

The Influence of Contents Utility on Students' Use of Social Media

**Murad Ali*, Raja Ahmad Iskandar Raja Yaacob,
Mohd Nuri Al-Amin Endut and Muhaimin Sulam**

Universiti Teknologi PETRONAS, 32610 Seri Iskandar, Perak, Malaysia

ABSTRACT

The birth of the Internet has changed the processes of accessibility to information. A recent addition to this sphere is Web 2.0 applications which have transformed the entire landscape of information sharing in a multilateral fashion. This has provided people with an online platform to create access and interactions with others. These sites and apps are highly effective in learning and assist students in different academic interactions. However, students understand this sphere as a source of entertainment and social interactions. This attitude of students has transformed this platform into a source of distraction, which diverts their attention from effective learning and academic achievements. The earlier inquiries made into this particular area has formally disclosed that this web can augment student in learning and academic activities. Even so, less effort has been made to inquire the factors that can motivate students to harness this sphere for their academic excellence. The current study has been conducted with objectives to understand student adoption behaviour for this platform through site usefulness and information quality. Data was collected through a survey from undergraduate students from top five research universities in Malaysia and analysed with the help of SPSS Amos (Version 18). Applying technology acceptance models of Davis et al. (1989) and unified theory of acceptance and use of technology of Venkatesh et al. (2003) as a theoretical framework, the finding shows that site usefulness and

information qualities significantly influence usage intention to use social media for academic purpose. However, information quality was found to be insignificant in encing the actual behaviour

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E-mail addresses:

ali04chd@yahoo.com (Murad Ali)

iskandar_yaacob@utp.edu.my

(Raja Ahmad Iskandar Raja Yaacob)

nuriend@utp.edu.my (Mohd Nuri Al-Amin Endut)

* Corresponding author

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INTRODUCTION

Technology has revolutionised all aspects of human communications (Punnoose, 2012). The birth of the digital computers and other electronic devices has made possible the existence of our second life in cyber space (Ali, Ahmad, Yaacob, Nuri, & Endut, 2015). The most recent addition to this revolution is 'social media'. Social media has provided an online platform to people and has entirely changed ways of interaction and communication among people (Al-rahimi, Othman, & Musa, 2013; Boyd & Ellison, 2008). This platform consists of different sites and apps such as blogs, media contents, social networks, collaborative projects and virtual world (Kaplan & Haenlein, 2010). These sites and apps have marked down the distance barrier (Al-rahimi, Othman, & Musa, 2014) and are primarily used to share information. This rapid growth of social media is because of students' interest (Kirschner & Karpinski, 2010) and individuals having access to at least one application of the Internet (Hampton, Goulet, Rainie, & Purcell, 2011). Furthermore, the importance of information sharing is increasing with integrated working and collaborative learning concepts across the globe (Department of Children, Schools and Families Publication [DCSF], 2008). Social media is the new form of communication and connects people to share their information (Punnoose, 2012). It has changed the way people learn and network (United Nations Conference on Trade and Development [UNCTAD], 2012). Information sharing is a universal

method of information acquisition in the academic environments (Talja, 2002). It can positively predict students' learning performance (Junco, 2012), enhance and support academic learning (Gray, & Annabell, 2010) and is considered as a precious component of the learning process. Information sharing assists students to develop their skills and access to different types of knowledge (Lin, Featherman, & Lin, 2013). The advent of the Internet and particularly web 2.0 services has changed the entire landscape of information sharing (Miller, 2012). However, the use of these sites and apps among students is low for the academic practices (Chen & Bryer, 2012) and has affected their learning outcomes (Kirschner & Karpinski, 2010). Students consider these sites and apps as a source of entertainment (Lampe, Wohn, Vitak, Ellison, & Wash, 2011) and use it primarily for their social activities than academics (Rouis, Limayem & Salehi-Sangari, 2011). In Malaysia, prior research has concluded that this digital revolution is affecting students' reading behaviour and learning performances (Inderjit, 2014; Hamat, Embi, & Hassan, 2012). However, it has also been witnessed that this can be used to enhance students' learning and academic performance in Malaysia (Al-rahimi, Othman, & Musa, 2014; Chen & Bryer, 2012; Cheung & Vogel, 2013). Hence, this study is aimed to examine the influence of some motivational factors such as site usefulness and information quality of these applications on students' use of this sphere for learning and academic purposes.

