

PREDICTIVE MODELING FOR SOCIAL MEDIA ADOPTION ON MOBILE LEARNING FOR INSTRUCTIONAL DELIVERY IN TERTIARY INSTITUTIONS IN KWARA STATE

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Abstract

Instructional delivery is gradually taking new turn with the prevalent of varieties of accessible social media applications. Digital migrants and natives are keying to the emerging trends of pervasive mobile technologies and wireless network. Various communication applications are engaged for effective instructional delivery within and outside the four walls of academic environment. This study is a descriptive survey examining the factors that predicts social media adoption model for mobile learning among students in selected higher institution of learning in Kwara State. The sample consisted of 194 participants across the four tertiary institutions selected for this study. The samples are randomly selected. A researcher designed questionnaire tagged PM-SMAM was used to gather information and their responses were analyzed through frequency count, percentages and t-test. Six research questions were raised. The result revealed that perceived usefulness, perceived ease of use, desire, acceptance, attitude and referent group is the underlying factors or determinants that serve as predictive modeling for the adoption and use of social media for mobile learning among tertiary institution students. Therefore, it is recommended that determinants should be given the appropriate attention when attempting to adopt and use social media for mobile learning.

Keywords: Social Media, Mobile Learning, Predictive Model, Referent Group, Acceptance

Introduction

The social media tool has enjoyed tremendous patronage among undergraduates in the recent generation. The availability of internet and wireless technology also accounted for the pervasive utilization of the social media for numerous communication formats among undergraduates in Nigeria. The Internet has provided new ways of communicating among different categories of people through various social media applications like Facebook, MySpace, YouTube, Flickr, WhatsApp, Twitter, LinkedIn and many (Akbiyik, 2013). Social media networks have become a global phenomenon and attracted extensive population from all around the world in different ages, cultures, education levels, etc. Routinely, it is used in checking e-mails, reading daily forums and newspapers or following instant message tools, checking social media profiles by following others' status changes, updating profiles or looking at others' profiles (Mazman & Usluel, 2011). It was further asserted that people use social media network sites for variety of reasons among which are ease of use, allowing rapid updating, analyzing and sharing the continuously increasing information, reflecting on daily life, establishing and maintaining spontaneous social contacts and relationships, supporting informal learning practices with interaction and communication, as well as facilitating the delivery of education as the leading ones (Mazman & Usluel, 2011).

The prevalence of social media has become very popular among old and young people using various form of technology for face-to-face or virtual communications (Heiberger & Harper, 2008). Social media applications have made means of interaction, communication, and

collaboration possible and more effective and hence, have been highly introduced to support and amplify educational activities (Greenhow, Robelia, & Hughes, 2009). There is an increasing awareness of students, teachers as well as researchers on the potentials of applying social media applications for education purpose, as a result of the growing number of users and its swift spread among universities and educational institutions (Eze, 2009). The rapid adoption of social media emerged with the purpose of sharing photos, personal information, videos, profiles and related content with young individuals of undergraduate status been amongst the heavy users (Ajjan & Hartshorne, 2008). The adoption trends of the social media should be hinged on predictive models that could serve as guide in its use for education purpose among students. Benbasat and Barki (2007) asserted that one of the accepted and most influential models for assessing and evaluating the ideology of technology adoption rates is Technology Acceptance Model (TAM).

The origins of TAM can be traced to the Theory of Reasoned Action (TRA) which requires that salient beliefs about one's attitude toward a particular behavior be elicited in order to be relevant to the specific behavior being studied (Fishbein & Ajzen, 1975). Based on approach to eliciting salient beliefs, Davis (1986) proposed two constructs for TAM, perceived usefulness (PU) and perceived ease of use (PEOU) as a bedrock for measuring the salient behaviour expected of individual in the adoption of technology for a specific purpose. Moore and Benbasat (1996) proposed utilizing generic belief on set of perceived characteristics of innovations as identified in Rogers (2003) Diffusion of Innovations Theory. TAM is predicated on the two construct aforementioned as a pointer for behavioural intention and the actual use of such technology as hypothetically depicted in figure 1:

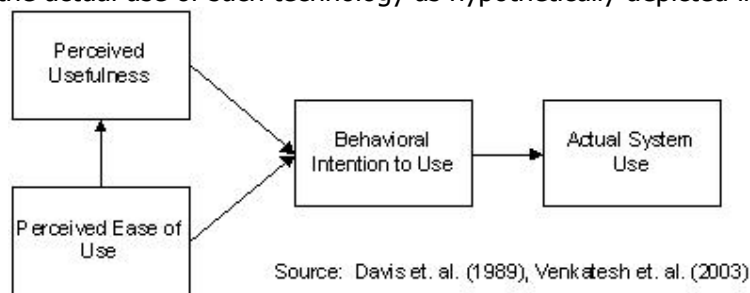


Figure 1: Technology Acceptance Model by (Davis et.al, 2003)

