Predictors of Students Intention to Use Social Networking Sites: Path Analysis

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Abstract
The primary purpose of this study is to identify the key predictor of undergraduate students’ intentions to use social networking sites. Technology acceptance model with three main unobserved variables, attitude, perceived behavior control, and subjective norms was employed as research framework. Seven other unobserved variables were added to the research framework. A technology acceptance questionnaire was sampled to 350 undergraduate students at a public university in East Coast of Peninsular Malaysia. A path analysis was used to estimate the causal relationship between the three unobserved variables and intention to use social networking sites. The findings show that the perceived behavior control was the key predictor of students’ intention to use social networking sites. Also, facilitating condition was indirectly influenced the students intentions to use social networking. Path analysis has successfully identified the variables that directly and indirectly influenced students’ intention to use social networking.

Keywords: Social Network, Undergraduate Student, Path Analysis

1. Introduction

Social networking sites have been known due to its impacts to the way the people interacts, connects and communicates. One would say that they could not be socialized as today without engaging with internet and social network sites. Social networking sites are virtual communities which allow people to connect and interact with each other on a particular subject or to just “hang out” together online [1]. Nowadays, there are many social networking sites available such as Facebook, MySpace, Friendster, Twitter, Tagged, Blog, Bebo and Hi5. An online social network site is a web-based service that allows individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection and view and traverse their list of connections and those made by others within the system [2]. There are many different purposes of every person to have social networking. People usually used the sites to keep in touch with friends and families by posting their status updates, chatting, blogs, photos and a site for enjoyment and relaxation. In short, social networking sites provide a platform where all peoples have opportunity to get connected around the world. Many researches have been conducted to describe the relevance of social networking sites as online connected communication tools. For example, Zhou et al. [3] investigated the patterns of user interactions and media popularity on online social networks and found that majority of interaction activities happened on online social networks like Twitter and YouTube. Brown, [4] suggested a social networking participation model that may help organizations predict and understand the value proposition that affects acceptance or rejection of participation. He found that innovation adoption, governing by network and social capital are important theories in developing an understanding of social networking behavior. Shea [5] investigates the usage of social networking sites as a career enhancement tool among generation Y and concludes that social networking sites provide user-friendly personalized services with various functionalities and networking applications to control the way information is shared.

It has been noticeable that membership of online social networks has recently exploded exponentially. It has been reported that Americans spend nearly a quarter of their time online on social networking sites and blogs [6]. The US market share of Internet traffic to the top 20 social networking
sites grew by 11.5 percent from January to February 2007 and traffic of social network website activities accounted for 6.5 percent of all Internet traffic in February 2007 [7]. This growth reflects the popularity of social networking sites thereby indicate the huge number of people visiting them. One of the main users of networking sites is undergraduate students. Facebook and Twitter are the popular online social networking sites among university students. Students perception toward social networking sites is deserve to give attention as this new platform may impact their academic performance. Mazer, et al. [8] emphasized the importance of social networking sites among students. Understanding why students use online social networking sites is crucial for the academic community, as this new communication platform exhibits important impact on student motivation to learn, affective learning, and classroom climate. In addition, Lytras and Garcia [9] believe that social networking sites create an online social space where university students can build and maintain social capital with others. Cheung et al. [10] explored the factors that drive students to use online social networks however far too little attention has been paid to establish dominant factors.

One of the most prevalent methods in explaining technology acceptance is path analysis. Path analysis used independent variable or exogenous variable and dependent variable endogenous variable. Exogenous variables can be defined as all the variables that have no explicit causes. This method is used in order to test the suitability of the correlation matrix between two or more models and shows the direct and indirect consequences of any endogenous and exogenous variables. Sun and Zhang [11], for example, used path analysis to investigate the causal relationships between two constructs, perceived enjoyment and perceived ease of use within the nomological net of user technology acceptance. Teo [12] performed a path analysis to investigate pre-service teachers’ attitudes to computer use. Technology acceptance model was used as a framework by adding subjective norm, facilitating conditions, and technological complexity as external variables. With about the similar variables but with different cohort of respondents, the present paper aims to examine predictors of students’ intentions to uses social networking sites. The predictors could be known from the description of direct dependencies among factors using path analysis. The relationship between factors and students intentions is based on the framework of technology acceptance model. The rest of the paper is structured as follows. The next section reviews the constructs or factors that will be used as framework of the research. The third section proposes research method. The fourth section describes result of path analysis as to empirically test the research framework. Finally, this paper is concluded in the Section 5.

