



Facebook usage, socialization and academic performance



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ABSTRACT

This paper examines the impact of Facebook usage on students' academic performance. In addition, it also analyse whether Socialization influences Facebook usage. Empirical data was collected from 1165 Malaysian university students using a questionnaire survey. It was found that the construct Socially Accepted influences Facebook usage while Acculturation does not have any significant relationship with usage. The results also illustrated that there is a positive relationship between students' Academic Performance and Facebook usage i.e. the higher the usage the better they perceived they perform.

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1. Introduction

Malaysia, like many other countries has been hit by the Facebook phenomenon. Statistics reveal that Malaysia is among the top five countries in terms of number of Facebook accounts created. Facebook has gained popularity due to the perceived value it provides to the users. Dholakia, Bagozzi, and Pearo (2004) for example, highlighted that the Facebook can be used to get information, learn how to do things, generate ideas, make friends, and get someone to do things. Facebook has been defined by Zuckerberg (2005) as 'an online directory that connects people through social networks at colleges and universities'. Facebook was originally created by Zuckerberg to help students identify other students. Since its creation, its usage has gained momentum particularly among students (Roblyer, McDaniel, Webb, Herman, & Witty, 2010). Students used them not only for communication, learning activities but also to socialize. Socialization is part and parcel of the young adult in their daily life (Kirschner & Karpinski, 2010). In today's world, one of the easiest and fastest ways to socialise is using the Facebook. Facebook usage has been receiving numerous attentions. Some say it brings positive impact on students' Academic Performance (Junco, 2012), some say no impact (Kolek & Saunders, 2008) while others say there is negative impact (Kirschner & Karpinski, 2010). Hence, the need to address these two questions: 'what is the impact of Facebook usage on students' Academic Performance?' and 'what impact does Socialization have on Facebook usage intensity?'

In addressing these questions, a preliminary review of the literature was carried out and it was found that there are two main strands of Facebook research: usage/adoption and impact. Most of the studies focus on one strand i.e. either usage/adoption (Mishra, Draus, Leone, & Caputo, 2012) or impact (Ellison, Steinfield, & Lampe, 2007; Valenzuela, Park, & Kee, 2009). Not many examine both usage/adoption and impact (Yu, Tian, Vogel, & Chi-Wai Kwok, 2010). Hence, this study will do so. Thus, the main aim of this study is to examine the relationship between Socialization with Facebook usage intensity and between Facebook usage intensity with Academic Performance. In addition, the study will also analyse whether Facebook usage mediates the relationship between Socialization and Academic Performance. It is important to study Facebook application in terms of its input (antecedents), process (Facebook usage) and output (i.e. the impact) as it provides a more holistic view rather than just focussing on the input or output on its own (Gholami, Sulaiman, Ramayah, & Molla, 2013).

In the following sections, the proposed research framework and hypotheses development is discussed. Subsequently, the methodology used to collect the empirical data is described followed by the results and discussion. The implications, limitations and suggestions for future research conclude the paper.

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2. Theoretical and hypotheses development

Many education institutions and educationists utilize Facebook as a medium for students to gain knowledge. Many students have explained that they have empowered their connection with their teachers and principal via Facebook. Review of the literature shows that many studies investigated students learning activities. Accordingly, when schools, universities or colleges enable Facebook at their learning centre, this would benefit the students because Facebook is a good source of news. To illustrate, students could get to learn the numerous activities that is taking place and concurrently they could better comprehend with the current happenings around the world. On the other hand, Social learning theory (Bandura, 1997), explain that three factors such as individual learners, peers, and situations, potentially affect individuals' learning outcomes. For instance, social learning theory, which is also known as social cognitive learning, affirms the significant of learning via observation and modelling. To add on, this theory basically explains how the environmental and cognitive components collaborate to affect an individual learning and behaviour pattern. Social learning theory views learning as a social process that individuals will self-initiate, regulate learning and actively construct knowledge by acquiring, generating, and structuring information (Yu et al., 2010). This theory emphasized that individuals' cognition and behaviour are influenced through observation and interacting with peers and the situations (e.g., learning the environmental norms, cultures, policies). This theory emphasize that it is individuals' interaction with the environment that causes their behavioural consequences. Therefore, individual interaction with peers, social support from peers and their understanding of situations are important factors which effect individual learning outcome (DeAndrea, Ellison, LaRose, Steinfield, & Fiore, 2012). As a result, it is essential to allow students to interact, communicate and collaborate with one another through Facebook as this will foster a better relationship between the students and their teachers. Thus, students can have an opportunity to be engaged with their course materials which is related to their studies. Other research support these arguments and suggest that in the context of university, students understanding and assimilation of the environmental attributes, such as norms, culture, values and goals of the university, can exert influences on the students' skill developments and cognition (Yu et al., 2010). Creating systems of information, contacts and support which help students to obtain information and express their feelings informally and freely will effect students' mental health and performance improvement and will help students to adjust faster and develop commitment to their university, articulate their and engage in peer supported communities on aspects of academic life (Selwyn, 2007). Specifically, Facebook is a good platform to stay connected with high school seniors and this is an excellent method to share each others' learning experience. In short, this could be a strong podium to share various culture, value, customs and traditions as well.

