



The Influence of Individual Characteristics towards the Use of Social Media as a Learning Tool: An Empirical Analysis

Murad Ali^{1*}, Raja Ahmad Iskandar Bin Raja Yaacob², Mohd Nuri-Al-Amin B. Endut³

¹Department of Management & Humanities, Universiti Teknologi Petronas Bandar Seri Iskandar, Tronoh 31750, Perak, Malaysia, ²Department of Management & Humanities, Universiti Teknologi Petronas Bandar Seri Iskandar, Tronoh 31750, Perak, Malaysia, ³Department of Management & Humanities, Universiti Teknologi Petronas Bandar Seri Iskandar, Tronoh 31750, Perak, Malaysia. *Email: ali04chd@yahoo.com

ABSTRACT

The advent of social media (SM) has significantly changed the entire landscape of information accessing and sharing which is more horizontal, single tired and with multilateral manner. This platform empowered every individual to create, access interact, and share their information online. This fast-growing use of these applications in a short period of time is because of youth and students and can facilitate them in different types of communication and learning. However, students considered these applications as a source of entertainment and use it substantially for their social interaction. This attitude of Young's and students has turned these facilities into a source of distraction, which diverts their attention from their effective learning. The prior research has formally declared that SM have the potential to improve student learning and academic activities, even though, less effort has been made to know the student's perception of these applications for learning purposes. The current study has been carried out with the objective to inquired student's psychological characteristics in respect to the acceptance of these applications for learning purposes. Data for this current research was collected from top five research universities Malaysia. Applying big five framework of McCrae and Costa (1987) as a theoretical approach, our finding shows that student's psychological characteristics are positively and significantly affect their use of SM application for learning and academic purposes. Furthermore, future directions are also suggested.

Keywords: Individual Characteristics, Personality, Social Media, Social Learning, Information Sharing

JEL Classifications: D83

1. INTRODUCTION

The rapid development of the Internet has opened unlimited opportunities to the people to interact, create and share information online (Correa et al., 2013). The most-recent additions to this platform are the different Web 2.0 based services that turned the Internet into a prominent tool of communication among all generations of Internet users. These Web 2.0 based services are commonly recognized under the umbrella term of social media (SM) and primarily used for information sharing activities. SM facilitates information sharing and has made possible for the existence of our second life in cyberspace (Ali et al., 2015). These applications facilitate learning through sharing and collaborative activities that help to achieve better academic performance (Al-Rahimi et al., 2013). According to we are social; there are 3.038 billion active Internet users among the 7.219 billion

populations with 2.126 billion SM accounts around the world. In the Malaysian context, there are 20.14 million Internet users among its total population of 30.51 million with 17 million SM accounts. Internet facilities are available to 66% with a 55% SM penetration. The growth rate of the SM application is 8% per annum with an average use of 3 h 27 min a day (We Are Social, 2015).

The uses of SM applications are highly popular among all generations of internet users, especially students, and help them to access course contents and many more (Chen and Bryer, 2012). This platform supports students in learning, which leads them to many innovations, and allows them to exchange ideas through interaction, collaboration and discussion (Lederer, 2012; Guy, 2012; Gülbahar, 2014). SM applications help students to access high-quality learning resources, supporting them in finding communication channels, information sources and participation

(Romero, 2013). However, the use of these applications among students is low for academic practices (Chen and Bryer, 2012) and has a negative effect on their learning outcomes (Kirschner and Karpinski, 2010). Students think of SM applications as a source of entertainment (Lampe et al., 2011). They use these applications for their social purposes more than academic (Rouis et al., 2011). This digital revolution negatively affects students' reading behavior (Inderjit, 2014) and their learning performance (Hamat et al., 2012). The time spent on these sites can distract them from their learning to achieve their and academic goals (Chen and Bryer, 2012; Lederer, 2012; Guy, 2012) and needs for further research to encourage students' active learning with the use of SM (Chen and Bryer, 2012; Cheung and Vogel, 2013).