2. Theoretical Framework

The technology acceptance model (TAM) is an information systems theory that models how users come to accept and use a technology [13]. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. TAM provides a basis with the extent of the cognitive variables Perceived usefulness (PU), Perceived ease-of-use (PEOU) influence the use of technology. Based on the previous research, a theoretical model was developed. Figure 1 represents a theoretical model to be tested and analyzed.
Descriptions of the constructs used in the proposed model are given as below.

**Perceived Usefulness (PU):** Perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance. As a result, when the users found that the technology is useful for them, and then they will have the intention to use it and lead to the actual usage of the social network.

**Perceived ease of use (PEOU):** Perceived ease of use is defined as the degree to which a person believes that using a particular system would be fine from effort.

**Attitude:** Attitude is defined as the extent to which the activity of using technology is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated.

**Intention:** Intention is defined as the degree to which a person has formulated conscious plans to perform or not to perform some specified future behavior. The intention is related to the perceived ease of use and perceived usefulness. Perceived ease of use commonly related to perceived usefulness and also related the direct influence of perceived ease of use on intention.

**Compatibility (COM):** According to Karahanna et al. [14], theoretical and empirical research in technology acceptance, while acknowledging the importance of individual beliefs about the compatibility of a technology, has produced equivocal results.

**Interpersonal and External Influences:** Interpersonal and external influence occurs when one’s emotions, opinions or behaviours are affected by others. It takes many forms and can be seen in conformity, peer pressure, obedience, leadership, persuasion, sales and marketing. According to Taylor and Todd’s [13] social influences were equated with subjective norms and defined as other people’s opinions, the influence of superiors and peer influence. Social influence also defined by Moore and Benbasat [15] as the extent to which use of an innovation is perceived as enhancing one’s status in a social system.

**Self-Efficacy:** Self-efficacy is the degree to which a person believes that he or she can attain goal. However, computer self-efficacy is defined as an individual’s perception of his or her own ability to use computer in the accomplishment of a task, rather than reflecting simple component skill [16]. According to Marakas et al. [17], the computer self-efficacy construct is defined as “an individual’s perception of efficacy in performing specific computer related tasks within the domain of general
computing whereas application specific self-efficacy is defined as an individual’s perception of self-efficacy in using a specific application or system within the domain of general computing.

**Facilitating Conditions:** Facilitating conditions are factors in an environment that hinders or makes an act (legally or illegally) easier to commit [18]. According to Limayem et al [19], because of the accessibility and ease of committing the act, consumers would therefore have standards that could be more easily swayed, therefore forming more positive attitudes. According to Taylor and Todd, [13] facilitating conditions was originally perceived as having two dimensions that are resource factors (time and money) and technology factors regarding compatibility issues that may constrain usage. The argument was that when all other things are equal, behavioural intention and social networking usage would be expected to be less likely as less time and money are available and as technical compatibility decreases. Looking from another perspective, Triandis [18] viewed facilitating conditions as external controls related to the environment and behaviour.

**Subjective Norms (SN):** Ajzen and Fishbein, [20] described subjective norm as a person’s belief that most of the others who are important to him think he should (or should not) perform the behaviour in question. Acceptance of ICT by managerial, professional and operating level users is deemed a necessary condition for its success.

**Perceived Behavioral Control (PBC):** Perceived behavioural control reflects belief regarding access to the resources and opportunities needed to affect behaviour [21]. The perceived behavioural control consists of two components. The first component is facilitating conditions and the second component is self-efficacy.

### 3. Method

The population in the study consists of university students at a public university in Peninsular Malaysia. There were 6,806 undergraduate students at the campus. Almost ninety five percents of them are active users of at least one of the many social networking tools. Three hundred fifty questionnaires were distributed to the sample students.

The original source of measuring instruments was extracted from Norazah and Ramayah [22]. The questionnaires had been modified especially in the constructs and items so that it focuses on the acceptance of social networking. The research instrument was distributed to the respondents and had been seeking their cooperation to respond with sincerity and honesty. This questionnaire consists four sections; A, B, C, and D. The number of items for each section can be seen in Table 1.