LITERATURE REVIEW

The history of communication technology in education began with the invention of Alexander Graham Bell, then on to recording devices until the present era of interaction or two-way communication. It has been observed that survival in the global market is dependent on a number of factors such as creativity, innovation, international collaboration and competitiveness (Westera, 2012). People and societies are continuously requiring improvement of their existing knowledge. The technology helps them in enhancing their learning activities through its flexible delivery, irrespective of time, space and place. Technology also enhances the learning process by means of display and format such as, images, color graphics, audio, videos and transfer of information in a short time (Ziqing, 2013). Social media is an important means of communication of the present era (Al-rahimi et al., 2013). The widespread availability and usage of social websites and apps has permitted consumers to engage actively with one another in creating, editing and sharing different forms of textual, visual and audio contents (Selwyn, 2011).

Social media plays an important role in transforming information and making it easier to communicate with others (Edosomwan, 2011). Social media enhances learning by allowing students to exchange ideas, through interaction, collaboration and discussion. Social media can also be used in numerous ways, for example, to increase students' engagement, develop communication skills, improve interaction,

and share academic related materials for the benefit of students (Guy, 2012; Lederer, 2012). The use of social media is noticeably widespread among youngsters and students around the world. The sites and apps of this interactive sphere can assist students to access a variety of information and enhance their experiences to create more connections and encourage students' learning (Chen & Bryer, 2012; Lin, Featherman, & Lin, 2013). In fact, the young generation is the digital native who has grown up with these technologies. They are better equipped for the innovative use of social website and apps (Kaplan & Haenlein, 2010; Inderjit, 2014).

The present day youngsters, particularly students are highly connected online where they perform different communication activities. However, their online engagement is highly dominated by social interactions (Chen & Bryer, 2012). This attitude of students has turned the online platform as a source of distraction to achieve better academic performances (Kirschner & Karpinski, 2010) and has also caused motivational problems (Rouis et al., 2011). In Malaysia, the Internet penetration is comparatively high in the region, whereby, about 68% of the population has access to the Internet. In Malaysia, youngsters and students are considerably connected to the Internet and highly prefer sharing activities offered by this social media. However, this digital revolution is negatively affecting their reading behaviour, learning performance and very limited number of students are using this social sphere for learning and academic activities (Hamat, Embi, &

Hassan, 2012; Helou, Zairah, & Rahim, 2012; Inderjit, 2014).

Social media has revolutionised this century as the various sites and apps can assist every individual, particularly students in their learning. The understanding of this online media is very important to enhance students' academic performance (Guy, 2012; Lederer, 2012; Santoso, Becker, & Reeve, 2014). Social media is the mean of communication (Al-rahimi, et al., 2013). In order to enhance students' online engagement, it is necessary to first enquire their present-day online engagements (Boyd & Ellison, 2008) to regulate their online activities. In Malaysia, the young generation particularly students are decidedly connected online. To enhance their online connectivity and reduce students' digital distraction, it is important to develop strategies, sites and other activities to persuade acceptance of this interactive platform for learning and for academic activities (Al-rahmi et al., 2014; Helou, Zairah, & Rahim, 2012).

