



**TECHNOLOGY ACCEPTANCE MODEL (TAM) AS A MECHANISM FOR
PREDICTING INTERNET USE FOR ACADEMIC PURPOSES AMONG STUDENTS
OF NIGERIA CERTIFICATE IN EDUCATION**

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Abstract

The research was conducted using a survey research design following the guidelines of Soudrat et-al (20017) The research investigates the NCE students' intention to use Internet for academic purpose. The study recognized the determinants of NCE students' perception of using Internet for academic drives. To attain these ends, a conceptual framework of Device Technology Acceptance Model (TAM) was propagated. This study sought to investigate the factors that influence students' intention to use the Internet for academic purposes in Federal College of Education, Zaria (FCEZ). The TAM model employed the exclusive variables from the theory. The questionnaire adapted from Bogart and Wichadee, (2015) was used to solicit information from the sample of 124 NCE students in FCEZ, using Research Advisor model. ANOVA was used for the analysis. The results revealed that the variables; students' attitude, perception on behavior to use internet and their perceived usefulness of Internet had positively related to their intention to use Internet for academic purpose. The perceived ease of use was found to have insignificant relationship with students' intention to use Internet for their academic purpose. The study among others, recommends that, to enhance the quality of lectures delivery and knowledge dissemination, lecturers should put more effort in enhancing their students' efficacy in Internet usage for academic purposes, not for leisure alone and the students need regular orientation wittingly to understand the significant of using internet for academic purpose.

Keywords: Technology Acceptance Model (TAM); ICT; attitude; behavior; perceived usefulness

1. Introduction

1.1. Introduce the problem

Many governments across the world have expanded grant to provide access to computers and the internet at universities, colleges, and secondary schools, with the aim of improving learners’ academic performance and achievement. Even though these attempts begun in developed countries and now it is all over the world (Badasyan & Silva, 2018). College students must use all reliable educational resources in their research and assignments for gaining successful inquiry. They need to be motivated to apply and engage themselves in the use of online databases, e-libraries, journals for their academic purpose. Internet resources must be accessible always for both students and teachers to accelerate and simplify research, teaching and communication. Internet is always being used to substitute conventional classroom lectures or improve traditional instructional techniques. The Internet helps learners to connect with other foreign students that are in another country, to reveal their culture, thoughts, knowledge, skill and experiences (Asokan et al, 2019). Internet is being extensively used as an academic instrument with several potentials. The learners who apply the Internet for their educational ends are likely to obtain more information and educational materials that will increase cumulative grade point (Rahman, 2020).The Internet boosts knowledge of the learners, which aids them enhance educational performances and build good careers (Badasyan & Silva, 2018). The Internet is being used to replace traditional classroom lectures or supplement traditional instructional systems. The tInternet aids students to communicate with other students in a foreign country, to share their ideas, experiences, knowledge, and cultures (Asokan et al., 2019).

The attention of researchers in 1970s has been focusing on people acceptance of system, this comes as a result of growing of the high demand of technology on those days and it happen with the increase of massive failure of system acceptance in organization. However, it is unfortunately majority of the research failed to produce a dependable measure that can explain system rejection or acceptance. Then this captures the interest of researches and the area become hot cake to the researchers (Davis,1989).

The founder of Technology Acceptance was Davis in a year 1989. Fred Davis 1985 proposes a TAM (Technology Acceptance Model) in his final PhD thesis at the MIT Sloon School of Management. He anticipated and proposed system use is a response that can be explained by user motivation which in turn, is directly influenced by the external stimulus consisting of the actual system features as capabilities (Davis, 1985)

