

UTAUT Model: Intention to use social media for learning interactive effect of postgraduate gender in South-West Nigeria

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ABSTRACT

Social media are emerging technology which came into existence out of fun to connect with friends, but it has evolved to become a powerful tool for teaching and learning globally. However, despite its usefulness and relevance to learning the intention to use social media for learning by postgraduate gender in South-west Nigeria has not been confirmed. Therefore, the study used UTAUT model to established the intention to use social media for learning based on the interactive effect of postgraduate gender in south-west Nigeria. The study was a descriptive research of cross-sectional survey method and purposive sampling was used to sample 2,458 postgraduate students across the universities in South-west, Nigeria. Stratified sampling technique was used to select postgraduate students along gender and area of study. The questionnaire adapted was administered on 2,458 postgraduate students (1530 males and 928 females). Mean scores were used to answer research questions and t-test analysis was used to test research hypothesis. The findings of the study were that postgraduate students used LinkedIn, Technorah, Blogger, Flickr, Myspace, Instagram, etc, postgraduate students had positive perception towards social media and intention to use for learning. The study concluded that postgraduate students' use social media for learning due to positive perception they had towards usefulness and ease of use of social media. It was however recommended that the use of social media should be encouraged in facilitating learning irrespective of students' gender and area of study

Keywords: *Gender, Intention to use, Learning, Perceived usefulness, Social media, Web*

INTRODUCTION

Learning entails a process which assists individuals to develop capabilities through the acquisition of knowledge, skills, values, and attitudes both for personal and societal development. Education occurs whenever an influence produces a change in the overt and cognitive behaviours. Education reveals personality and mental development of individuals to properly fit in the society. It is a vital tool and or agent for national socio-economic development, individual socioeconomic advancement and poverty alleviation.

According to Ibidapo-Obe (2007) and Olulube (2007) education is a vital service that must be monitored, scrutinized and evaluated frequently with the view to increasing man's intelligence, control and efficiency. The study of Patel and Mohasina (2011) buttressed education to be a very important instrument in the development of tools, machines, crafts, medicine and languages which are vital to man in the universe. The role and relevance of education led to its adoption in Nigeria as an instrument for all-round improvement of the individual and the nation at large. The advent of ICT and the internet has revolutionised education from classroom-based to content delivery via e-learning and m-learning making it ubiquitous and significantly contributing to pedagogical process (Meenakumari, & Krishnaveni, 2011; Adebayo, 2012; Falade, 2013). Mobile technologies facilitate myriads of experiences through social networking sites.

Andreas and Michael (2012) explained that social media are internet-based applications which are constructed on the philosophical and technological nitty-gritties of Web 2.0. They allow the creation, interchange of user-generated contents, ideas, social relation and communication. They empower universal access and communication procedures. Social media have significantly changed the techniques through which tertiary institutions, organizations, communities, and individuals communicate (Caruso, 2008). Social media are regarded as web based services which permit individuals to produce a public or semi-public profile, articulate users and view others within the system. Social media are classified into six namely; collaborative project (e.g. Wikipedia), blogs and microblogs (for example, Twitter), content communities (for example, YouTube), social networking sites (for example, Facebook), virtual game worlds (like World of Warcraft), and virtual social worlds (for example, Second Life) (Lois, 2016).

Gender is an important factor in every aspect of learning and has a significant impact on researches especially on ICT (Frankin, Hossain, & Coren 2016). Studies have discussed gender and social media in different perspectives, for example, the study of Olabemiwo (2013) stressed that female students enjoy the use of social media platforms that offer communication forum than their male counterpart. This implies that the female frequently use social media than male counterpart for connection, communication and sharing of life events with friends. However, for their male counterparts, social media was perceived as a tool, for getting things done rather than a way to keep in touch. Moreover, Camyron (2012) found male to be active user on platforms that promote professional connection that will promote career rather than a platform that connects friends. Laurie (2011) found out that female adolescence have been meticulously linked with wide-ranging and minor application of social media for amusing and entertainment purposes.

