Elaborating the Technology Acceptance Model
with Social Pressure and Social Benefits
for Social Networking Sites (SNSs)

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ABSTRACT
With its heavy traffic and technological capabilities, social networking sites (SNSs) introduced a new means of building and maintaining social relationships. This study aims to identify underlying factors and causal relationships that affect behavioral intention to use SNSs. For this purpose, this research developed an extended technology acceptance model (TAM), incorporating subjective norm (SN) and perceived social capital (PSC). Exploratory correlation and path analyses were conducted to examine the relationships between five constructs; perceived usefulness (PU), perceived ease of use (PEOU), subjective norm (SN), perceived social capital (PSC), and intention to use (IU). The results showed that PU and PEOU had robust effects on the user’s intention to use SNSs. The research findings also demonstrated that SN and PSC were significant predictors of both PU and PEOU, and therefore should be considered as potential variables for extending TAM.

Keywords
SNSs, Facebook, TAM, social capital, subjective norm

INTRODUCTION
A wide variety of social networking sites (SNSs), such as Facebook, Myspace and Twitter, have gained phenomenal popularity in recent years. Accordingly, SNSs have been a subject of growing interest in both scholarly and practitioner worlds. In this respect, this study aims to identify underlying factors and causal relationships that affect behavioral intention to use SNSs. This research will not only deepen our understanding of SNSs, but also provide an appropriate model to explain user acceptance and usage of SNSs.

While several theoretical models were introduced to explain the acceptance, adoption and usage of new technology, TAM is the most widely applied and validated model for various contexts and across a variety of technologies (Venkatesh, 2000). Therefore, the current study proposes a TAM as the main theoretical framework to describe the determinants of SNSs and an extended version of TAM with two external variables, that is, subjective norm (SN) and perceived social capital (PSC), to provide a better understanding of SNS acceptance and usage.

RESEARCH BACKGROUND AND QUESTIONS
The current study was designed to extend TAM to form a composite model, including subjective norm (SN) and perceived social capital (PSC), to explore users’ acceptance of SNSs. The direct and indirect effects of each construct (shown in Figure 1) were hypothesized and examined. Each hypothesis is described as follows.

Perceived Ease of Use (PEOU)
Perceived ease of use (PEOU) indicates “the degree to which the prospective user expected the target system to be free of effort” (Yuen & Ma, 2008, p. 232). This was hypothesized to be a fundamental determinant of intention to use as follows:

- H1a: An individual’s perceived ease of use (PEOU) has a positive effect on his or her perceived usefulness (PU) of SNS.
- H1b: An individual’s perceived ease of use (PEOU) has a positive effect on his or her intention to use SNS.

Perceived Usefulness (PU)
Perceived usefulness (PU) refers to “the prospective user’s subjective probability that using a specific application system would increase his or her job performance within a context” (Yuen & Ma, 2008, p. 232). This was
hypothesized to be a fundamental determinant of intention:

- **H2**: An individual’s perceived usefulness (PU) has a positive effect on his or her intention to use SNSs.

**Subjective Norm (SN)**

An individual’s subjective norm (SN) is defined as “a person’s perception that most people who are important to him or her think (s)he should or should not perform the behavior in question” (Teo, 2009, p.93). A person perceives that the more others (who are important to him or her) think (s)he should perform a behavior, the more (s)he is willing to do so (Yuen & Ma, 2008). Thus, the proposed hypothesis is:

- **H3a**: An individual’s perception of subjective norm (SN) has a positive effect on his or her intention to use SNSs.

We also argue that from the learner’s point of view, the community in which (s)he resides might be important others in using SNSs.

- **H3b**: An individual’s perception of subjective norm (SN) has a positive effect on his or her perceived usefulness (PU) of SNSs.
- **H3c**: An individual’s perception of subjective norm (SN) has a positive effect on his or her perceived ease of use (PEOU) of SNSs.

**Perceived Social Capital (PSC)**

Social capital is the resources that are created through social interactions and relationships, which provide special values and benefits to participants of a network (Coleman, 1988). Based on previous research, it was hypothesized that perceived social capital (PSC) has positive impacts on two fundamental constructs of TAM; PU and PEOU.

- **H4a**: An individual’s perceived social capital (PSC) has a positive effect on his or her perceived usefulness (PU) of SNSs.
- **H4b**: An individual’s perceived social capital (PSC) has a positive effect on his or her perceived ease of use (PEOU) of SNSs.

**METHODOLOGY**

**Participants**

A total of 179 graduate students were recruited from a college on the east coast. Participation was voluntary and data were collected through a survey questionnaire.

**Measures**

The purpose of this study was to investigate the relationship between participants’ intent to use SNSs and four predictors. The four predictors included perceived usefulness (PU), perceived ease of use (PEOU), subjective norm (SN) and perceived social capital (PSC). We adopted measures validated by previous studies with revised wording. All items used a seven-point Likert scale, where 1 = strongly disagree and 7 = strongly agree.