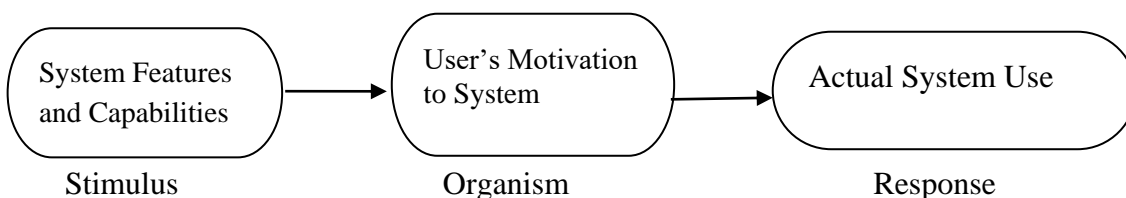


Figure 1: conceptual model for Technology Acceptance Model (Davis 1985 p10)

The technology Acceptance model it is a popular theory that capture the attention of researchers for the pass 2 decades ago. Even though several models have been projected to describe and forecast the usage of a system, the TAM has been the first one that has seized the attention of the ICT communal. Accordingly, it is important for anybody ready to study the individual’s acceptance of technology to have an empathetic of the Technology Acceptance Model (Chatur, 2009). By depending on the previous researchers on theory of that deal with behaviour, the study of Fishbein and Ajzen (1975) the person formulated the Theory of Reason Action and others related studies that have link with the Davis research, then Davis develops and refine his own popular conceptual model to propose the Technology Acceptance Model as shown on below figure :2

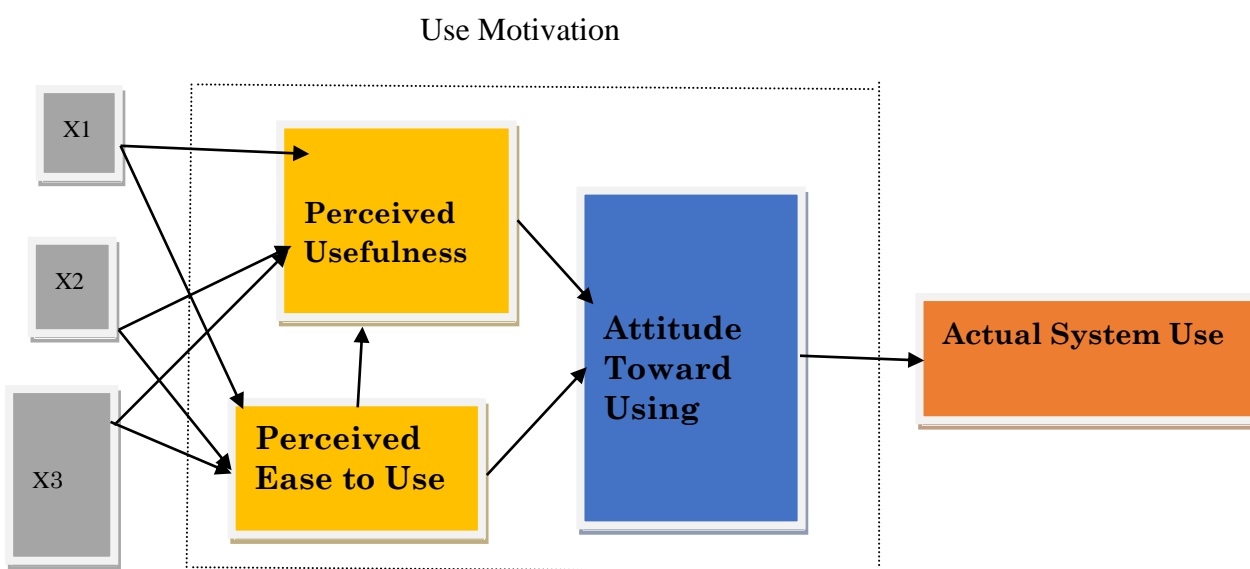


Figure 2: Original TAM proposed by Fred Davis (Davis 1986 p24)

The Davis (1985) recommended that user’s motivation can be explained by the three influences ‘Perceived Ease of use, Perceived Usefulness and Attitude Towards Using the System. The key determinant stage is if the user can actually acceptance the system or reject. Then follow by attitude which is influence by the very two strong variables perceived usefulness and perceived ease to use that have direct impact on perceived usefulness. Lastly, both these were assumed to be direct impact the system design characteristic, represented by X1, X2 and X3.