Online social networking sites create the opportunity to establish and maintain relationships with peers and develop further interactions for different purpose including learning (i.e. connected friends/peers) and information seeking. For example, some students may post sample questions of a certain subject on Facebook, and they may even share some homework assignments and lessons plans. Thus, this could elevate the knowledge sharing process among students and each of them can benefit from one another. Interaction with peers through social networks facilitates exploring the peer interests, or specific knowledge of others, and learns more about the real life in the university (Yu et al., 2010). Engagement in online social networking and interaction with peers impact students and they are more likely to have better feeling, health, affective development, collaborative learning, self-esteem development, nurturing satisfaction with the university and academic success (Al-Rahmi & Othman, 2014; Steinfield, Ellison, & Lampe, 2008; Yu et al., 2010). Besides that, students who have graduated after completing their tertiary education normally utilize social network sites to discover employment opportunities. This has enabled graduates to have a more desirable job-fit organization opportunity so that their skills are not mismatched with their position. As mentioned earlier, this study adopts the input, process and output framework to examine the relationship between Socialization, Facebook usage and Academic Performance. The following sections discuss them in greater detail.

2.1. Input: socialization

A preliminary analysis of the literature on Facebook usage in particular and Social Network Sites (SNS) in general revealed that there are many factors that contribute to Facebook usage. Among the most cited ones are those related to Personality Traits such as Loneliness (Wu & Yao, 2008) and Shyness (Crozier, 2005) and demographic profiles such as gender and age (Paul, Baker, & Cochran, 2012). Facebook seems to have become a pervasive element of students' lives so it has the potential to have a significant impact on social practices in academic environments (Hewitt & Forte, 2006).

Today's learners expect to participate in evaluating as well as in being evaluated and to share work and feedback among their peers (DeAndrea et al., 2012). Without any fear of embarrassment in face-to-face interaction (Leary & Kowalski, 1993), online social networking sites allows university students to feel more comfortable in expressing themselves and interacting with peers and lectures. This is said because when students frequently communicate among different people with non-identical background and experience, they tend to gain more familiarity about these people, thus leading to a better understanding level. As a result, these students gain more confidence in themselves because they are equipped with good knowledge about their surroundings. In addition, Facebook and other social network sites offer an opportunity to promote Socialization to the college environment and help students learn about their peers and colleges (DeAndrea et al., 2012). The activities such as viewing the profile of the friends and teachers, exploring their hobbies, interests, and learn more about the university environment will help them to find the information that discloses real life in the university. These activities help student adaptation and Socialization and determine how well students can perform and the extent to which they will commit to the situated universities and how well they perform in the university (Akbulut & Günüş, 2012; Kim & Lee, 2011).

Besides Personality Traits and demographic characteristics, a person's level of Socialization also influences Facebook usage. This paper focuses on the Socialization aspect as it is believed that students place a lot of emphasis on Socialization (Pittman & Richmond, 2008). Students who are generally between 19 and 29 years are in their formative years and being accepted is very important to them (Schwartz, Nakamoto, Gorman, & McKay, 2006). There are two factors that measures level of Socialization i.e. Social Acceptance and Acculturation.

Developing and satisfying the relationship with peers is an important facet of Socialization. Interaction with peers and developing strong ties will create social support and sense of belonging, which enable them to understand peer's interest, experience, and development of commonality and social acceptance from them (Yu et al., 2010). Social support is a main goal of human interaction and can be defined as information and actions that cause a person to believe she or he is cared for and loved and belongs to a network of communication and

mutual obligation (Rozzell et al., 2014). When we talk about social support, it has a very close tie-in with social relationships. Social relationship is the social interaction between one another over a given period of time. For instance, when a good friend lends a ear to listen to the difficulties you are facing, when a relative is willing to take leave to take care of your child and when a teacher shares all her experiences to the students so that they will do well in their exams, this can be classified as social support initiatives. Social support is a process of offering, seeking, and evaluating supportive behaviours, often reflected in the communicative exchange through personal relationships (Rozzell et al., 2014). Positive outcomes of social support are often more psychological than physical. Social support is an interpersonal transaction in which individuals rely on others for help, information, and advice. Some social support programmes are outlined to specifically assist the carers to reach out to those who need their services. Social support has multiple dimensions such as emotional support, instrumental support and information support which interrelated and often are linked in complex ways in relationships with others. Individuals need each type of social support to help them feel embedded in a social context and connected to others in a positive way (Olson, Liu, & Shultz, 2012). That is to say that when there is appropriate social support provided, it will reduce the stress level and at the same time, it will enhance the confidence level of an individual.

