

An Adoption Model for Mobile Knowledge Sharing

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Abstract: Mobile learning and sharing knowledge between among students and academicians in fact extends the reach of education and sharing knowledge to all social-economic levels independent of location and time, indicating a new opportunity for education industry development and sharing knowledge. Nonetheless, there is still a lack of a comprehensive understanding regarding the factors affecting the adoption of mobile phone technology for learning and sharing knowledge. In this light an adoption model of mobile phone technology knowledge sharing was built in this study based on the decomposed of theory of planned behavior in which perceived enjoyment, facilitating conditions, interpersonal influences, perceived usefulness, external influence, mobility, self- efficacy and perceived ease of use of mobile sharing knowledge are integrated in order to increase the predictive capability of the model. This model hopefully provides a framework for future research and will serve as a basis for our future survey and analysis of data.

Key words: Knowledge sharing, mobile knowledge sharing, adoption model, Theory of Planned Behavior (TPB), academicians, social-economic

INTRODUCTION

Many establishments challenged with competition and increasing in change of environments are start to aware of the untapped resources diffused around in the organization and that is knowledge (Manjula and Mustapha, 2006; Stephen, 2016). As regard the value of knowledge, it is unavoidable the most important instrument in any organizations (Jones and Sallis, 2013; Weichbrodt, 2015). It is even more significant for the Institutions of Higher Learning (IHLs) (Jones and Sallis, 2013; Weichbrodt, 2015). Since, most researchers in knowledge-based establishments such as Institutions of Higher Learning are knowledge based workers, knowledge sharing is very essential (Jessica *et al.*, 2008; Jain *et al.*, 2007; Patino and Munoz, 2016). Jessica *et al.* (2008) also noted that “although, the majority of the knowledge management literature discusses knowledge sharing activities within profit-oriented enterprises, it is becoming a trend that more universities and higher educational institutions have started to adopt knowledge management practices as well, thus, knowledge sharing emerges as an important topic for discussion in academic institutions”.

It can be summarized that the literature, thus, far give evidence that the resources of mobile phone technology are great and it has pave ways for opportunities and avenues for improving knowledge sharing activities

among academicians in Institutions of Higher Learning. However, it was found that there was in general, lack of knowledge sharing in IHLs (Jones and Sallis, 2013; Ismail *et al.*, 2013; Muda and Yusof, 2015) and particularly, lack of knowledge sharing activities among academicians in Institutions of Higher Learning (Jessica *et al.*, 2008; Patino and Munoz, 2016). Also, it was established that there was lack of academic research on the use of mobile phone technologies for knowledge sharing purposes in IHLs (Peters, 2007; Jones and Sallis, 2013; Weichbrodt, 2015; Sidhu *et al.*, 2016). Accordingly, there is a need for a research to analyses factors determine the use of mobile phone technology to promote knowledge sharing among academicians in an Institution of Higher Learning.

THEORY OF PLANNED BEHAVIOR (TPB)

Promotion of knowledge sharing in the institution of higher education due to some factors, the past studies and main theories on technology acceptance have been utilized before the acceptance of mobile technology. Many theories have been postulated to enhance the understanding of adoption of technology (Mennecke and Strader, 2003; Ayeh, 2015).

Ajzen formulated Theory of Planned Behavior (TPB). A model proposed by TPB affirmed that joining attitude toward factors such as behavior, perception of behavioral

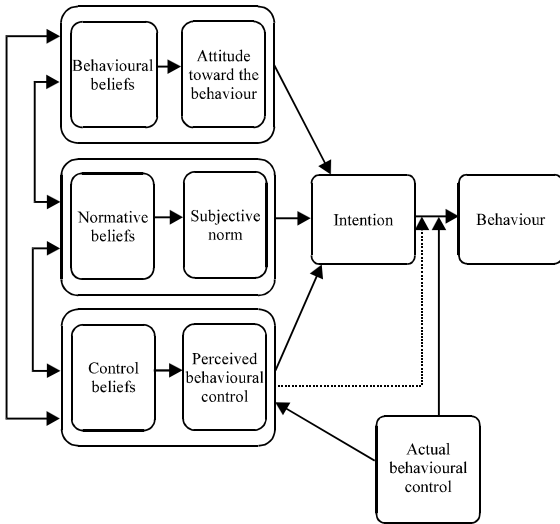


Fig. 1: Theory of Planned Behavior (TPB)

control and subjective norm guided human action. In TPB, there are two significant questions necessary to be asked in order to predict individual action to do something. Does that individual favor the behavior (attitude)? Does that individual react to social pressure in executing such an action (subjective norm)? More so, TPB throws a question. Does that individual feel he or she need to do such behavior? (Francis *et al.*, 2004; Vogel and Wanke, 2016).

Figure 1 depicts the blending of attitude in respect to the behavior, perception of behavioral control and subjective norm which formed behavioral intention. According to Ajzen, immediate predecessor of behavior is the definition of intention. Therefore, the main control over behavior as a result of opportunity that comes is assisted by individual intentions. At times, there is limitation to the control which reluctantly delay the expected behavior to be performed, thus, necessitating the consideration for perceived behavioral control in line with intention when explaining behavior. According to Ajzen, the perceived behavioral control act as a precursor to actual control when it is appropriate and this will add to the forecasting of the behavior in question.