This research evaluates the perceptions of college students to Internet usage for their learning activities. The research applies the theory of TAM as mechanism in predicting the Internet usage, for academic purposes of Nigerian Certificate in Education (NCE), for academic fineness. The study will also contribute to existing literature on Internet usage by the college learners. The research eases to advance the theoretical future effects of Internet usage

for academic purposes at the college. To the best of my knowledge, this is the only research that was conducted in Federal College of Education, Zaria, using the theory of Technology Acceptance Model (TAM), by devices to access students' attitude towards the use of Internet for improving their academic performances.

Communication Technology according to Abdullahi (2016), is generally related to those technologies that are used for assessing, gathering, manipulating, and presenting or communicating information. The technologies could include hardware; computers, I-phones/pads, mobile phones, video tapes, DVDs, etc., software applications and connectivity; access to the internet, local networking, group chat, video conferencing, etc. All these constituents of ICT have continued to be used in the teaching and learning of various subjects in schools at all levels, because access to information has continued to grow on daily basis.

Abonyi (2014), conceptualized Information and Communication Technology (ICT) as those technological tools such as, computers, internet, interface boxes, E-mails, varieties of software and materials from important aspects of ICT, which are utilized for processing, transmitting and communicating data and information. Information and communication technology relates mainly to studying concepts, skills, processes and application of knowledge through electronic devices. Therefore, ICT has turn out to be a noteworthy feature and agent of education, especially in developing countries, like Nigeria. The advent of ICT in education according to Nallusamy, Balasubramaniam & Chellappan (2015), made learning to become active and interactive process on the part of the learners. The authors further stated that, over the decades, it has become more plausible that, it is no longer necessary for a learner to be physically present inside a classroom. Even within the fixed boundaries of a classroom, learning has become participative.

Kabiru (2012), submitted that, Information and Communication Technology improvement has had, and still having tremendous effects on teaching and learning. This is because, varieties of ICT multi-media like internet, video-conferencing, teleconferencing, power point presentation, on-line search engines and other sources of information retrieval are made available and accessible at no or low cost to teachers and learners. On this note, Agbulu & Ademu (2010), reiterated that, introducing technology into teaching and learning has been shown to make learning more students' centered, encourage cooperative learning and stimulate teacher-learner interactions. This is also supported by Clever (2009), when he concluded that, education in Nigeria cannot be relevant in recent times, without effective preparation of new generation students with adequate use of the new ICT gadgets in their professional practices, most especially, Vocational and Technical Education students. The teaching and learning of technical subjects demand engagement of students in practical work, especially with collections of Information and Communication Technology tools.

The National Policy on Education (2016), defined technical education as education which includes the study of technology as related to science and acquisition of practical skills, attitudes, understanding and knowledge, relating to lifelong occupation. In the same vein,

Amoor and Aliyu (2014), put forward that, the national education planners recognize Vocational and Technical Education with Agricultural Education as an integral part, and expressed its importance in the National Policy on Education (2016), as an education that provides manpower in applied sciences, technology and commerce, particularly at sub-professional levels; it provides the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development, and to give training and impart the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self-reliant at Colleges of Education.

College of Education has been described by (Dekom. 2015.) as one of the most reliable teacher training institutions set up by the Federal Government under the Federal Ministry of Education; supervised by National Commission for Colleges of Education (NCCE), which is saddled with the responsibility of training and producing Nigeria Certificate in Education (NCE). Oyebolu & Olusiji (2013), stated a significant point that interactive multimedia and other ICT gadgets help in developing students' interest in learning activities, at least for the time being. Moreover, it is not too surprising that learning through ICTs increases students' confidence in their abilities. In turn, this confidence of the students in themselves undoubtedly explains in part, the spontaneously receptive attitude that a large number of them adopt in which technology plays a role and the perseverance that they show in accomplishing this activity. The authors further affirmed that among the reasons that contribute to students' motivation using ICT in learning, is the fact that, these technologies can be as key vehicle for stimulating learning, primarily, because they create environments and present contents in ways that are more engaging and involving students more directly than textbooks, and traditional teaching tools.