TAM has gained considerable support in understanding and managing the process of new technology adoption (Chen, Chen, Lin & Yeh, 2007; Dillon & Morris, 1996; Masrom, 2007; Park, 2009). Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are the central focus of TAM but over the years, there have been several modifications by different researchers to enrich the model. A large multitude of studies investigating TAM and its many variants revealed almost to the point of certainty that perceived usefulness (PU) is a very influential belief and that perceived ease of use (PEOU) is an antecedent of PU and an important determinant of use in its own right (Benbasat & Barki, 2007). Therefore, the determinants of adopting social media for integration within the learning environment are necessary to be identified in order to predict a model of guidance for students. Some of the identified determinants of social media adoption and integration includes positive, negative and neutral desire effects (Akbiyik, 2013), and students' attitude, behavioural intention, acceptance rate and referent groups ((Farahat, 2012). Each of these determinants could be examined in connection to perceived usefulness and perceived ease of use.

Students' desire to adopt and use social media could be positive, negative or neutral in nature as explained by Akbiyik (2013). Social media might seem to be helping users in keeping communication flow in all online engagements. It can as well create personality towards complexity of socio-economic status such that a distinction of lifestyle is observed between or among online users. And finally, there might not be any kind of perceived influence on social lifestyle of online users. Furthermore, students' attributes like attitude, behavioural intention, acceptance rate and referent group are a major determinant to consider in evolving model for the adoption of social media users. Referent group in this regard refers to social group that is important to an individual by consequentially influencing his belief and behaviour towards social media (Farahat, 2012). The referent group might include instructors, peers/supporters, teaching assistant, mentor, or family members. Therefore, a hypothetical predictive model premise on TAM reflecting the determinants of social media adoption for user is presented figure 2:

