of acceptance of the innovation over time; Communication channel, which is defined as how the innovation is introduced or marketed to an individual; and social system, which is defined as the elements that make up the social system (such as individuals, groups, and organizations). These four characteristics all have an impact on technology acceptance, and they serve as the foundation for our research on mobile technology adoption in education.

This idea is important to this study since it describes the medium through which creativity is disseminated or conveyed. According to the paradigm, innovation must pass via four primary dissemination factors: invention, time, communication networks, and social processes. These four characteristics all have an impact on technology acceptance, and they serve as the foundation for our research on mobile technology adoption in education. Teachers will be critical in teaching this method to their students and demonstrating how it may be utilized in the classroom to foster learning creativity. The

instructor, on the other hand, can use mobile apps to persuade other teachers. More people may use the technology as a result of observations like these. Furthermore, the user's previous positive or bad experiences with new educational tools will influence their adoption of mobile technology.

According to most textbook definitions, learning is described as a change in behavior brought about by experience. Learning is defined as functional and mechanical changes in behavior that occur as a result of experience. It's a long-term shift in thinking patterns. According to Lachman, learning is a system that underpins actions. Learning, he claims, should not be confused with the process's end result, which is a change in behavior. The emergence, widespread use, and application of information communication technologies gave rise to the notion of mobile technology. The term "information and communication technologies" encompasses technology transfer, storage, disclosure, and sharing, as well as information access. These innovations include radio, television, film, DVD, phone (fixed and mobile), satellite networks, computer and network equipment and software, as well as the equipment and services provided (such as video-conferencing and electronic mail).

Any mobile technology with multiple functions and capacities, particularly the ability to connect to the Internet. Handheld information technology devices or objects include hardware (devices), software (interface and applications), and networking (network services) (Pamela, 2011). Traxler (2007) divided mobile learning into three categories: devices and technology, learners' mobility and learning mobility, and learners' experience using mobile devices for learning. What constitutes mobile learning technology, according to, is a point of contention. M-learning entails connecting mobile devices to university systems such as virtual learning environments (VLEs) and management information systems (MIS) for downloading, uploading, and online working, as well as linking to university systems such as virtual learning environments (VLEs) and management information systems (MIS) using wireless networks, mobile/smart phone networks, or both [40]. The supply of educational materials and learning content via mobile devices is known as mobile learning. It refers to the delivery of educational resources and content via mobile devices.

In previous studies Maha and Heba (2015) investigate how students' reported efficiency, contentment, and conduct are influenced by behavioral features and the perceived utility of the mobile app "Say Quran" for studying the Quran. A group of 118 Al Imam pupils Muhammed Bin Saud (Muhammed Bin Saud) is a Saudi the Computer Sciences and Information Systems College at Islamic University was told to use the software to help them learn the Quran, and then a survey was sent out to collect the information. According to the findings, the mobile app "Say Quran" has a positive impact on students' perceptions of success, happiness, and activity while learning the Holy Quran. Mosiforeba and Olaniyi investigated undergraduate perspectives of the use of mobile technology for learning (2014). 182 undergraduates from three universities in Kwara State were chosen at random as respondents. Percentages, means, standard deviation, and t-test statistics were used to examine data acquired via a researcher-designed questionnaire. The

findings found that, among other things, there was no substantial gender gap in undergraduates' perceptions of the use of mobile technologies for learning. Undergraduates could be helped by education stakeholders purchasing, giving, or funding mobile learning solutions.

To synthesize study results in the literature, Sönmez, conducted a literature review. The study's data was compiled from research published between 2013 and 2017. During that time period, the study looked at 11 scientific works published in eight prominent peer-reviewed academic journals. These studies' goals, methodologies, and findings were all clarified. Seyal, Noah, Ramlie, and Rahman used a standard questionnaire to gather students' responses to the three fundamental parts of the technology acceptance model (TAM), namely perceived usefulness (PU), perceived ease of use (PEOU), and attitude (2015). As a result, the study is notable since it aimed to find similar research patterns in mobile learning. After that, the data was analyzed with Smart-PLS to examine if PU is still a good predictor of behavioral intention to use m-learning technologies. This model has a modest predictive power, with student attitudes accounting for 38% of the variance in behavioral intention. Several educational instructions have been produced for the appropriate authorities based on the findings.

