Predicting Actual Use of Mobile Technology in Learning: Towards E-Learning Culture Framework

Sharifah Sariah Syed Hassan, Zahra Mardani Landani *

*Corresponding Author E-Mail: Zahra.Mardani@Live.Iium.Edu.My

Abstract

With the advent of communication technology evolution, learning becomes flexible and accessible at any time and anywhere. Educational technology researchers have extensively integrated the Theory of Acceptance Model (TAM) and Theory of Planned Behavior to link the beliefs and actions in mobile learning. This study attempted to predict a hypothesized model of mobile learning culture via smart phone. In this present study, the m-learning culture is conceptualized from the factors of attitude, ethical use, technology competent; technology reliance and social well being. Social well being from the perspectives of The Adaptive Structuration has been integrated to underpin the study. 185 samples were drawn from the population of Korea University. Using self constructed questionnaire for the survey, the analyses involved descriptive and simultaneous Multiple Regression Analysis (MRA). The study was supported by qualitative design via interviews. The findings indicate all predictors are significant except for technology reliance and ethical use. Social well being is the highest predictor for the m-learning via smartphone. This study has been explored from both quantitative and qualitative research which provide important empirical information to support m-learning culture and its predictors. The findings have contributed to a model of m-learning which extends the literature and existing models of TAM and Theory of Planned Behavior.

Keywords: m-learning; smartphone; higher learning

1. Introduction

The evolution of computer technology not only has affected the exponential speed of innovations in mobile devices and applications but also the attitude of people. Mobile devices become more affordable and functions are made easy for people to use in daily applications and learning. We have seen the changes of social behaviors in the community as technology creates a smaller world for us to reach with faster information to be retrieved. The most affected country that directly involved in technology innovation is Korea which has developed its economy at a very high pace as compared to other Asian counterparts. Having the highest Internet speed in the World with the average of 14.2Mbits/s (1), Korea has changed the pave of education from traditional to a more student-centered learning. Technology-based learning and technology-based comunity are essentials to the people in Korea and other countries in the world.

The trend of research in mobile learning has included the usage behavior among students in Malaysia (2) and United States of America (3). The gap of research is still unveiled for in-depth understanding on the nature of social interactions that are adopted in an organization. In predicting users' intention of mobile learning, factors such as positive attitudes from Theory of Acceptance (4) and online interactions, device features with Internet connection, and dependence (lecturer's support) and willing to share information (5); have been extensively investigated. Thus, this present research attempted to expand further on the factors of building the e-learning culture which included students' attitude, ethical use of social communication, technology competency, technology reliance and social well-being in influencing the actual mobile learning via smart phone. Prior to predicting the model, the structure of support system has been explored to determine the adoption of communication technology in teaching and learning. The research has been designed with a focus to attend the following research questions in the context of Korea University:

a.RQ1:How does the University provide technology support system for the lecturers and students?

b.RQ2:What are the trends of attitude and ethical use among students in using smart phone?

c.RQ3: To what extent do attitude, ethics, technology reliance, technology competent and social well-being affect mobile learning?
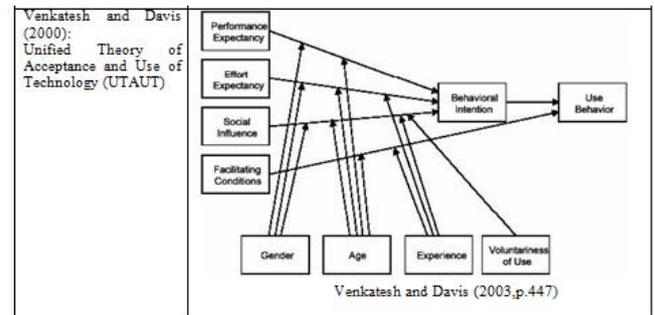
2. Literature Review