Learners possess an interactive capacity with the use of ICT in learning, and these technologies allow Agricultural Education students to take part in activities that invite them to create and share adequate and relevant academic information, capable of improving their learning outcome with others.

No doubt, Internet Technology has come to education as it makes learning easier, available, and accessible. According to Abubakar (2020), learning is what students do, while teaching is what teachers do. This means, learning is all about information gathering, and knowledge. This learning can be acquired online and can be the best to achieve if learners can access, store, process, retrieve and apply this information in the learning process, applying into action makes the learning real. That is, permanent change has occurred, which is the real meaning of learning. It is a fact that, majority of the students now in colleges of education have access to internet and sources of acquiring recent and useful information with modern ICT gadgets, like Smartphone. Through this media, students compile their assignments, search for relevant reading materials for writing research works, read news and reports, relevant to their course of study, follow new trends and practices, through formulation and joining of friends and colleagues in group chats/discussions and academic group fora.

The NCE students do not seem to perceive the internet to be positively related to their academic pursuits and NCE students seem not to perceive the ease of use of the internet for academic purposes.

2. Literature Review

2.1. Use of Internet

We can testify the impotency of Internet in our daily lives by taking one of European countries as example, like Sweden, it is a country with the highest and best access to connectivity and bandwidth. It is the country that all her students in higher schools have to-computer ratio. 93% of Swedes around sixteen to eighty-five have Internet at their houses and homes. Teachers and students in Sweden school have opportunities to use digital resources on their daily basis in the school environment and classroom (McGrath & Åkerfeldt, 2019). Technological developments have numerous influences on our educational system all over the world. The advancement of technology has shifted and expanded the investment of higher institution all over the globe to technological investment, especially the Internet technology, and it is vigorously endorsing Internet usage in Universities and Colleges of Education (Cooper, 2019).

The Internet has been utilized by a high percentage of students for academic objectives. The Internet was defined as the communication information superhighway that connects, hooks, and converts the whole world into a universal village or global village, whereby a different people can effortlessly get in touch, see, as well as discussing information immediately from one part of the world to another (Apuke & Iyendo, 2018). There are so many merit that academics can utilize on the usage of Internet for their profession. The justification behind using Internet for research and academic purposes stalks from the merit derived, such as free access to online e-books, YouTube channels, magazines, journals, and other data (Asokan et al., 2019).

For past two decades, Internet technologies have played significant roles in the advancement of personal and even professional lives of many populaces. At the personal stage, persons habitually use Internet technology particularly for various reasons, such as, for communicating with others, doing online shopping, paying bills or managing bank accounts. At the professional level, the Internet is used for communicating with clients, and sharing knowledge across organizations, to name a few. In general, the Internet has opened up various opportunities that were not imaginably possible then (Zainol, Farid, Hashim, Sharif and Shamsudin, 2011). As a result of Internet dispensation now lecturers are preparing and organizing their lecture materials and other supportive resources available on the Internet. Students are more urged to communicate with lecturers through email (Rahman, 2020). The Internet empowers the teachers to productively and innovatively deliver efficient course lessons to students

Many Colleges and Universities have taken benefits of the ICT made possible by Internet technologies, by integrating it with the existing curriculum to make learning and teaching experiences more interactive and attractive. As a result, many universities have provided relevant infrastructures towards this end so as to make sure that students and teachers alike will not be left behind by the new Internet-driven technology. For example, on many campuses, students are able to use wireless hotspots to access course materials. The students in particular, are now able to benefit from the new technology in preparing themselves to deal with the real challenges at the workplace after they graduate. Certainly, Internet has changed the way teaching and learning processes are conducted. The traditional way of chalk-blackboard usage has given approach to e-teaching and e-learning, with the support of the Internet. Learners have more access to learning materials made available on the web. However, Internet should hypothetically and theoretically enhance students' learning experience through the huge amount of information made obtainable to them on the network. Numerous researches have documented that learners use up much of their time using the Internet for nonacademic purposes. (2000, as cited in Asfaw & Bo, 2003)

