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Social Network Sites: Antecedents of User Adoption and Usage

Deb Sledgianowski
Hofstra University, acsdas@hofstra.edu

Songpol Kulviwat
Hofstra University, songpol.kulviwat@hofstra.edu

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Deb Sledgianowski
Hofstra University - IT/QM
acsdas@hofstra.edu

Songpol Kulviwat
Hofstra University - MKT/IB
Songpol.Kulviwat@Hofstra.edu

ABSTRACT

The use of social networking websites has become a current international phenomenon. Popular websites include MySpace, Facebook, and Friendster. Their rapid widespread use warrants a better understanding. However, there has been little empirical research studying the factors that determine the use of this hedonic computer-mediated communication technology This study contributes to our understanding of the antecedents that influence adoption and use of social networking websites by examining the effect of the perceptions of playfulness, critical mass, trust, and normative pressure on the use of social networking sites.. Structural equation modeling was used to examine the patterns of inter-correlations among the constructs and to empirically test the hypotheses. Each of the antecedents has a significant direct effect on intent to use social networking websites, with playfulness and critical mass the strongest indicators. Intent to use and playfulness had a significant direct effect on actual usage.

Keywords

Social networks, structural equation modeling, computer-mediated communication technology

INTRODUCTION

Social network site (SNS) services are a recent computer-mediated communication (CMC) technology receiving attention in the popular press for their ability to enroll new members at an astonishing rate, attracting the attention of large Internet companies like Yahoo and Google; and for the growing concerns about users of these websites, many of them teenagers, giving out too much personal information on them. Popular SNSs include Myspace, Facebook, and Friendster, with Myspace claiming over 170 million networked users. These websites provide a public forum that enables the exchange of digital information, such as pictures, videos, text, blogs, and hyperlinks, between users associated with common interests, such as hobbies, work, school, family, and friendship. Content is both provided by and consumed by the SNS members. Membership is free with access being granted after registering and completing an optional profile. Social networks usually have privacy control settings built into the profile options which enable users to choose who can view and add content to their personal web page; if privacy is not activated, then uninvited members may also access that member's information, such as posting to his/her web page or "wall" and sending email. Other means of communication between members is to send group messages to a user's network, post comments to a blog, and post small icons, called "pokes", to a user's web page. Some social network service providers are providing application programming interfaces to enable users to create applications that can be distributed from his or her web page.

The rapid growth in SNS membership has attracted advertising and marketing interest from companies looking for increased online exposure with consumers and to improve brand loyalty. Most social networking services rely on online advertising to generate revenue. Advertisers are hoping that users of these websites will purchase their products, post favorable remarks about their products on their web page and those of their associates, and provide them with useful information about trends and products. Social network services rely on increasing network externalities for economies of scale to propagate their business model. Strader et al (2007) argue that an emerging Internet technology becomes more valuable and useful as its network of users increases. Others have found that a perceived critical mass of users is an important factor influencing intention to adopt an emerging technology (Ilie, Van Slyke, Green, and Lou, 2005; Lou, Luo, and Strong, 2000). This is especially crucial for CMC technologies that are dependent on real-time interaction with other users (van Slyke, Ilie, Lou, and Stafford, 2007).

Although there is much discussion in the popular press about how people are using social network sites, ranging from the dangers of these sites being used by unscrupulous members to exploit other members, to the advantages or disadvantages

associated with employers viewing potential employee's social network site pages, there is no published empirical research identifying the key determinants that influence the use of this technology. This paper reports one of the first studies to investigate this.

Our study advances the existing literature by examining, within a purely hedonic context of social network sites, the relationships between perceived trust in the site, the user's perception that a critical mass of like users are using the site, perceived normative pressure from the user's significant others to use the site, perceived playfulness of the site, perceived usefulness of the site, perceived ease of use, user's intent to use, and actual usage of SNS.

THEORETICAL BACKGROUND

Understanding the attributes which contribute to the acceptance and use of information technology has been researched for years. A major contribution to this research stream has been the introduction and adaptation of Davis' (1986) Technology Acceptance Model (TAM), which is an adaptation of Fishbein and Aizen's (1975) Theory of Reasoned Action (TRA), a generalized intention model for predicting and explaining behavior. TRA posits that behavioral intentions are affected by beliefs, attitudes, and subjective norms.