The uses of SM applications are influenced by various factors. Behavior is one of the factors that influence SM to use and necessary to be inquired (Sohn, 2014; Tinto, 2013; Hughes et al., 2012). Generally, students' motivational problems are usually manifest in their behavior (Taylor and Parsons, 2011; Chen and Bryer, 2012). Understanding student use of SM is important to enhance their learning performance (Kaplan and Haenlein, 2010; Chen and Bryer, 2012). Previous researches conducted have given importance to understand general use of these applications with respect to demographics or psychological characteristics, such as life satisfaction, motivation and their Internet self-efficacy. These characteristics have importance in their place; however, these characteristics change with time and, therefore, need some stable psychological characteristics such as user personalities (Correa et al., 2013; Özgüven and Mucan, 2013). We are no longer living geographically; today everyone can coordinate and collaborate with everyone without knowing where they are from. This increasing interactivity or trend towards the use of SM applications needs the understanding of people's psychological characteristics (Correa et al., 2013). In the current study, the effects of user psychological characteristic (personality) are inquired to investigate their academic use of SM among university's students Malaysia.

2. STUDY OBJECTIVES

The main purpose of the study is to find out the academic use of SM. In order to reach the desired conclusion, the following objective are made as stated below:

1. To find out the current use of SM.
2. To understand the levels of personality factors with respect to the academic use of SM.
3. To evaluate the effect of personality factors on the academic use of SM.

3. LITERATURE REVIEW

SM applications are sometimes referred to as Web 2.0 that modifies the ways people interact. These are Internet-based applications and mobile services that allow participation in the online exchange of content (Dewing, 2012). SM sites are comprised of collaborative projects, blogs, content communities, social networking sites and virtual worlds (Kaplan and Haenlein, 2010) and are primarily used to share information with a broad range of audiences. This platform

is cost effective, allows two-way communication, interaction and help to solve problems (Edosomwan, 2011). The most important characteristics of these applications are its widespread availability and can be used anywhere and anytime (Dewing, 2012). These applications are a good venue for discussion, promoting collaboration, feedback and providing an opportunity to become a part of a well-organized community (Edosomwan, 2011). The SM phenomenon has an important impact on a firm's reputation, sales, firm survival, humanitarian causes, environmental problems, and economic issues (Kietzmann et al., 2011). These sites are practiced daily by millions of users across the world and have a significant impact on their many aspects of communication (Edosomwan, 2011).

The idea of social learning is belonging to the theory of social constructivism. This theory assumes that engagement, and collaborations are effective ways to learn and solve problems. SM has conveyed new possibilities and ways of learning for students in academic institutions (Chen and Bryer, 2012). SM allows forming online communities, interaction, communication and sharing information. This platform assists students to easily create their own contents, share their ideas and interact with students and teachers to collaborate, learn together by sharing resources and ideas, and evaluate ideas and skills (Fenny and Darudiat, 2013; Gülbahar, 2014; Davis et al., 2012). As coin has two sides, SM also has the both positive and negative effects on students' learning performance (Gülbahar, 2014). Anyhow, students' engagements in the use of SM applications are low in academic practices (Chen and Bryer, 2012). SM has the potential for academic use; however, students have different attitudes and perceptions about these applications. Students' use of SM applications is exceeded by their social engagement (Lenhart et al., 2010). SM technologies are sometimes not successful for learning activities, or they can also be a source of distraction and divert student's attention from the learning process (Lederer, 2012; Guy, 2012; Kirschner and Karpinski, 2010; Davis et al., 2012). According to McKenna and Bargh (2000), individual characteristics are one of the main drivers to understand people's interaction on the Internet as cited by Özgüven and Mucan (2013).

3.1. Individual Characteristics

Openness to experience (OP) is an individual characteristic that refers to an individual's interest in learning, intellectual curiosity and change. Those individuals who are high in the characteristic of OP are intelligent and like to try new things and ideas; whilst those individuals who are lower in the trait of OP are mostly traditional, conservative and remain with routine activities (McCrae and Costa, 2004). Previous studies have been conducted to investigate the influence of OP in the use of different web applications. Their finding shows that OP positively influences an individual's behavior to use different applications of the web (Ross et al., 2009; Özgüven and Mucan, 2013; Correa et al., 2010; Amichai-Hamburger and Vinitzky, 2010; Hughes et al., 2012). In the light of the above discussion, the current investigation is conducted to understand the influence of OP on student use of SM for academic or learning purposes and hence, the following hypothesis is proposed:

H1: OP is positively related to the academic use of SM.