One important factor individuals often consider when building and maintaining relationships with others is how others can help them achieve their goals. In particular, good working relationship among each other is essential as this will elevated the level of innovation and creativity. This is an ideal method to develop one's career within the organization. Another important factor which has a significant impact on individual ability to achieve important goals by providing information, access and other valuable "connections" is who you know (Olson et al., 2012). Individual develop positive interpersonal impact through having interaction and experiences with many people in different contexts. Through these interactions, they learn how behave to optimize their impact on others in social situations. When there is existence of a good relationship, this connotes that there is definitely a very powerful communication bridge. Thus, this will lead to having the trust, mutual respect, mindfulness and welcoming diversity among each other. Individual belief about their own ability to make a specific impact in a situation (when interacting with others) led to receiving more social support from others. Those individuals that belief in themselves will always nurture positive views, embrace good habits, boost themselves with self confidence and they have trust in their capabilities. Individuals, with personal efficiency (belief in one's ability to engage in activities and activate processes) who believed that they had the ability to achieve goals and influence others when interacting, with many people were able to establish a large social support network and more frequently met their goals (Olson et al., 2012). As far as people who possess personal efficiency trait are concerned, they always place their priorities right, they know what is important, they plan all their activities well and they are very resilient people. Namely, when you maximize your potential to the maximum ability that is when you can consider yourself to have personal efficiency. These people are able to build their social support network because they have the capability to establish personal connection.

Individual who has personal efficacy to make a positive interpersonal impact may use social media to build, expand, and maintain their relationships with others (Olson et al., 2012). Those who possess self efficacy are the group of people who have a strong belief in their own capabilities. Therefore, these are the kind of people who will take an extra effort to socialize and share information with each other, thus enhancing the relationship to the next level. Social network provides a platform for individual to cultivate strong relationships and explore their peer culture, to give and receive feedback and to seek and show affection, affirmation and acceptance (Ginsburg-Block, Rohrbeck, & Fantuzzo, 2006), which provide valuable learning opportunities. That is to say, social network allows you to connect and communicate with more people. This allows members to quickly and efficiently interchange ideas and information. Not only that, people can build their network for friends and professional acquaintances via social network services. They exposed to a lot of information and resources, which are indicative of the learning potential that social network offers (Ünlüsoy, Haan, Leander, & Volker, 2013). Peer interaction can be a crucial source of learning which provide emotional and psychological support that facilitates academic satisfaction, skill development and performance enhancement (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007; Yu et al., 2010). Peer interaction is vital for the development of students because a person could institute a sense of self-belonging and they will be able to grasp what is expected out of them. Meanwhile, peer interaction would encourage the development of social skills and those who possess good social skills would have very high self-esteem and they would be willing to interact with the environment. Individuals who are socially accepted and supported by peers may achieve higher performance proficiency. The time college students spend with their peers is a critical factor in determining their performance and can be a vehicle for gaining information and knowledge. As we all know, most college students spend much time with their peers if compared to their family member. Therefore, it is very critical to ensure that these students spend their time with the right bunch of peers. Once these students interact with a good circle of peers, this will definitely heighten the level of communication and knowledge sharing among each other. Peer interactions can partially promote self-initiated networking towards individuals' psychological well-being development, such as in the formation of self-concept and self-esteem (Yu et al., 2010). In particular, social interaction with peers provides many learning opportunities for example, when one student interacts with the other, they would be able to exchange ideas and knowledge and they would be able to analyse a certain situation in different perspective. Students with certain self-regulation capacity can benefit from the interaction with peers to get feedback and thus improve their performance. This process is consistence with the socio-cultural learning theories which suggest that learning occur as a result of interaction between cognition and culture when individual participate in the culturally defined activities with social others (Ünlüsoy et al., 2013).

Researchers consider social support as a primary motivation associated with social network sites especially Facebook use (Ross et al., 2009). This may be said because social network sites like Facebook would be a good platform to socialize with those who are in need for assistance Facebook seems as a tool to access relationally close relationship and the social support they provide (Ellison, Steinfield, & Lampe, 2011; Rozzell et al., 2014). Social network sites users perceived a greater level of emotional support and companionship than did general Internet users (Hampton, Goulet, Rainie, & Purcell, 2011), at a level that was almost equivalent to the amount that married Americans normally perceive from their live-in partners (Oha, Ozkaya, & LaRose, 2014). Facebook allows people to constantly keep in touch with current issues, perpetually have effectively communication and interaction with each other and they are able to enhance relationships. Peers has a strong effects and information individuals share/post has influence to create positive emotions in others and accelerate the impact of positive change (Aaker & Smith, 2010) and could provide informational social support that would facilitate other's efficacy and ability to achieve goals (Olson et al., 2012). For example, when a student has effectively gained knowledge and different ideas via Facebook, they would be more confident with themselves and they would have a more positive character towards problem solving. Interacting more on Facebook elicits stronger feelings of support and satisfaction. It has been said that the lower the level of Social Acceptance, the higher would

be the Facebook usage (Kalpidou, Costin, & Morris, 2011). This however has been refuted by some researchers whereby they found the opposite (Kirschner & Karpinski, 2010). It would be interesting to see in the Malaysian context, which of the two perspectives this study would concur with. In this paper, it is hypothesised that there is a positive relationship between Socially Accepted and Facebook Usage Intensity i.e. the higher the social acceptance the higher the Facebook intensity:

Hypothesis 1: Social acceptance is positively related to Facebook Usage Intensity

Acculturation is one facet of Socialization, which defined as individual understanding of the environmental norm and culture. Acculturations is change or adaptation in individual's attitudes, values, behaviour, and identify the results from experiencing a new cultural context (Kim, Sangalang, & Kihl, 2012). If they show high acculturation, they would be regarded highly by other students (Bauer et al., 2007; Rouis, Limayem, & Salehi-Sangari, 2011). Applying this concept to the educational context it refers to students understanding of university norms, culture, policies, and educational goals. This implies that they are able to understand norms, culture, policies and goals of their universities. Students normally seek information about university through various channels. Previous research on the social network suggested that network with a diverse members facilitates access to useful information to understand environments attributes (e.g., norms, policies and culture) (Yu et al., 2010). In this situation, when there are diverse members in the group, there would be an opportunity to gain diverse experience and there would be a great opportunity for learning and growth within the group members. This interaction and acculturation is useful for student's college commitment and retention and encourage them to make more effort to achieve better performance (Yu et al., 2010). In addition to this, it is proven that failure to establish a strong platform of communication in either an education institution or an organization is the main downfall of deteriorating performance. Facebook has become an important site among students to learn roles, understand values and shape identities (Selwyn, 2007). As we know, Facebook users a huge and there are several users from different countries and different background. When we associate with all these user, we would gain an opportunity to learn and pick up different cultures and values. Student's use of Facebook is found to influence their acculturation to the situated university leading them to a higher level of social learning outcomes (Yu et al., 2010). Thus, it is believed that because students want to be seen as more acculturated, they would be using the Facebook more (Yu et al., 2010). Thus, the following hypothesis is proposed:

Hypothesis 2: There is a relationship between acculturation and Facebook usage intensity

2.2. Process: Facebook usage intensity

Previous researchers found that among the social network users, 57% are in between the age of 18–29 years old and they are likely to have profiles on multiple social media websites (Lenhart, Purcell, Smith, & Zickuhr, 2010). A study on students online usage in 26 countries around the world done by QS Topuniversities.com in 2013 reported that more than 50% of respondents said they use five key social media networks which are Facebook, Twitter, YouTube, LinkedIn and Pinterest all the time (QS Topuniversities.com, 2013). Out of these, Facebook which began as a social network site only for Harvard students in 2004, is the most popular applications used by students (Freiert, 2007). Researchers found that anywhere between 85 and 99% of college students use Facebook (Hargittai, 2008; Jones & Fox, 2009; Matney & Borland, 2009). The most recent data, collected by the EDUCAUSE Center for Applied Research (ECAR) from a sample of 36,950 students from 126 U.S. universities and one Canadian university, showed that of the 90% of students who use social networking websites, 97% said they used Facebook (Smith & Caruso, 2010). Nonetheless, the younger students are more likely to report high usage of YouTube and Pinterest, while older respondents are more likely to report frequent use of LinkedIn (QS Topuniversities.com, 2013).

There are a few indicators that can be used to reflect Facebook usage intensity (Ellison et al., 2007). In terms of time, the amount of time spent daily on social media websites varied greatly among Facebook users (Pempek, Yermolayeva, & Calvert, 2009). In particular, students spent an average of 47 min a day on Facebook (Sheldon, 2008a, b). However, it was found that older students, residing in Latin America and Africa from engineering and technology courses are more likely to report spending 5+ hours online per day. Students from the arts and humanities were found to be the least in terms of hours online per day (QS Topuniversities.com, 2013). Previous researcher found that more than 50% of college students go on a social networking site several times a day (Sheldon, 2008a, b) while in another study done two years later, 82% of college students reported logging into Facebook several times a day (Quan-Haase & Young, 2010). Facebook usage intensity can also be measured in terms of the number of "friends" a student have to measure the extent to which the student was actively engaged in Facebook activities (Ellison et al., 2007). On average, college students had between 150 and 200 Facebook friends (Kalpidou et al., 2011). The study on students' use of Facebook showed that intensity of Facebook usage had an effect on students perception of emotional closeness to members of their pre-existing offline social network (Ellison et al., 2007; Farrow & Yuan, 2011). Users of Facebook normally log in to this social network at least once a day. Therefore this shows the intensity of use of Facebook and the frequency of users keeping in touch with either friends or family members. When there is constant communication, the users would build a closer relationship among their friends and family members.