In a similar vein, Shabbier (2011) reported that web analytics sites, revealed that age, gender, education and level of the users are variable to be considered on SMS. The authors stated that info graphic analysis shows that women use Facebook and Twitter more than their male counterparts. However, Sherman, End, Kraan, Cole, Campbell, Birchmeier and Klausner (2002) and Solaarin (2008) found out that the male students frequently surf web at night more than their female counterparts. Also, the finding revealed that the male students use the computer more frequently than the is female students counterparts. A study conducted by Winker (2005) revealed that the male spend longer hours on social media, while their female counterpart spend average time. Chen and Tsai (2005) found out that male exhibited more favourable attitude towards web-based learning than their female counterpart.

A study conducted by Eimeren, Gerhard, and Fress (2004) indicated that males always surf the internet at night during weekends than females, Badmus (2013) revealed that males are more exhaustive on the internet usage and they enjoy more competent form of learning while using information communication technology than females. Newsom and Lara, (2012) found out that gender differences in the Arabian internet users. The finding revealed that females are more vast in the access of internet than their male counterparts. The study concluded that female socially construct local ideology on social media utilisation.

Studies on ideas, models and theories on the integration of technology into instructions in tertiary institution of higher learning has been looked into by many scholars in diverse way. Such models are the diffusion of Innovation Theory and the Technology Acceptance Model (TAM) of Davis (1998) which served as a pavement for all. Similarly, the study of Lee, Hsieh, and Chen (2013) seems to be the recent in the field. Also, Al-Busaidi (2013) used the TAM model and modified the variable.

Previous studies revealed the effects of the external variables, such as perceived delight, facilitating conditions and specialization as extension variables toward the TAM to explain the intention to use technology (Terzis & Economides, 2011; Olasedidun, 2014). Whereas, Moon,

Jiwon and Kim (2001) expressed that behaviour can be resolute directly by the intention to perform because individuals usually behave as they intend to do within the obtainable context and time. Similarly, the study of Venkatesh, Morris, Davis, and Davis (2003) designed, invented and proposed a model, called the unified theory of acceptance and use of technology (UTAUT). And it was ultimate model that combines what one knows and offers a base to guide future study. It aims at explaining the users' intention to use an interactive system conventional behaviour. UTAUT Model comprising four core determinants of intention and usage. The determinants variable are effort expectancy, performance expectancy, social influence and facilitating conditions. UTAUT model also identified another four moderator variables (Gender, Experience, Age, and voluntariness of use). The UTAUT model is illustrated in Figure 1.

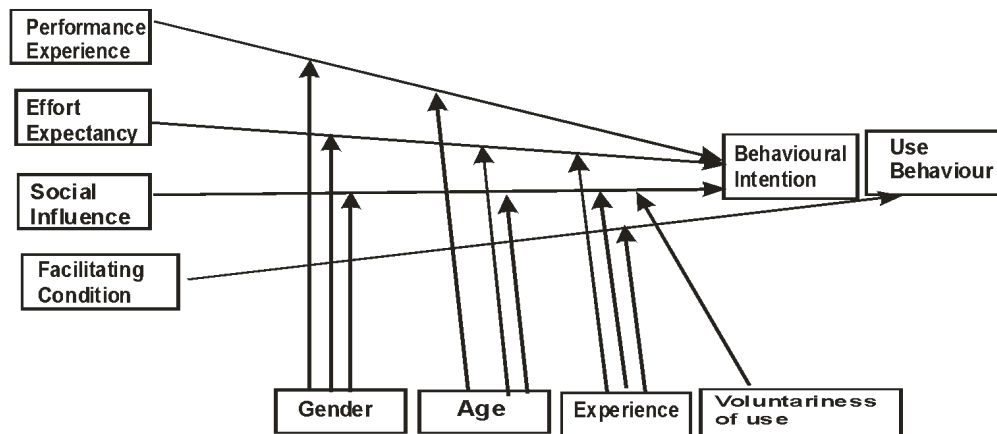


Figure1: Unified Theory of Acceptance and Use of Technology (UTAUT)
 Source: Venkatesh, et al (2003) and Kaasinen (2005).