Conscientiousness (CON) refers to the individual characteristic that is rule following, responsible, detail oriented and achievement oriented (McCrae and Costa, 2004). Individuals who are high in this trait plan ahead, attentive and are persistent (Ross et al., 2009). Whilst individuals who are low in this characteristic or trait are mostly unplanned, liable to procrastinate, and are considered to be undisciplined (McCrae and Costa, 2004). The previous studies that inquired into the influence of CON in the use of different web applications, their findings are mixed or inconclusive. According to Özgüven and Mucan (2013) CON is a significant predictor of SM use; whilst (Ross et al. 2009; Ryan and Xenos, 2011; Hughes et al., 2012; Tan and Yang, 2014) reported that conscientious individuals inclined to avoid most of the Web 2.0 applications as these applications promote procrastination and serve as a distraction. To base the existence literature, the current study has been conducted to understand the influence of CON on SM for academic or learning purposes and the following hypothesis is proposed:

H2: CON is positively related to the academic use of SM.

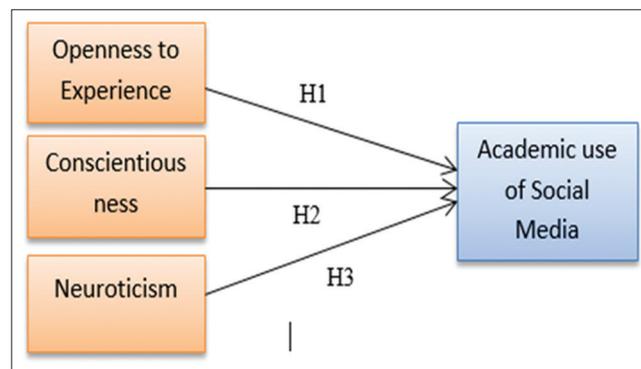
Neuroticism (NEU) is another important individual's characteristic that refers to the individual's predisposition to experience unpleasant emotions and expect bad things to happen to them. According to (McCrae and Costa, 2004) NEU is a state of anxiety, anger, hatred and mistrust. This may also be referred to as the reverse of emotion stability (Ross et al., 2009). Individuals who are high in this trait or disposition of NEU or emotional instability have been found to be the heaviest user of the Internet compared to the individuals who are less neurotic or are more emotionally stable (Correa et al., 2010; Ryan and Xenos, 2011). Whilst other studies have reported that NEU was likely to cause one to avoid the internet (Correa et al., 2013; Hughes et al., 2012; Tan and Yang, 2014). As the results are inconclusive and the following hypothesis is proposed:

H3: NEU is positively related to the academic use of SM.

4. THEORETICAL FRAMEWORK

The trait approach is an important framework to describe human behavior, because the trait approach identifies a wide range of behavior by taking any given person and placing him or her somewhere along the continuum. Applying this model, we can easily make comparisons across a diversity of people. Additionally, it is more likely to be an academic research than practicing therapists. This model is developed by two independent research teams, Paul Costa & Robert McCrae and Warren Norman & Lewis Goldberg. Both these research teams reached the same conclusion called the five-factor theory of personality. According to the model, all human personalities can be summarized in five broad dimensions regardless of language and culture, and describe the human personalities. The theory based on the big five factors is called the five-factor model. The big five factors are openness, CON, extraversion, agreeableness, and NEU (Burger, 2011; Wood et al., 2014).

5. STUDY FRAMEWORK



Conceptual framework

6. METHODOLOGY

Data was collected through a closed-ended survey questionnaire from undergraduate students of the top five research universities in Malaysia. These universities include University Malaya, University Technology Malaysia, University Sains Malaysia, University Putra Malaysia and University Kebangsaan Malaysia, using the stratified random sampling technique. The survey consisted of three parts. Part one consisted of items related to demographic characteristics and frequency of SM applications. Part two consisted of 27 items related to the personality traits, OP ten items, CON nine items, and NEU eight items adopted from John and Srivastava (1999). Part three consisted of six items related to academic use of SM adapted from (Al-Rahimi et al., 2013; Cheung and Vogel, 2013). To understand student academic use of SM, a five-point Likert scale was used (from strongly disagree to strongly agree). The collected data was analyzed with the help of SPSS (Version-20).