Individual use Facebook for different reason and propose. For example, anxious individuals are more likely to use Facebook to connect with others online and feel emotionally connected to Facebook. They use Facebook to reduce their anxiousness by connecting with others online rather than attempting to connect with the same individuals in face-to-face settings (Clayton, Osborne, Miller, & Oberle, 2013). Students use Facebook for a variety of reasons such as educational purposes Roblyer et al. (2010) and social purposes (Kalpidou et al., 2011; Quan-Haase & Young, 2010; Sheldon, 2008a, b). Students use Facebook to create new and maintain old relationships, obtain information related to the social events that occur on campus and social college adjustment (Kalpidou et al., 2011). For example, college alumni could be created via Facebook, whereby all current and former school members would be able to collaborate and keep in touch. They would be able to keep up with the current issues going on in the college and also the current events taking place. Cheung, Chiu, and Lee (2011) illustrated that students used Facebook to create a social presence. This is further substantiated by Nadkarni and Hofmann (2012) who concluded that people use Facebook usage to fulfil two basic social needs: need to belong and need for self-presentation. Ellison et al. (2007) found that students with low self-esteem benefit from using Facebook because they expand their social capital and total adjustment in college. When

students get the exposure of communicating and getting to know more people and professionals via Facebook, they could break the barrier and accelerate their confidence and self-esteem. The principal social reason for students to use Facebook was to maintain relationships with existing acquaintances that were already part of their social network (Sheldon, 2008a, b). In another study, it was found that students primarily used Facebook to maintain previously established social capital, rather than developing new networks through online networking (Kalpidou et al., 2011). Younger students tended to use Facebook more frequently than older students to keep in touch with friends from high school or from their hometown (Pempek et al., 2009). Most social network site users primarily interact on these sites to support pre-existing social relations, as opposed to meeting new people (Boyd & Ellison, 2007). Another study found that Facebook and instant message were not used to meet new people, just to maintain existing social ties (Quan-Haase & Young, 2010).

Studies on the consequences of Facebook use by college students have examined the relationship between Facebook use and psychosocial outcomes. For example, there is a positive relationship between using Facebook and forming and maintaining social capital, which is defined as “the resources accumulated through the relationships among people” (Ellison et al., 2007, p. 1145). Valenzuela et al. (2009) found that intensity of Facebook use was related to civic participation, life satisfaction, and social trust. In a more recent study, Ellison et al., (2011) extended their previous work and found that engaging in social information-seeking behaviours on Facebook was related to increased social capital, while using Facebook to maintain close ties and to meet strangers without any previous offline connection were not.

2.3. Output: impact of Facebook on academic performance

Using communication media (e.g., Facebook and MySpace), as a service that enables users to conduct social interactions with peers, has achieved great success on the Internet (Zhou, Li, & Liu, 2010). Social media site like Facebook have the ability to establish interpersonal connections and guide individual entering an unfamiliar social environment (DeAndrea et al., 2012). Using the social media site enable individual to express themselves, establish relationships, seek information and interact each other. Several studies highlighted effective supportive communication online, including the provision of advice, emotions, and expanded social connections (Rains & Young, 2009). Social media site facilitate these outcomes by opening channels of communication with potential support providers (Ellison et al., 2007). For instance, Facebook has instant chat messaging whereby people could gain knowledge and obtain almost immediate advice on any topic of interest. This would save loads of time attempting to obtain information via other sources. There is a viral speed with which the use of Facebook and other social networking technologies is growing among college-aged youth (Jones & Fox, 2009; Matney & Borland, 2009; Smith & Caruso, 2010). Facebook can be used as a tool to create and promote online connections between students and faculty within an academic community (Mazer, Murphy, & Simonds, 2007). This increase in communication may have a positive impact on class discussions, and students' engagement and integration with their peers (Ross et al., 2009). For example, teachers or lecturers could utilize Facebook as a portal to share their teaching materials and lecture notes so that student could access those materials anytime they want. This would be an effective approach as many other students could post their notes and ideas simultaneously via Facebook, and this will surely enhance the entire learning process. However, since Social Network is not specifically designed for learning or teaching purposes they lack formal instruction and assessment. There are no clear-cut measures to show that people learn from participating in these online networks (Ünlüsoy et al., 2013). Thus, there is a great deal of popular and academic interest in the impact these technologies may have on student academic outcomes (Abramson, 2011; Kamenetz, 2011). Nonetheless, a study found that at least one of these outcomes (student engagement) is positively related to multiple desired outcomes of a college education (Kuh, 2009).

Different people view impact differently, depending on the area of study. Perhaps one of the more important impacts for students would be on their Academic Performance (Abramson, 2011; Kamenetz, 2011). Academic performance usually appears in research into education and educational psychology. Two main approaches offer different visions of Academic Performance. Approaching a specific goal is the most common method to assess Academic Performance, but avoiding adverse outcome offers an alternative (Valle et al., 2009; Was, 2006). Hence, in this study attention is given to it. Facebook usage is considered as a leisure activity that interferes with students' Academic Performance (Roui et al., 2011). Thus, it is presumed that Facebook usage will have an effect on their overall academic results. Many studies (e.g., Vanden Boogart, 2006) illustrated negative relationship between Usage intensity and Academic Performance. The higher the Facebook usage intensity, the lower the students' Academic Performance. Steinfeld et al. (2008) found contrasting results whereby they found the higher the Facebook usage, the better the Academic Performance. Kolek and Saunders (2008) on the other hand, in their study on students in an American university found no relationship between usage and Academic Performance. Nevertheless, there are also studies (e.g. Yu et al., 2010) that reported that Facebook Usage intensity mediates the relationship between Socialization and Academic Performance. Subsequently, the following hypothesis is proposed:

Hypothesis 3: Facebook usage intensity mediates the relationship between socialization and academic performance.

