

*Full Length Research Paper*

# Motivators, prohibitors and outcomes of social networking site user's behavior

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**Social networking sites are prevalent hedonic platforms on the internet. Thus, investigating how familiarity, privacy concerns and trust affect interactions on social networking sites is important. This study surveyed college students who use Facebook, the Internet's most used social networking site. Perceptions of familiarity, trust and privacy concerns, along with a willingness to share information and develop new relationships are discussed. This study also investigates the effects of switching cost as many other popular social networking sites exist and each user typically has more than one social networking site accounts. Analytical results indicated that familiarity positively and significantly affects Internet privacy concerns, trust in sites, trust in other site members and switching cost. Internet privacy concern positively and significantly affects trust in sites, trust in other members and information sharing. Both trust in sites and switching cost positively and significantly influence information sharing and development of new relationships. Trust in other members positively and significantly affect information sharing and has an insignificant relationship with development of new relationships. Finally, information sharing positively and insignificantly influence development of new relationships. Therefore, although users are very concerned about the privacy of their personal information, trust in sites, and other members, they are less than vigilant about safeguarding their personal information. While familiarity and switching cost are positive motivators for information sharing and development of new relationships, analytical results suggested that trust is not necessary in building new online relationships. Analytical results also demonstrated that trust and the willingness to share information on online sites do not automatically translate into new social interaction.**

**Key words:** Familiar, privacy concern, trust, switching cost, social networking sites.

## INTRODUCTION

Facebook, the most famous social networking site (SNS), had 140.6 million unique US visitors in May 2011, a massive growth from 23 million unique US visitors in June 2007. Facebook now ranks second in overall web traffic (QuantCast, 2011a). The social networking site MySpace, which ranked sixth in overall web traffic in 2007 with over 47 million unique US visitors per month (QuantCast, 2011b), is now ranked 48ed with 17.9 unique US visitors in May 2011, a decline from 85 million unique US visitors in June 2007. Notably, Facebook has become one of the most popular online SNSs.

The popularity of SNSs has grown tremendously in over the last several years and these sites have become

integrated with the everyday activities of users, satisfying the human need for sociability (Ganley and Lampe, 2009). Generally, anyone with internet access can create and maintain a permanent online existence through such SNSs as Facebook and MySpace. Therefore, individuals who participate in SNSs use text, photographs and video to generate an online identity that eternally represents for their physical self (Young, 2009).

Once logged onto an SNS, users create a data file and make connections with existing friends and others they encounter via the site. A data file is a profile list with information that identifies a user, including the user's real name, or a pseudonym. This information can also include

a cell phone number, photographs, birth date, hometown, religion, ethnicity, and personal interests. The SNS members link to others by sending a “friend” message, which must be accepted by the receiving member to establish a relationship. “Friending” another member gives them access to your profile, and adds them to your social network and vice versa (Dwyer et al., 2007).

Members use SNSs sites for many purposes. The primary uses are communication, recreation and maintaining and building relationships. Popular activities on SNSs include updating others on one’s activities and whereabouts, sharing photographs, archiving events, commenting on topics with just “like”, getting updates on the activities of friends, displaying a large social network, presenting an idealized persona, tagging friends in a photograph for easy access, sending messages privately and posting public testimonials. Since SNSs have become inextricably bound with everyday activities of users and satisfy the human need for sociability (Ganley and Lampe, 2009), the notions of network community have been examined under various contexts in recent years. Several researchers have begun to identify relevant questions and investigate SNSs (Boyd and Ellison, 2007; Chewar et al., 2005).

Many studies of SNSs have focus on privacy, recreation and sociability. Notably, users are very concerned about the privacy of their personal information, but are less than vigilant about safeguarding it (Awed and Krishnan, 2006). Therefore, this study investigates the impact of familiarity, internet privacy concerns, site trust and trust in other members on the use of SNSs for social interaction.

The purposes of this study are as follows: (1) To examine the influence of familiarity on internet privacy concerns, trust in SNSs, trust in other members on SNSs, and switching cost; (2) to assess the influence of Internet privacy concerns on trust in SNSs, and trust in other members on SNSs; (3) to determine the influence of trust in an SNS on information sharing and development of new relationships; (4) to investigate the influence of trust in other members of an SNS on information sharing and development of new relationships; (5) to assess the influence of information sharing on the development of new relationships; (6) to investigate the influence of switching cost on information sharing and development of new relationships; and, finally, (7) to analyze the demographic profiles and SNS use behavior of survey respondents.

The remainder of this paper is organized as follows. Hypothesized relationships among the studied constructs (that is, familiarity, Internet privacy concerns, site trust, trust in other members, information sharing, development of new relationships and switching cost) would be discussed.

The research methodology and data source are then described. Analytical results are then given and their theoretical and practical implications are discussed.

## CONCEPTUAL FRAMEWORK AND HYPOTHESES

Facebook is an SNS that initially focused on college and university students (Acquisti and Gross, 2006; Lampe et al., 2007; Stutzman, 2006). Studies have collected profile information of Facebook users using web-based questionnaires and by surveying members (Dwyer et al., 2007). These studies showed that Facebook members reveal a lot of information about themselves, and are not very aware of privacy options or who can actually view their profile (Acquisti and Gross, 2006).

Figure 1 shows the study’s conceptual framework, providing a visual representation of the theoretical model directing data collection and empirical analysis. Independent variables are familiarity and internet privacy concerns, while mediators are trust in an SNS; trust in other members of an SNS and switching costs. How these variables relate to outcomes being measured with respect to SNS use, information sharing and development of new relationships is assessed. Relevant literature and hypotheses are discussed in the following subsections.

### Familiarity and trust

Trust plays a critical role in e-commerce growth and is affected by other latent variables, Gefen et al. (2003a) suggested that the primary reason many people do not shop online is a fundamental lack of trust in online transactions. Trust is defined as “the subjective probability with which consumers believe that their information is kept private and safe in e-transactions” (Zucker, 1986). Therefore, when people trust in something or someone, it increases their increase intention to do something via reduced uncertainty about the consequences of an anticipated behavior (Dwyer et al., 2007). Moreover, social complexity and social uncertainty about how others behave online contribute to an ongoing continuum, where trust determines what people expect from a situation from the social and business perspectives (Gefen et al., 2003b).

