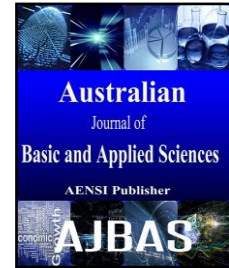




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### Evaluating Students Information Sharing Behavior Through Social Media: A Pilot Study

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#### ABSTRACT

Social media facilitates information sharing and have made possible the existence to our second life in the cyberspace. This technological advancement has given tremendous increase in sharing information, especially among the students, across the world and facilitates them in virtual learning. However, it can also be a source of distraction and divert student attention from the academic achievement. Therefore, research is needed to evaluate students' sharing behavior to create more conducive learning environment and help them to be more successful in online activities. Previous research has looked mainly to its specific tools, its usage and its impact on students' academic performance. Though, less attention were made to investigate the causes of student distraction from learning and to find factors that motivate students behavior to use it for sharing, which enhance their learning and academic activities. The main objective of the study to evaluate factors motivate student to use social media application and share information for learning. This research is focusing on students' information sharing behavior through social media by elaborating the role of external factors through technology acceptance model TAM (1-2- 3,) developed by Davis *et al*, (1989), & Venkatesh & Davis, (2000) as a theoretical approach, to evaluate student information sharing behavior. Initial results show high level influence of independent factors on intention and information sharing. The results also show high correlation among the variable and recommendation with future with future direction.

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#### INTRODUCTION

Information sharing is the process of accessing, exchanging and maintaining of information between individuals, organizations, and technologies to prevent problems and to achieve more positive outcomes (Pardo, 2008; DCSF, 2008). While information sharing behavior is a kind of activity where information seeker and information provider work together to achieve certain type of information (Bao, 2007), a kind of collaboration between two groups to achieve their individual or common interests (Bao, 2007; Talja, 2002), involve with the act of giving and the gift of receiving (Tinto, 2013) and help in decision making and problem solving (Drucker, *et al*, 1997; Zheng *et al*, 2009). Information sharing changing learning ways (UNCTAD, 2012], enhances learning process (Talja, 2002; Junco, 2012), and supports students in achieving intellectual skills and knowledge (Lin *et al*, 2013). Technology has changed the process of

accessibility to information and the online social media has further augmented with its multiple channels namely, YouTube, Facebook, Wikipedia, Blogs, twitters and virtual words (Kaplan & Haenlein, 2010). Social media applications allow to interact, socialize, create, share and promote work online (Hampton & Goulet, 2011; Correa *et al*, 2013; Junco and S. R. Cotton, 2012; Greenhow & Gleason, 2012; Junco, 2012), and highly visible among student especially of higher education and facilitate them in learning (Tess, *et al*, 2013; Lee, 2013; Junco & Cotton, 2012; Greenhow & Gleason, 2012; Lin *et al*, 2013; Osatuyi, 2013). However, these applications may also a source of distraction and can effect or divert students' attention from their academic goals (Purcell *et al*, 2012; Gafni & Deri, 2012; McCoy, 2013). In Malaysian context, this digital revolution is affecting students reading behavior, learning performance, enhance negative sharing, inconclusive or not clear towards learning performance. Human being in general and students in particular are very

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complex phenomenon. Students motivational problem are always manifest in their behavior. To understand their use of social media application, its required to know their use and sharing behavior (Sohn, 2014; Park *et al*, 2014; Tinto, 2013; Chang & Hsiao, 2013; Hughes *et al*, 2012; Taylor & Parsons, 201; Chen & Bryer, 2012). As we are no longer living geography, today everyone can coordinate and collaborate with everyone without knowing from where they are. So by knowing their behavior towards information sharing through social media is important to enhance their learning performance and to avoid distraction.