Based on the discussion above, the following model is proposed in Fig. 1.

3. Method

3.1. Sample and procedure

The survey questionnaire method was adopted to collect empirical data for the study. The survey questionnaire was administered to students in five public universities in Malaysia. A contact person was identified at each university and he/she would distribute the questionnaire. The main locations for the distribution is at the Students Centre and Canteens/Cafeterias. In total 2000 questionnaires (each university = 400) were distributed out of which 1200 were collected back, giving a response rate of 60%.

The data were fed into a statistical computer programme (SPSS v.21) and cleaned for missing values, outliers and/or other data entry errors. Overall, due to careful data entry and procedures adopted for data collection, many errors were not found in the data-set. However, wherever missing values or errors were identified, the researcher referred back to the relevant questionnaire identified by an ID number to plug in the correct values. Further, questionnaires with more than 10% missing values were discarded (Hair, Black, Babin, & Anderson, 2010).

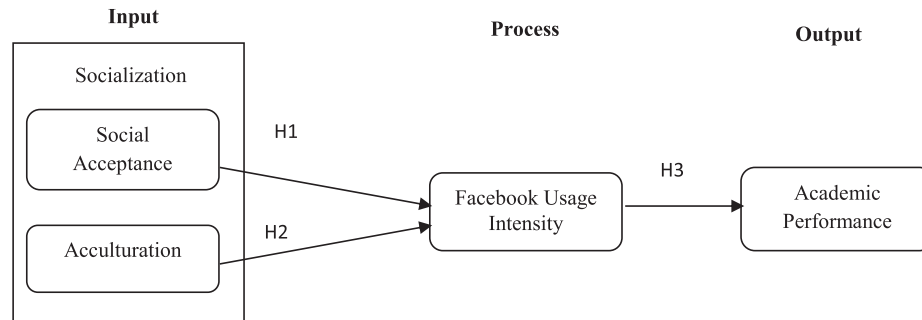


Fig. 1. Research model.

For questionnaires that had less than 10% missing values, we used the Expectation Maximization algorithm in SPSS v.21 to impute the missing values. Besides, questionnaires with disengaged or extreme responses were also discarded from the final analyses to avoid any misinterpretation of the final results. After cleaning the data, a total of 1165 questionnaire were considered clean and thus used for data analyses.

3.2. Measurements

Academic Performance was measured differently by different researchers (Junco, 2012; Kirschner & Karpinski, 2010). In his study, Junco (2012) used the students actual CGPA which was obtained from the University's Registry while (Kirschner & Karpinski, 2010) used CGPA self-reported by the participating students. Others (e.g. Yu et al., 2010) have used a more indirect measure such as perceived performance proficiency to represent Academic Performance. This study adopts Yu et al. (2010)'s measure which consists of four items. This study did not use the actual CGPA as it was not easy to obtain them from the various Universities' authorities. Moreover, the questionnaires were randomly distributed and the respondents' anonymity were promised when they agreed to participate in the study.

Based on the review of the literature on Facebook Usage, it was found that many (Ross et al., 2009; Steinfield et al., 2008) measured Facebook usage using five items. Hence, this study adopted the same measures. Socialization consists of two variables i.e. Social Acceptance and Acculturation, was measured using five and two items respectively adopted from Yu et al. (2010) who have refined the measures based on previous studies.

The respondents were required to answer all the items using a 5 point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. In addition, the respondents were asked to fill in their demographic profile (age, gender, and ethnicity) using categorical scales. Table 1 below presents the questionnaire items.

4. Results and discussion

4.1. Respondents profile

Students from five Malaysian universities participated in this study. Table 2 below shows that a majority (47.3%) of the students approached for this study had more than 500 Facebook friends. Most students (49.7%) had been using Facebook for 3–4 years while 27.5% had been using for an even longer period of 5–6 years. A majority 63.3% of the user used Facebook for 0–3 h daily while another 25.4% used for 4–6 h daily. Most of the students surveyed (74.2%) were 20–24 years old while 13.4% were 25–29 years old. In total, 59.8% of the students were female while 40.2% were male. Majority of them (48.9%) were Malays, 29.9% were Chinese, and 2.5% were Indians while 18.7% of the respondent students described themselves as "others". The demographics of the survey participants, particularly in relation to gender and ethnicity, is quite representative of the general student population in Malaysian public universities. For instance, and in line with the demographic composition of the participants of this study, majority of the students in Malaysia are from the Malay ethnicity, while Chinese and Indian students come second and third respectively.