Perceived Usefulness

Perceived usefulness is the core constituent of technology acceptance models. It is the individual likelihood that exercising a specific information system will upsurge their production. Perceived usefulness is an important predictor to adoption of an information system (Davis, Bagozzi, & Warshaw, 1989; Moon & Kim, 2001; Venkatesh & Davis, 2000). Studies conducted to enquire the impact of perceived usefulness on use intention conveyed that

perceived usefulness remains a stronger contributing factor of social media adoption (Kim, Hall, Kim, & Kim, 2010), particularly in blending learning (Padilla-Meléndez, Del Aguila-Obra, & Garrido-Moreno, 2013) and adoption of social media through smart phone (Calisir, Atahan, & Saracoglu, 2013). In light of the above discussion, to examine the influence of perceived usefulness on students' intention to use this media for academic purposes, the researchers thus suggest the following hypotheses:

- H1a: Perceived usefulness positively influences the use intention of students to use social media for learning and academic purposes.
- H1b: Perceived usefulness positively influences students' use of social media for learning and academic purposes.

Information Quality

Information quality is a sub factor of technology (Pilli, 2014). Information quality (IQ) is also known as content quality (CQ) and defined as the fitness of data and information for use. In most instances, this media is a new form of interaction and helps to share user generated contents. Social media users are diverse in contexts of backgrounds, expertise, beliefs and geographical locations. This is because the quality of users' generated contents (UGC) is different and can vary from outstanding to abuse and even spam (Agichtein, Donato, Gionis, Mishne, 2008; Chai, Potdar, & Dillon, 2009). Prior studies directed to

probe the impact of information quality on successful use of e-learning by applying technology acceptance models. Their output revealed that quality factors significantly influence perceived usefulness of using e-learning system (Pilli, 2014; Roca, Chiu, & Martínez, 2006). In an online platform, information quality is the key indicator in encouraging users' experiences. Quality factors, such as information quality is the strongest predictors of users' satisfaction. Individual use of a system is based on its past experiences; if they are satisfied, they will use the system again. Student use of an online systems shows that information quality is a significant predictor of user satisfaction (Chen & Chengalur-smith, 2015). In light of the above discussion, to investigate the effect of information quality on intention to use social media for learning and academic purposes, the researchers propose the following hypotheses:

- H2a: Information quality positively influences the use intention of students to use social media for learning and academic purposes.
- H2b: Information quality positively influences students' use of social media for learning and academic purposes.

Usage Intention

Bhattacharjee refer to the various technology acceptance models (see Davis, 1989; Karahanna, 1999; Taylor & Todd, 1995) to conclude that one's 'intention' is an important predictor in acceptance or adoption

of information system (Bhattacharjee, 2001). Intention refers to a set of strategies which help to decide whether to execute or not to execute a particular action (Davis et al., 1989). It has been studied that users' intention is mandatory to the acceptance, adoption and subsequent use of various technological models (Davis et al., 1989; Venkatesh, Michael, Morris, Gordon & Davis, 2003). The same applies to social media (Al-rahimi et al., 2013). The continuous intention towards an information system is determined by its prior user satisfaction and defined intention as users' intention to continue using an online information system (Bhattacharjee, 2001). The construct of behavioural intention is the only variable that affects the actual usage. Intention is critical to predict system usage (Calisir et al., 2013). Cheung and Vogel (2013) found that students' intentions are important to predict their usage of Google applications for learning. In view of the above discussion, to investigate the influence of use intention to use social media for learning and academic purposes, the researchers thus propose the following hypotheses:

- H3: Usage intention is positively related to students' use of social media for learning and academic purposes.

Study Framework

The Technology Acceptance Model (TAM) of Davis et al. (1989) is an extension of TRA (Theory of Reasoned Action). It is one of the most popular models to measure the acceptance of technology

in information system (IS) research. The TAM constructs are the major determinants and have been widely used to predict the acceptance of new technologies. The Unified theory of acceptance and use of technology (UTAUT) is another robust model developed by combining all the existing models of acceptance or adoption behavior as a unified view. In UTAUT perceived usefulness is replaced with performance expectancy (Venkatesh et al., 2003). Perceived usefulness is an important factor that influences individuals toward a particular technology (Davis et al., 1989). It can be defined as the degree to which

the user believes that using social media would enhance his or her performance. Information quality is a significant predictor of users' satisfaction, which leads to actual system use (Roca et al., 2006). Information quality (IQ) is also known as content quality (CQ) and is generally defined as fitness of data and information for use (Chai et al., 2009). Therefore, this research uses TAM and UTAUT as base theories to understand the effects of perceived usefulness and information quality with respect to student intention and actual use of social media for learning and academic purposes.