### 1. Objectives:

- 1: To evaluate the influence of external factors on students in using social media application to share information for learning
- 2: To measure the levels of influence of external factors with Behavioral intention and Information Sharing
- 3: To investigate relationships between external factors, behavioral intention and Information Sharing

### 2. Related Work:

Social media applications are the communication channels provide students with 21st-Century skills (Dunn, 2013). Social media applications allows to create and exchange user generated contents (Kaplan & Haenlein, 2010), facilitates collaborative learning (Al- Rahmi & Shahizan, 2013; Tess *et al*, 2013), increase overall learning (Fewkes & McCabe, 2012; Tarantino, 2013), provides an opportunity in expanding learning environment (Chen & Bryer, 2012; Fewkes & McCabe, 2012), and link success to positive learning outcomes (Junco & Cotton, 2012). According to British Library, Jisc report (2009), higher education and research students are more dependent on resource sharing, because of licensing constraints. Social media platform facilitate them in discussion and sharing through its various channels such as SSRN, SSS, Acadamia.edu and ResearchGate (Kichanova, 2012). However, numerous research findings reported concerns associated with social media such as, multi-tasking, digital distractions Learning distraction and time mismanagement (Purcell *et al*, 2012; McCoy, 2013, effect ability to self-regulate attention, changing priorities, reduces learning and research capabilities, causing poor GPA (Junco & Cotton, 2010; Bijari *et al*, 2013), and motivational problems to do well in their academic life (Rouis *et al*, 2011). Additionally, increase study time in achieving learning level and add more mistakes (Kirschner & Karpinski, 2010), reflect negative emotions (Hughes *et al*, 2012) and have negative effect on their academic achievements (Kirschner & Karpinski, 2010; Hamat *et al*, 2012; McCoy, 2013; Inderjit, 2014).

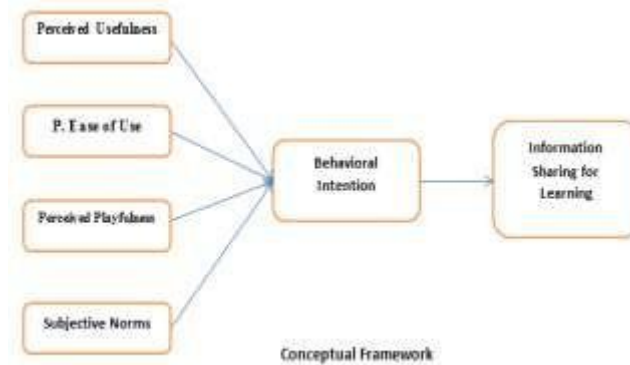
Behavior is something, when an individual does,

that can be observed, measured, and repeated. It helps us to understand various phenomena related to individuals (Taylor & Parsons, 2011). Student intentions to use these collaborative technologies with learning features required to investigate for information sharing (Mills *et al*, 2013). Information sharing online is effected by various factors. Behavior is one of the factor that need to be investigate concerned with sharing of information in the context of social media (Mills *et al*, 2013; Sohn, 2014; Chang & Hsiao, 2013; Ahn, 2011). According to Asia Pacific Digital Overview (2014), Malaysia Internet users are 65% of the total population with 64% social media penetration. Social media site also increases the quality of youth life since it serves variety of information and knowledge for the youth, however, the sharing of information are comparatively social than educational (Baboo *et al*, 2013). Information sharing activities among youth are more negatively oriented (Hamat *et al*, 2013). Its pattern is unknown for students of higher education (The Star Malaysia 2011). Malaysian National Population and Family Development Board tried to address the situation by introducing awareness courses to reduce the harsh effects of social media (Bernamas, 2011). The dissemination of misinformation is a challenge for Malaysia because it harms its value and culture (Ahmad *et al*, 2012), and majority of the students are using these application for social purposes than learning or academic purpose (Helou *et al*, 2012).

### 4. Conceptual Framework and Hypotheses:

Social media applications permit to create, share, and exchange information online. Previous inquiries utilized diverse theories to investigate its impacts through various constructs for collaborative learning and sharing through social media applications (Kaplan & Haenlein, 2010; Junco, 2012; Junco & Cotton, 2012; Hamat *et al*, 2012; Hamat *et al*, 2013; Wok *et al*, 2012; McCoy, 2013; Hughes *et al*, 2012; Chen & Bryer, 2012; Fewkes & McCabe, 2012; Purcell *et al*, 2012; Gafni & Deri, 2012; Al-Rahmi & Shahizan, 2013). However, there are some important factors that may influence people's attitude, and behavior particularly students of higher education toward information sharing for learning with social media applications are not captured by these studies. Technology Acceptance Model was developed by Fred Davis in (1986) from an existing theory (Theory of Reasoned Action), the theory is focus on individual intention and suggests that a person behavior is determined by their intention (Icek Ajzen & Martin Fishbein (1980) and Martin Fishbein & Icek Ajzen (1975). TAM is extensively applied to explore acceptance towards e-learning technologies and acceptance of collaborative technologies in describing users' acceptance towards any information technology or systems (Moon & Kim, 2001; Cheung & Vogel, 2013). The