As discussed, although SNSs and e-commerce sites are alike, they have unique characteristics; that is, SNSs are unique in that the traded asset is mostly personal, not business, information. Findings from research in trust indicated that trust is no less important in SNS than in e-commerce (Guo et al., 2010). Luhmann (1979) suggested that as individual understands his/her surroundings more, social uncertainty decreases. Luhmann further argued that “familiarity builds trust because it creates an appropriate context to interpret the behavior of the trusted party.” In the SNS context, a participant’s familiarity is reflected in his/her knowledge of how a website operates and what procedures are involved within the service. Gefen et al. (2003b) concluded that familiarity with an e-vendor does not significantly increase trust when other

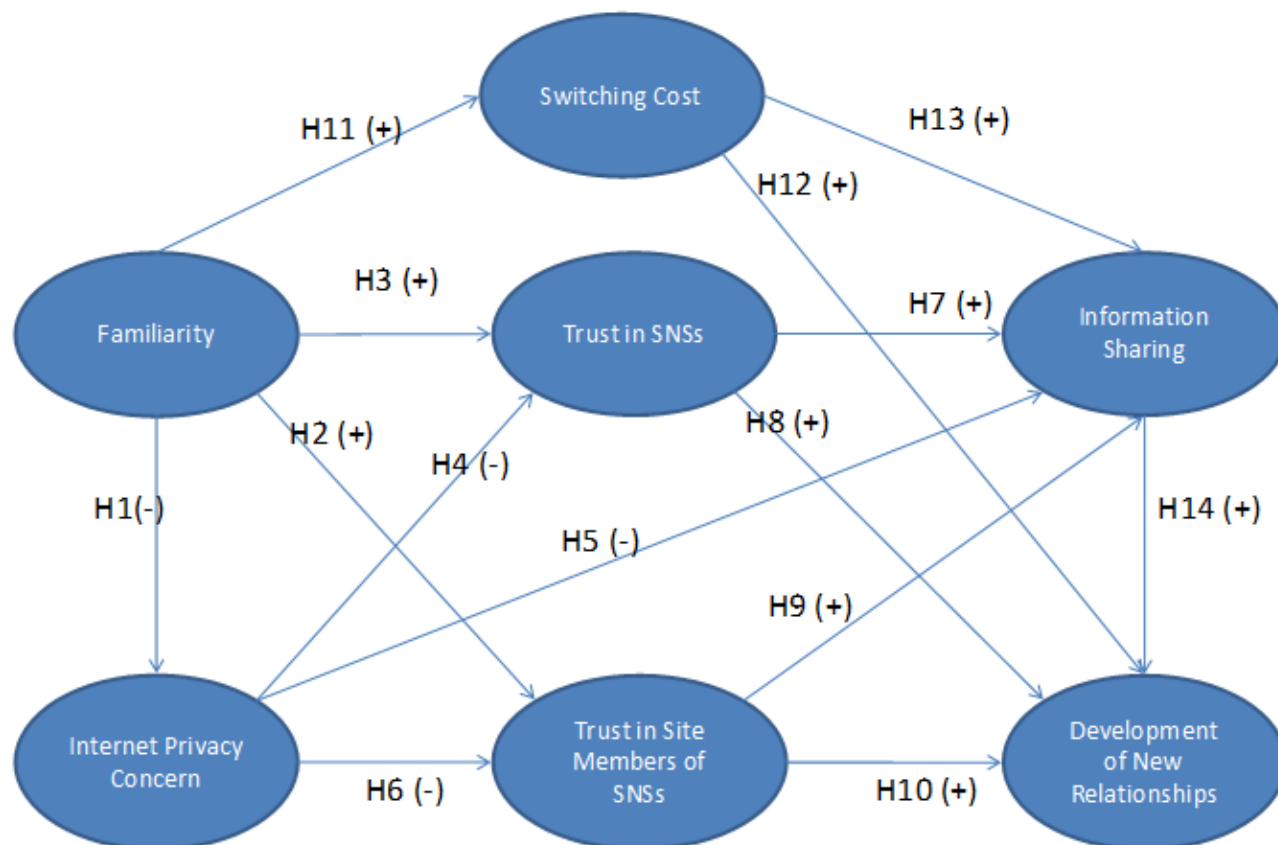


Figure 1. Conceptual framework.

antecedents are involved; however, when treated alone, familiarity is directly associated with trust (Gefen et al., 2003b). Therefore, the knowledge-based antecedent of trust (McKnight et al., 1998; Gefen et al., 2003b), familiarity, is included in this study's research model.

Millions of people have joined SNSs and added profiles that reveal their personal information. However, the reputations of SNSs have been diminished by a number of adverse events publicized by the news media (Chiaramonte and Martinez, 2006; Hass, 2006; Mintz, 2005; Read, 2006). Thus, is it possible to join a network of millions of people and be able to trust all users just because one is familiar with a site?

This study defines familiarity as the degree to which an individual is aware of the SNS concept and knowledgeable about SNS use. Relationships between familiarities, trust in sites, and trust in other site users, Internet privacy concern and switching cost are tested within the SNS context via the following hypotheses.

- H<sub>1</sub>: Familiarity negatively affects Internet privacy concern.  
 H<sub>2</sub>: Familiarity positively affects site trust.  
 H<sub>3</sub>: Familiarity positively affects trust in other site users.  
 H<sub>11</sub>: Familiarity positively affects switching costs.

### Trust and its outcomes

In terms of trust, this study examines whether users who trust in a site are inclined to use that site. Trust in a site is based on the belief that a site has safety mechanisms. As the trust in a site increases, intention to use that site increases (Gefen et al., 2003b). Since trust leads to acceptance for SNSs, it has primarily been studied in the context of interpersonal trust or institutional trust.