Internet and Students

The Nigerian Colleges of Education and Universities authorities now are promoting Internet usage. The lecturers need to investigate the students' feelings, attitudes, and interests, towards Internet usage. The students need to be guided on how to utilize Internet for their academic purpose.

For the past fifteen decades or so, most of the learning methods, particularly children have just transformed: A lecturer stands before the chalkboard in the classroom clarifying concepts, ideas or presenting facts, whereas students sit and hear with the learning materials being generally printouts or physical textbooks. Today, nevertheless, digital technologies are set up to transform today's classrooms. Many learners are applying tablets or computers, and lecturers are progressively using screens to demonstrate and elaborate aspects of their lessons. Hard textbooks are being swapped by online, interactive services that are more up-to date and in-depth, that allows students to search, explore, investigate, and learn at their own pace. This is crucial because of 2 contributing reasons. First, learners are born with digital DNA (Bainbridge & Roco 2016 pg242).

Lecturers and teachers have been trying to use the Internet in the classroom and it is high time to motivate students towards using the Internet for greater academic excellence. The Internet is the only most widespread, involving, and universal communicational system ever designed by human beings, including host of untapped and unknown political, socio-cultural and economic implications. The Internet builds and sustains a sense of growing multicultural

community. “Passions for and works of learning develop in a manner that has small to do with demographics.(Eldardiry & Elmoghazy, 2018).

Engagement of students on Internet is students-centered method, which deals with cognitive domain. IG now is an era that students interact with many students around the globe. Learners can make use of an online broad conversation to talk about significant topics, either separately or in groups(Eldardiry & Elmoghazy, 2018). The IG (Internet Generation) is regarded as syndicate of adolescent people who are subjected to a computer-based environment in their everyday professional and social life (Feng et al,2019). It has created a new path of acquiring and sharing knowledge. The obstacles in dealing with clogged information and many temptations and desires bring about advantages given by the Internet to students. Internet use among college students for entertaining and academic activities has expanded significantly (Feng et al, 2019).

3. Conceptual Framework

It has been hypothesized (i.e. Technology Acceptance Model) that the perceived usefulness or perceived functionality is the main justification for the acceptance of technological gadgets, such as, the internet as the means of communication globally (Yaacob & Saad, 2020). The theory of Device Technology Acceptance Model (TAM) was modified for the research. The model demonstrates how a technology might be employed to facilitate performance of a particular activity. Yang and Lin (2010), argued that TAM is the most influential model for testing information systems adoption. Alrafi (2007), opined that TAM helps to answer why a potential user of a particular technology accepts and uses it. The model elucidates the connecting relationships between system designed features, perceived usefulness, perceived ease of use, attitude towards using, and actual usage behavior. The model helps in assessing the mobile applications used by undergraduate students and the perceived usefulness of internet in learning.

The advent of ICT in teaching and learning has witnessed series of research at all levels of educational sector. Hence, the directive of any study is influenced by the theoretical perspective. The Technology Acceptance Model (TAM) has been employed in this study since it is the most widely used theory to explain an individual’s acceptance of an information system. This theory was expanded and developed by Davis (1989) from the Theory of Reasoned Action (TRA) (Abu-Dalbouh, 2016b). The TPB (Ajzen, 1985; Ajzen, 1991), is an expansion of the TRA (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). Owing to the inadequacy of TRA to treat with behavior over those human beings have deficient volitional mechanism (Ajzen, 1991). Then, later Devices expanded and extended the theories to TAM. The author further added that, Theory of Reasoned Action was based on the affirmation that individual behavior is motivated by behavioral objectives, and these are a function of an individual's attitude towards the behavior and subjective norms surrounding the performance