Social psychology is a subdiscipline of Psychology focusing mainly on how and why people react and interact with the environment. Previous research has discussed extensively on attitudes and behaviors which become the main source of the actual actions or actual behaviors. Integrating social psychology field in technology use, Fishbein and Ajzen (1975) have forwarded a model of Theory of Reasoned Action (TRA) (6). They proposed that actual behavior is predicted by behavioral intention. Behavioural intention is derived from two sources namely attitude toward behavior and subjective norm. Attitude is considered a personal factor while subjective norm is moulded from the social influence namely perceptions and expectations. Thus, this model indicates that individuals will engage in activities or particular voluntary behavior based on their existing attitude and behavioral intentions. In this theory, it was not well articulated on which factor carries more weight to influence the behavioural intentions. The issue of uncertainty with regards to the behavior intention remains vague (6).

Further, many entangled factors are bounded with the attitude in order to influence the behavioral intentions such as difficulties, situations and other environmental factors. TRA has been iniated by Fishbein and Ajzen (1975) based on Anderson's (1971) Information Integration Theory (IIT). They assert that information can modify the attitude but not necessarily to change it. He used the term influences on attitude rather than changing attitude when information is obtained. This is due to the fact that information affirms the pre-existing knowledge on how people think either positively or negatively. Thus, TRA concerns with behavior while IIT depicts on the importance of attitude.

In the following 1980s, theories have been revolutionalized based on attitude and behavior which later resulted models that integrate information system and technology. Theory of Planned Behavior (TPB) takes the center stage to predict actual behavior where Ajzen (1985) has championed this theory by adding a factor of perceived behavioral control (PBC) from the existing model and theory of TRA. PBC denotes the individual's belief that it is easy for him/her to carry out the behavior. In other word when he feels the work is easy, he is able to accomplish the task. Despite other external factors are needed, Ajzen strongly beliefs that PCB improves the model prediction where actual behavior is concerned. He made a point that the three factors (internal) namely attitude, subjective norm and behavioral control are the mediators for other external factors towards actual behavior. Thus, more research have been expanded to explain the actual behavior from TPB standpoint in many different contexts.

Technology Acceptance Model (TAM) has been derived from the perspectives of computer usage behavior (7) . He and his colleagues have extended Ajzen's theory of Planned Behavior on the aspect of behavioral elements towards the actual behavior or usage. Perceived ease of use (PEU) and perceived usefulness (PU) have been used to replace behavioural control and subjective norms. According to Davis et al.,(1989), user's motivation is derived from PE,PU and attitude. There are three versions of TAM. The first TAM depicts that perceived ease of use has an effect on perceived usefulness. Attitude and perceived usefulness factors can predict directly on behavioral intention to use. In addition, perceived usefulness can also indirectly influences behavioral intention through attitude towards behavior. Perceived usefulness determines the attitude and indirectly affects behavioral intention to use and actual use. More research has been carried out to identify the external factors underpinning the actual use of a technology or system. (8) have explored on Unified Theory of Acceptance and Use of Technology. They claim that performance expectations, effort expectancy, and social influence are direct predictors towards usage intention and behavior. On the other hand, facilitating conditions are directly influencing the behavior. Based on the discussions, Table 1. provides the summary of the models.

Table 1: Summary of models based on predictors of attitude change

Venkatesh and Davis (2003,p.447)