Olaitan and Olusegun (2017) look into the views of Nigerian college students on cell phone use. Six hundred and forty students from the University of Ibadan in Oyo State and the Federal Polytechnic in Ilaro in Ogun State were chosen at random for the study. It was discovered that college students' academic specialty, as well as their physical location, had no impact on how they viewed and used their cellphones. Students' cell phone usage was also found to be influenced by their gender. In addition, no correlation was found between their cell phone usage and their academic performance. Shaibu, Mike, Oyelere, and Jarkko (2016) investigate the impact of mobile devices on learning by looking at how students in Nigerian institutions connect with their mobile devices. A total of 240 students from higher education completed a questionnaire provided by the researchers as part of the study. Students use their mobile devices to send educational messages and academic files with classmates, browse the internet and library databases for academic resources, practice online quizzes or tests, and have chats with classmates, among other things, according to the report's results [44]. According to statistical research, there is no substantial difference in how male and female students use mobile devices. E-learning, according to Maryam, Abubakar, and Musa (2015), is "learning that is assisted and supported via the use of information and communication technology" [45]. The survey includes 200 academics from the Federal College of Education in Zaria. Although some e-learning tools are available in college, most academics are unsure of how to use them for teaching and learning, and just a few academics use them for teaching; they are mostly used for pleasure [46].

RESEARCH METHODOLOGY

This project was conducted in form of a survey to examine how university students feel about using mobile technologies for learning. This research approach was chosen

since it does not require any experimental manipulation. All the students of Olabisi Onabanjo University Ago-Iwoye and Federal University of Agriculture, Abeokuta, two public universities in Ogun State, Southwest Nigeria make up the population.

A total of 400 students from the two universities make up the study's sample. Using a simple random sample technique, forty (40) students from each of the University's five faculties were randomly picked from the entire 400 level student. There are five faculties at Federal University of Agriculture, Abeokuta: Faculty of Arts, Faculty of Science, Faculty of Education, Faculty of Law, and Faculty of Social and Management Science, while forty (40) students will be randomly selected from 4olevel in five faculties at Federal University of Agriculture, Abeokuta: College of Agricultural Management and Rural Development (COLAMRUD), College of Animal Science and Livestock Production (COLAMRUD), College of Agricultural Management and Rural Development (COLAMRUD) (COLPLANT).

The researchers used only primary data in the analysis. The primary data were gathered through the use of questionnaires to elicit important information from respondents about the research topic in question. The questionnaire consists of questions that are pertinent to the study under consideration. The questionnaire is divided into two parts: Section A of the survey inquires about the respondent's demographic and personal characteristics, such as gender, age, marital status, and job title. Section B provides details on the research questions that are being evaluated. It employs a four-point Likert scale, with strongly agree receiving four points and strongly disagree receiving one. In the following subsections, the scale for the questionnaire's variables is discussed.

Participants' biographic information was collected using the demographic data form. The questionnaire asks about sex, age, marital status, and department. The Technology Readiness Index (TRI) developed by Parasuraman (2000) was used in this study to measure enduring propensities to embrace new technologies as a second-order formative index (i.e., it is assumed that the sub-scales measure independent constructs that when combined cause the latent TRI construct). The TRI integrates measurements from four non-highly correlated components. The study assessed personal attitudes about technology using 14 of Parasuraman's (2000) items and the well-known multi-item technology scale. The author devised the learning scale as a versatile and multifunctional instrument. It employs a four-point Likert scale, with strongly agree receiving four points and strongly disagree receiving one.