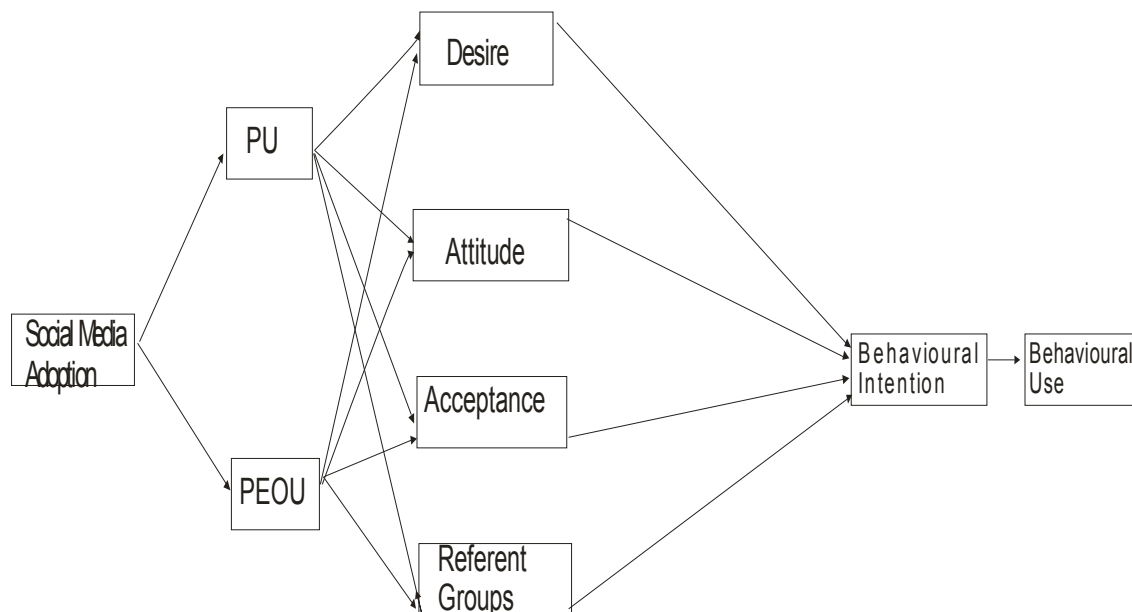


Figure 2: Predictive Model for Social Media Adoption for Mobile Learning

The model shows the interconnections of social media adoption in relation to perception (PU & PEOU) as a foundational construct towards desire, attitude, acceptance and referent groups for social media users. These determinant constructs leads to behavioural intention and obviously rolled over to behavioural use of social media by students. Also, some other extraneous factors that could influence these determinants are gender, age, institution type, social environment, nature of discipline among others. It relatively connotes that perceived usefulness and perceived ease of use can be exponentially observed on desire, attitude, acceptance and referent group of a social media user. The prompting need for predictive model is hinged on the widespread of various social media applications which is being used among the students. And in effect, some academic institutions in Nigeria are designing and developing university owned-applications for the use of their students, as well as encouraging lecturers to gradually key-in to the trends of social media networks to improve instructional delivery for better academic results of the students.

Research Questions

- (i) How students do perceived the usefulness of social media for mobile learning?

- (ii) How students do perceived the ease of use of social media for mobile learning?
- (iii) Do students desire to use social media as a mobile learning tool?
- (iv) What is the attitude index of students towards the use of social media for mobile learning?
- (v) What is the acceptance rating of social media for learning among students?
- (vi) Do referent groups influence the use of social media for mobile learning among students?

Methodology

A survey research of descriptive type was employed for this study with simple random sampling techniques adopted for sample selection in the four tertiary institutions. There are ten tertiary institutions in Kwara State as at the time of this research in which four were randomly selected to represent each stratum of the tertiary institution's category. The four tertiary institutions selected were Al-Hikmah University, Ilorin; Kwara State Polytechnic, Ilorin; Kwara State College of Education, Ilorin; and Kwara State College of Arabic and Islamic Legal Studies, Ilorin. A researcher-designed questionnaire made up of six sections was used to sample respondents' opinion. The questionnaire was made up of two sections (A and B). Section A collated demographic information of respondents while Section B which is sub-divided into six parts gathered information on perceived usefulness, ease of use, students' desire, attitude, acceptance and referent group accordingly with regard to social media adoption for mobile learning. The questionnaire was validated by given it to five lecturers in Al-Hikmah University and then subjected to pilot through test-retest method. The response mode was strongly agree, agree, disagree and strongly disagree which were rated on a Likert scale of 4, 3, 2 and 1 respectively. The data collated was further subjected to Cronbach Alpha Coefficient for reliability test and it yielded 0.91. The researcher personally administered the questionnaire across the four selected tertiary institutions and the data collated were prepared for statistical analysis. The result collated was analyzed using frequency count and percentages. The Table 1 gives the population per institution and the corresponding selected samples according to Israel's model at $\pm 7\%$.

Table 1: List Institution Selected for the Study

SN	Name of Institution	Population
1	Al-Hikmah University, Ilorin	4253
2	Kwara State Polytechnic, Ilorin	7267
3	Kwara State College of Education, Ilorin	6871
4	College of Arabic & Islamic Legal Studies, Ilorin	953
Total		19344

The sample selection of the respondents was determined by Creative Service Systems model which is available at <http://www.surveysystem.com/sscalc.htm>. The model is designed to automatically assist in the calculation and determination of sample size. Hence, the sample size calculation gave 194 respondents from sample population of 19344 at $\pm 7\%$ confidence interval of 95% confidence level.

Results

Research Question 1: How do students perceive the usefulness of social media for mobile learning?

Table 2: Frequency and Percentage of Perceived Usefulness of Social for Mobile Learning

SN	ITEM	SA(%)	A(%)	D(%)	SD(%)
1	Social media can be used for informal and formal education	78(40.2)	73(37.6)	23(11.9)	20(10.3)
2	Social media can promote effective communication strategy in the classroom	59(30.4)	84(43.3)	29(14.9)	22(11.3)
3	Social media can be used to carryout classroom assignment and submission	63(32.5)	71(36.6)	35(18.0)	25(12.9)
4	Social media could be used for instructional delivery in a mobile learning experience	69(35.6)	82(42.3)	24(12.4)	19(9.8)
5	Social media could make mobile learning interesting and effective	67(34.5)	70(36.1)	38(19.6)	19(9.8)
6	Social media can enrich the quality of instructional content in a mobile learning environment	57(29.4)	80(41.2)	35(18.0)	22(11.3)

Table 2 showed that the perceived usefulness of social media for mobile learning responses from majority was on the positive side. For example, 78 (40.2%) and 73(37.6%) strongly agree and agree respectively that social media can be used to learn in both formal and informal education. Also, the use of social media can promote effective communication in the classroom as reflected in their responses where 59 (30.4%) and 84 (43.3%) strongly agree and agree to this assertion. More importantly as well is that the social media can enrich the quality of instructional content in a mobile learning experience. The respondents' opinion showed that 29.4 (29.4%) and 80 (41.2%) strongly agree and agree respectively to this statement.