The literature reviews have provided some background information on the research framework underpinning the present research. All the models illustrated in Table 1.0 are based on predicting attitude change where influential factors are designated as independent variables. As discussed in Ajzen (1985), behavior can change attitude. He also asserts that the influential factors can either be in a form of communication or persuasion. Thus, as communication and technology have advently been developed and progressed, more persuasive factors need to be explored in changing the attitude of an individual. In educational perspectives, learning can only take place when there is a change of behavior. The following research framework has been proposed to predict the actual use of mobile technology in learning through attitude, ethical use, technology competency and technology reliance.
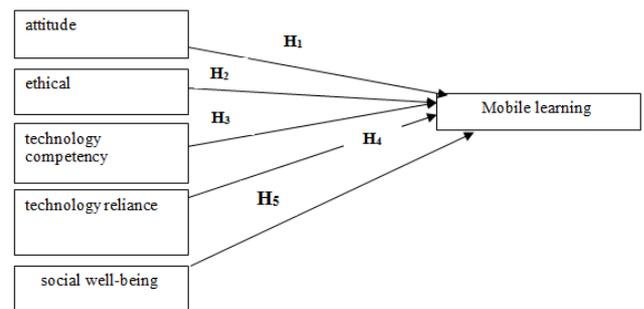
2.1. Research framework

Fig. 1: Hypothesized model

2.2. Attitude in Social Communication Environment

Attitude has been the main component of classical and contemporary psychological research. Attitude is considered a hypothetical construct thus it is complex to measure the exact concept (9). They have modeled attitude as three components namely affect, behavior intentions and cognition. Affect relates to the emotion which is underpinned by values, beliefs or religion. Behavior is said to act upon the beliefs or values the person has. It can be positively or negatively inclined towards values. The last component namely cognition is the thoughts and beliefs about the knowledge structure towards something or an object or a person. People get confused when dealing with their affect and cognition as they are inclined toward feelings or emotion in taking certain actions (10).

The goal of integrating technology is no longer about technology literacy and acceptance but the extent of gearing students to be innovative, creative and ethical thinkers. In the 21st century education, students not only learn through structured learning contents but to the extent that they share, collaborate, review and reflect learning contents through social networks. This learning style encompasses Connectivism as the learning theory of the digital age (11). Integrating technology such as smart phone in or outside the classroom involves thinking beyond the structured curriculum. Thus, teachers or lecturers must ensure to highlight the goal of learning and allow a diverse way of retrieving information beyond the classroom. This will influence the cognition that moulds the action and beliefs of an attitude.

2.3. Ethics of Social Communication Environment

Merriam-Webster defines ethics as a branch of philosophical study that deals with what is morally right or wrong. Thus, ethics remain the values in the social norms whether it is acceptable or unacceptable in each society with no specific written rules for people to follow. On the other hand, ethics in technology is denoted as technoethics (12). It is a branch of many areas involving philosophy, educational technology, information and communication studies.

Three main philosophies behind ethics are highlighted namely utilitarianism, duty ethics, virtue ethics and relationship ethics (12) . The utilitarianism addresses the guidelines to maximize happiness and lessen the distress and agony among people. Secondly is the duty ethics which embeds the moral requirements that are upheld towards the society as the universal rules. Thirdly is the virtue ethics which emphasizes on one's character of having the virtues and values to ensure he is able to evaluate the ethical behavior in the society. The last category is the relationship ethics which addresses concerns and consideration that are gained from human interactions. Thus, this criteria focus on creating a good and healthy relationship with people and society. Ethics in social communication via smart phone allows users to be aware of the consequences of their actions and adhere to social norms.

2.4. Mobile learning

 E-learning and mobile learning have been interchangeably used for the past 10 years. E-learning is the electronic learning that uses web based contents for teaching. It can include web based, digital devices such as videos that are uploaded online. M-learning or mobile learning is the evolution of the e-learning where students not only access the learning contents from the web but also to search information, collaborate and create social networks. Thus, learning content is not structured but to the extent of ill structured encompasses autonomous approach. Students can either learn from peers or the lecturers through the feedback given on the social networks. The students no longer need to wait for the lecturer's instructions instead they have more freedom to search for information. The lecturers or teachers are not succumbed to full ownership of the knowledge and instead students also involved in the teaching and learning process. Thus, learning activities must be well prepared beforehand.