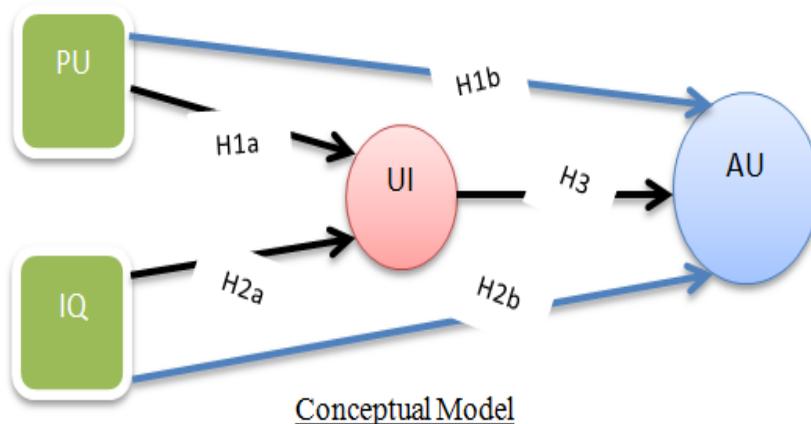


Figure 1. Conceptual framework of the study

OBJECTIVES

Social media helps to interact and access quality information. However, its use among the students for academic purposes is very low and distracts them from learning because they consider these sites fundamentally as a source of entertainment. For this

reason, to enquire student use of these sites applications for learning, the current study is carried out to achieve the following objectives:

1. To enquire the current use of social media among students of higher education in Malaysia.

2. To understand how students determine and primarily use social media sites and apps.
3. To examine the influence of site usefulness and information quality on student intention and academic use of social media.

METHODS

In the present research, data was collected through a closed-ended survey questionnaire. Since sample size plays a central role in structural equation modeling (SEM), the sample size of the current study consisted of 388 respondents that fulfilled the minimum criteria for using the structural equation modeling. The survey participants were undergraduate students from the top five research universities of Malaysia, which include Universiti Malaya (UM), Universiti Teknologi Malaysia (UTM), Universiti Sains Malaysia (USM), Universiti Putra Malaysia (UPM) and Universiti Kebangsaan Malaysia (UKM), by using the stratified random sampling technique. These universities were selected based upon similar characteristics, namely, these are public universities, top ranked universities, have similar technology infrastructure, offer degrees in a variety of subjects and most importantly, they are considered to benchmark other universities throughout the country. In the same way, undergraduates are also referred as Gen Y. They have grown up with these technologies and highly prefer this new media in their day-to-day life. This media assists students in different aspects of academics. This

young generation is considerably involved in real research activities today. The questionnaire used to collect the data consisted of 32 items. The construct of perceived usefulness was measured through six items scale of Al-rahimi et al.(2013), Cheung and Vogel (2013) and Moor and Kim (2001). The construct of information quality was measured through six items scale developed by Pilli (2014) and Roca et al. (2006). The use intention was measured by using six items scale adapted from Al-rahimi et al. (2013) and Cheung and Vogel (2013). Finally, the academic use of social media was measured by using seven items scale of Al-rahimi et al. (2013) and Cheung and Vogel (2013). All the responses were achieved on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The collected data was analysed with the help of SPSS (Version 20) and AMOS (Version 18).

RESULTS AND DISCUSSION

A total of 461 questionnaires were received. During data screening, 73 questionnaires were dropped due to missing values, univariate outliers and poor engagement of the respondents. The remaining 388 valid questionnaires were entered in SPSS for ongoing statistical analysis. The sample consisted of 52.8% males and 47.2 % female respondents. The ages of the respondents ranged from 19 to 20 years (33.5 %), 21 to 22 years (57.0 %), and 23 to 24 years (9.5 %). Besides that, Malaysia is a multicultural society. In this research, it has been given

more importance to include respondents from all possible ethnic groups. The data collected show that there were 47.9 %, Malays, 27.1%, Chinese 16.5% Indians and 8.2% of other ethnic groups. The details of demographic characteristics are shown in Table 1 below.