Interpersonal trust exists between people. According to Ridings et al. (2003), interpersonal trust has significantly increases a member's intention to exchange information. Institutional trust, conversely, is a member's perception that effective mechanisms are in place to ensure that an SNS service will run consistently and meet a member's expectations (Gefen et al., 2006). Although virtual communities are similar to SNSs in that both consist of groups of people with common interests who exchange information through a specific forum, numbers of virtual communities typically do not know each other. Although SNSs use a permission mechanism that allows or prevents other members from visiting their site, we cannot assume that interpersonal trust exists between members, such that they will refrain from opportunistic

behavior and not take advantage of the access granted. Furthermore, Chiou (2004) demonstrated that perceived trust of an Internet service provider has a significant and direct effect on consumer intention to remain loyal to that service. Therefore, this study discusses both the interpersonal trust, which members have toward other members, and institutional trust, which is the trust members have toward their SNS service provider.

According to Mayer et al. (1995: 712), trust is “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party”. Therefore, trust is a critical determinant of information sharing and developing new relationships (Fukuyama, 1995; Lewis and Weiner, 1985). In terms of e-commerce, trust is also strongly related to information disclosure (Metzger, 2004). Studies of interpersonal information exchange situations confirmed that trust is a precondition for self-disclosure, because it reduces perceived risks involved in revealing private information (Metzger, 2004). This leads to the following research hypotheses.

H<sub>7</sub>: Trust in an SNS positively affects on information sharing,

H<sub>8</sub>: Trust in an SNS positively affects development of new relationships,

H<sub>9</sub>: Trust in other members positively affects information sharing,

H<sub>10</sub>: Trust in other members positively affects development of new relationships.

### Internet privacy concern

Privacy within SNSs is undefined (Dwyer, 2007). That is, SNSs record all interactions, and retain these interactions for potential use in social data mining. Offline, most social transactions leave no record. Therefore, the lack of a record is a passive enabler of social privacy (Lessing, 1998). Finally, these sites require explicit policies and data protection mechanisms to deliver the same level of social privacy found offline.

Since social privacy online is relatively more difficult to guarantee, the question arises as to whether a high level of concern for Internet privacy affects use of SNSs? Previous research on SNSs, such as Friendster, the first popular social networking site, describes how members create profiles with the intention to communicate information about themselves to others (Boyd, 2004, 2006; Boyd and Her, 2006; Donate and body, 2004). As in any SNS, Friendster members create their profile and generate public links to other members. Although, members can control their profile, they cannot control what emerges on a friend’s profile. Materials on a friend’s profile can be a concern for an SNS user when his/her

friend asks to ‘friend’ him. This presents a confusing position for a user, because allowing friends to access his/her profile allows them to view his/her friends, some of whom may have, say, pornography, posted on their page (Boyd, 2004). Therefore, privacy concerns and trust were discussed in the first scholarly articles about SNSs. Since a digital message can remain in a system for an undefined and undisclosed period (Erickson and Kellogg, 2000), a need exists for privacy management, both for individuals and organizations. Therefore, is a person’s concern about the privacy of their social interaction record a factor related to whether they will use a site? This question leads to the following hypotheses.

H<sub>4</sub>: Internet privacy concern is negatively associated with site trust,

H<sub>5</sub>: Internet privacy concern is negatively associated with information sharing,

H<sub>6</sub>: Internet privacy concern is negatively associated with trust in other site members.

### Switching costs

Switching costs are increasingly recognized as a means of retaining customers in relationships, regardless of their level of satisfaction with a provider (Banal et al., 2004; Burnham et al., 2003; Jones et al., 2000). Indeed, service providers should increase customer knowledge of switching costs to “lock” them in with a service provider (Burnham et al., 2003). However, this suggestion is an overly optimistic and restricted view of switching costs; that is, this suggestion ignores the possibility that managing switching costs to lock customers into relationships may result in strong negative reactions from customers even while fostering retention (Heffner and Hunt, 2000). This study adopts a relatively broader framework for understanding switching costs and the mechanisms or routes through which they influence important relational outcomes.

Building on the work by Burnham et al. (2003) and Jones et al. (2002), the framework recognizes the multidimensional nature of switching costs and three major switching cost types are defined. Procedural switching cost, the first type, involves the time, effort and hassle of finding and adapting to a new SNS. Social switching cost, the second type, relates to the potential loss of a personal bond or friendship with an SNS service provider when the SNS member switches providers. Lost benefit cost, the third type, involves the potential loss of benefits such as special deals or concessions received from an SNS provider or other value-added services when a consumer switches providers. Therefore, we proposed the following hypotheses:

H<sub>12</sub>: As user-perceived switching costs associated with switching SNS provider’s increase, the vigorousness

Table 1. Sample descriptions<sup>1</sup>.

Item	Category	Frequency	Percentage
Sex	Male	356	54.77
	Female	294	45.23
Grade	1	46	7.08
	2	222	34.15
	3	301	46.31
	4	81	12.46
College	Commercial and Business Management	197	30.31
	Sciences and Electronics	176	27.08
	Medical, Agriculture, Biotech	48	7.38
	Literature and Law	66	10.15
	Education and Broadcast	57	8.77
	Others	106	16.31
Account number of Facebook	1	522	80.31
	2	79	12.15
	3	30	4.62
	4	19	2.92
Experience using Facebook (year)	Less than 1	67	10.31
	1-2	248	38.15
	More than 3	335	51.54
Frequency using Facebook	Once per month	18	2.77
	Once per week	103	15.85
	Once per day	145	22.31
	Times a day	384	59.08
Number of friends on your Facebook account	Less than 50	37	5.69
	51-100	116	17.85
	101-150	124	19.08
	151-200	154	23.69
	More than 200	219	33.69
Total		650	100.00

with which SNS users develop new relationships on the original SNS increase,

H<sub>13</sub>: As user-perceived switching costs associated with switching SNS providers increase, the vigorousness with which SNS users share information increases,

H<sub>14</sub>: As the vigorousness with which SNS users share information increases, the incentive of SNS users to develop new relationships increases.