TAM was designed to specifically explain computer usage behavior (Davis. Bagozzi, and Warshaw, 1989). The premise behind TAM and its extensions is that computer usage is affected by behavioral intentions, beliefs, and attitudes of the end-user. The original TAM proposes that intention to use a technology is significantly influenced by the user's beliefs of perceived ease of use and perceived usefulness of the technology. Perceived ease of use refers to the degree to which a user believes that a particular technology is effortless to use and perceived usefulness refers to the degree to which the user believes the technology will increase his or her performance on the job. Davis et al. (1989) suggest that for utilitarian information technologies, users form intentions toward usage based on the cognitive consideration of how it will improve their job performance, and that these beliefs are stronger than any feelings evoked towards the behavior, due to the potential extrinsic rewards such as pay increase or promotion. They found that for information technology used in a utilitarian context, perceived usefulness is the strongest determinant of intention to use.

TAM has been adapted to include external variables that are specific to the technology being studied. Two such adaptations are the inclusion of perceived critical mass and perceived trust. Critical mass is viewed as an important antecedent to the diffusion of communication innovations (Van Slyke et al., 2007), such as social network sites. Trust is viewed as an important antecedent of online interactions (Gefen, Karahanna, and Straub, 2003) and is crucial to the willingness of users to share personal information (Chen & Rea, 2006).

A shortcoming of TAM is that it has primarily been used to study the adoption of technologies used for utilitarian purposes. Davis et al (1992) adapted TAM to include the intrinsic motivator of perceived enjoyment and found that in a utilitarian context this was significantly related to perceived ease of use. Venkatesh and Davis' (2000) adapted TAM (named TAM2) to include subjective norm and found that it is a significant predictor of intention in a utilitarian context where usage is mandatory. While these relationships may be relevant in a utilitarian context, the relationships identified by TAM may not be relevant in a purely hedonic context.

Recently, researchers have argued that TAM and related models' emphasis on cognition, rather than affect, might be appropriate when considering utilitarian information technologies for which adoption is usually mandated and users have limited choice regarding the decision, but that cognition is insufficient when considering contexts in which technology users are free to adopt technology based on their feelings (van der Heijden, 2004; Komiak & Benbasat, 2006; Kulviwat et al., 2007). Depending on the context of the system use, whether utilitarian or hedonic, the predictive importance of the determinants changes (van der Heijden, 2004).

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Since SNSs are primarily used for hedonic purposes, rather than utilitarian purposes, it is expected that intrinsic motivators and social influences of user behavior are dominant predictors of usage (van der Heijden (2004). Our model, which we call the Social Network Site Adoption model (SNSA), examines adoption of social network sites from a hedonic perspective by including perceived playfulness, perceived critical mass, normative pressure, perceived ease of use and perceived trust. We propose that these predictors will have a direct effect on intention to use, which in turn will have a direct effect on actual usage. We also include perceived usefulness as an antecedent to determine whether usefulness has the same degree of importance in a hedonic context as it does in a utilitarian context. Our model includes six motivational and affective antecedents to end-users' intentions to use, which in turn is an antecedent to actual usage of SNSs. Our model is presented in Figure 1. Each construct and the associated hypotheses are discussed in this section.
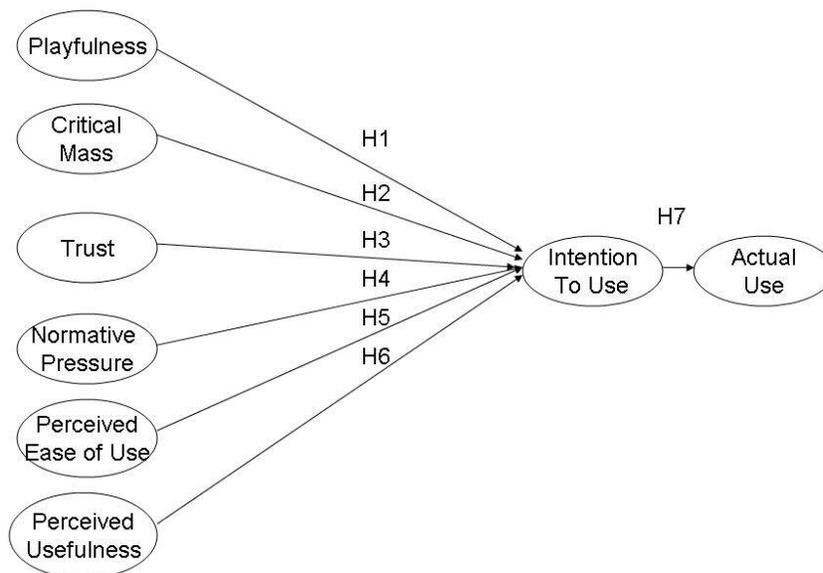
Figure 1: Research Model for Social Network Site Adoption