Table 1
Demographic characteristics of the respondents

		Number	Percentage
Gender	Male	205	52.8
	Female	183	47.2
Age	19-20	130	33.5
	21-22	221	57.0
	23-24	37	9.5
Ethnicity	Malay	186	47.9
	Chinese	105	27.1
	Indian	64	16.5
	Others	32	8.2

The first objective of the current research is to inquire the current use of social media among the students of higher education in Malaysia. In achieving this objective, the students were surveyed to identify their daily use of the Internet and social media in general and specifically in learning context. The collected responses were computed through SPSS to identify the student’s use of the Internet and social media in their day-to-day life. According to the findings, 6.7% students use the Internet for one or less hour a day, 29.6% between two to three hours, 35.1% from four to five hours and 28.6% above five hours a day. The use of social media sites and apps indicate that 15.7% students use these sites / apps for one or less hour, 28.9% for two to three hours, 41.5% for four to five hours and 13.9% for above five hours a day. The graphical presentation is illustrated in the Figure 2 below.

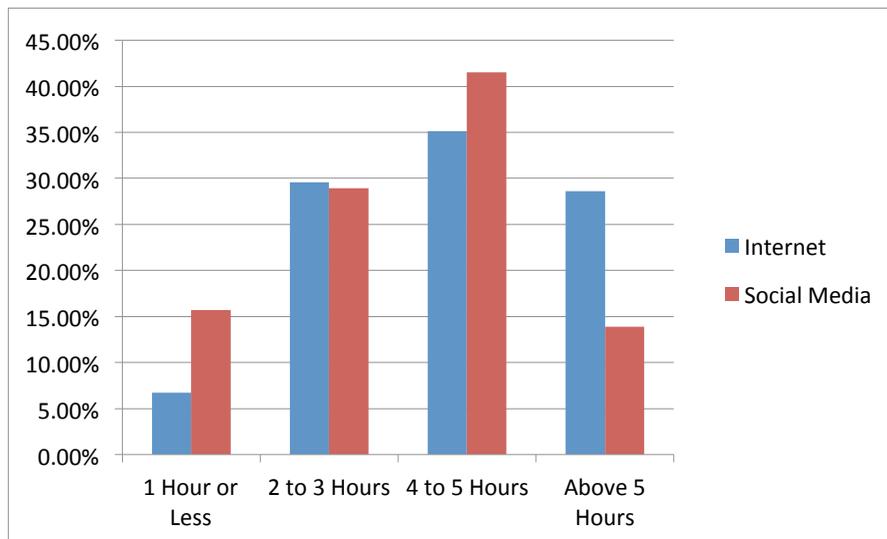


Figure 2. Daily use of internet and social media

When identifying the students' current use of social media, they were also asked how they use this interactive platform for their learning purposes. The output generated show that 60.1% among the students of higher education in Malaysia use this platform for one or less hour to carry

out their learning activities. 26.8% use this platform from two to three hours, 9.8% for four to five hours and only 3.4% use it above five hours in their day-to-day life to perform their learning and academic activities. These findings are illustrated in Figure 3 below.