Attitude towards behavior: Formulation of individual’s behavioral beliefs, positive or negative thinking about performing the behavior which is found by estimating a person’s beliefs about the resulting effects of the behavior as well as assessment of the values of these outcomes. The summing of the product of the strength of each person’s Belief (B) that is weighted by Evaluation (E) of the outcome gives the assessment.

Subjective norm: The social pressure that is thought in forming a behavior aroused from normative

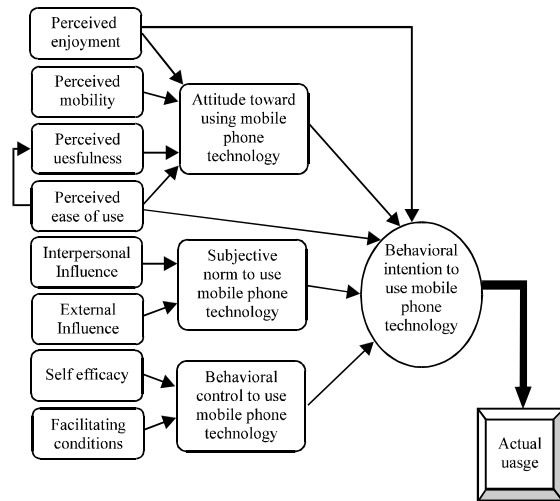


Fig. 2: Research model

beliefs. Normative beliefs connote the perception of an individual revolving around the person or groups significant to the person feeling whether the behavior should be done which include motivation to be in line with those expectations. Base on the research of Ajzen, the assessment can be carried out when summing the product of the strength of each Normative belief (N) that is measured by Motivation to comply (M) with the referent in question.

Perceived behavioral control: The view of factors impacting the performance of the behavior and the extent of those factors formed from control beliefs of the person. Still on (Ajzen, 2006), assessment is been carried out when summing the product of the strength of each control belief (c) that is measured by the perceived power (p) of the control factor.

“As a general rule, the more favorable the attitude and subjective norm and the greater the perceived control, the stronger should be the person’s intention to perform the behavior in question” (Fig. 2).

A PROPOSED MODEL

This study include factors to the model like perceived enjoyment, facilitating determinants, interpersonal influences, perceived usefulness, external influence, mobility, self-efficacy and perceived ease of use.

The research model used to tailored the study is depicted in Fig. 2 which proposes that external influence, facilitating conditions, interpersonal influences, perceived enjoyment, perceived usefulness, mobility, perceived ease of use, self-efficacy, behavioral intentions, attitude toward, behavioral control and subjective norm are main

potential factors of adoption to utilized mobile phone technology for improving knowledge sharing among academics in Institutions of Higher Education.

Perceived enjoyment: The researchers described perceived enjoyment as “degree to which using mobile phone technology to promote knowledge sharing among academics is perceived to be enjoyable in its academics right and is considered to be an intrinsic source of motivation among them”. The mobile phone technology was characterized by entertainment, excitement, pleasantry for academics. Enough academic activities assisted by mobile phone technologies can be enjoy in their daily schedule like audio books, downloading, video clips, interactive games, listening to podcasts, streaming movies, MP3 player, personal organizer, searching information or services on web, making video phoning in-class surveys/questions, etc., help in academics too.

The scholars suggested that perceived enjoyment positively impact the attitude towards applying mobile phone technology and behavioral intention employing mobile phone technology for encouraging knowledge sharing among academics in Institutions of Higher Education. Thus, addition of perceived enjoyment in to the model, serve as the best solution so far.

Mobility: The scholars defined mobility as “the ability of an academic to move on/off the campus while still being quite free to perform his/her job task and interact with other colleagues and faculty/university”. By utilizing mobile phone technology, the academics possess additional freedom relating time and place in a day. Academics have opportunity to send and receive e-mail, instant messages, short text messages any place at an intended period. Furthermore as earlier stated above which include sharing of administrative information with colleague in any location at any time of the day.

The researchers opined that mobility is positively impacting attitude towards applying mobile phone technology for enhancing knowledge sharing among academics in Institutions of Higher Education. Therefore, mobility is necessary to be adopted in the model.

Perceived usefulness: In this study, the researchers defined usefulness as “the degree to which an academic believes that using a mobile phone technology to promote knowledge sharing among academics would enhance academics job performance”. Many benefits of utilizing mobile phone technology include, enhances academics efficiency in daily activity, preserves a lot of academic’s

time, improves academics effectiveness in performing out daily activity, allows academics to perform their work comfortably, leads to increase in their productivity and make them social.

Additionally, the scholar suggested that perceived usefulness positively impacting the attitude towards employing mobile phone technology for improve knowledge sharing among academics in Institutions of Higher Education. Hence, it is adequate to incorporate usefulness into the model.