Previous scholars have worked on the used UTAUT as briefly discussed, Šumak, Polančič and Heričko (2010) established that social influence provides significant effect on learners' behavioural intention to use moodle and learners' behavioural intentions a powerful are interpreter of the utility of the e-learning system. Similarly, AlAwadhi and Morris (2008) examined the adoption of e-government services with UTAUT, it was revealed that appearance and influence determined students' behavioural intention. Furthermore, Cheng, Liu, Song and Qian (2008) investigated the authenticity of UTAUT on Internet banking. The result put forward that performance expectancy and social pressure are higher predictors of behavioural intention. Thomas, Singh and Gaffar (2013) worked on the unified theory of acceptance and use of technology (UTAUT) in relation to mobile learning adoption in higher education, the study further appraised the impacts of the UTAUT as a factor on behavioural intention to adopt mobile learning. In similar study Taiwo and Downe (2013) examined the UTAUT on purposes and social influence on the predict behavioural intention towards the acceptance of information technology and the implications.

The study of Attuquayefio and Addo (2014) critically examined the issues surrounding acceptance of information and communication technology (ICT) by students of tertiary institutions, (UTAUT) was employed by the study to determine the strength of predictors for students' intention to accept and use ICT for learning and research. Also, Rosaline and Wesley, (2017) researched on UTAUT to decide the predictors of ICT adoption in instruction, the finding show that a positive substantial relationship on behavioural intention to utilise ICT tools. Moreover, studies have revealed UTAUT relationship inconsistencies. For example, Im, Hong and Kang

(2011) and Nassouora (2012) expressed the positive effect of routine expectancy on behavioural intention, while others have shown no such effect.

RESEARCH QUESTIONS:

These following research questions guided the study

Research Question 1: What kind of social media do postgraduate students mostly use?

Research Question 2: What is the perception of postgraduate students on the usefulness, ease of use of social media in learning?

Research Question 3: What is the perception of postgraduate students on the intention to use of social media in learning and base on their area of study?

RESEARCH HYPOTHESIS:

These hypothesis is tested at 0.05 level of significance in the study.

Ho₁: There is no significant difference in postgraduate students' intention to use social media in learning.

Ho₂: There is no significant difference in postgraduate students' intention to use social media in learning based on area of study.

METHODOLOGY

The design of this study was a descriptive research type using cross-sectional survey method. The study population consisted of the postgraduate students in all the six states in the South-west, Nigeria. They are; Oyo, Ogun, Ondo, Ekiti, Osun and Lagos States respectively. The target population included the postgraduate students in the Federal and the state owned universities in six states in South western Nigeria. Ten Universities were purposively sampled out of fifteen universities in the South western Nigeria (see Table 1). National Open University of Nigeria (NOUN) was deliberately excluded from the study because it operates on open and distance learning mode and provide lectures to students in study centres; which may not readily make the postgraduate students accessible to give adequate information needed for the research. Ekiti State University, Ado Ekiti. Tai Solarin University of Education, Ijagun, Ijebu - Ode, Ogun State, Osun State University, Osogbo, Osun State. Ondo State University of Science and Technology, Okiti Pupa, were excluded because they are fairly young in terms of years of establishment and do not have a regular pattern of postgraduate programmes.

Stratified sampling method was employed to select the postgraduate students based on students' institution, department, university type, course of study and gender. A total sample of 2,458 out 4000 copies of questionnaires that were randomly distributed to the postgraduate students from Humanities, Pure Sciences and Applied Sciences, were retrieved for analysis. The research instrument used was a questionnaire adapted from Olasedidun (2014). Items contained in the questionnaire were adapted constructed on their relevance to intention to utilise Social media during learning. The face and gratified validity of the instrument were done by the three lecturers in the Department of Educational Technology in the University of Ilorin and one lecturer in the

Department of Library and Information Science and one from the Department of Test, Measurement and Evaluation, University of Ilorin. Ilorin. Nigeria.