## METHODOLOGY

According to a report from InsightXplorer Limited (2011, June),

students aged 15 to 24 comprise the largest group of Internet users. InsightXplorer Limited (2010, March) also noted that the top five most popular website types were portal sites, search engines, blogs, auctions websites and SNSs. Furthermore, 18.2% of respondents had increased their rate of browsing SNSs, which was the site type with largest growth rate (InsightXplorer Limited, 2010). Finally, the InsightXplorer survey also revealed that college students comprise the group that stays longest on SNSs and their primary purposes for visiting SNSs are interpersonal communication and recreation. To test the hypothesized model empirically, this study sent out questionnaires between May 1 and June 31, 2011. The questionnaires were delivered and all the subjects chosen were users of Facebook. In total, 650 returned questionnaires were valid. Relevant information is presented in Table 1.

This study applied exploratory factor analysis (EFA) to determine whether any obvious deviation from the structure of adapted constructs exists. Since that the path-analytical procedure is a rigorous research methodology and has become mainstream in social science research (Li and Calantone, 1998; Chaudhuri and Morris, 2001; Hair et al., 2009), confirmatory factor analysis (CFA) and structural equation modeling (SEM) are utilized to analyze the underlying relationships among research constructs. Specifically, this study investigated whether data conform to the multi-normality requirement because SEM model testing is based on the validity of this assumption (McDonald and Ho, 2002). This study then tested the proposed model in a two-stage structural equation framework. Furthermore, CFA was applied to assess construct validity, in terms of both convergent and discriminant validity, before applying SEM analysis.

### Measures

Item responses were on a 5-point Likert-type, ranging from 1 for "strongly disagree" to 5 for "strongly agree". The hypothesized model had seven constructs: (1) Familiarity; (2) internet privacy concern; (3) trust in SNS sites; (4) trust in other members on SNSs; (5) information sharing; (6) development of new relationships; and (7) switching costs. Items in the questionnaire were adapted from previous studies.

The familiarity construct is adopted from the study of Gefen et al. (2003a). For example, the scale related to Internet privacy contains the following items: "In general, how often are you concerned about your privacy while you are using the internet?" (Buchanan et al., In press). The items for trust in SNSs and trust in members of SNSs were adopted from the study by McKnight et al. (1998), Mayer et al. (1995) and Gefen et al. (2003b). The items for information sharing and development of new relationships were adopted from Davis (1989), Ajzen (1991) and Dwyer et al. (2007). Finally, scales used to measure procedural switching costs, lost benefits costs and social switching costs were adopted from existing switching costs scales (Burnham et al., 2003; Jones et al., 2002).

### Sample

A paper-based survey was created using an in-house university survey tool. With the approval from the relevant faculty deans, 843 questionnaires were delivered randomly to undergraduate students at sample universities in northern Taiwan. The survey period was May 1 to June 31, 2011. From this convenience sampling, 650 valid questionnaires were obtained. Table 1 lists subject demographic data.

Although this sample is not necessarily representative of an SNS community, findings provide many insights into the experiences of active online social network users, particularly from a Taiwanese perspective, contributing to the overall picture of this global phenomenon. After obtaining demographic information, a series of survey items about Internet privacy concern, familiarity, trust, information sharing, switching costs and development of new relationship were investigated. The questionnaire had 57 quantitative items subjects responded to on the 5-point Likert-type scale.

Notably, the items describing in the construct of "trust in other members" are reverse items: "1) I believe most of the profiles I view on an SNS are exaggerated to make the person look more appealing; and, 2) I worry that I will be embarrassed by incorrect information others post about me on an SNS". Before analysis, this study recoded these two items, such that they were consistent with hypotheses.

Of the 650 Taiwanese college students, 356 were male (54.77%) and 294 were female (45.23%). Most respondents were in their

second year (34.15%; 222) or third year (46.31%; 301). Most respondents were enrolled in commercial and business management (30.31%; 197) and sciences and electronics (27.08%; 176).

### Profiles and experiences

Of the 650 respondents, 80.31% (522) have only one Facebook account. Most respondents have used Facebook over 3 years (51.54%; 335) in using Facebook, and 1 to 2 years experience (38.15%; 248). In total, 59.08% (384) of respondents use Facebook daily and only 18.62% (121) of respondents use Facebook less than once daily. Roughly 33.69% (219) of respondents have over 200 friends, while 42.77% (278) have 100 to 200 friends.

### Time investment and behavior

Most respondents spend 1 to 5 h using Facebook daily (1 to 3 h, 258/ 39.69%; 3 to 5 h, 223/ 34.31%). When using Facebook, most spend 1 to 3 h (249/ 38.31%) and 3 to 5 h (197/ 30.31%) updating, editing and using one's Facebook profile. Also, most respondents spend 1 to 3 h (277/ 42.62%) and 3 to 5 h (201/ 30.92%) in browsing, contributing information to the front pages of friends. In total, 35.54% (231) of respondents meet with 10 to 30% of their Facebook friends weekly, 25.69% (167) of respondents meet weekly with 30 to 50% of their Facebook friends, 24.92% (162) of respondents meet with fewer than 10% of their Facebook friends weekly and only 3.08% (20) of respondents meet more than 70% of their Facebook friends weekly.

In total, 35.23% (229) contact with 10 to 30% of their Facebook friends via the microsoft networks (MSN) or e-mail, 27.85% (181) of respondents contact fewer than 10% of their Facebook friends by MSN or e-mail, 24.15% (157) of respondents contact with 30 to 50% their Facebook friends via MSN or e-mail, and only 2.77% (18) of respondents contact more than 70% of their Facebook friends via MSN or email.

Last, this study investigated attitudes of Facebook users toward their online profile, using a multi-choice question about why one's online profile is important. The Facebook users want to follow the lives of others (395; 60.77%), keep in touch with family/friends/colleagues (382; 58.77%), meet new people (375; 57.69%), express themselves (368; 56.62%), and entertain oneself (311; 47.85%) (Tables 2 and 3). Others reasons are social life (224; 34.46%), communicate with others (211; 32.46%), show my popularity (168; 25.85%) and entertain my friends (126; 19.38%).