<table>
<thead>
<tr>
<th>Section</th>
<th>Aspects Evaluation</th>
<th>Number of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Personal Details</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>Attitude</td>
<td>11</td>
</tr>
<tr>
<td>C</td>
<td>Subjective Norm</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>Perceived Behavioral Control</td>
<td>6</td>
</tr>
</tbody>
</table>

The collected data were recorded and analyzed in accordance with structural equation modeling (SEM) using the software AMOS 18. SEM is a model analysis technique encompassing methods such as latent variable analysis, exploratory factor analysis, covariance structure analysis, confirmatory factor analysis, linear structural relation analysis and path analysis [23].
4. Results

This section presents details on the reliability and validity of the data collected in this study. In order to test reliability, a Cronbach coefficient alpha was used as it is the most common method used for assessing the reliability for a measurement scale with multi-point items. The coefficient, which reflects homogeneity among a set of items, varies from 0 to 1. However, a good reliability should produce at least a coefficient value of 0.70 [23]. Composite reliability gives a better indication of internal consistency by taking into account the possibility that indicators may have different factor loadings and error variances [24], [25], [26]. The composite reliability for each construct is shown in Table 2.

<table>
<thead>
<tr>
<th>Constructs/measurement items</th>
<th>alpha</th>
<th>cronbach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness (PU)</td>
<td>0.870</td>
<td></td>
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<tr>
<td>Perceived Ease of Use (PEOU)</td>
<td>0.881</td>
<td></td>
</tr>
<tr>
<td>Compatibility (COM)</td>
<td>0.897</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>0.832</td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>0.868</td>
<td></td>
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</tbody>
</table>

Based on the result obtained in Table 2, the Cronbach’s alphas were acceptable for all constructs. Therefore, all variables in the measurement model had adequate reliability and the questionnaires item is satisfied and should not be renovated.

The test estimates the path coefficients to justify the causal relationship between the dependent variables and independent variables. The path coefficients in the model represent standardized regression coefficients.

Figure 2 shows the results of path analysis. This figure describes graphically the direct dependencies among unobserved variables and observed variables.
From the framework model of path analysis, there are eleven latent variables (unobserved variable) for the analysis. The variables are subjective norms, attitude, perceived behavioral control, peer influence, external influence, perceived usefulness, perceived ease of use, compatibility, self-efficacy, facilitating conditions and intention. There are number of paths that can be extracted from these causal relationships. Direction of paths and its standardized regression weights can be summarized in Table 3.

### Table 3. Direction of Paths and Regression Coefficients

<table>
<thead>
<tr>
<th>Description of Paths</th>
<th>Direction</th>
<th>Standardized regression weights</th>
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<tbody>
<tr>
<td></td>
<td>PEOU</td>
<td>attitude Intention</td>
</tr>
<tr>
<td></td>
<td>PU</td>
<td>attitude Intention</td>
</tr>
<tr>
<td></td>
<td>Compatibility</td>
<td>attitude Intention</td>
</tr>
<tr>
<td></td>
<td>Interpersonal</td>
<td>Subjective norm Intention</td>
</tr>
<tr>
<td></td>
<td>External</td>
<td>Subjective norm Intention</td>
</tr>
<tr>
<td></td>
<td>Self efficacy</td>
<td>PBC Intention</td>
</tr>
<tr>
<td></td>
<td>Facilitating</td>
<td>PBC Intention</td>
</tr>
</tbody>
</table>

The results show that perceived behaviour control (PBC) and facilitating conditions were the most important contributing factors toward student’s intentions to use social networking sites. Accessibility and facilitation to the resources affect behaviour to use social networking sites. Contribution of the variable of attitude toward students’ intention to use social networking was small compared with the other two direct causal factors.

### 5. Conclusion

The main aim of this study was to explore undergraduate students’ intention to use social networking sites based on the proposed research framework. The path analysis shows that perceived behaviour control and facilitating were the key predictors of their intention. The two variables had a direct significant effect on intention to use social networking sites among undergraduate students. In addition, the three external factors subjective norm, facilitating conditions, and technological complexity were also significant in predicting students’ intentions to use social networking sites. The results of the study show the importance of providing internet facilities to undergraduate students. Future research could be extended to the implications of social networks to students learning activities.

### 6. References

Hitwise. Social networking visits increase 11.5 percent from January to February. 


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