2.5. Social well being

Based on Adaptive Structuration Theory by Giddens in 1984; appropriation (faithful, attitude, and consensus) and structuration are emphasized to explain technology and human behavior (13). Faithful appropriation happens as participants communicate consistently with the spirit of agreement and respect. The structuration involves the type of structure provided by the technology and human action as they interact and communicate with the technology. The structure of the group which shows urgency to get feedback and information will encourage others to act similarly. The structure of discussion and communication integrate the acceptance and respect among the individuals. This allows healthy social communication and well being. Thus, the use of social media for learning interactions in the Higher Learning Institution can be set as a trend in building learning community and promote social well being .

3. Research Design

This case study has employed both quantitative and qualitative methods for the data collection at Korea University in Seoul, Korea. The research was employed based on the agreement by the University's authorities taking into considerations the ethics of carrying a research. The findings of the research implicate to the benefits of other Universities such as in a developing country like Malaysia.

3.1. Quantitative

The questionnaire has been self developed and designed involving 40 questions with 5-Likert scale to access the students' agreement ranging from 1- strongly disagree to 5- strongly agree with 3 was designated as neutral or the midpoint. Despite neutral will provide a disturbance for the response, scholars have agreed to include the midpoint in order to avoid bias (14, 15) The analyses involved descriptive and simultaneous Multiple Regression Analysis (MRA) to address RQ2 and RQ3. The operational definitions and the items are given as follows.

i. Attitude is measured from students' experience using the smart phone to read and reply messages immediately; and awareness to update information

ii. Ethics relate to their values and virtues and concern on the social communications. The items involve verifying information before forwarding, silent or mute the smart phone to avoid disturbances, and their sensitivity on the accuracy and appropriateness of the messages

iii. m-learning relates to the actual action and experience of students to use smart phone for the purpose of learning. It involves using smart phone for accessing information from LMS, Facebook, Dictionary, YouTube Videos, e-books and interactions with peers and lecturers

iv. Social Well being is measured from the items related to the feeling of happiness, satisfaction, acceptance and respected when they are part of the communication system.

v. Technology reliance relates to the dependency on smart phone use

vi. Technology competent is measured from students' ability to use the smart phone applications.

3.2. Qualitative: Organization Members as Informants

The staffs at Centre for Teaching and Learning were interviewed for the purpose of understanding the support system both training and technology. Two respected staffs at managerial level were available for the interview sessions which took about 15 to 20 minutes. The questions were probed involving Internet accessibility, training and LMS to address RQ1.

4. Findings

The University management support relates to integrating technology in teaching and learning are detailed out as the following.

4.1. Internet access

Both of the informants (female senior administrators) have agreed that the University has no problem to access Internet in campus. However, the wireless connections are secured with user name and password only accessible in campus. They also stated that in general Korea does not have Internet access problem. When asked about the specific Internet speed, both are not sure where they mentioned further reference is needed to confirm.

4.2. Pedagogical Orientation and Training

They were asked about monitoring system of lecturers in uploading contents on the Learning Management System (LMS). Informer 1# responded:
We don't have to check what the lecturers do. They know their work. They know their method of teaching. Normally, we advice them to prepare lessons earlier before coming to class. It is a normal practice for lecturers to upload their lectures few weeks earlier before class.
The researcher managed to witness a lesson where all activities were uploaded in the system. The instructor/lecturer adopted a Flipped Classroom approach as explained by the informants.