Research Question 2: How do students perceived the ease of use of social media for mobile learning?

Table 3: Frequency and percentage of perceived ease of use of social media for mobile learning

SN	ITEM	SA(%)	A(%)	D(%)	SD(%)
1	Social media app is easy to download and install for mobile learning	73(37.6)	79(40.7)	22(11.3)	20(10.3)
2	Social media is easy to use for communication in mobile learning classroom	65(33.5)	92(47.4)	35(18.0)	2(1.0)
3	Social media is very simple to use for collaborative approach in a mobile learning settings	56(28.9)	77(39.7)	37(19.1)	24(12.4)
4	I do interact easily with peers through social media platform during mobile learning classroom	58(29.9)	68(35.1)	43(22.2)	25(12.9)
5	I sough clarity of difficult concept easily through social media in a mobile learning task	38(19.6)	83(42.8)	44(22.7)	29(14.9)

Table 3 shows the frequency and percentage of perceived ease of use of social media for mobile learning. The percentage representation showed that 58 (29.9%) and 35.1% (68) strongly agree and agree to perceived ease of use of social media for mobile learning. The use of social media in a mobile learning classroom is easy and effective: strongly agree 65 (33.5%) and agree 92 (47.4%), furthermore, social media in a mobile learning platform promote healthy collaboration among participating students as showed from the responses of the respondents: strongly agree 56 (28.9%) and agree (39.7%).

Research Question 3: Do students desire to use social media as a mobile learning tool?

Table 4: Frequency and Percentages of Students' Desire to Use Social Media for Mobile Learning

SN	ITEM	SA(%)	A(%)	D(%)	SD(%)
1	I wish to be vast in variety of social media app for mobile learning sake	52(26.8)	82(42.3)	35(18.0)	25(12.9)
2	I always want to be on social media chatting room for mobile learning experience	50(25.8)	77(39.7)	39(20.1)	28(14.4)
3	I wish my lecturers should be given task that could be solve through social media for mobile learning experience	56(28.9)	68(35.1)	45(23.2)	25(12.9)
4	I want to always engage in the use of social media to communicate knowledge to peers	59(30.4)	79(40.7)	33(17.0)	23(11.9)
5	I desire to encourage my course mate to be conversant in the use of social media for mobile learning	65(33.5)	67(34.5)	36(18.6)	26(13.4)

Table 4 explained the desire of students in wanting to use social media for mobile learning platform. This is evident from the responses of the examined undergraduate sampled for this study. Majority of the respondents wish to be vast in variety of social media app for mobile learning as reflected in the percentage representation of strongly agree (26.8%) and agree (42.3%). Also, 28.9% and 35.1% wish that their lecturers could give them task that can be solved through the use of social media in a mobile learning platform. Finally, the desire of the majority respondents is to encourage their course mate to be conversant with the use of social media for mobile learning experience.

Research Question 4: What is the attitude of students towards the use of social media for mobile learning?

Table 5: Frequency and Percentages of Students' Attitude to Social Media for Mobile Learning

SN	ITEM	SA(%)	A(%)	D(%)	SD(%)
1	I feel motivated when I use social media for learning difficult concepts.	59(30.4)	76(39.2)	36(18.6)	23(11.9)
2	The use of social media distract my attention when trying to learn difficult concepts.	29(14.9)	56(28.9)	52(26.8)	57(29.4)
3	I have phobia towards the use of social media when it is been used for mobile learning.	35(18.0)	56(28.9)	59(30.4)	44(22.7)

4	The use of social media for mobile learning by lecturer discourages me from attending lectures.	41(21.1)	44(22.7)	53(27.3)	56(28.9)
5	I don't feel comfortable chatting on social media when discussing academic issues.	43(22.2)	29(14.9)	66(34.0)	56(28.9)
6	The use of social media for mobile learning encourages me in attending class lectures.	65(33.5)	92(47.4)	35(18.0)	2(1.0)
7	I develop interest in courses where lecturers uses social media for mobile learning	63(32.5)	71(36.6)	35(18.0)	25(12.9)

Table 5 revealed the responses of students' attitude towards the use of social media for mobile learning. All the positive items in this section were strongly agree and agree to by majority of respondents. This connotes that the sampled students developed positive attitude towards the use of social media for mobile learning. For example, social media motivate respondents to learn difficult concepts. This is evident from the percentage representation of 30.4% and 39.2% for strongly agree and agree respectively. The negative items were strongly disagree and disagree upon as showed on the item on use of social media for mobile learning by lecturer discourage me from attending lectures. The responses based on strongly disagree (28.9%) and disagree (27.3%) did not support this statement.