of the behavior. TAM by Davis (1989), cited in Tella and Olashina (2014), According to TAM, ease of use and perceived usefulness are the most important determinants of actual system use. Based on this assertion Tella and Olashina (2011), reiterated that there is no doubt about the fact that ICT has revolutionized nearly all human activities. With this situation, we can see the relevance of ICT in almost every activity of human endeavors. We can now talk about “e-” in everything, including e-transaction, e-shopping, e-meeting, e-conference, e-banking, e-commerce, e-money, e-library, e-magazine, e-book, e-government, e-democracy, and e-learning, among others. Perceived usefulness Ease of Use Behavior intention, to use Attitude towards Actual use.

The objectives of using TAM theory can be illustrated as follows (See Figure 1).

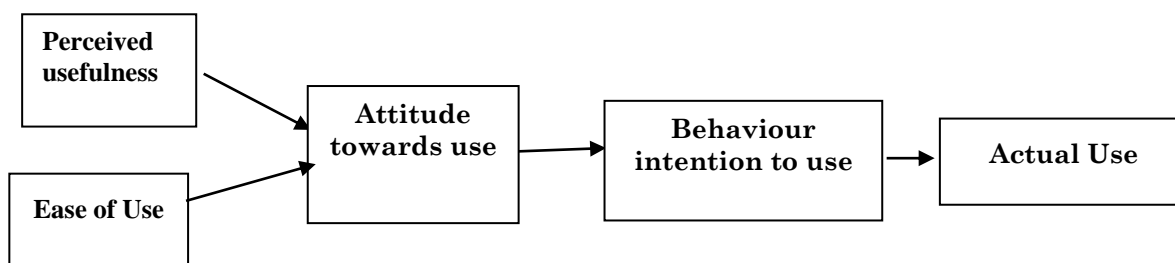


Figure 3. TAM theory by Davis (1989) cited in Tella and Olashina (2014)

According to TAM, ease of use and perceived usefulness are the most important determinants of actual system use. Based on this assertion, (Ahmad, 2017), reiterated that, there is no doubt about the fact that ICT has revolutionized nearly all human activities. With this situation, we can see the relevance of ICT in almost every activity of human endeavour. We can now talk about “e”- in everything including e-transaction, e-shopping, e-meeting, e-conference, e-banking, e-commerce, e-money, e-library, e-magazine, e-book, e-government, e-democracy, and e-learning among others.

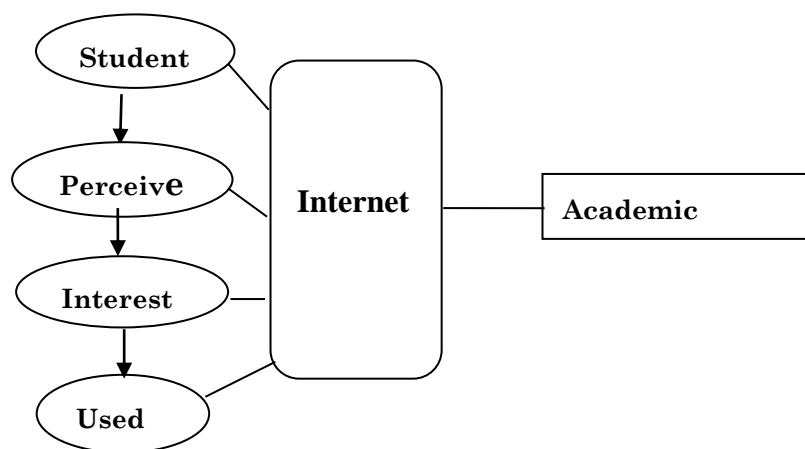


Figure 4. TAM theory by Tella and Olashina (2011)

However, the researcher represents the objectives of using TAM theory in the above illustration. In this research though, the researcher is using TAM for academic purpose (e-learning) among Agricultural Education students to determine the level of perception, acceptance, and usage of technology to enhance their academic performance. The above modification chart is expressing how student perceived of the usage of Internet for academic purpose, after the student perceived and develop interest them follow by the use for academic purpose.