4.3. Learning Management System

a. The following question related to students' complaints about not able to access information from the LMS.
The informant 2# answered.
We do have complaints but not frequent. We have migrated our system from Moodle to Blackboard. The system is much better because there have more collaborative tools like Wikis. Every lecturer now uploads their lectures in Blackboard.
b. They were asked to elaborate further about Blackboard and MOOC
Both of the informants mentioned about the implementation of MOOC (Massive Open Online Learning) via Blackboard. The informants asserted that Korea University has been given financial assistance of 1 million USD to employ and adopt MOOC in the University. The pilot phase has started almost a year ago within the University only. The first stage involved four subjects. The MOOC was fully implemented by 2015 in October in collaboration with other Universities in Korea. They also provided the researcher a contact number to liaise with the officer in-charge of Blackboard in Korea. The researcher has been given a clear picture that lecturers are made aware about MOOC. Thus, the lectures are ready for the full implementation.
The following question was related to videos.
Informant 1# responded:
We have a studio for lecturers to video shoot their lectures. But they have to upload in Youtube and link it in Blackboard.No they cannot upload directly on Blackboard.
Overall findings of the interviews indicate that the team work between management and the lecturers is based on trust. They do not monitor whether the lecturers upload the contents or not. Workshops for lecturers are provided by the Centre for Teaching and Learning (CTL). The organization provides all the support needed for the lecturers and students. The University has also initiated a strategy of having a pilot phase before implementing the full MOOC in the University. The organization provides a strategic structure for teaching and learning in terms of technology and training. The lecturers and the organization have good communication system that allows the adjustment of organization change towards the technology. The qualitative findings indicate that the learning environment is supported with infrastructure, training and professional attitudes which can contribute to the success of implementing the actual use of mobile learning. To allow the hypothesized model to be tested, the environment is needed to promote and change the attitude among students

4.4. Attitude use of smart phone

To address the research question two (RQ2), the findings are based on the percentage of agreement in Table 2.0.

Table.2: percentages of leve l of agreement distribution in students' attitude and technology reliance

	Strongly agree	agree	Not sure	disagree	Strongly disagree
Attitude					
I read immediately after getting email notification	5.9	17.8	27.0	26.5	22.7
I read immediately after getting notification for social messaging application (Whatsapp, Viber, Telegram, Facebook,etc).	16.2	35.1	25.9	21.1	1.6
I reply my email immediately.	4.3	18.4	29.2	32.4	15.7
I reply social messaging application immediately.	10.8	27.6	38.9	18.4	4.3
I reply to group message that needs my feed-back.	25.4	49.7	16.2	6.5	2.2
I reply to group message even it is not related to me.	1.1	16.8	23.8	41.6	16.8

Note: range of standard deviation from .903 to 1.19

In Table 2.0, more than half of the respondents (75%) agree in replying group messages when needed feedback. The lowest agreement is related to the feeling of isolation if they don't respond to group messages (15%). It shows that they don't have any issue if they do not reply to the group messages where majority do not feel isolated. Thus, the majority of the respondents are not addicted to read the notifications immediately. The trend of attitude among the respondents seems to have mixed responses.
There are also respondents who show their response of unsure towards the agreement of statements given. In terms of "I reply social messaging application immediately" reveals high unsure responses (39%). Thus, the reply may depend on certain contexts or situations. The attitude among the respondents towards the use of mobile technology namely the smart phone seems flexible and not extremely show high dependency on the technology. It seems less than half of the samples (24%) agree that they read emails and messages and to reply immediately (23%). However, when it comes to group messages in learning, they show high agreement on the use of the smart phone.

Table 3: percentages of level of agreement and mean distribution in ethical use

	Strongly agree	agree	Not sure	disagree	S.disagree
I put my phone in silent mode when I attend meeting with lecturers.	58.4	37.3	1.6	2.7	0
I don't answer my phone when I am in the classroom.	9.7	22.2	44.3	21.6	2.2
I switch off or silent my phone when I am in holy places such as mosque, church or temples.	37.3	38.4	15.1	7.0	2.2
I put my phone in silent mode when I have discussions with friends.	15.1	40.0	18.9	21.1	4.9
I am alert on issues related to my short messages.	8.1	31.9	37.3	18.9	3.8
I check spelling error before sending message.	18.9	44.9	18.4	14.6	3.2
I always correct the mistakes of typo error before sending short messages.	14.1	35.7	26.5	20.0	3.8
I resend messages if there were mistakes.	10.3	38.4	24.9	21.1	5.4
I verify information before forwarding to others in using social messaging application (Whatsapp, Telegram, Viber, etc).	10.3	49.7	25.9	11.4	2.7
I verify information before sharing the links to others in Facebook.	17.8	52.4	20.0	4.3	5.4