The questionnaire was presented to expert in test and measurement to examine the questionnaire for face validity, as well as content validity and dependability. It was also identified based on the findings of the test and measurement that the questionnaire appeared capable of measuring what it was supposed to measure. After the validity was completed, the instrument was tested for reliability. To confirm the study instrument's dependability, test re-test was used. The instrument's high level of dependability was confirmed in this way. Descriptive statistics such as frequencies and percentage table and regression Analysis of Variance (ANOVA) was employed to answer all of the research

questions. A statistical package for social science was used to analyse the data collected evaluated at a significance threshold of 0.05.

RESULT AND DISCUSSION

Only 396 (396) of the 400 questionnaires given to responders were found. The following is a functional representation of the relationships between the constructs, as well as a mathematical regression model:

AMTL = f(USPS, USPE, USPA, USEX, UAGE)   - - - - - - - - - - - - - - (4.1)

AMTL =β_0+β_1 USPS +β_2 USPE + β_3 USPA +β_4 USEX + β_5 UAGE + μ - - - - - - (4.2)

Where AMTL = Adoption of mobile technologies for learning

USPS = Undergraduate students' perceive satisfaction

USPE = Undergraduate students' perceive ease of use

USPA = Undergraduate students' perceive accessibility

UAGE = Undergraduate students' age

USEX = Undergraduate students' sex

Intercept is β_0 ….. β_5……… β_3 regression coefficient

μ = error term

Presentation of Demographic Result

Table 1

Distribution of Respondents by Sex

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	180	45.5	45.5	45.5
Male	216	54.5	54.5	100.0
Total	396	100.0	100.0	

Source: Field Survey, 2019

The result in table 1 shows that 54.5% of the respondents sampled in the study were male, and 45.5% of them were female. The result shows that, majority of the response was from male respondents which implies that the response upon which the result and conclusion of this study is based is skewed more to the male gender. Having number of male students' greater than female means that, there are more students who can handle technology in the institutions with objective views. This is because gender stereotypes indicate that men are the objective ones, the ones with the scientific world views while women are the social ones, the ones with more emotional and creative outlooks. In terms of technology usage therefore, men better understand the science behind various technology, but the typical woman concentrates on using devices for social interaction.

Table 2.

Distribution of Respondents by Age

	Frequency	Percent	Valid Percent	Cumulative Percent
15-19	180	45.5	45.5	45.5
20-24	144	36.4	36.4	81.8
25 and above	72	18.2	18.2	100.0
Total	396	100.0	100.0	

Source: Field Survey, 2019

The result in table 2 also shows that 45.5% of the respondents that took part in the study were between age fifteen and nineteen years, 36.4% of them were between the ages of twenty and twenty four years, while the remaining 18.2% were twenty five years and above. This implies that majority of the response in this study were from students who are between the ages of fifteen and nineteen years. Having number of younger students greater than older ones means that, most of the students can easily adopt technology within the shortest possible time and with the ability to process complex information which will help this study to determine with a more precision the effect of technology adoption since the majority of the respondents are younger people that can easily adopt technology within the shortest possible time and with the ability to process complex information. This is true because historically older people are believed to be late adopters to the world of technology compared to compare to their younger compatriots (Sharit & Czaja, 1994).

Table 3.

Distribution of Respondents by Faculty

Faculty

Faculty

	Frequency	Percent	Valid Percent	Cumulative Percent
Education	108	27.3	27.3	27.3
Management science	36	9.1	9.1	36.4
Science	108	27.3	27.3	63.6
COLAMIN	36	9.1	9.1	72.7
COLPLANT	72	18.2	18.2	90.9
Others	36	9.1	9.1	100.0
Total	396	100.0	100.0	

Source: Field Survey, 2019

The result in table 3 also shows that 27.3% of the respondents are students in the faculty of Education, 9.1% of them are students from the faculty of management science, 27.3% are from faculty of science, 9.1% are from the faculty of COLAMIN, 18.2% are from faculty of COLPLAN, while the remaining 9.1% are from other faculties. Hence, it was evident that, majority of the response were from sampled workers with BSC/HND as

their highest academic qualification followed by OND. This shows that majority of the participants are from the faculty of Education and science.