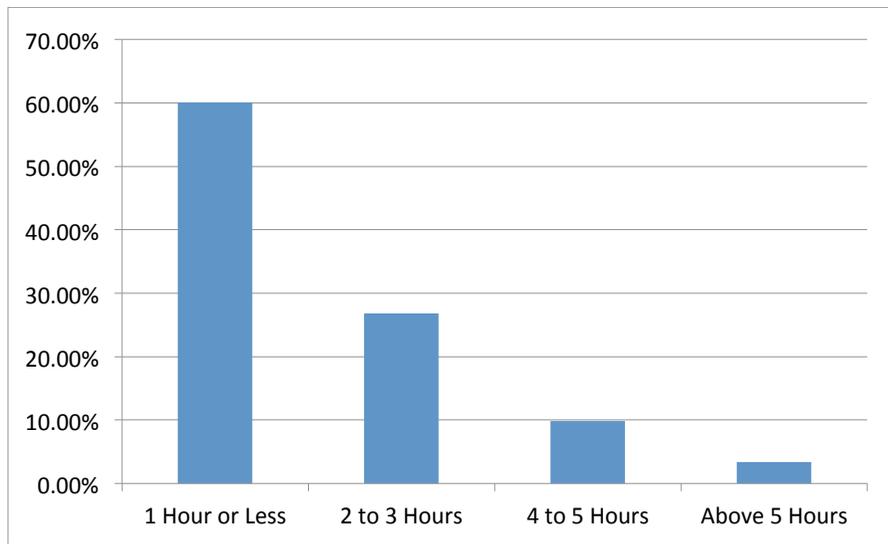


Figure 3. Daily use of social media for academic purposes

The second objective of this study is to identify how students determine and primarily use these sites and apps for their different communication purposes. The survey output reveals that students are highly aware of this online sphere. They determine the terms and properly understand the different kinds of applications which belong to this web. In context of use, 11.9% of students use these sites and apps for learning and other academic related activities. About 22.2% consider this platform as a source

of entertainment, while 22.4% use this sphere as a socialising channel and 43.6% consider these applications for all types of communication activities. Social media is an information outlet, and people use it to perform their communication activities. The output reveals that people optimize this platform in accordance with their desires and needs. However, the students' use of this interactive platform is highly oriented towards social interaction than academics. These findings are strongly supported by

a number of studies such as Lampe et al. (2011), Rouis et al. (2011), and Chen and Bryer (2012). According to these studies, students primarily use these sites and apps for different kinds of communication activities, which are highly dominated by their entertainment and social interactions. The details of description on students' primary use of this platform is presented in the Table 2 below.

Table 2
Primary use of social media

		Number	Percentage
Primary use of social media	Learning	46	11.9
	Entertainment	86	22.2
	Socialising	87	22.4
	All of them	169	43.6

The third objective of the study is to enquire the influence of usefulness and information quality on students' use of social media application for academic purposes. The structural equation modeling has been employed to test the proposed conceptual model. The structural equation modeling (SEM) generally consists of measurement and the structural model.

Measurement Model

In the measurement model, the overall fit, the suitability of factor loadings and

the variances explained through the measurement model are concluded with the confirmatory factor analysis (CFA) by using AMOS software. In the first step, the CFA performed to give a reasonable fit. However, after consulting the modification indices, standardised residual covariance and deleting items with lower loading is recommended by Hair, Black, Babin, and Anderson (2009). The results of the final CFA model were $\chi^2/df = 2.227$; $p = 0.000$; $GFI = 904$; $NFI = 0.943$; $RFI = 0.930$; $IFI = 0.968$; $TLI = 0.960$; $CFI = 0.967$; $RMSEA = 0.056$ and $PCLOSE = 0.058$ as conveyed in Table 3, which advocate that the measurement model shows a good fit to the collected data. The initial factor loading varied from .74 to .87. These values show that 24 measurement variables are meaningfully signified by their particular latent constructs. Table 3 also exhibits internal consistency of the constructs. The average variance extracted (AVE) for each construct is more than 0.50, suggesting adequate convergence. Since reliability is also an indicator of convergent validity, composite reliability (CR) for every construct is calculated. The construct reliability for all constructs is higher than 0.80, which indicates higher reliability and convergent validity for the measures.