4.4. Ethical Use of Smart Phone

The ethical use is measured from the social norms and the values in the social environment. Almost all the respondents (98%) agree that they keep their smart phone in silent mode during their meeting with lecturers and at holy places (76%). However, a few are not sure (15%) in terms of their responses towards putting silent

mode at the holy places. It could be that they do not have to attend religious activities weekly or hardly attend the holy places. It is evident that students in Korea University do not use loud ringing tone even after classes or in public. More than half of the respondents (69%) agree that they check spelling errors before submitting the messages through social network applications. There are respondents who agree to resend the messages if they are wrongly spelled (49%). Thus, whether they will resend the messages may depend on the situations. Majority of respondents (60%) verify the information before sharing on Facebook. It can be concluded that majority of the respondents are responsible to their actions where they verify and validate the information before disseminating and sharing with others.

4.5. The Effects of Attitude, Ethical Use, Social Well Being, Technology Reliance and Technology Competent On Mobile Learning

Based on Figure 1.0 where the model has been hypothesized, a summative mean score has been computed for each factor to be used for simultaneous Multiple Regression Analysis (MRA). This method allows the least significant predictive variables to be dropped. Only the best summary of the model is shown. Table 4.0 displays multicollinearity test of the predictive variables where tolerance levels and Variance Inflation Factor (VIF) are inspected. The tolerance levels show the score of below than .1 and the VIF scores are well below the thresh point of 10 indicating no violation in multicolinearity.

Table 4: MRA with confidence intervals and collinearity statistics

Model		Unstand Coefficients		Stand Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.684	.323		2.116	.036	.046	1.322					
	ATTITUDE	.193	.070	.215	2.742	.007	.054	.331	.273	.201	.186	.748	1.38
	RELIANCE	-061	.059	-.089	-1.027	.306	-.179	.056	.151	-.077	-0.70	.614	1.63
	ETHICS	.035	.085	.029	.407	.684	-.133	.202	.140	.030	.028	.889	1.13
	COMPETENCE	.189	.091	.149	2.088	.038	.010	.368	.193	.154	.142	.901	1.11
	WELL BEING	.291	.078	.296	3.731	.000	.137	.445	.331	.269	.253	.731	1.37
a. Dependent Variable: m-learn													

The best model is explained with the variance of 18% (R2=.176). The model is accounted by the predictive variables of well being, technology competent and attitude on m-learning (*F*=7.651,*df*=5,179, *p*=.000; *p*<.005). All the alternative hypotheses have been accepted except H2 and H4. Attitude influences actual use of mobile in learning at *β*=.215 (p=.007;*p*<.005); technology competency at *β* =.149 (p<.005) and social well being at *β*= .296 (*p*<.005). It can be concluded that the relative strength of the beta weights indicate that social well being is the most statistically significant predictor to actual use of mobile technology in learning (m-learning). Overall explanation of the model prediction is explained by mobile learning= .684+ .193 attitude+.189 technology competent+ .291 well being. Technology reliance and ethical use have been dropped due to non significant values (*p*>.005) on mobile learning.