Table 4

Distribution of Respondents by Institution

	Frequency	Percent	Valid Percent	Cumulative Percent
OOU	216	54.5	54.5	54.5
FUNAAB	180	45.5	45.5	100.0
Total	396	100.0	100.0	

Source: Field Survey, 2019

The result in table 4 also shows that 54.5% of the respondent that took part in the study are from Olabisi Onabanjo University, while the remaining 45.5% of the respondents are from Federal University of Agriculture Abeokuta. This result shows that majority of the respondents from Olabisi Onabanjo University.

Analysis of Research Questions

Research questions one stated that "What is influence of undergraduate students' perceived satisfaction on the use of mobile technology for learning in Ogun State?" The result of the analysis of the research question is presented in table 5 below.

Table 5.

Regression Results Showing the Influence of Undergraduate Students Perceived Satisfaction on Adoption of Mobile Technologies for Learning

Model	Coefficients (β)	T	Std. Error	Sig(T-Prob)	F	r^2
Constant	2.28	16.60	0.14	0.00	14.10 (0.00)	0.09
Perceive Satisfaction	0.31	3.86	0.07	0.00		

a Dependent Variable: learning

Source: Field Survey, 2019 (SPSS Output, Version 20.0)

The estimated result in table 5 shows that undergraduate students' perceived satisfaction (=0.305, t=3.867, p<.05) have a significant positive influence on the adoption of mobile technologies for learning in Ogun State. The coefficient of undergraduate students' perceived satisfaction is positive which indicates that a unit increase in undergraduate students' perceived satisfaction will on the average leads to 31% increase in the rate of adoption of mobile technologies for learning in Ogun State. The result also shows that the explanatory variables accounted for 9% variation in the dependent variable of (R2=0.093) is not the only predictor of the adoption of mobile technologies for learning in Ogun State. This result supports the position that the usage of mobile technology for

learning among undergraduate students in the present day has greatly wide-spread largely due to the perceive satisfaction they believed is derivable from such utilisation.

Research Questions Two

Research question two stated that "What is the influence of undergradute students' perceived ease of use on the adoption of mobile technologies for learning in Ogun State?" The result of the analysis of the research question is presented in table 6 below.

Table 6.

Regression Results Showing the Influence of Undergraduate Students Perceived Ease of Use on Adoption of Mobile Technologies for Learning

Model	Coefficients (β)	T	Std. Error	Sig (T-Prob)	F	r^2
Constant	2.49	14.48	0.165	0.00	3.392 (0.04)	0.02
Perceive Ease of Use	0.15	1.99	0.96	0.04		

a Dependent Variable: learning

Source: Field Survey, 2019 (SPSS Output, Version 20.0)

Table 6 shows that the perceived ease of use of undergraduate students (=0.151, t=1.992, p.05) has a significant positive influence on the adoption of mobile technologies for learning in Ogun State. The coefficient of undergraduate students' perceived ease of use is positive, indicating that for every unit increase in undergraduate students' perceived ease of use of technology, the rate of adoption of mobile technologies for learning in Ogun State increases by 15% on average. The results also show that the explanatory variables explained 2.3 percent of the variation in the dependent variable (R2=0.023), implying that undergraduate students' perceived ease of use of technology is not the only predictor of mobile learning adoption in Ogun State. The findings suggest that as more students perceive mobile technology to be easier to use for learning, the number of students who use mobile technology for learning will continue to rise.

Research questions three

Research questions three stated that "What is the influence of undergraduate students' perceived accessibility on the adoption of mobile technologies for learning in Ogun State?" The result of the analysis of the research question is presented in table 7 below.

Table 7.

Regression Results Showing the Influence of Undergraduate Students Perceived Accessibility on Adoption of Mobile Technologies for Learning

Model	Coefficients (β)	T	Std. Error	Sig(T-Prob)	F	r^2
Constant	0.08	0.91	0.96	0.366	8.37 (0.01)	0.82
Perceive Usefulness	2.66	16.14	0.17	0.00		

a Dependent Variable: learning

Source: Field Survey, 2019 (SPSS Output, Version 20.0)

The estimated result in table 7 above revealed that undergraduate students' perceived accessibility (=2.659, t=16.138, p<0.05) have a significant direct effect on the adoption of mobile technologies for learning in Ogun State. It was also found that the explanatory variables accounted for only about 82% variation in the dependent variable of (R2=0.821). From the result above, it can be seen that undergraduate students' perceived accessibility predict the adoption of mobile technologies for learning in Ogun State adequately. Therefore, the null hypothesis (HO) is rejected. This result supported the claim that, the more undergraduate students perceived mobile technologies accessible for leaning, the more the rate of adoption of mobile technologies for learning in Ogun State.