7. RESULTS AND DISCUSSION

A total of 384 valid questionnaires were received. The sample included 201 (52.2%) male and 183 (47.7%) female. The respondents range of ages consisted of 18-19 (14.8%), 19-20 (45.3%), 20-21 (25.0%) and 21 and above (14.8%). The samples consisted of multiple ethnic groups, which were Malay at (52.1%), Chinese at (26.0%), Indian at (13.5%) and others at (8.3%) of the sample. The details of the demographic characteristics of the respondents are shown in Table 1.

According to we are social; there are 3.038 billion active Internet users among the 7.219 billion populations. In the Malaysian context, there are 20.14 million Internet users among its total population of 30.51 million (We Are Social, 2015). In order to understand the students' Internet use, our results show that 11.5% respondents used the Internet for 2 h on their daily basis, 44.8% for 3 h and 43.8% of them use it for 4 h in their everyday life. Furthermore, there are 2.126 billion SM accounts around the world whereas in Malaysia out 66% of the Internet users, there are 55% active SM users with 8% annual growth. In the current run, it is identified that 3% of them avoid SM, 29.2% use it for 1 h, 38.0% use it for 2 h, 27.3% for 3 h, and 5.2% use it for 4 h

and above. The primary use of these different SM sites consisted of 5.2% for information sharing, 27.1% for entertainment, 38.0% for socializing, and 29.7% for all the above-mentioned activities. These figures validate the recommendations that today youth are referred as digital natives, homo zapiens, net generation and screen agers. They have the ability of processing a number of information channels at a time and highly connected online (Kaplan and Haenlein, 2010; Inderjit, 2014; Hamat et al., 2012; Chen and Bryer, 2012). These details are tabulated as shown in Table 2.

Estimations of the values to the responses for OP, CON, NEU and academic use of SM are achieved through their mean score and standard deviation as tabulated in Table 3. The reflected mean score for OP is 3.70 with a standard deviation of 0.603; CON is 3.65 with a standard deviation of 0.584; NEU is 2.48 with a standard deviation of 0.658 and for academic use of SM, it is 3.01 with a standard deviation of 0.706. The mean scores of OP and CON are above 3.0, which are the neutral point and indicate that most of the responses are rated on the agreed part on the responses. The mean value of 3.01 of the academic use of SM shows that, most of the respondent ratings on the mid-point attributes of the five Likert scale whereas the mean value of 2.48 for the NEU show that chose their selection on the disagreed attribution of the five Likert scale. The standard deviation which indicates individual response is how deviates from the mean or how spread the data. In the current study, the values of standard deviation show that respondent rating is not polarized, and they mostly concentrated at the mean. Furthermore, to check the internal consistency, a reliability analysis was conducted for the assayed items. Cronbach's alpha coefficient was computed, based on a 0.70 threshold, to measure the internal consistency. All constructs of the framework for this study attained an acceptable range of reliability scores as shown in Table 3. The Cronbach's alpha coefficient for OP with six items where $\alpha = 0.927$, CON was comprised of four items where $\alpha = 0.909$, NEU was comprised of four items where $\alpha = 0.762$ and academic use of SM was comprised of six items where $\alpha = 0.938$.

In this particular section the relationships among the variables, i.e., OP, CON, NEU and academic use of SM through the Pearson correlation coefficients are computed as presented in Table 4. OP showed a moderate positive correlation with the academic use of SM ($r = 0.541$; $P = 000$), CON had a positive correlation with the academic use of SM ($r = 0.446$; $P = 000$) and NEU had a positive correlation with the academic use of SM ($r = 0.443$; $P = 000$).

The main objective of the current research is inquiring the effect of psychological such as student's personality through the use of SM for learning and academic purposes. This relation has been investigated by multiple regressions to examine the relationship between the predictors of OP, CON and NEU; as shown in Tables 5 and 6. The results of the multiple regression analysis are presented Table 5.