5. Discussions and Implications

Qualitative findings have shown that students are supported with appropriate infrastructure, professional attitude among lecturers and effective pedagogical approach. The findings may indicate on the contributions to the learning environment in predicting the success use of mobile technology in learning. The support obtained by the University and Academic staff have allowed the attitude change in adapting towards mobile technology use for learning. However, further investigation from the quantitative data have shown that technology reliance and ethical use of smart phone do not contribute to mobile learning culture that can influence mobile smart phone use in learning. The trend of students' reliance whether they rely heavily on the technology does not show an effect on their action in mobile learning. However, social well being encompasses the structure built for learning allows students to embark online learning via smartphone. In social well being, students are reported to be happy, satisfied, feeling accepted, interested to search information in the presence of the peers and lecturers online. Thus, they are encouraged to act and embrace learning using the smart phone. The findings have proven on Poole and DeSanctis (1992)'s (13) where faithful appropriation happens as participants communicate consistently with the spirit of agreement and respect. In addition, Giddens (1984) asserts that faithful, attitude, consensus and structuration are needed to ensure human interactions and learning. This is parallel with the findings where attitude among the students affect the actual use of smart phone in learning. Further, the factor of technology competence where students reveal their abilities in using the smart phone and its applications are also essential to predict and influence on mobile learning.

The study has expanded beyond the Theory of Acceptance Model (4) and Theory of Planned Behavior (TPB) (Ajzen, 1985). The study not only investigated the environment that support the model tested but has also expanded the manipulative variables stated in TAM and TPB namely attitude, ethics, technology competent, technology reliance and social well being. Ajzen (1985) has proposed attitude factor to explain the outcome of beliefs and behavior. This study has embedded the construct of attitude through reading and replying messages immediately; and awareness to update information. The findings have shown that attitude remains as important factor to predict behavior as mentioned in Ajzen(1975;1985); Davis (1989) and Venkatesh and Davis (2000).. Ethical behavior has been tested by (16) involving computer use in the TRA (Theory of Reasoned Action). They propose ethical decisions as important just like any other decision making situations. However, they have embarked on a model where ethical computer use as a component in attitude to determine the intention to the behavior. In this present study, ethical use has been separated from the construct of attitude. This is to identify whether ethics can be tested as a unicontruct to predict the behavior. The findings indicate that ethics alone is not strong enough to predict or influence the actual use of smart phone for learning. Thus it can be suggested that ethical use of smartphone uniconstruct must work hand in hand with attitude through correlating the factors before influencing the actual behavior. This can be carried out through more advanced statistical analysis via Structural Equation Modelling.

Technology competency has been denoted as students' ability to use the smart phone applications. This construct resembles Davis' 1989 model in perceived ease of use (PEOU). The factor has successfully proven that Technology Competency in PEOU's concept to be significantly influenced on the students' behavior where they use mobile smart phone in learning.

Technology reliance denotes the high dependency on using the technology namely the smart phone in daily life. This factor is added from the original models of TAM and TRA as the external factor to motivate students to use the smart phone for learning. The findings seem to show a failure in this factor as a unicontruct to significantly influence the actual behavior in learning. Thus, it can suggest that high reliance on the technology does not necessarily lead to the success use in learning.

Social well being has been included in this model based on Giddens (1984) (13) in explaining the feeling of happiness, satisfaction, acceptance and respected when they are part of the communication system. This factor seems essential and significantly influences the students' behavior in using smart phone in learning. Thus, the findings have contributed to the expansion of TAM and TRA. As the technology advances and learning process becomes ill structured, more factors are needed to predict the actual behavior in using technology for learning. Thus, future research needs to embark on this factor as a uniconstruct that contributes to the high explanation related to the models of Acceptance (TAM) and Theory of Reasoned Action (TRA).

6. Conclusions

The findings have recognized on the importance of environmental support to buffer any model related to intended and actual behavior to be effectively tested. Technology reliance factor shows a high tendency for students to use the mobile technology in daily life.Technology reliance shows the positive beliefs that the students have towards the importance use of mobile phone. However, the factor does not contribute to the significant relationship towards the actual use of the technology in learning. On other aspect, the students also show the positive strength in their ethical values in using the mobile phone but failed to significantly predict the actual use of mobile handphone in learning. Only three from the predicted five factors are significant. The contribution towards the model prediction lies in attitude, technology competency and social well being. Despite heavy reliance and ethical behavior to use the mobile technology, they do not affect the way people use the technology specifically for learning.

Acknowledgement

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