Perceived ease of use: The researchers explained ease of use as “degree to which an academic believes that using mobile phone technology to promote knowledge sharing among academics in Institutions of Higher Learning would be free of effort”. When system confirmed to be easy to utilize, then acceptance and use of such a system will rise. More also, it is parallel with the academic’s requirements like to and fro of Short Text Messages (SMS) and (IMs) with each other, sharing administrative information with other colleague, sharing and listening to Podcasts/audio books with other staff which might involve connection to social networking sites in mobile environment. Additionally, the application of these exemplary technologies is proven to be helpful for empowering the communication between academics, pivot an academic’s university life at the usual time and in the intended environment in Institutions of Higher Education. Briefly, perceived ease of use manifests a paramount role for acceptance of mobile phone technology in enhancing knowledge sharing among academics in Institutions of Higher Education.

The researchers opined that perceived ease of use positively impacting on perceived usefulness of employing mobile phone technology, attitude towards its uses and mind of employing mobile phone technology for improving knowledge sharing among academics in Institutions of Higher Education. So, it is sufficient to incorporate ease of use into the model.

Subjective norm dimensions: Fishbein and Ajzen (1977) explained subjective norms as “the person’s perception that most people who are important to him think he should or should not perform the behavior in question” (p.302). Ajzen asserted that subjective norms are the type of norms molded through external and interpersonal influence. These norms are influential in describing the acceptance and use of new media (Webster ant Trevino, 1995).

Interpersonal influence and external influence: The researchers proposed that interpersonal influence and

external influence will greatly have positive impact on the subjective norm mobile phone technology for enhancing knowledge sharing among academics in Institutions of Higher Education. Thus, it is sufficient to involve interpersonal influence into the model.

Self-efficacy: For this study, the researchers described self-efficacy as “an academician’s self confidence in his/her ability to perform a control behavior to use mobile phone technology to promote knowledge sharing among academics in Institutions of Higher Learning”. For instance, academics can apply mobile phone technology without help from others.

The researcher suggested that self-efficacy positively impacting the control behavior in utilizing mobile phone technology for improving knowledge sharing among academics in Institutions of Higher Education. Hence, it is sufficient to incorporate self-efficacy into the model.

Facilitating conditions: The researchers opined that facilitating conditions will have a positive impact on the control behavior to utilize mobile phone technology for improving knowledge sharing among academics in Institutions of Higher Education. Hence, it is adequate to incorporate facilitating conditions into the model.

THEORETICAL CONTRIBUTIONS

This study has developed the extended TPB Model in innovative mobile devices knowledge sharing context. To identify the components that would influence towards adopting innovative mobile devices which is used to advance knowledge sharing among academic staffs in an Institution of Higher Learning, studies related to the adoption of innovative mobile devices in different surroundings are analyzed in this study. Based on those studies and the simple TPB Model, new relevant factors are added to the model which are, perceived usefulness, perceived ease of use, mobility, perceived enjoyment, interpersonal influence, external influence, self-efficacy and facilitating conditions.

Another important contribution in this study, it find that self-efficacy factor has the most significant effect on adoption of innovative mobile devices that can be utilized to promote knowledge sharing among academic staffs in an Institution of Higher Learning. This is another important contribution in this study.

In this study, self-efficacy factor is defined as “an academician’s self confidence in his/her ability to perform a control behavior to use innovative mobile devices to promote knowledge sharing among academic staffs in IHLs”. For example, academic staffs can use innovative

mobile devices without assistance from others, academic staffs have confident of using innovative mobile devices, even if there is no one to show them how to do it, academic staffs have confident of using innovative mobile devices even if they have never used such a device before, academic staffs have confident of using innovative mobile devices even if they have just seen someone using it before trying it themselves and academic staffs have confident of using innovative mobile devices even if they have only the manufacturer’s manual for reference.

In addition, adding external variables with the full model of TPB will increase the power of the TPB theory in innovative mobile devices knowledge sharing context. Thus, the model generated in this paper may assist top management in both public and private IHLs providers for deploying appropriate strategies to support knowledge-sharing activities through mobile phone technologies. This study is among the pioneers to investigate the factors that lead to academic staffs’ attitude, academic staff’s subjective norm, academic staff’s control behavioral and academic staff’s behavioral intention to adopt innovative mobile devices to promote knowledge sharing among academic staffs in IHLs which serves as a major contribution of this study.

CONCLUSION

This study conducted to exploring factors determining the adoption of mobile phone technology which can be employed in improving knowledge sharing among academics in an Institution of Higher Education. As regard that, a mobile phone knowledge sharing model using theory of planned behavior was developed.

This study focuses in four variables which include the following (perceived enjoyment, perceived mobility, perceived usefulness, perceived ease of use) concerned with academics attitude toward applying mobile phone technology, two variables (interpersonal influence, external influence) pertain to academics subjective norm to apply mobile phone technology, two variables (self-efficacy, facilitating conditions) for academics behavioral control to apply mobile phone technology and five variables (attitude, subjective norm, behavioral control, perceived enjoyment, perceived ease of use) for academics behavioral intention to apply mobile phone technology.

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