Playfulness

Perceived playfulness is the degree to which a current or potential user believes that the SNS will bring him/her a sense of enjoyment and pleasure. In the extreme sense, hedonic information technologies are used purely for entertainment. Social networking websites, within the context of our study, are currently considered to have limited utilitarian purpose and mainly a hedonic perception by their users (Lenhart & Madden, 2007). Since there are other readily available competing communication technologies, such as mobile devices, with the advantage of synchronous communication, and with potentially a more utilitarian purpose (Wakefield and Whitten, 2006) than SNSs, we consider SNSs within a hedonic context, primarily used to bring enjoyment and pleasure to their users.

Moon and Kim (2001) view playfulness as an intrinsic motivator, influenced by the user's experience with the environment; individuals with a more positive playfulness belief in the specific technology should view their interactions with the technology more positively than those with a less positive playfulness belief. They found that perceived playfulness has a direct effect on behavioral intention to use the world-wide-web. Therefore, we propose that:

H1: Playfulness has a significant positive effect on intention to use SNSs.

Critical mass

Critical mass is the point where enough users have adopted an innovation so that there is an acceleration of adoption of it where upon it becomes self-sustaining (Van Slyke et al, 2007). Perceived critical mass is the degree to which a current or potential user of an innovation perceives that this point has been reached (Lou et al., 2000). In the context of SNSs, perceived critical mass is the point where the adopter perceives that the website has a significant number of members that he or she can associate with (due to common interests, friendship, for example). So while a website may claim they have millions of members, if a current or potential user of a SNS perceives that there are not enough active members that he or she can associate with, then critical mass has not been achieved or sustained for that user.

Perceived critical mass has been shown to be an antecedent to intention to use other CMC technologies, such as groupware (Lou et al., 2000), and instant messaging (Van Slyke et al., 2007); therefore, we expect perceived critical mass to impact intent to use SNSs, as hypothesized below:

H2: Perceived critical mass has a significant positive effect on intention to use SNSs.

Trust

By looking at the concept of trust, we can examine whether users that trust a website are more inclined to use it. Trust in a website occurs through the belief that there are safety mechanisms built into the website (Gefen et al, 2003). Greater trust in a website has been found to have a direct effect on greater intent to use that website (Gefen, 2003). Trust, as it pertains to acceptance of web sites, has primarily been studied in the context of either interpersonal trust or institutional trust. Trust is a critical aspect of SNS services because of the potentially harmful opportunistic behaviors that have beleaguered the confidence in these services such as the unauthorized tracking of members' activities at other web sites (Perez, 2007), the practice of posting names of potential new friends onto a member's personal web page (Pruitt, 2003), and allowing members to anonymously search members' profiles (Metz, 2005). Since institutional trust is manifested as a perception held by the SNS member, we use perceived trust in an institutional context as our trust construct. Perceived trust is the perception that a third-party can be relied upon with confidence to perform role responsibilities in a fiduciary manner (Smith, 1997). Chiou (2004) found that perceived trust of an internet service provider had a significant direct effect on consumers' intention to remain loyal to using the service. We argue that perceived trust in a SNS service provider's ability to perform their fiduciary responsibilities will influence members' intention to use that site. Therefore,

H3: Perceived trust has a significant positive effect on intention to use SNSs.