4. Research Hypotheses

The following are the research hypotheses:

H1: Perceived behavior of use of internet is positively related to NCE students' intention to use Internet for academic purpose by the views of respondents.

H2: Perceived ease of use is positively related to NCE students' intention to use Internet for academic purposes by the views of respondents.

5. Method

5.1. Research design

In the study quantitative research method was adopted and a conceptual framework of Device Technology Acceptance Model (TAM) was propagated. Details of the study are as in the following.

5.2. Participants

The participants of the research comprised purposefully selected 124 NCE I to NCE III students of Federal College of Education, Zaria, Kaduna state of Nigeria. The selection of this institution is because, the college is a premier and largest College of Education in the Northwest Geo-Political zone of Nigeria, and the largest institution for training teachers for service in Kaduna State. The research adopts Saunders et al., (2009) sampling procure to determine the sample size for the research and arrived at 200 respondents. The table of random numbers as proposed by (Asika, 2009). was engaged for the administration of the questionnaires.

5.3. Data collection and analysis

The measures for the study were adapted from Bogart and Wichadee, (2015).The four factors, “Perceived Ease of Use”, “Perceived Usefulness”, “Attitude Towards Usage”, and “Intention to Use”, were measured using 24 items. The four factors were assessed using a six-point rating scale of instrument scale of 1=Strongly Disagree to 6=Strongly Agree. The

original measures have instrument coronach alpha validity of 0.92. After the completion of data collection, combinations of both descriptive and inferential statistics were used. The sample for this research work comprised 129 NCE I to NCE III students of various schools. The researcher purposely sampled NCE students of FCE, Zaria, applied (Saunders et al., 2009).

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5.4. Validity and reliability

The degree of error or precision in measuring an estimate of test is called reliability. Consequently, to establish the reliability of the instrument for the study, using split half reliability estimate, the researcher got reliability co-efficient of 0.721 using the Pearson Product Moment Correlation (PPMC). Since the results of the tests gave a reliability coefficient of 0.721. This showed that the instrument is reliable and internally consistent and could be used for this study.

6. Findings

Findings of the study are presented via tables and referring to each hypothesis as follows.

Table 1: Gender of the Respondents

Gender	Frequency	Percentages (%)
Male	91	73.4
Female	33	26.6
Total	124	100

Table 1 shows that the male respondents were 91, representing 73.4%, while females were 33 respondents, representing 26.6%.t Certainly this show that, male students are the majority among Agricultural Education students in Federal College of Education students This implies that, male students are the majority among Agricultural Education students in Federal College of Education, Zaria. The men are the highest population of students using Internet for academic purpose.

H1: Perceived behavior of use of internet is positively related to NCE students' intention to use Internet for academic purpose by the views of respondents.

Pearson Product Moment Correlation was used to test null hypothesis. The hypothesis was to determine the significant relationship between the use of ICT and study perceived behavior of students to use internet in the Federal College of Education, Zaria. Respondents stood at 124 with 122 degree of freedom.

Table 2. Correlational Analysis between the Perceived Behavior of Use of Internet and the Study Habit of Students in Use of internet in Federal College of Education, Zaria, Nigeria

<i>Variables</i> <i>(Responses)</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>DF</i>	<i>r-value</i>	<i>Decision</i>
Agreed (x)		74.4	8.62			
	124			122	.225	Not Significant
Disagrees (y)		48.1	6.94			

Correlation is significant at 0.05 (level) (2-tailed) =754

Table 2 reveals that, the mean value of agreed (x) is 74.4, while the disagreed (y) is 48.1. The r-calculated is .225 and r-critical stood at .754 (P-value at 0.05) This shows that r-critical of .754 is greater than the calculated r-value of 0.255. Hence, the hypothesis one, which states that there is no significant relationship between the use of ICT and the study habits of students in Federal College of Education, Zaria is retained.