Table 1: List of state and federal universities in South-west and the sampled postgraduate students as at March 2015

| S/N | Universities | No | % |
|-----|---|------|-------|
| 1 | Adekunle Ajasin University, Akungba | 196 | 9.24 |
| 2 | Ekiti State University, Ado Ekiti, Ado Ekiti,. | 204 | 8.30 |
| 3 | Federal University of Agriculture, Abeokuta, Ogun State | 195 | 7.93 |
| 4 | Ladoke Akintola University of Technology, Oyo State | 227 | 9.24 |
| 5 | Lagos State University, Ojo, Apapa, Lagos State | 232 | 9.44 |
| 6 | Obafemi Awolowo University, Ile Ife, Osun State | 304 | 12.37 |
| 7 | Olabisi Onabanjo University, Ago Iwoye, Ogun State | 269 | 10.94 |
| 8 | University of Ibadan, Ibadan, Oyo State. | 388 | 15.79 |
| 9 | University of Lagos, Akoka, Lagos State | 232 | 9.44 |
| 10 | Federal University of Technology, Akure, Ondo State | 204 | 8.30 |
| | Total | 2458 | 100 |

Moreover, for reliability, the instrument was administered on postgraduate students of University of Ilorin, Ilorin, Nigeria, which was not inclusive in the study. The split half method was adopted and computed with the Cronbach’s alpha using SPSS packages and was used to run the data collected for the reliability, the values was 0.82 for intention to use.

Letter of permission was collected from the Head of Department of Educational Technology, University of Ilorin to conduct the study. The researcher personally visited the ten (10) universities that were sampled with the help of researcher assistants to administer the research instruments. The data were collected through a process of response to paper and pen survey. Considering research ethics and to ensure high standards of professionalism, postgraduate students' consent was sought for through research consent form that was presented to them. The postgraduate students volunteered to participate in the study and there was no coercion of any sort. The postgraduate students were made aware that they were free to partake or withdraw at any time without any repercussions. Also, confidentiality was not compromised. The researcher assistants were given a proper briefing and training on the use of the researcher instruments by the researcher. The researcher and the researcher assistants were responsible for the distribution and collection of the research instruments. The respondents used for the study were able to complete the copies of questionnaire within a period of 20-30 minutes. This enabled the researcher and researcher assistants to collect the instrument soon after for further analysis.

Research Question 1: What is the percentage and the kind of social media used mostly by the postgraduate students?

Table 2 revealed that Ning, was used by 64 respondents (2.6%), Rogo by 65(2.5%), 2go,635 (25.8%), My Space,18 (0.7%), Twitter,1001 (40.7%), Instagram,41 (1.7%), Blogger and Slide share 18 (1.7%) respectively. Other social media like Google+ had, 1159 (47.2%), Flickr had 18 (0.7%), Google had the highest subscribers with 2458 (100%), Linkedin, 10 (0.4%) WhatsApp also had 2440 (99.3%), YouTube had 1281 (52.1%), Facebook had 2438 (99.2%) and Technorah had 14(0.6%) users each among the respondents. This implies that Google 2438(99.2%), and Facebook 2458 (100%) were mostly accessed by postgraduate students. Then YouTube 1281(52.10%), Google + 1159(41.2%) and twitter 1001(40.7%) were averagely accessed by the students.

Table 2: Percentage of Using Social Media by the Postgraduate Students

| S/N | Social Media | Respondents | % |
|-----|--------------|-------------|-------|
| 1. | Ning | 64 | 2.6 |
| 2. | Rogo | 61 | 2.5 |
| 3. | 2go | 635 | 25.8 |
| 4. | MySpace | 18 | 0.7 |
| 5. | Twitter | 1001 | 40.7 |
| 6. | Instagram | 41 | 1.7 |
| 7. | Blogger | 18 | 0.7 |
| 8. | Slideshare | 18 | 0.7 |
| 9. | Google + | 1159 | 47.2 |
| 10. | Flickr | 18 | 0.7 |
| 11. | Google | 2458 | 100.0 |
| 12. | Linkedin | 10 | 0.4 |
| 13. | Whatsapp | 2440 | 99.3 |
| 14. | Youtube | 1281 | 52.1 |
| 15. | Facebook | 2438 | 99.2 |
| 16. | Technorah | 14 | 0.6 |

In essence, the postgraduates students used Google+, whatsapp and Google and facebook frequently than other social media for learning.

Research Question 2a: What is the perception of postgraduate students on the usefulness of Social media in learning?