Normative Pressure

As used in TRA, a subjective norm or normative pressure is defined as an individual's perceptions of what significant others think about the individual performing a specific behavior (Fishbein and Ajzen 1975). TRA posits that normative pressure is influenced by the normative expectations of other people (i.e., perceived expectations of specific referent individuals or groups). Normative pressure is particularly relevant here because it refers to the extent to which members in a society (e.g., peers and significant others) influence one another's behavior and experience social pressure to perform particular behavior.

There are empirical supports for its effect. For instance, Chang and Cheung (2001) found that normative pressure is related to intention to use the Internet at work. Further, Lucas and Spitler (1999) found that normative pressure is a significant predictor of individuals' intended use of information technology and its effect is even more important than perceptions about ease of use and usefulness.

H4: Normative Pressure has a significant positive effect on intention to use SNSs.

Perceived Ease of Use and Usefulness

Perceived usefulness is defined as the extent to which a person believes that using a technology will enhance his/her productivity or performance and perceived ease of use has to do with the extent to which a person believes that using a technology will be free of effort (Davis et al., 1989). A significant body of research has shown that both perceived ease of use and usefulness are strong determinants of user acceptance, adoption, and usage behavior (Davis 1989; Mathieson 1991; Taylor and Todd 1995). Specifically, both perceived ease of use and usefulness have accumulated empirical support that they play critical roles in predicting and determining technology acceptance behavior (Venkatesh 2000; Venkatesh and Davis 1996).

While perceived ease of use has been used to accurately predict the behavioral intention to use such applications as office automation (Davis, 1989), microcomputer usage (Igbaria et al. 1995), and a merchant smart card payment system (Plouffe et al. 2001), perceived usefulness has been considered important in determining an individual's acceptance and use of information technology in the contexts of word-processing software (Davis et al., 1989), spreadsheet software (Mathieson, 1991), and different end-user productivity software (Adams at al. 1992), Thus, along with this line, it is hypothesized that:

H5: Perceived ease of use has a significant positive effect on intention to use SNSs.

 H6: Perceived usefulness has a significant positive effect on intention to use SNSs.

Adoption Intention and Usage

According to literature on innovation adoption, adoption intention can be defined as an individual's intention to use, acquire, or purchase a technology innovation (Rogers 1995; Rogers, 2001). Adoption represents commitment or continued usage of the technology over time. As derived from TAM, behavioral intention to use is the precursor of actual usage of computer technology.

Numerous empirical studies confirm the intention-behavior relationship. For instance, in a meta-analysis of 87 studies in theory of reasoned action, Sheppard, Hartwick, and Warshaw (1988) found that an intention is a good predictor of behavior. Ajzen and Madden (1986) also found a similar result for theory of planned behavior. In the context of TAM, Davis et al. (1989) found that behavioral intention was significantly correlated with usage and confirmed that people's computer use can be predicted from their intentions. Further, Taylor and Todd (1995) found that behavioral intention played an important role in predicting behavior. Other empirical evidence also supports intention as being a reliable predictor of usage behavior (Sheeran 2002; Venkatesh and Davis 2000; Venkatesh and Morris 2000).

H7: Adoption intention has a significant positive effect on actual usage of SNSs.

METHODOLOGY

Data Collection

An online survey was used to collect data. Subjects were drawn from students enrolled at a major Northeastern U.S. university. The questionnaire survey describes how we define SNSs and gives examples of website addresses. Respondents used one of three SNSs (Facebook, Friendster, or Myspace) as a frame of reference for their responses. Three-hundred-and-twenty two students were involved in the study over a period of three weeks. Of theses participants, 38% were females and 62% were males. About 43% and 48% of the sample were between the ages of 18-20 and 21-30 respectively.

Measurement of Constructs

All theoretical constructs were operationalized using previously developed multi-item scales (see Appendix). Some of the scale items were slightly reworded to reflect the current research context. The perceived playfulness items were adapted from Moon and Kim (2001). The perceived critical mass construct was measured using items adapted from Ilie et al.(2005). The perceived normative pressure, perceived usefulness, perceived ease of use, normative pressure, and intent to use were measured using item items adapted from Davis et al (1992) and Venkatesh and Davis (2000). The perceived trust construct was measured using items adapted from Chiou (2004) representing a member's feelings towards the social networking website service provider's sense of honesty, responsibility, understanding, caring, and professionalism. Actual use was measured using 3 self-reported check-box interval-scale items to measure longevity, intensity, and frequency of use, similar to the scale used by Davis et al (1989) and most other measures of system use relative to TAM (Legris et al, 2003).