initial model of (TAM) was consisting of two construct PU and PEOU. However, to explore any particular technology, further addition of other variables may also require beyond the variables such as the ease of use and usefulness (Davis, 1986; Davis *et al.*, 1989; Moon & Kim, 2001). In order, to analyze student behavior in sharing information for learning through social media, the following TAMs



#### 4.1. Perceived Usefulness:

Perceived Usefulness is the possible likelihood of a user that the use of specific application or a system will increase their work performance, or work output (Davis *et al.*, 1989). A technology user may observe that the new technology will be beneficial and make their attitude more positive toward using the technology (Wu, Chou, Weng & Huang, 2011). In perspective of social media application PU is the user's belief that accepting or using this technology may improve their work or productivity (Davis *et al.*, 1989). It is confirmed that the factor such as perceived usefulness is positively impact on individual intention to use social media applications (; Sledgianowski & Kulviwat (2009) Kang & Lee (2010) Kwon & Wen (2010) as cited by Lin & Lu (2011). Perceived usefulness is one of the powerful predictor that influences intention on an individual in using a system or a technology (Davis, 1989; Venkatesh and Davis, 2000; Venkatesh *et al.*, 2003). However, some of the studies reported no relation, no significant relation and negative effect between the factors such as perceived usefulness, attitude, and perceived use (Szajna, (1996), Jackson *et al.*, (1997), Nidumolu, (1998), and Lucas and Spitler, (1999), as cited by (Long Li, 2008). To investigate the effect of PU on intention in using social media to share information for learning, we thus propose this hypothesis:

**H1:** Perceived Usefulness is positively related to behavioral intention to use social media and share information for learning

#### 4.2. Perceived Ease of Use:

Perceived ease of use (PEOU) is an individual belief towards the adaptation of a specific technology or system. It will be free of efforts or any other physical and mental problems (Davis, Bagozzi &

variables namely perceived usefulness, perceived ease of use; perceived playfulness and subjective norms are applied. This research purpose is to analyze the factors in the suggested framework and understand its impact on student sharing behavior for learning through technology accept model (TAM).

Warshaw, 1989).

The users consider that the technology is easy to use. This perception leads to additional positive attitude in using that technology (Wu, Chou, Weng & Huang, 2011). TAM factors namely, perceived ease of use and attitude has positive impact on student academic achievement and performance (Cakir & Solak, 2014). Perceived ease of use encouraging or influencing attitude, behavioral intention and system definite use as mentioned by Mathieson (1991), Davis, (1989), and Moore & Benbasat (1991). Theory of UTAUT by Venkatesh *et al.* (2003) used the same concept under the name effort expectancy. However, some studies reported no empirical evidence in favor of perceived ease of use with other concept (Chau & Hu, 2001; Bajaj & Nidumolu, 1998; Hu *et al.*, 1999; Venkatesh, 1999; Szajna, 1996; Lucas & Spitler, 1999 as cited by Long Li, (2008). To investigate the impact of perceived ease of use on intention in using social media to share information for learning, we thus propose the following hypothesis:

**H2:** Perceived Ease of Use is positively related to behavioral intention to use social media and share information for learning

#### 4.3. Perceived playfulness:

Perceived playfulness refers to the communication among an individual with the situation. It is comparatively a permanent inclination while playful is a momentary state at some specific time. Individuals who are higher in this character revealed higher productivity to computer related tasks. In this state, an individual's attention is dedicated on the activity. As a result, an individual unable to remain self-consciousness, becomes too much engaged in the activity, and extremely involved in the process (Moon & Kim, 2001). The

concept of playfulness is based on the pioneering works of Lieberman's (1977) and Barnett's (1990 & 1991) while Igarria *et al.*, (1994 & 1996) mentioned that system usage is influenced by tier motivation (that may include both intrinsic and extrinsic). However the measurements of perceived enjoyment by Davis *et al.*'s do not reveal a broad set of intrinsic motivation. Web 2.0 tools such as blogs, social networking, media sharing, wikis etc. These technologies provide a rich user experiences and opportunities for playfulness (Cheung and Vogel, 2013). To investigate the impact of Perceived playfulness on intention in using social media to share information for learning, we thus propose this hypothesis:

**H3:** Perceived Playfulness is positively related to behavioral intention to use social media and share information for learning

#### 4.4. Subjective Norms:

Subjective norms are people insight that there are some important people, which are considered in performing or not performing a behavior. This may also define as support given by others in performing a behavior such as family and friends. Technology Acceptance Model which was introduced by Fred Davis, (1986). This model is originally derived from the existing theory (Theory of Reasoned Action) by Martin Fishbein & Icek Ajzen, (1975) and Icek Ajzen & Martin Fishbein, (1980). The theory is focusing on person intention and argues that an individual behavior is determined by their intention. This intention is formulated by attitude and Subjective Norms. The concept of subjective norm which is also one of the ingredients of the Theory of Reasoned Action is a basis of behavioral intention and also a significant aspect of the theoretical foundation of TAM. Subjective norms are produced by individual perceptions and those beliefs are affecting the use of technology (Sanchez and Huero, 2010). In e-learning environment subjective norms influence an individual intention in using a technology (Cheung and Vogel, 2013). The theory of planned behavior also recognized the influence of subjective norms (Wu, Chou, Weng & Huang, 2011). To investigate the effect of social norms on intention in using social media to share information for learning, we thus propose this hypothesis:

**H4:** Subjective Norms is positively related to behavioral intention to use social media and share information for learning

#### 4.5. Behavioral intention:

Behavioral intention is a person conscious plans or likelihood to do or not to do a specific behavior in the future (Davis *et al.*, 1989). An individual use of social media application is a key factor in developing of technology acceptance models (Davis *et al.*, 1989; Venkatesh *et al.*, 2003; Al-Rehmi *et al.*, 2013) Technology acceptance model which is formulated

on the theory of reasoned action, the theory is focusing on a person intention and the use of a system or intention to use that system is depend on attitude and subjective norms Venkatesh & Bala, (2008) as cited by Al-Rehmi *et al.*, (2013) . A person behavior is carried out by their behavioral intention (Fishbein & Ajzen (1975) and Icek Ajzen & Martin Fishbein (1980) To investigate the effect of behavioral intention on individual actual behavior or system to using social media application and to share information for learning, we thus propose this hypothesis:

**H5:** Behavioral Intention is positively related to information sharing behavior for learning

### 5. Methodology

The data collected for this study through survey questionnaire from 120 Undergraduate and postgraduate students. Questionnaires were randomly distributed among students in the UTP library. A five-point Likert scale was used (from strongly disagree to strongly agree) to get students response. The questionnaire consists of total 38 items. PU and PEOU was measured using five items each from (Vogel, 2013 & Moon, 2001), PP was measured using five items from (Moon, 2001), SN was measured using five items from (Vogel, 2013), behavioral intention to use social media was measured using eight items from (HU, 2011; Teh, 2011; Lin, 2006; Peter, 2013) and finally, information sharing was measured using ten items adapted from (Hsu, The, Chai). The collected data was analyzed with help of SPSS (Version-20). The instrument developed to meet the objectives of the study. It was piloted and the Cronbach's alpha of the reliability and validity of the instrument was above .70. This value of Cronbach's alpha is acceptable for the instrument to meet the reliability requirement for the study.

## RESULTS AND DISCUSSION

One of the objective of this study were to assess levels of (i) a. Perceived Usefulness (PU) b. Perceived Ease of Use (PEOU) c. Perceived Playfulness (PP) d. Subjective Norms (SN) (ii) Behavioral ; and (iii) Information Sharing Behavior (ISB) among students of higher education Malaysia. The data obtained was tabulated as mean scores generated through Likert responses to items in the questionnaire. Table 1 presents measured levels for PU, PEOU, PP, SN, BI, and ISB of the respondents.