4.2. Correlations and reliability

A correlational analysis of the variables used in this study was conducted to explore associations among them. Table 3 below indicates that Social Acceptance is positively and significantly correlated with Acculturation ($r = .429$; $p < .01$); Facebook Usage Intensity ($r = .169$; $p < .01$) and, Academic Performance ($r = .416$; $p < .01$). The table also shows that Acculturation is positively correlated with Facebook Intensity Usage ($r = .078$; $p < .01$) and, Academic Performance ($r = .379$; $p < .01$). Besides Facebook Usage Intensity is also found to be positively correlated with Academic Performance ($r = .079$; $p < .01$). Table 3 also provides Cronbach's Alpha, a measure of internal consistency, for all the variables.

4.3. Facebook usage intensity and academic performance across demographic variables

Before testing the hypotheses, we carried out some additional descriptive analyses to understand the respondents' behaviour.

- a) Gender: T-test was conducted to see if Facebook Usage Intensity and Academic Performance differed between male and female students. Results indicate no statistically significant differences for both the variables between male and female students.

Table 1
Questionnaire items.

Items	Constructs
1. The friendships developed at my University have been personally satisfying.	Social acceptance
2. I feel comfortable around other students in the University.	
3. The students in my cohort seem to accept me as one of them.	
4. My interpersonal relationship with other students has a positive influence on my intellectual growth.	
5. My interpersonal relationship with other students has a positive influence on my personal growth, values and attitudes.	
6. I am aware of my University's value system	Acculturation
7. I adapt myself to my University's culture.	
8. I am confident I have adequate academic skills and abilities.	Academic performance
9. I feel competent conducting my course assignment.	
10. I have learnt how to do my coursework in an efficient manner.	
11. I have performed academically as I anticipated I would.	Facebook Usage Intensity
12. Facebook is part of my everyday activity.	
13. I am proud to tell people I'm on Facebook.	
14. Facebook has become part of my daily life.	
15. I feel I am part of the Facebook community.	
16. I would be upset if Facebook shut down.	

Table 2
Demographic characteristics of respondent ($n = 1165$).

Variable	Categories	Frequency	Percent
No. of Facebook friends	Less than 100	90	7.7
	101–200	159	13.6
	201–300	120	10.3
	301–400	125	10.7
	401–500	120	10.3
	More than 500	551	47.3
Time period using Facebook	Less than 1 year	41	3.5
	1–2 years	112	9.6
	3–4 years	579	49.7
	5–6 years	320	27.5
	More than 6 years	113	9.7
	Daily Facebook use in hours	0–3	737
4–6		296	25.4
7–10		91	7.8
More than 10		41	3.5
Respondent age	20–24	865	74.2
	25–29	156	13.4
	30–34	69	5.9
	35–40	50	4.3
	41 and above	25	2.1
Gender	Male	468	40.2
	Female	697	59.8
Ethnicity	Malay	570	48.9
	Chinese	348	29.9
	Indian	29	2.5
	Others	218	18.7

Table 3
Correlations and descriptive and reliability statistics.

Variable	Mean	SD	Social acceptance	Acculturation	Facebook Usage Intensity	Academic performance
Social acceptance	18.84	3.38	(.82)			
Acculturation	7.51	1.59	.429 ^a	(.50)		
Facebook Usage Intensity	16.33	4.64	.169 ^a	.078 ^a	(.87)	
Academic Performance	14.48	2.67	.416 ^a	.379 ^a	.079 ^a	(.75)

Cronbach's Alphas in parenthesis.

^a Correlation is significant at the .01 level (2-tailed).

- b) Ethnicity: A one-way ANOVA was conducted to compare the four ethnicities of students with respect to Facebook Usage Intensity ($F = 12.84, p < .000$) and Academic Performance ($F = 3.74, p < .05$). Chinese students were found to score highest ($M = 17.6; SD = 3.97$) on Facebook Usage Intensity followed by Indian students ($M = 16.21; SD = 5.23$), students classified as 'others' ($M = 15.78; SD = 5.36$) and Malay students ($M = 15.77; SD = 4.55$). With respect to Academic Performance, students classified as 'others' showed best performance ($M = 14.98; SD = 3.34$) followed by Indian students ($M = 14.48; SD = 2.62$), Malay students ($M = 14.45; SD = 2.45$) and Chinese students ($M = 14.22; SD = 2.50$)
- c) Number of Facebook friends: Significant differences were observed in a one-way ANOVA conducted to compare Academic Performance ($F = 4.28, p < .01$) of students with different number of Facebook friends. Interestingly, students with more than 500 Facebook friends scored highest ($M = 14.75; SD = 2.44$) on Academic performance, followed by students with 401–500 friends ($M = 14.68; SD = 3.65$), students with 201–300 friends ($M = 14.52; SD = 2.42$); students with less than 100 friends ($M = 14.40; SD = 2.97$); students with 301–400 friends ($M = 14.09; SD = 2.44$), and students with 101–200 friends ($M = 13.74; SD = 2.59$).
- d) Hours of daily Facebook use: No significant differences were observed in a one-way ANOVA conducted to compare Academic Performance ($F = 1.06, p = .364$) of students who spent different numbers of hours using Facebook daily.