The outputs grabbed are shown in Table 5 is a representation of the results of R, R² and adjusted R² to investigate the correlation and variance of the dependent variable with the independent variables. The R value in Table 5 is 0.702, demonstrating a positive correlation between the predictors (OP, CON and NEU)

Table 1: Demographic characteristics of the respondents

Characteristics	Number (%)
Gender	
Male	201 (52.2)
Female	183 (47.7)
Age	
18-19	57 (14.8)
19-20	174 (45.3)
20-21	96 (25.0)
21 above	57 (14.8)
Ethnicity	
Malay	200 (52.1)
Chinese	100 (26.0)
Indian	52 (13.5)
Others	32 (8.3)

Table 2: SM use frequencies of respondents

Use frequencies	Number (%)
Daily internet use (h)	
2	44 (11.5)
3	172 (44.8)
4+	168 (43.8)
Daily SM use (h)	
0	1 (3.0)
1	112 (29.2)
2	146 (38.0)
3	105 (27.3)
4+	20 (5.2)
Primary use of SM	
Learning	20 (5.2)
Entertainment	104 (27.1)
Socializing	146 (38.0)
All	114 (29.7)

SM: Social media

Table 3: Mean standard deviation and Cronbach's alpha

Variable	Mean	SD	Cronbach's alpha
OP	3.70	0.603	0.927
CON	3.65	0.584	0.909
NEU	2.48	0.658	0.762
SM academic use	3.01	0.706	0.938

SD: Standard deviation, SM: Social media, OP: Openness to experience, CON: Conscientiousness, NEU: Neuroticism

Table 4: Correlation amongst predictors and dependent variable

Variables	OP	CON	NEU	SMA
OP	1			
CON	0.290**	1		
NEU	0.138**	0.184**	1	
SM academic use	0.541**	0.446**	0.443**	1

**Correlation is significant at the 0.01 level (two-tailed). SM: Social media, OP: Openness to experience, CON: Conscientiousness, NEU: Neuroticism

Table 5: Regression model summary

Model	R	R ²	Adjusted R ²	Standard error estimate
1	0.702	0.492	0.488	0.50527

with Academic use of SM. The second value is R² for the multiple regression models at 0.492, indicating that 49.2% of the total variation is explained by this equation. Whereas, the adjusted

Table 6: Predictor coefficients

Model	St. Co. Beta	t	Sig.
(Constant)		-4.081	0.000
OP	0.418	10.901	0.000
CON	0.262	6.791	0.000
NEU	0.337	9.027	0.000

OP: Openness to experience, CON: Conscientiousness, NEU: Neuroticism

$R^2 = 0.488$, indicating that 48.8% of the total variation among the values of Y (academic use of SM) can be explained by a linear relationship with the independent variables.

Table 6 demonstrates that OP positively and significantly influences student behaviour to use of SM for learning ($\beta = 0.418$, $P < 0.05$). The output generated from the current through multiple regression are similar to the findings of (Ross et al., 2009; Özgüven and Mucan, 2013; Correa et al., 2010; Hughes et al., 2012; Amichai-Hamburger and Vinitzky, 2010). CON positively and significantly influences student behaviour to use of SM for learning ($\beta = 0.262$, $P < 0.05$), which was similar to the findings of (Özgüven and Mucan, 2013). NEU positively and significantly influences student behaviour to use of SM for learning ($\beta = 0.337$, $P < 0.05$), which was similar to the findings of (Correa et al., 2010; Ryan and Xenos, 2011).

8. CONCLUSIONS AND FUTURE WORK

SM are web 2.0 based applications and have become an important means of communication among all generations of Internet users. This popularity of these applications is mainly because of youth and students around the world, and they facilitate them in learning as well. However, studies conducted to investigate their effect on student learning performance have reported them as a source of distraction as they divert students' attention away from their learning. The main objective of the current studies was to understand students' use of SM for their learning purposes through their personal characteristics or their personality traits. Since these personal characteristics are relatively permanent and help in understanding individual behavior. The finding generated from the current run shows that there is a positive correlation between OP, CON, NEU and academic use of SM. Additionally, all these factors of individual or personal characteristics are positively and significantly related to the academic use of SM. In future, the same model is required to inquire with different methodology and target population.

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