ANALYSES AND RESULTS

The research model was tested using a two-step structural equation modeling (SEM) approach using EQS. We first purified the measurement model using confirmatory factor analysis (CFA). Second, the structural model was evaluated to test the proposed hypotheses. For the measurement model, a CFA was used to determine the composite reliabilities, convergent validity, and discriminant validity of the multi-item measures. After purifying and dropping some items to create the best measurement model, all the remaining items and their standardized loadings are shown in Table 1. All items have large and significant loadings on their corresponding factors. The composite reliabilities of the different measures included in the model ranged from .73 to .89 (Table 1). Further, the average variance extracted (AVE) statistics ranged from .53 to .87, and the shared variance was less than the amount of variance extracted by the indicators measuring the constructs (Table 2). Thus, convergent and discriminant validity were met. Taken together, the evidence indicates the scales' had adequate psychometric quality for use in the next stage of analysis.

The overall model fit was assessed using multiple fit criteria. All fit indices are all within accepted thresholds: comparative fit index (CFI), incremental fit index (IFI), and non-normed fit index (NNFI), and root-mean-square error of approximation (RMSEA) were .91, .91, and .90, and .06. Thus, these results provided support for the overall fit indices as suggested within the accepted thresholds (Hair, Anderson, Tatham, and Black, 1998; Hu and Bentler, 1999).

Constructs and Measurement Items	Standardized Loadings [a, b]	Construct Reliability	Cronbach's Alpha
Perceived Playfulness		.73	.85
PP1	.88		
PP2	.91		
PP3	.72		
PP4	.56		
PP6	.48		
Critical Mass		.82	.88
CM1	.84		
CM2	.82		
CM3	.70		
CM4	.86		
Perceived Trust		.78	.84
PT1	.86		
PT2	.86		
PT3	.59		
PT5	.69		
Normative Pressure		.73	.80
NP1	.79		
NP2	.79		
NP34	.69		
Perceived Ease of Use		.85	.92
PEU2	.85		
PEU3	.89		
PEU4	.88		
PEU5	.81		
Perceived Usefulness		.78	.77
PU1	.94		
PU2	.84		
PU4	.43		
Intention		.89	.96
INT1	.98		
INT2	.97		
INT3	.86		
Actual Use		.78	.85
AU1	.80		
AU2	.71		
AU3	.93		

Table 1. Results from the CFA of Study Constructs

Notes - a: All factor loadings are significant at p = .05 (i.e., t > 2.0); b: Only remaining items after the purification process are shown.

For structural model analyses, EQS was employed to test the hypotheses. Support was found for most of the proposed hypotheses (see Figure 2). The results suggest that perceived usefulness, ease of use, perceived playfulness, critical mass, and perceived trust all exert positive and significant effects on intention to use SNSs. Perceived playfulness has the strongest effect on intention to use SNSs ($\beta = .45$, $p < .01$), followed in order by critical mass ($\beta = .38$, $p < .01$), perceived ease of use ($\beta = .15$, $p < .01$), perceived trust ($\beta = .15$, $p < .01$), and perceived usefulness ($\beta = .11$, $p < .01$). Hence, Hypotheses 1, 2, 4, 5, and 6 are supported. In contrast to the direction hypothesized, though significant (hypothesis 3), normative pressure has a negative significant relationship with intention to use SNSs ($\beta = -.08$, $p < .05$). As expected, the usage of SNSs is found to be positively related to intention to use, thus confirming H7. Finally, contrary to our expectation, a direct link between perceived playfulness and actual usage is found to be significant ($\beta = .15$, $p < .05$).