Another multiple-choice question addresses why one's online profile makes Facebook users unhappy. The answers were as follows: people do not respond to my messages/actions (379; 58.31%), people send me negative messages/actions (272; 41.85%), "I have to spend a lot of time online communicating with people (263; 40.46%), I go days/weeks without a friend request (246; 37.85%), I go days/weeks without communication from friends (235; 36.15%), someone rejects my friend request (207; 31.85%), and I reject someone's friend request (172; 26.46%)"

## EMPIRICAL RESULTS

The sample size (n=650) was considered sufficiently large for model specification and further analysis. Additionally, this study analyzed univariate and multivariate outliers, revealing no significant violations. Since data normality affects statistical results, (Pedhazur and Schmelkin, 1991; Tabachnick and Fidell, 2001),

**Table 2.** Sample descriptions 2.

Item	Categories	Frequency	%
Average time spent using Facebook daily (hour)	Less than 1	104	16.00
	1-3	258	39.69
	3-5	223	34.31
	More than 5	65	10.00
Average time spent updating, editing, and using your Facebook profile (hour)	Less than 1	149	22.92
	1-3	249	38.31
	3-5	197	30.31
	More than 5	55	8.46
Average time spent browsing, and contributing information to the Facebook front page of friends (hour)	Less than 1	118	18.15
	1-3	277	42.62
	3-5	201	30.92
	More than 5	54	8.31
What percentage of your Facebook friends do you meet weekly? (%)	Less than 10	162	24.92
	10-30	231	35.54
	30-50	167	25.69
	50-70	70	10.77
	More than 70	20	3.08
What percentage of Facebook friends do you contact through MSN or E-mail weekly? (%)	Less than 10	181	27.85
	10-30	229	35.23
	30-50	157	24.15
	50-70	65	10.00
	More than 70	18	2.77
Total		650	100.00

**Table 3.** Sample descriptions 3.

Item	Category	Frequency
My online profile is important to: (multi choice)	Social life	224
	Communicating with others	211
	Expressing myself	368
	Keeping in touch with family/friends/colleagues	382
	Meeting new people	375
	Following in the lives of others	395
	Showing my popularity	168
	Entertaining me	311
	Letting me entertain my friends	126
My online profile makes me unhappy when: (multi choice)	Someone rejects my friend request	207
	I reject someone's friend request	172
	I go days/weeks without a friend request	246
	I go days/weeks without communication from my friends	235
	People send me negative messages/actions	272
	People do not respond to my messages/actions	379
	I have to spend a lot of time online communicating with people	263

testing multivariate data normality is essential. Specifically, SEM is required to satisfy the assumption of data normality, meaning that the observed variables must be normally distributed (Gravetter and Wallnau, 2000). Specifically, when testing multivariate data normality, the analytical outcome indicates that the value of kurtosis was in the range of -0.548 to -0.129 and that the value of skewness was in the range of -0.415 to -0.127, satisfying valuation criteria (ranging from -2 to +2) suggested by Mardia (1985). Therefore, all variables fit the assumed multivariate distribution. Tables 4 and 5 summarize items related to each of the seven constructs in the proposed model.

The proposed measurement model was estimated using LISREL 8.53 (Joreskog and Sorbom, 1989, 1993). Table 6 summarizes fit statistics. The chi-square statistics are significant at the 0.05 level, an ordinary finding for a relatively large sample size (Doney and Cannon, 1997). The values for the comparative fit index (CFI), non-normed fit index (NNFI), root mean square error of approximation (RMSEA) and standardized root mean residual (SRMR) are acceptable for the research model, based on the following criteria suggested by Hu and Bentler (1995, 1999): 0.94 for CFI and NNFI; 0.082 for RMSEA; and 0.087 for SRMR. Given that all goodness-of-fit indices were acceptable and the conceptual model was developed based on theory, model specifications do not need to be modified. Next, this study proceeded with the evaluation of the measurement model and structural path model.

### Measurement model evaluation

To have a quality model specification; this study assessed the quality and adequacy of the measurement model by investigating unidimensionality, reliability, convergent validity and discriminant validity. First, unidimensionality was assessed by applying principal component analyses to all items. Analytical results demonstrate that all items had loadings of 0.55 or higher on the hypothesized factors; thus, no profound cross-loading was identified via EFA, supporting the unidimensionality of each hypothesized construct.

For composite reliability, analytical results show that all Cronbach's alpha values exceeded the suggested 0.6 threshold (Bagozzi and Yi, 1988; Fornell and Larcker, 1981). Next, convergent validity was assessed by examining *t* statistics related to factor loadings in a CFA setting. The fact that all *t* statistics are statistically significant at the 0.05 level indicates that all indicator variables provided good measures of their respective construct, supporting evidence to convergent validity (Hoyle and Panter, 1995; Rao and Troshani, 2007). Moreover, the fact that the average variances extracted (AVE) for all constructs exceeded 0.50 (Tables 4 and 5) supports convergent validity (Fornell and Larcker, 1981;

Hair et al., 1998). Finally, discriminant validity was assessed using the procedure recommended by Anderson (1987) and Bagozzi and Phillips (1982). A battery of chi-square difference tests were applied to evaluate whether the chi-square values were significantly lower for unconstrained models when the phi coefficient was constrained to unity (Anderson, 1987). The critical values for the chi-square difference at the 0.05 significance level exceeded 3.84 for all possible pairs of constructs; this outcome supports discriminant validity. Thus, we conclude that hypothesized constructs conform to literature and are supported by reliability and validity standards. Tables 4 and 5 present assessment of overall model fit and summarizes the proposed research hypotheses. Figure 2 and Table 7 show the estimated coefficients of the hypothesized model; statistically significant path coefficients are represented by solid lines. Notably, all significant relationships between latent constructs match the hypothesized directions, except for H<sub>1</sub>, Familiarity → Internet privacy concern; H<sub>4</sub>, Internet privacy concern → Trust in SNSs; H<sub>5</sub>, Internet privacy concern → information sharing; H<sub>6</sub>, Internet privacy concern → Trust in other members; H<sub>10</sub>, trust in other members → Development of new relationships; and H<sub>14</sub>, information sharing → Development of new relationships.