Research Question 5: What is the acceptance of social media for learning among students?

Table 6: Frequency and Percentages of Students' Acceptance of Social Media for Mobile Learning

SN	ITEM	SA(%)	A(%)	D(%)	SD(%)
1	I do appreciate using social media platform to carry out academic activities.	69(35.7)	73(37.6)	33(17.0)	19(9.8)
2	I am prepared to attend blended learning class where social media is the choosing platform.	51(26.3)	70(36.1)	39(20.1)	34(17.5)
3	I am enthusiastic in communicating through the social media with my course colleagues.	57(29.4)	74(38.1)	41(21.1)	22(11.3)
4	I am always willing to share knowledge with my peers on social media platform.	67(34.5)	74(38.1)	29(14.9)	24(12.4)
5	I am an advocate of social media campaigner for mobile learning among my peers.	55(28.4)	68(35.1)	44(22.7)	27(13.9)

Table 6 showed the acceptance of social media adoption for mobile learning among respondents. From Table 8, 35.7% and 37.6% of respondents strongly agree and agree to the statement of appreciating the use of social media to engage in academic activities. Also, the willingness to share knowledge with peers through social media for mobile learning is reflected in the responses given by the selected sample. About 34.5% and 38.1% of the respondents strongly agree and agree to the willingness to use the social media platform to share knowledge. In addition, 28.4% and 35.1% of the respondents' responses are advocates for the use of social media for mobile learning experience.

Research Question 6: Do referent groups influence the use of social media for mobile learning among students?

Table 7: Frequency and Percentages of Referent Groups' Influence on the Use of Social Media for Mobile Learning

SN	ITEM	SA(%)	A(%)	D(%)	SD(%)
1	People around me influence my use of social media for mobile learning	59(30.4)	75(38.7)	36(18.6)	24(12.4)
2	My peers are used to chatting through social media to solve difficult task, I have to cue in	48((24.7)	71(36.7)	40(20.6)	35(18.0)
3	Lecturers communicate to the class through social media to promote mobile learning	57(29.4)	74(38.1)	41(21.1)	22(11.3)
4	I am influenced by lecturer's insistence of completing assignment through the social media	66(34.0)	74(38.1)	29(14.9)	25(12.9)
5	The availability of wireless connection encourage me to adopt social media for learning	59(30.4)	73(37.6)	34(17.5)	28(14.4)
6	Close associates do engage in research endeavor through the social media platform	62(32.0)	57(29.4)	37(19.1)	38(19.6)

Table 7 shows that most of the items in this section were given positive responses to by the selected samples. For instance, 30.4% and 18.6% of the respondents strongly agree and agree respectively to the fact that people around them influence their use of social media for mobile learning. Another evidence is that lecturers influence them to use social media for mobile learning through their insistence on completing and submitting assignment (strongly agree =34.0% and agree = 38.1%).

Conclusion

This study predicted factors that could serve as a model for the adoption and use of social media for mobile learning in higher institution of learning. Therefore, the findings showed that social media platform adoption for mobile learning could be determined through perceived usefulness, perceived ease of use, desire, attitude, acceptance and referent group with a hypothetical diagram originated from these factors. The technology acceptance model was used as the basis for the emanation of the predictive modeling factors that can determine the adoption and use of social media for mobile learning. The result concretizes the fact that these factors will play a major role the use of social media for mobile learning higher institution of learning in Nigeria.

Recommendations

From the findings of this study, the following recommendations are put forward for successful adoption and use of social media for mobile learning:

- (i) The adoption and use of social media for mobile learning should be perceived positively as useful for instructional delivery.
- (ii) Also, each social media platform that would be use should be adopted for mobile learning experience in higher institution of learning.
- (iii) Students should as well envisage positive desire to adopt and use social media for mobile learning.

- (iv) Positive attitude towards the adoption and use of social media for mobile learning among students should be encouraged.
- (v) Acceptability of social media for mobile learning should be a yardstick for successful adoption and use of social media for mobile learning.
- (vi) There should be a positive influence from the referent group in order to encourage the adoption and use of social media for learning.

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