H2: Perceived ease of use is positively related to NCE students' intention to use Internet for academic purposes by the views of respondents.

Table 3. Correlational Analysis between the Perceived Ease of Use is Positively Related to NCE student's Intention to Use Internet for Academic Purpose by the views of Respondents' in Federal College of Education, Zaria

<i>Variables</i> <i>(Responses)</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>DF</i>	<i>r-value</i>	<i>Decision</i>
Agreed (x)		91.2	9.55			
	124			122	.927	Significant
Disagrees (y)		34.5	5.87			

Correlation is significant at 0.05 (level) (2-tailed) =811

Table 3 reveals that, the mean value of agreed (x) is 91.2, while disagreed (y) is 34.5. P value at 0.05 is .811 (r-critical) while r-calculated (r-value) is 0.927. From this analysis, r-calculated 0.927 is higher than the r-critical. Hence, the hypothesis 3 which stated that there is no significant relationship between the use of ICT by the students in Federal College of Education, Zaria is rejected. This means that, there exist relationship between the use of ICT in learning and knowledge retention of students.

From the analysis of responses above, the major findings of the study indicate that:

- i. There is no significant relationship between Perceived behaviors of use of internet is positively related to NCE student's intention to use Internet for academic purpose by the views of respondents.
- ii. There is significant relationship between the use of Information and Perceive ease of usefulness usage is positively related to NCE students' intention to use Internet for academic purpose by the views of respondents.

7. Conclusion and Recommendations

The study was conducted to determine the theory of technology acceptance model (TAM) as mechanisms in predicting the internet usage for academic purposes of students in Federal College of Education, Zaria. But astonishingly, the study established no significant relationship between perceived ease of use and intention to use internet for academic purpose. This contradicts the original claim by TAM. The finding however, disagreed with the conclusion of (Abu-Dalbouh, 2016a) who postulated that, the changes brought into education by Information and Communication Technology, enhances Agricultural Education students to cultivate the higher level of learning and to improve their academic performance.

Based on this, the hypothesis on the significant relationship of ICT usage and study habits of students shows negative relationship and insignificant, hence inhibiting their academic performance. This finding is in line with the assertion of Abu-Dalhabour, (2016), when he postulated that, despite the availability, accessibility and usability of information and communication technology among higher institution students, greater number of these students are yet to take this advantage to improve their learning processes and academic performances.(Abu-Dalbouh, 2016). The study assessed the theory of Device Technology Acceptance Model of using Internet technology for academic purpose of students in Federal College of Education, Zaria. From the analysis and findings of the research, the research discovered mix responses and results. Hence, it could be concluded that there is relationship of TAM for student to use internet for academic purpose. The theory explores the easy of any technology to motivate people to use for their business purpose.

Since all of the respondents of this research were NCE students from the Federal College of Education, Zaria of the Northern part of Nigeria, further research needs to be conducted for a wider geographical area with a homogenous group, since the composition in the north is more or less heterogeneous in nature. More so, cross-cultural comparisons and

longitudinal research could be conducted to determine the possible changes over time, of the discipline and cultural effects have on the relative importance of the determinants of internet for academic reason. This is very important because, the determinants of behavioral intention to engage in the usage of internet for NCE students could be different from that of the more general educational sector. Saadé, Kira, and Nebebe (2012) argue that cognitive traits considerably mediate the impact of perceived usefulness on attitudes, while using online smart 2.0 web tools. The study among others, recommends that, to enhance the quality of lectures delivery and knowledge dissemination, lecturers should put more effort in enhancing their students' efficacy in Internet usage for academic purposes, not for leisure alone and the students need regular orientation wittingly to understand the significant of using internet for academic purpose.

Lastly, there may be other constructs that could be included in the theoretical framework to extend the study on smartphone adoption for academic purposes are also strongly recommended.

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