In the research model, familiarity consistently leads to trust in other members, trust in SNSs, and switching cost, thereby supporting H<sub>2</sub>, H<sub>3</sub> and H<sub>11</sub>. Trust in SNSs leads to information sharing and development of new relationships, thereby supporting H<sub>7</sub> and H<sub>8</sub>. Subsequently, trust in other members leads to information sharing, supporting H<sub>9</sub>. Specifically, switching cost consistently leads to information sharing and development of new relationships, supporting H<sub>12</sub> and H<sub>13</sub>.

### Conclusions

The main purpose of SNSs is to create happiness and fun. This study started from the viewpoint of familiarity, privacy concern, trust in sites, trust in site members and switching costs, and discussed their effects on information sharing and the development of new relationships. According to the analytical results, relationships existed between familiarity, privacy concern, and trust in sites, trust in site members, switching costs, information sharing, and development of new relationship. Based on the 650 valid questionnaires collected from survey, the relevant research conclusions and implications are discussed as follows.

#### ***Familiarity influence trust in sites, other members of sites and switching cost***

Analytical results indicate that familiarity has the largest



**Table 4.** The survey Instrument 1.

Item	Item-construct loading		Cronbach's alpha	AVE	u
	Standardized	t-statistic			
Privacy concern					
1. In general, how concerned are you about your privacy while you are using the Internet?	0.55	-			4.04
2. Are you concerned about online organizations not being who they claim them to be?	0.59	26.13			4.02
3. Are you concerned that you are asked for too much personal information when you registering or making online purchases?	0.57	17.70			4.02
4. Are you concerned about online identity theft?	0.60	11.85			4.09
5. Are you concerned about people online not being who they say they are?	0.64	12.35			4.03
6. Are you concerned that your information about you could be found on an old computer?	0.69	13.00			4.12
7. Are you concerned who may access your medical records electronically?	0.67	14.51			4.06
8. Are you concerned about people you do not know obtaining personal information about you from your online activities?	0.71	16.42	0.82	0.76	4.11
9. Are you concerned that if you use your credit card to buy something online, your credit card number will obtain / intercept by someone else?	0.63	13.71			4.12
10. Are you concerned that if you use your credit card to buy something online; your card will be mischarged?	0.66	12.65			4.10
11. Are you concerned that an email you send may be read by someone else other than the person to whom you sent it?	0.67	12.81			4.00
12. Are you concerned that an email you send to someone may be forwarded to others?	0.70	13.14			4.01
13. Are you concerned that an email you send to someone may be printed in a place where others can see it?	0.76	13.78			4.07
14. Are you concerned that a computer virus could send out emails in your name?	0.81	14.21			4.13
15. Are you concerned about emails you receive not being from whom they say they are?	0.76	13.71			4.10
16. Are you concerned that an email containing a seemingly legitimate Internet address may be fraudulent?	0.74	13.51			4.19
Trust in site					
1. Based on my experience with my Facebook provider, I know it is honest.	0.82	-			3.61
2. Based on my experience with my Facebook provider, I know it cares about customers.	0.85	43.66			3.56
3. Based on my experience with my Facebook provider, I know it provides a good service.	0.84	24.63	0.92	0.78	3.62
4. Based on my experience with my Facebook provider, I know it is predictable.	0.75	20.89			3.73
5. Based on my experience with my Facebook provider, I know it is trustworthy.	0.84	24.46			3.71
6. I feel that the privacy of my personal information is protected by the Facebook.	0.77	21.66			3.71
7. I trust that the Facebook will not use my personal information for any other purposes.	0.72	19.99			3.70
Trust in other members					
1. I believe most profiles I view on SNSs are exaggerated to make the person look appealing.	0.79	-			3.79
2. I worry that I will be embarrassed by incorrect information others post about me on SNSs.	0.88	17.23	0.73	0.71	3.84

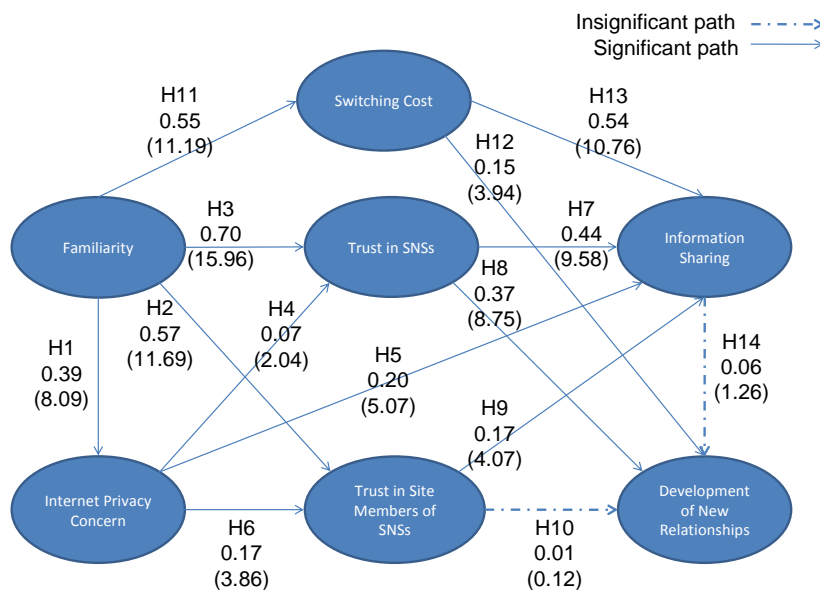
Table 5. The survey instrument 2.