Table 3: Postgraduate Students on Social Media Usefulness for Learning

| S/N | Items | Mean |
|-----|---|------|
| 1 | Social media usage reduces stress and tension inherent in learning | 4.06 |
| 2. | Social media usage gives me control over my learning. | 3.68 |
| 3. | Social media will support the critical part of my learning task. | 3.92 |
| 4. | Social media usage reduces boredom over learning. | 4.05 |
| 5. | The use of Social media in learning make my study more diverse | 3.89 |
| 6. | The use of Social media is counterproductive due to insufficient technical resources. | 3.76 |
| 7. | Using Social media enhance my effectiveness in learning | 3.83 |
| 8. | Social media usage increases my daily productivity in learning | 3.94 |
| 9. | Social Media make me finish the content of my learning quickly | 3.85 |
| 10. | Learning is much more easy with the use of Social Media | 4.03 |
| | Average mean | 3.90 |

This research question found out perception of postgraduate' students on their usefulness of Social media in learning. Thus, the researchers analyzed the responses of respondents from the items on the questionnaire and the results are shown in Table 3.

Postgraduate students' perception of their usefulness of Social media in learning revealed that their usage reduces stress. As revealed in Table 3, social media usage reduce stress and tension inherent in learning and it was ranked highest, having the mean score of 4.06 out of 5. This was followed by social media usage will reduce boredom over learning, the learning will be much easier with the utilization of social media and that social media will support the critical part of my learning task having the means of 4.05, 4.03 and 3.92 respectively. The lowest mean score was 3.68 with the statement that social media usage will give me control over my learning.

The grand mean score for perceived usefulness was found to be 3.90 taking 2.5 as the average benchmark. It can then be inferred that postgraduate students perceived Social media as useful as useful in learning.

Research Question 2b: What is the perception of postgraduate students on the usefulness of Social media in learning?

The research question found the perception of postgraduate students on their ease of using Social media in learning. The researchers analyzed the responses from the relevant items on the questionnaire and the results are as shown in Table 4.

Table 4: Postgraduate Students on their Ease of Use of Social media in learning

| S/N | Items | Mean |
|-----|--|------|
| 1. | The utilisation of Social media takes more of my time than necessary with its gadget manipulation. It was easy but time consuming. | 4.08 |
| 2. | Devices involved in using Social media for research are frustrating | 3.67 |
| 3. | The use of Social media makes my study more difficult | 3.92 |
| 4. | Using Social media are effortless for me. | 4.05 |
| 5. | Social media utilization in teaching is too complex. | 3.89 |
| 6. | I will use Social media, gadgets in research without written instruction. | 3.76 |
| 7. | Manipulation of equipment of Social media are always cumbersome. | 3.83 |
| 8. | Social media are easy to navigate. | 3.95 |
| 9. | It is easy to become skilful at utilising Social media in learning. | 3.85 |
| 10. | Network problem hinder learning using Social media equipment. | 4.03 |
| | Grand Mean | 3.90 |

Table 4 revealed that the item the use of Social media will take more of my time than necessary with its gadget manipulation was ranked highest having the mean score of 4.08 out of 5. This was followed by the item Using Social media is effortless for me with a mean score of 4.05 and It is easy to become skilful at utilising Social media in learning having the mean of 4.03. The lowest mean score was 3.67 with the statement that devices involved in using Social media for research is frustrating'.

However, the grand mean score for perceived usefulness was found to be 3.90. Using 2.5 as the average benchmark, it can then be inferred that postgraduate students had positive insight towards the ease of use of social media in learning.

Hypothesis testing

Ho₁: There is no significant difference between male and female postgraduate students in their intention to use Social media in learning.

In determining whether there was any significant difference between male and female postgraduate students' intention to use of Social media in learning, the null hypothesis was tested by utilising independent sample t-test as revealed in Table 5.