Table 3
Internal consistency and convergent validity of the construct measures

Variable	Indicators	Factor loading (initial)	Factor loading (final)	Composite reliability	AVE
Perceived Usefulness	PU1	.74***	.57***	0.877	0.549
	PU2	.74***	.77***		
	PU3	.75***	.84***		
	PU4	.75***	.82***		
	PU5	.77***	.59***		
	PU6	.78***	.80***		
Information Quality	IQ1	.81***	.85***	0.922	0.666
	IQ2	.82***	.71***		
	IQ3	.81***	.82***		
	IQ4	.82***	.95***		
	IQ5	.80***	.83***		
	IQ6	.81***	.71***		
Use Intention	UI1	.83***	.76***	0.939	0.719
	UI2	.84***	.85***		
	UI3	.85***	.92***		
	UI4	.85***	.88***		
	UI5	.86***	.78***		
	UI6	.86***	.88***		
Academic Use	AU2	.87***	.88***	0.940	0.722
	AU3	.84***	.86***		
	AU4	.87***	.88***		
	AU5	.82***	.83***		
	AU6	.85***	.81***		
	AU7	.87***	.84***		

The affirmation of measures for the discriminant validity is singled out by comparing the construct AVE with respect to the shared variance among pairs of constructs. Succeeding in comparison of the construct's AVE with the square of correlation estimate, it is established that the variance extracted is greater than the squared correlation estimate of the constructs. As a

result, it is concluded from the current measures that the model has adequate discriminant validity. Furthermore, in light of the above findings obtained through measurement model, it is established that the models have sufficient reliability, convergent validity as well as discriminant validity.

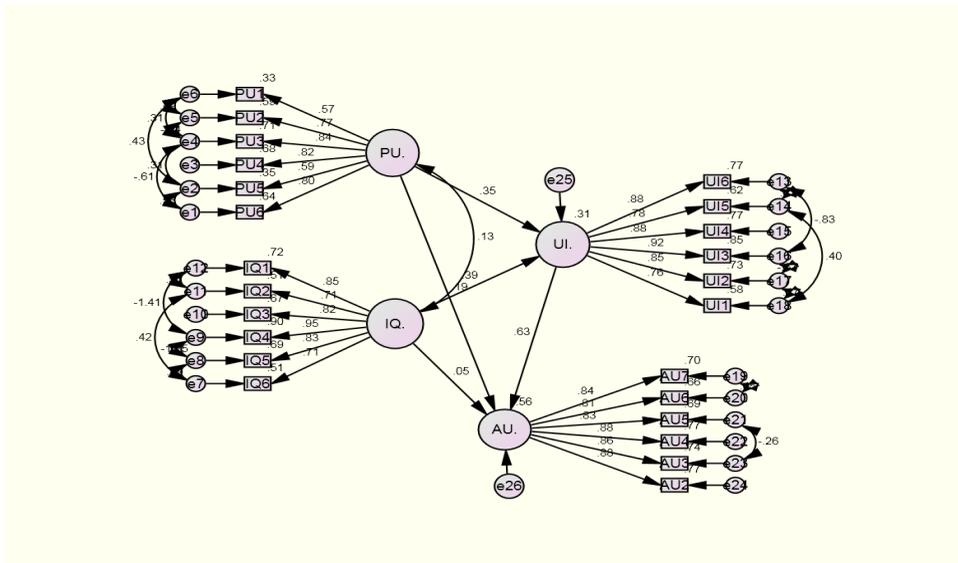


Figure 4. Structural model and hypothesis testing

Structural Model

In this particular section, the technique of the structural model was applied by using AMOS software. The structural model is practised when the fit of the measurement model is confirmed. SEM techniques assisted in detecting the effectiveness of the model and to test the hypothesis proposed. The output generated through structural

models shows a good fit, where $\chi^2/df = 2.227$, with $p = 0.000$; NFI = 0.943; RFI = 0.930; IFI = 0.968, TLI = 0.960; CFI = 0.967; RMSEA = 0.056; PCLOSE = 0.058. This figure indicates that the overall estimates provide an adequate empirical support for the four among five hypotheses proposed in the current run. The output generated as results of these hypotheses tested are tabulated below.