Item	Item-construct loading		Cranach's alpha	AVE	u
	Standardized	t-statistic			
<b>Familiarity</b>					
1. I am familiar with the Facebook through articles and advertising.	0.87	27.08	0.85	0.82	3.83
2. I am familiar with the Facebook through visiting relevant websites.	0.88	27.58			3.87
3. I am familiar with the Facebook through online socializing.	0.82	24.90			3.91
4. I am familiar with the service and function provided by my Facebook.	0.70	19.82			3.88
5. I am familiar with the operating process of the Facebook.	0.69	19.53			3.88
<b>Information sharing</b>					
1. I will keep using a Facebook to contact old friends.	0.69	-	0.81	0.74	3.92
2. I will keep using a Facebook to contact new friends.	0.73	28.04			3.91
3. I will keep posting text on a Facebook to share my personal information.	0.83	19.58			3.89
4. I will keep posting photographs on my Facebook to share my personal information.	0.86	21.10			3.93
5. I will keep uploading files to my Facebook to share my personal information.	0.79	18.70			3.95
6. I have my photograph on my profile Facebook.	0.68	18.24			3.98
7. I have my real name on my Facebook profile.	0.72	17.85			3.92
8. I have my hometown on my Facebook profile.	0.70	16.71			3.98
9. I have my e-mail address on my Facebook profile.	0.71	16.98			3.92
10. I have my cell phone number on my Facebook profile.	0.59	14.25			3.80
11. I have my relationship status on my Facebook profile.	0.72	17.17			4.00
12. I have my sexual orientation on my Facebook profile.	0.72	17.19			4.07
13. I have my MSN screen name on my Facebook profile.	0.59	15.32			3.55
<b>Development of new relationships</b>					
1. I contact friends through MSN after meeting them using an SNS.	0.70	-	0.91	0.86	3.57
2. I contact friends face to face after meeting them using an SNS.	0.68	27.88			3.59
3. I contact friends after meeting them by using SNS through email.	0.81	18.86			3.68
4. I contact friends by telephone after meeting them on an SNS.	0.89	20.49			3.65
5. I contact friends after meeting them on an SNS by the SNS.	0.89	20.56			3.71
<b>Switching costs</b>					
1. If I switched providers, I might lose the friendships, I have developed.	0.61	-	0.86	0.78	3.69
2. If I switched providers, I might lose an important personal relationship.	0.62	34.34			3.67
3. If I switched providers, I might be very uncomfortable telling friends that I am leaving.	0.65	21.75			3.61
4. Staying with my provider allows me to get discounts and special deals.	0.63	13.56			3.67
5. Staying with my provider saves me money.	0.62	13.29			3.66
6. Staying with my provider allows me to get extra benefits.	0.68	14.43			3.69
7. If I switch providers, I might have to learn new routines and ways of doing things.	0.91	17.35			3.63
8. If I switch providers, it might be a hassle.	0.88	17.03			3.60
9. If I switch providers, I might have to spend a lot of time finding a new provider.	0.88	17.01			3.64

Table 6. Goodness of fit statistics.

Model/construct	$\chi^2 / df$	GFI	RMSEA	NFI	NNFI	SRMR	CFI
CFA	4.62	0.89	0.058	0.96	0.95	0.048	0.97
Path analysis	5.39	0.82	0.082	0.93	0.94	0.087	0.94
Suggested values	<5	>0.8	<0.1	>0.9	>0.9	<0.1	>0.9

influence on trust in an SNS ( $\gamma=0.7$ , H3), followed by trust in site members ( $\gamma=0.57$ , H<sub>2</sub>), switching cost ( $\gamma=0.55$ , H<sub>11</sub>)



Note: Numbers in the parentheses are path coefficients, others are t-values.

Figure 2. Empirical results of the conceptual framework. Numbers in the parentheses are path coefficients, others are t-values.

Table 7. Results of the proposed model.

Causal path	Hypothesis	Expected sign	Standardized path coefficient	t-value	Assessment (p < 0.05)
Familiarity→ Internet privacy concern	H <sub>1</sub>	-	0.39	8.09	ns
Familiarity→ Trust in site members	H <sub>2</sub>	+	0.57	11.69	S
Familiarity→ Trust in SNSs	H <sub>3</sub>	+	0.70	15.96	S
Internet privacy concern → Trust in SNSs	H <sub>4</sub>	-	0.07	2.04	ns
Internet privacy concern → Information sharing	H <sub>5</sub>	-	0.20	5.07	ns
Internet privacy concern → Trust in site members	H <sub>6</sub>	-	0.17	3.86	ns
Trust in snss → Information sharing	H <sub>7</sub>	+	0.44	9.58	S
Trust in snss → Development of new relationship	H <sub>8</sub>	+	0.37	8.75	S
Trust in site members → Information sharing	H <sub>9</sub>	+	0.17	4.07	S
Trust in site members → Development of new relationships	H <sub>10</sub>	+	0.01	0.12	ins
Familiarity→ Switching cost	H <sub>11</sub>	+	0.55	11.19	S
Switching cost → Information sharing	H <sub>12</sub>	+	0.15	3.94	S
Switching cost → Development of new relationships	H <sub>13</sub>	+	0.54	10.76	S
Information sharing → Development of new relationships	H <sub>14</sub>	+	0.06	1.26	ins

$\chi^2_{df}=5.39$ ,  $p=0.00$ ,  $RMSEA=0.082$ ;  $GFI=0.82$ ;  $AGFI=0.79$ ;  $CFI=0.94$ ;  $NNFI=0.94$ . “ns” means significant affection but not support the hypothesis. “ins” means insignificant affection.

and Internet privacy concern ( $\gamma=0.39$ ,  $H_1$ ). This means that the more users getting familiar with SNSs, regardless of whether this is through articles, advertising, visiting relevant websites, or socializing online, familiarity with services, function, and operating processes of SNSs increases. Subsequently, the number of SNS users who trust in an SNS increases, as does trust of other

members in SNSs. Additionally, the cost of switching SNSs increases. Furthermore, familiarity with SNSs has positively and significantly affects Internet privacy concern.

Therefore, the most involved SNS users are typically those most familiar with an SNS, and have the most Internet privacy concerns. Additionally, they are normally

those that have most trust in sites and trust in other site members. Further, SNS users highly involved in and familiarity with, the SNS are usually reluctantly to switch from SNS service providers with which they are familiar.