Construct	PP	CM	PT	NP	PEU	PU	INT	AU
PP	**.53**	.09	.49	.18	.30	.49	.31	.10
CM	.01	**.65**	.09	.49	.41	.19	.45	.19
PT	.24	.01	**.57**	.25	.45	.37	.45	.19
NP	.03	.24	.06	**.58**	.39	.32	.48	.11
PEU	.09	.17	.45	.15	**.73**	.35	.67	.45
PU	.24	.04	.14	.10	.12	**.59**	.25	.11
INT	.10	.20	.20	.23	.44	.06	**.87**	.57
AU	.01	.04	.04	.01	.20	.01	.32	**.67**

Table 2: Summary Statistics and Discriminant Validity Matrix

Diagonal elements (bold) represent the average variance extracted between the constructs. The numbers above the diagonal elements are the correlations between the constructs. The numbers below the diagonal elements are the shared variances (or squared correlations) among constructs. For discriminant validity, diagonal elements should be larger than off-diagonal elements.

Hypothesis	Supported/ Not Supported
H1: Playfulness has a significant positive effect on intention to use SNSs.	Supported
H2: Perceived critical mass has a significant positive effect on intention to use SNSs.	Supported
H3: : Perceived trust has a significant positive effect on intention to use SNSs.	Supported
H4 Normative Pressure has a significant positive effect on intention to use SNSs.	Not Supported
H5: Perceived ease of use has a significant positive effect on intention to use SNSs.	Supported
H6: Perceived usefulness has a significant positive effect on intention to use SNSs.	Supported
H7: Adoption intention has a significant positive effect on actual usage of SNSs.	Supported
Table 3. Summary of Hypotheses Tests	

DISCUSSION

Our study examined the antecedents contributing to intention to use and actual use of SNSs. The theoretical basis of our study was an adaptation of TAM to reflect antecedents relevant to a hedonic use of a computer-mediated communication technology. The validity of the SNSA model and the relationships among its constructs were tested using structural equation modeling. The empirical test of the model demonstrated that individuals' intention to use a SNS is significantly affected by their perceptions of usefulness, ease of use, normative pressure, playfulness, critical mass of other users, and their trust in the website. The results suggest that the SNSA model is a robust one with excellent ability to predict behavioral intention and system use while performing almost exactly as predicted by the literature.
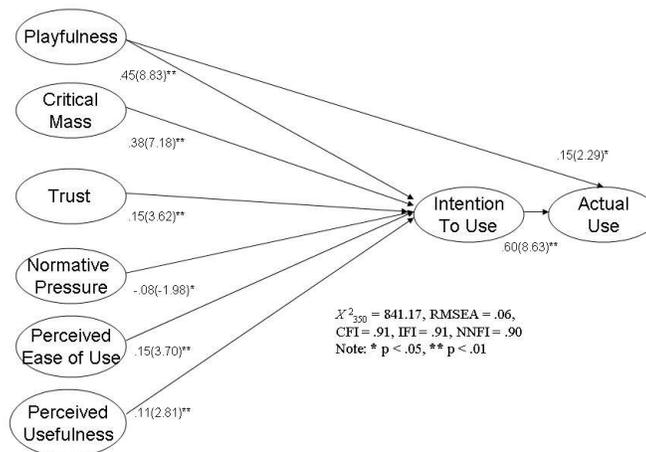

Figure 2: Standardized EQS Solution

Implications for IS researchers

This study extends the technology acceptance research by adding a unique combination of normative pressure, playfulness, critical mass, and trust. Our study found that PU and PEU, while significant, were not the strongest indicators of behavioral

intention. Our results dispute the suggestion made by King and He (2007) that "if one could measure only one independent variable, perceived usefulness would clearly be the one to choose." Our research supports van der Heijden's (2004) assertion that the nature of system use (whether hedonic or utilitarian) does matter when it comes to predictive importance.

By far, the strongest indicators of intent to use SNSs, considered in a hedonic context in our study, were playfulness and critical mass. Some studies employing utilitarian technologies have found enjoyment to be the weakest indicator in a utilitarian context (Davis et al., 1992; Venkatesh and Davis, 2001) but our results are consistent with other research (Atkinson and Kydd, 1997; van der Hjeiden, 2004) finding that playfulness in a hedonic context is a stronger indicator of intent to use than is usefulness. Lin and Yu (2006) suggest that individuals who perceive a technology as playful may somehow rationalize that the technology is easy to use because the enjoyment received from using it outweighs the effort expended to use it. This may help explain why PEU was not a strong indicator of intent to use, given that the overall mean for the PEU factor was 4 (on a scale of 1 to 5), indicating that most respondents agreed that SNSs are easy to use.