Table 5: *t-test of Male and Female Postgraduate Students' Intention to Use Social Media for Learning*

| Gender | No | X | SD | Df | T | Sig. (2-tailed) |
|--------|------|-------|------|------|------|-----------------|
| Male | 1530 | 25.37 | 3.70 | 2454 | 0.66 | 0.02 |
| Female | 928 | 24.38 | 3.51 | | | |

Table 5 indicates that $t(2454) = 0.66$, $p = 0.02$. This means that the stated null hypothesis was not accepted. This was as a result of the t-value (0.66) with p-value 0.02 at 0.05 alpha value. This means that, there was significant difference between female and male postgraduate students' intention to use Social media in learning. However, the means score was higher than their female (24.38) counterparts. This implies that the male students' perception toward the intention to utilise Social media in learning is more than their female counterparts.

Ho₁: There is no significant difference in postgraduate students' intention to use social media in learning based on area of study.

In determining whether there was any significant difference in the intention of postgraduate students to utilise social media in learning based on area of study, the null hypothesis was tested by using one-way ANOVA as shown in Table 6.

Table 6: *Postgraduate Students' Intention to use Social Media in Learning based on Area of Study*

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|------|-------------|------|------|
| Between Groups | .869 | 2 | .435 | .032 | .968 |
| Within Groups | 32992.098 | 2455 | 13.439 | | |
| Total | 32992,967 | 2457 | | | |

Table 6 also reveals $F(2, 2455) = 0.32$, $p > 0.05$, for postgraduate students' intention to in the use of social media in learning based on area of study. There was no significant difference in postgraduate students' intention to utilise social media in learning based on area of study.

DISCUSSION

Postgraduate Students' Gender and their Intention to utilise Social Media in Learning. The result of t-test analysis on male and female postgraduate students' intention to utilise social media in learning showed no significant gender difference. These findings revealed that postgraduate male students' responses to their intention to use social media in learning were not different from their female counterparts. The finding contradicts the study of Ellison, Steinfield, and Lampe, (2007), and the findings of Gray, Vitak, Easton, and Ellison, (2013), whose study revealed that there was gender gap in the students' use of Facebook. And also the study of Bsharah, Gasaymeh, and Abdelrahman, (2014) who concluded that students' attitude towards the use of social media significantly different in terms of gender.

The findings further contradicted Igbaria, Schiffman, and Wieckowski, (1994), Kiwanuka (2015) who confirmed that there is significant impact of behavioural intentions on ICT usage, and similarly with the study of Caplan, (2003) Kim, LaRose, and Peng, (2009) and Wood, (2011) who confirmed the less participation of female in using Facebook and male students' intention towards using the cloud computing. It could therefore be inferred from the findings, that there were no important variation between male and female postgraduate students' intention to use social media in learning. This implies that both male and female postgraduate students have the intention of using the technology for learning.

Postgraduate Students' Area of study and interactive effect of gender in the intention to use social media. The findings on male and female postgraduate students and their area of study on intention to use social media analysis revealed no significant difference between both male and female postgraduate students' intention to the use of social media in learning.

This finding supported Olumorin (2008) who submitted that successful incorporation of ICT into higher education is contingent not only on awareness and availability but also on the degree to which instructors are willing and able to use it. It is also in agreement with the findings of Jong, Lai, Hsia, and Liao, (2014) who confirmed students' intention to use social networking to enhance social connection, but rarely for scholastic purposes. The findings contradict Ventkatesh and Davis (1996) who explained the perceived ease of use, thus men's' perception of perceived usefulness of technology was significant, that the male are more comfortable and competent with technology than the female.

The findings further established that there was no significant difference in the postgraduate students' intention to use social media in learning based on area of study therefore, both male and female postgraduate students should be encouraged positively in the use of Social media in learning.

CONCLUSION

This research explored the perception of postgraduates' students on the integration of social media in learning in South-west Nigeria. The study specifically examined the postgraduate students' ease of use, usefulness, and intention towards social media in learning. The result acquired from data gathered and analyzed in this study signposted that the perception of postgraduate students was positive on the utilisation of social media in learning. It also showed that the postgraduate students positively perceived , ease of use, usefulness, and intention of social media in learning.

RECOMMENDATIONS

Based on the findings and conclusions, this study makes the following recommendations: Postgraduate students should be encouraged to have a proper useful medium for accessing, educating on how to utilize the social media in their various universities for instructional purposes and also encouraged to make use of the Social media in learning rather than for entertainment.

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