4.4. Regression analysis

After testing for unidimensionality and validity of the variables used in this study through exploratory factor analysis, the composites obtained were used to conduct multiple regression and test the hypotheses. However, before regression analyses were conducted, attention was paid to meeting the assumption of the multivariate analysis. Hair et al. (2010) highlight that an important assumption in multivariate analysis is normality which refers to the shape of the data distribution for individual metric variable and its correspondence to normal distribution. A look at the histograms and probability plots obtained for the variables of this study revealed that the data were normally distributed. In addition, normality should not be a cause of concern in this study as the sample size of is 1165 which is quite large and greater than 200, implying that the detrimental effect of non-normality in this study cannot be more than negligible (Hair et al., 2010). Regarding the assumptions of homoscedasticity and linearity, a visual inspection of the graphical plots was conducted. Homoscedasticity refers to the assumption that the criterion variable exhibits equal levels of variance across the range of predictor variables (Hair et al., 2010). A visual inspection of the graphical plots did not reveal any pattern of non-linearity (i.e. the dots are far away from a linear line relationship) or heteroscedasticity (i.e. the dots are not concentrated in the centre but spread out across the scatter plot graph). Therefore, there is evidence of linearity and homoscedasticity between the criterion and predictor variables of this study.

Another issue that can mar the results of a regression analysis is multicollinearity between the predictor variables. Multicollinearity refers to the high inter-correlations among the predictor variables. Multicollinearity complicates the interpretation of the results as it becomes difficult to ascertain the effect of any single variable because of their interrelationships. During the regression analyses conducted in this study, attention was paid to ensure that no multicollinearity exists among the predictor variables. Tolerance and Variance Inflation Factor (VIF) were calculated using SPSS[®] v.20 while performing multiple regression. The values for Tolerance and VIF for all the predictor variables of the study showed that multicollinearity is not a problem in this study as the value for Tolerance for all the variables was found to be greater than the cut-off point of .10 and the value for VIF was less than 10 (Hair et al., 2010).

As show in Table 4 below, Social Acceptance significantly predicted Facebook Usage Intensity ($B = .166, p < .01$) while Acculturation was not found to be significantly associated with Facebook Usage Intensity. Results of Model 2 in Table 2 below also indicate that Social Acceptance ($B = .311, p < .01$) and Acculturation ($B = .245, p < .01$) predicted Academic Performance. Further, Model 3 in the table below shows that Facebook Usage Intensity significantly predicted ($B = .079, p < .05$) Academic Performance.

To test for the mediating role of Facebook Usage Intensity, we used the Baron and Kenny (1986) approach. As per this approach, mediation is established when a) IV significantly affects the mediator in first equation, b) IV significantly affects the DV in the second equation, and c) the mediator must affect the DV in the third equation. When these conditions hold, and the effect of the IV on the DV is less in the third equation than in the second, there is evidence of mediation.

Table 4
Results of regression analysis.

Outcome Variables Predictor	Model 1 $R^2 = .029$	Model 2 $R^2 = .222$	Model 3 $R^2 = .006$
	Facebook Usage	Academic Performance	Academic Performance
<i>Variables</i>			
Social acceptance	.166**	.311**	
Acculturation	.006	.245**	
Facebook Usage			.079*

Note: * $p < 0.05$; ** $p < 0.01$.

As can be seen from Table 4, Facebook Usage Intensity does not mediate the relationship between Acculturation and Academic Performance because the first condition is not met i.e. Acculturation does not significantly predict Facebook Usage Intensity. However, there is evidence of the mediating role of Facebook Usage Intensity in the relationship between Social Acceptance and Academic Performance as the effect of the predictor variable ($B = .079, p < .05$) in Model 3 is less than the effect of the predictor variable ($B = .311, p < .01$) in Model 2, thereby indicating mediating as per the Baron and Kenny (1986) approach.

5. Conclusion

The study examined the relationship between Socialization, Facebook Usage intensity and Academic Performance of Malaysian university students. It was found that only one Socialization variable i.e. Social Acceptance significantly predicted Facebook Usage Intensity while Acculturation was not found to be significant. It was also found that Facebook Usage Intensity significantly predicted Academic Performance. This contradicts most past studies which have reported that higher usage of Facebook results in lower Academic Performance (Junco, 2012; Kirschner & Karpinski, 2010). Finally, the results also showed the mediating role of Facebook Usage Intensity in the relationship between Social Acceptance and Academic Performance however Acculturation does not mediate the two constructs.

Yu et al. (2010) examines how Facebook usage influences Socialization and suggested that there may be reciprocity between the variables. This study found that Socialization particularly Social Acceptance does influence Facebook usage while Acculturation does not.

As with any research, this study has its limitations. It uses a cross-sectional data and the Academic Performance is measured using an indirect measure. Future research should consider collecting longitudinal data and use actual GPA.

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