4.2.4 Research Questions Four

Research questions four stated that "Are there any difference in the perception of undergraduate students in Ogun State on the adoption of mobile technologies for learning according to sex and age?" The research question is tested using the regression analysis, and the result is presented in the table 8.

Table 8. Summary table of regression showing the independent and joint influence of the independent on the dependent variable

Variables	Beta	T	P	R^2
Age	0.007	0.069	0.945	
Sex	-0.003	-0.036	0.971	
Perceive satisfaction	0.287	3.054	0.003	0.823
Perceive ease of use	-0.15	2.154	0.018	
Perceive accessibility	0.771	-2.292	-0.026	

Dependent Variable: learning

Source: Field Survey, 2019 (SPSS Output, Version 20.0)

Age (=0.007, t=0.069, p>.05) and gender (=-0.003, t=-0.036, p>.05) had no significant joint and independent influence on the adoption of mobile devices for learning in Ogun State, as shown in Table 8. The table also reveals that undergraduate students' perceptions of accessibility (=0.771, t=-2.292, p.05), satisfaction (=0.287, t=3.054, p.05),

and ease of use (=-0.15, t=2.154, P.05) all have a positive significant joint and independent influence on the rate of adoption of mobile technologies for learning in Ogun State. The explanatory variables also explained 82.3 percent of the variation in the dependent variable (R2=0.823). This finding supports the hypothesis that undergraduate students' perceptions of satisfaction, convenience of use, and accessibility encourage or promote the use of mobile technology for learning among undergraduate students in Ogun state.

CONCLUSION

The goal of this study is to look into the factors that determine how public colleges in Ogun State employ mobile technology for learning. According to the findings of the first research question, undergraduate students' perceived pleasure has a significant positive impact on the adoption of mobile learning technologies in Ogun State. Furthermore, the findings of question two revealed that undergraduate students' assessments of ease of use have a significant positive impact on the adoption of mobile learning technology in Ogun State. According to the third research question, undergraduate students' expectations of accessibility have a significant positive impact on the adoption of mobile learning technologies in Ogun State. Age and sex had no significant joint and independent impact on the usage of mobile technologies for learning, according to the findings of a joint and independent influence of demographic features and mobile technology adoption factors in Ogun State. According to the findings, undergraduate students' perception of accessibility, satisfaction, and ease of use all had a positive significant joint and independent effect on the rate of adoption of mobile learning technologies in Ogun State. Students' responses on the three fundamental parts of the technology acceptance model (TAM), namely perceived usefulness (PU), perceived ease of use (PEOU), and attitude, were collected using a standard instrument by Seyal, Noah, Ramlie, and Rahman (2015). The model has a low explanatory power, explaining only 38% of the variance in behavioral intention. Students have overwhelmingly positive views of Edmodo and mobile learning, with the majority stating that learning using Edmodo supports and boosts the efficacy of learning communication, and they trust Edmodo since it saves time.

According to the study, undergraduate students' assessments of satisfaction, ease of use, and accessibility promote or encourage the usage of mobile technology for learning among undergraduate students in Ogun state. Also, undergraduate students' perceptions of ease of use and accessibility have a significant positive impact on their use of mobile technology for learning. Educational stakeholders should support undergraduates by obtaining, providing, or subsidizing mobile devices that can be utilized for studying, according to the following recommendations: Universities should create a division dedicated to M-learning so that it can be implemented and a visible and audible guide for using M-learning in teaching and learning can be made available. It is vital to form a specialized support group to assist teachers in implementing mobile technologies.

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