Playfulness was also a significant direct predictor of actual usage. Although this relationship was not predicted, it isn't surprising; Wakefield and Whitten (2006) found that respondents who perceived their interactions with mobile devices as more playful used the devices more frequently than respondents who did not perceive their interactions as playful.

Critical mass, as the second strongest indicator of intent to use implies that, like most CMC technologies, the benefits that are derived from using a SNS increase as more users use it. Our results are consistent with other research finding that perceived critical mass is an important factor influencing intention to adopt an emerging technology (Ilie et al, 2005' Lou et al, 2000). This confirms other findings (i.e. Moon and Kim, 2001; van der Hjeiden, 2004) that intrinsic motivators are dominant predictors of intention to use in a hedonic context.

We found that normative pressure was the weakest predictor of intent to use SNSs. The significant negative path coefficient linking normative pressure and intent to use is interesting, since initial correlation analysis suggested this should be a positive relationship. Our results might indicate an interaction effect or a nonlinear relationship among normative pressure and its consequences that is not currently understood. For example, pressure from influential others may be important to the initial use of SNSs but then its importance decreases after regular use is established. Also, some users may receive pressure from influential others, such as their parents, in an attempt to dissuade them from using SNSs, which may have the opposite effect than was intended. This could be a manifestation of a "boomerang effect", whereby behavior responses are opposite than what was called for. Boomerang effects have been associated with various counter-marketing efforts such as an increase in alcohol consumption among college students in response to anti-drinking campaigns (Wechsler, Nelson, Lee, Seibring, Lewis, and Keeling, 2003) and an increase in college students' intent to use marijuana after exposure to anti-drug advertising (Czyzewska and Ginsburg, 2007).

Implications for IS practitioners

Playfulness was the strongest indicator of intent to use SNSs and, as such, social network service providers should ensure that the features available to their users promote playfulness and bring enjoyment to them, for example Facebooks' "status updates" feature, which allows users to post one-liners on their site that tells their friends what they are doing or what they are feeling right at the moment (cnn.com/technology, 2007).

Social network services rely on increasing network externalities for economies of scale to propagate their business model. Our research has found that the perception of a critical mass of users is one of the strongest indicators of intent to use SNSs. It is critical for social network service providers to continue to find ways to enforce the perception that a critical mass of like users is using their service. Features that facilitate this, such as Friendster's feature to allow users to view other users' profiles, should be given a high priority in efforts toward continuous improvement of these websites.

Our study found perceived trust to be a significant predictor of intent to use SNS; therefore, practitioners should be aware that it is important for users to have a perception of trust that their information is not being used in a way not intended by them, which is what happened when Friendster's, without notice, started to release information to users to reveal which users searched their profile, when previously that information was anonymous (Metz, 2005). A feature such as Facebook's application, Circle of Trust, which allows users to rate the trustworthiness of other users and post the results on their web page, may help facilitate this perception of trust.

Limitations and Future Research

Like any research, this study has several limitations which should be understood before generalizing the results to other contexts and recommending future research. Further studies of people in other countries with similar adoption profiles could be used to confirm or extend our findings. This research examines respondents who have used or at least heard of SNSs;

further research into the perceptions and choices of non-adopters would be valuable to strengthen our understanding of the influencers of adoption and non-adoption, especially extending the model to different types of SNSs, such as those used more for utilitarian purposes like job networking, and to different user and non-user cohorts in different countries.

With the introduction of the SNSA model, our study has laid a foundation for further investigations of the use of SNSs. Further research should investigate the specific technical features of SNSs that draw users to them. Benbasat (2007) encourages research in technology acceptance models to study design aspects, such as technologies that enhance functional and visual control for the user. Future research should study which features facilitate a perception of critical mass, playfulness, and trust.

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REFERENCES

Available by request from the first author

APPENDIX

Available by request from the first author.