Table 4
Results of hypothesis tested

Hypothesis	Path	Standardised path coefficient	P level	Hypothesis supported?
H1a	PU \Rightarrow UI	0.353	0.000	Yes
H1b	PU \Rightarrow AU	0.188	0.000	Yes
H2a	IQ \Rightarrow UI	0.386	0.000	Yes
H2b	IQ \Rightarrow AU	0.047	0.200	No
H3	UI \Rightarrow AU	0.629	0.000	Yes

The main objective of the current run is to pinpoint the influence of perceived usefulness and information quality on students' use intention and academic use of social media for learning and academic purposes. This research set out to meet the research objectives of the proposed framework, involving three hypotheses with five paths. The output generated through AMOS demonstrated that four paths were significant and significantly influenced intention and behavior of the student to use social media for learning and academic purposes. In the proposed model, it is estimated with the help of squared multiple correlations that 30.8 percent of variance is explained by usage intention and 55.6 percent of variance is explained by actual use of social media or actual behaviour (dependent variable) towards the independent variables. Results reveal that perceived usefulness is significantly related to use intention ($\beta = .353$, $CR = 7.639$ and $p = .000$) and academic use ($\beta = .188$, $CR = 4.644$ and $p = .000$). These results support previous literature in this regard as perceived usefulness is the probability that using a specific application system will increase his or her performance. It is a core construct of TAM and influence intention and actual use of technology adoption (Davis et al., 1989; Moon & Kim, 2001; Venkatesh & Davis, 2000). Perceived usefulness is a stronger determinant of social media adoption (Kim et al., 2010). It can positively influence the use of social media in blending learning (Padilla-Meléndez et al., 2013) and acceptance of social media use

through smart phone (Calisir et al., 2013). Information quality is significantly related to use intention where $\beta = .386$, $CR = 8.563$ and $p = .000$ and insignificantly related to students' use of social media for learning and academic purposes ($\beta = .047$, $CR = 1.282$ and $p = .000$). These results are similar to previous studies for intention in adoption of an e-learning system (Pilli, 2014; Roca et al., 2006) and student use of an online system (Chen & Chengalur-smith, 2015), while the latter is similar to Ivvari (2005), while use intention is significantly related to academic use of social media where $\beta = .629$, $CR = 12.240$ and $p = .000$. These results are similar to previous studies in adoption of different types of information systems (Al-rahimi et al., 2013; Bhattacharjee, 2001; Calisir et al., 2013; Cheung & Vogel, 2013; Davis et al., 1989; Venkatesh et al., 2003). Furthermore, the results lend knowledge of the mediation effect of intention between perceived usefulness, information quality and academic use of social media. Results generated show that perceived usefulness is not mediated through intention which is not similar to Davis et al. (1989), and Venkatesh et al. (2003). However information quality is partially mediated through use intention.

CONCLUSION

Social media has become an important means of communication among all generations of Internet users. The popularity of social media applications is mainly because of youth and student interest in the online sphere around the world. The interactive sphere facilitates them in different communication, including

learning; however, it can also be a source of distraction and divert students' attention from their academic achievements. The first objective of the current research has revealed that students of higher education in Malaysia spend considerable time to perform their different communication activities. They connect online through the Internet and use different social media outlets for four to five hours in their day-to-day life. However, their use of this interactive media is low for their academic state of affairs and the majority (60%) of students prefers these sites and apps to perform learning and academic activities. The second objective, to determine students understanding with these applications shows that students' use of these sites is mixed oriented, and its use for learning is comparatively lower than socialising and entertainment. The third objective was to examine the influence of usefulness and information quality on students' academic use of social media. The finding reveals that usefulness is the best predictor in adoption of social media for learning and academic purposes, while information quality motivates usage intention but is found to be insignificant to influence students' academic use of social media. This media is the future of communication and understanding its use in learning and academics is highly important. With regard to the significance of the study, it can be said that this research has contributed in identifying the current use of social media, which is the first step to understand the students' level of

connectedness. The study has contributed to the knowledge base and analysing factors that can persuade students to start use of this interactive media for their learning and academic activities based upon empirical evidence. It is considered that educators and parents will get benefits from these findings to improve the online engagement of their children and students. Furthermore, further research is required with additional constructs, different methodology and target population to be explored in the same area.

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