**Analyses**

Prior to conducting a series of path analyses, exploratory correlation analyses were conducted at the bivariate level among all five measures using SPSS 19.0. Reliability and validity for each measure were also assessed. Next, a set of path analyses was conducted to test all the hypotheses. The hypothesized path model (Figure 1) was submitted to path analysis using Mplus software 6.1. Path model fits were evaluated using CFI, the Comparative Fit Index (CFI), the Standardized Root Mean Square Residual (SRMR), and the Root Mean Square Error of Approximation (RMSEA).

![Figure 1. Technology acceptance model (Davis et al., 1989)](image)

**RESULTS**

**Descriptive Analysis**

We calculated the average of item scores within each measure and used the average scores as exogenous and endogenous variables in the path analysis. Table 1 shows the means, standard deviations, and zero-order bivariate correlations among the five measures.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>PU</th>
<th>PEOU</th>
<th>SN</th>
<th>PSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness (PU)</td>
<td>4.57</td>
<td>1.598</td>
<td>.410**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Ease of Use (PEOU)</td>
<td>4.46</td>
<td>1.553</td>
<td></td>
<td>.390**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective Norm (SN)</td>
<td>5.54</td>
<td>1.056</td>
<td>.263**</td>
<td>.290**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Social Capital (PSC)</td>
<td>3.37</td>
<td>1.141</td>
<td>.606**</td>
<td>.192**</td>
<td>.216**</td>
<td></td>
</tr>
<tr>
<td>Intent to Use (IU)</td>
<td>4.43</td>
<td>1.188</td>
<td>.467**</td>
<td>.433**</td>
<td>.292**</td>
<td>.431**</td>
</tr>
</tbody>
</table>

Note: *p < .05, **p < .01, ***p < .001. SD = Standard Deviation.

**Table 1. Mean standard deviation and zero order bivariate correlation for each scale**

**Measurement Items**

Before applying a path model, we evaluated the instruments by assessing reliability and validity. We first evaluated the internal reliability of the items for each measure and all reliabilities were satisfactory; Cronbach’s alphas ranged from .818 to .962. In light of the reliability results, we conducted a principal component analysis to assess convergent and discriminant validity. The preliminary exploratory factor analysis (EFA), using a Varimax with Kaiser Normalization, was conducted for all 22 items. It produced a model made up of the five factors. Approximately 75.49 percent of total variance was explained by the five factors.
Path Analysis
The path model (Figure 2) showed that participant’s perceived usefulness (PU) played a mediating role between perceived social capital (β = 0.424, p < .001) and intent to use (β = 0.336, p < .001). Perceived social capital (PSC) predicted individual perceived usefulness (PU) directly and individual intent to use SNSs indirectly. Also, perceived social capital (PSC) predicted individual perceived ease of use directly (β = 0.208, p = .02) and intent to use (β = 0.114, p = .078) indirectly. In addition, individual perceived ease of use (PEOU) predicted perceived usefulness (PU) (β = 0.191, p = .005) directly and intent to use (β = 0.336, p < .001) indirectly. Finally, subjective norm (SN) showed significant direct effect on intention to use (β = 0.342, p < .001).

Figure 2. A hypothesized model: A path model of individual’s PU and PEOU on his or her intent to use.

The explanatory power of the proposed models was evaluated using R2 for perceived usefulness (PU) = 20.7%, perceived ease of use (PEOU) = 7.4%, and intent to use = 32.5%.

After testing the first hypothesis, we deleted the insignificant path loadings to finalize the TAM for use of SNSs. When the final hypothesized model was submitted to path analysis (Figure 3), the chi-square test statistic and other fit indices were acceptable; RMSEA: χ2 (3, N = 179) = 6.813, p = 0.04, CFI = 0.968, SRMR = 0.029, RMSEA = 0.084 (from .000 to .170). All standardized direct effects were (marginally) significant. The model explained 33.1 percent of intention to use (IU), 19.9 percent of perceived usefulness (PU), and 6.9 percent of perceived ease of use (PEOU).

CONCLUSION
The purpose of this study was to examine the validity of an extended TAM, incorporating subjective norm (SN) and perceived social capital (PSC), for predicting SNS acceptance and usage. The results showed that all hypotheses involved in the TAM constructs were supported. Perceived usefulness (PU) had robust effects on users’ intention to use SNSs. Perceived ease of use (PEOU) also exerted substantial effects on behavioral intention of SNS use both directly and indirectly. The research findings also demonstrated that subjective norm (SN) was a significant predictor of both perceived usefulness (PU) and perceived ease of use (PEOU), which implies that perceived social pressure plays a critical role in using SNSs.

Finally, perceived social capital (PSC) was identified as a key factor in accepting and using SNSs and therefore should be considered as a potential variable for extending TAM.

REFERENCES