The student of higher education Malaysia possessed high behavioral intention and sharing behavior for learning through the use of social media applications as reflected by their mean scores for each variable as follows: Perceived Usefulness (3.98); Perceived Ease of Use (3.82); Perceived Playfulness (3.91); and Behavioral Intention (3.90). Scores for Subjective Norms (3.64 and Information

Sharing Behavior (3.50) averaged only, a moderate sharing level. The overall results showed that Malaysia's higher education students have positive

intention and behavior to share information for learning through social media applications.

**Table 1:** Level of PU, PEOU, PP, SN, BI and ISB.

No.	Variables	Mean
1	Perceived Usefulness (PU)	3.98
2	Perceived Ease of Use (PEOU)	3.82
3	Perceived Playfulness (PP)	3.91
4	Subjective Norms (SN)	3.64
5	Behavioral Intention (BI)	3.90
6	Information Sharing Behavior (ISB)	3.50

In this study reliability analysis was also conducted to check the internal consistency of the assayed items. Cronbach's Alpha coefficient was computed, based on a 0.70 threshold, to measure internal consistency (George, 2003). Appendix A shows that all frameworks construct in this study attained an acceptable range of reliability. Perceived Usefulness comprised five items where  $\alpha = 0.961$ ; Perceived Ease of Use comprised five items where  $\alpha = 0.807$ ; Perceived Playfulness comprised five items where  $\alpha = 0.928$ ; Subjective Norms comprised five items where  $\alpha = 0.776$ ; Behavioral Intention comprised eight items where  $\alpha = 0.826$ ; and Information Sharing Behavior comprised ten items where  $\alpha = 0.889$ ; Hence, our reliability scale analysis indicated internal consistency for the tested items. After conducting the reliability analysis, the study second objective was to investigate relationships between 'work readiness', 'career self-efficacy' and 'career exploration'. Pearson correlation coefficients

were computed for this purpose where positive values indicate a significant relationship between variables. Results are presented in Table 2. Perceived usefulness showed a strong correlation with behavioral intention ( $r = 0.535$ ;  $p < 0.01$ ), demonstrating that Perceived usefulness have a positive relationship with behavioral intention. The perceived ease of use correlation coefficient was ( $r = 0.558$ ;  $p < 0.01$ ), demonstrating that perceived ease of use also has a strong positive effect on behavioral intention. The correlation value for perceived playfulness was ( $r = 0.604$ ;  $p < 0.01$ ), also showing a clear association with behavioral intention and subjective norms coefficients was ( $r = 0.712$ ;  $p < 0.01$ ). All tested variables showed strong correlations with behavioral intention. Pearson's correlation coefficient for behavioral intention in relation to information sharing behavior was ( $r = 0.665$ ;  $p < 0.01$ ), showing a robust association.

**Table 2:** Correlation between PU, PEOU, PP, SN, BI and ISB.

Variables	PU	PEOU	PP	SN	BI	ISB
PU	1					
PEOU	.270(*)					
PP	.713(**)	.303(*)				
SN	.536(**)	.389(**)	.748(**)			
BI	.535(**)	.558(**)	.604(**)	.712(**)		
ISB	.277(*)	.718(**)	.387(**)	.440(**)	.665(**)	1

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*Correlation is significant at the 0.01 level (2-tailed).

## 6. Conclusion and Future Work:

Social media are web-based application build on the ideological and technological foundation of Web 2.0 and enable to create, access and sharing information. Social media application allows two way communications and highly recognized for learning and interaction among students and resources. At present about 40% of the world population are using different application of these new emerging technologies in their daily life, however, there are some problem associated with the use of these application among student in distracting their attention from their academic goals. Behavior is one of the factors which can help in understanding with any phenomenon. Behavior is influences by personal or external factors. In this study some of the predictors selected from Technology Acceptance Model in enhancing intention and behavior in using

social media application to share information for learning among student of higher education. The initial results shows, high level influence of the predictors on intention and behavior of students to share information for learning. The study also found high correlation among the variable as well as with intention and actual sharing behavior. In the light of the initial results it is required to investigate the phenomenon in detail to understand the cause and effect of the predictors on the intention and actual behavior. In future we are planning in more in- depth study with large sample form multiple institutions and with additional factors to understand the effect of external factors on student use social media application to share information for learning.

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