### ***Internet privacy concern influences information sharing and trust***

Internet privacy concern positively and significantly affects trust in other members ( $\beta=0.20$ ,  $H_5$ ), information sharing ( $\beta=0.17$ ,  $H_6$ ), and trust in SNSs ( $\beta=0.07$ ,  $H_4$ ); these empirical results run counter to. This means that Internet privacy concern influences the trust of SNS users in both sites and other site members. As Internet privacy concern increases, the amount of trust SNS users have in SNSs with which they are familiar increases, as does the amount of trust SNS users have in site members. As the Internet privacy concern of SNS users increases, their willingness to share information on an SNS they trust increases. This empirical evidence suggests that even though SNS users are highly concerned with their internet privacy, their level of trust in both SNSs and site members is high. Furthermore, their SNS behavior is positively associated with information sharing. Therefore, SNS users with high Internet privacy concern typically have a high degree of trust in the SNSs they use, and have considerable trust in site members. Moreover, SNS users with significant Internet privacy concern are highly willing to share information on SNSs they trust.

### ***Trust in social networking sites (SNSs), information sharing, and development of new relationship***

Trust in SNSs has positive and significant effects on information sharing ( $\beta=0.44$ ,  $H_7$ ) and the development of new relationships ( $\beta=0.37$ ,  $H_8$ ). Once SNS users believe that an SNS provider is honest, cares about its customers, provides good service, is predictable, trustworthy and feel that the privacy of their personal information is protected and that the SNS will not use their personal information for any other purpose, their intention to share information and develop new relationships increases. This means as trust in SNSs increases, the willingness SNS users have to share information and develop new relationships increases. Therefore, once SNS users trust in SNSs, they are typically willing to share additional information on SNSs. Furthermore, they are generally increasingly involved in developing new relationships via these sites.

### ***Trust in site members influences information sharing***

Analytical results indicate that trust in site members have positively and significantly affected information sharing

( $\beta=0.17$ ,  $H_6$ ), but only positively and insignificantly affects developing new relationships ( $\beta=0.01$ ,  $H_{10}$ ). The items that have the construct "trust in other members of SNSs" include "I believe most profiles I view on SNS are exaggerated to make the person look appealing," and "I worry that I will be embarrassed by incorrect information others post about me on SNSs." Therefore, whenever SNS users "believe most of profiles on SNSs are exaggerated to make the person look appealing" and "worry that they will be embarrassed by incorrect information others post about them on SNSs," their willingness to sharing information remains vigorous, but their intention to develop new relationships declines. This is a novel analytical result – SNS users do not automatically generate new social interaction though trust and the willingness to share information.

### ***Switching cost influences information sharing and development of new relationships***

Switching cost has a positive and significant impact on information sharing ( $\beta=0.54$ ,  $H_{13}$ ) and development of new relationships ( $\beta=0.15$ ,  $H_{12}$ ). Switching cost includes social switching costs, lost benefit costs, and procedural costs. Whenever SNS users decide to change their SNS, they may "lose friendships they developed on the SNS," "lose important personal relationships," "it might be very uncomfortable telling the SNS friends that they are leaving (social switching costs)," "staying allows them to get discounts and special deals," "staying saves their money," "staying allows them to get extra service benefits (lost benefit costs)," "they may have to learn new routines and ways of doing things," "it might be a real hassle," and "they might have to spend a lot of time finding a new SNS (procedural costs)". Therefore, SNS users who perceived higher switching costs as high share information, develop new friendships, and trust existing SNSs more than those who perceive switching costs as low.

### ***Information sharing and development of new relationship***

Most SNS studies only discussed the SNS "use," and only a few studies delved deeper using concrete concepts. This study divided the behavior when using an SNS into "information sharing" and "development of new relationships." Analytic results, indicate that information sharing did not have positive significant effects on the development of new relationship ( $\beta=0.06$ ,  $H_{14}$ ). Even though SNS users continue using an SNS to contact existing friends and make new friends; keep posting text, photographs and files to share their personal information; and post their photographs, real name, hometown, e-mail address, cell phone number, relationship status, sexual orientation and MSN screen name on their SNS profile,

this does not guarantee that SNS users will contact their SNS friends via MSN, face-to-face meetings, e-mail, telephone, or even through the SNS. Therefore, the behavior of information sharing on an SNS did not lead to the development of new relationships. The willingness to share information did not automatically translate into new social interactions.

## MANAGERIAL IMPLICATIONS

Social networking sites, which are relatively new Internet technology, have a significant impact on human social behavior and relationships, including interpersonal relationships, communication networks and commercial behavior. Via a reviewing of relevant literature, this study proposed a SNS behavior model, and surveyed a large cohort of college students in Taiwan. Analytical results reveal that familiarity, internet privacy concern, trust and switching cost have significant effects on SNS use behavior, such as information sharing and development of new relationships. The most interesting finding is that even though SNS users were highly concerned with internet privacy, their trust toward Facebook remains relatively high. Although trust toward other SNS users was low, the willingness to share information was significantly positive, yet insignificantly leads to the development of new relationships. Therefore, although users expressed very strong concerns about the privacy of their personal information and trusted both SNSs and site members, they were less than vigilant in protecting their personal information. While discussing the motivation of developing new relationship, analytical results reveal that trust in sites and switching costs are both positively and significantly influence the behavior of developing new relationships, whereas, trust in site members of SNSs and information sharing are not. This empirical result indicates that whenever users of Facebook trust Facebook providers and perceive the switching costs of switching SNSs they used are high, their motivation to develop new relationships in the existing SNSs is high.

As to information sharing and trust in site members of SNSs, empirical results support given SNSs users are eager for sharing information in the SNSs, and trust in site members of SNSs, both do not guarantee that SNSs users will develop more new relationships via SNSs.

After selecting Facebook, the most popular SNS, this study applied measures for familiarity, privacy concern, trust and switching cost to members of Facebook, and then investigated factors influencing user behavior. This will facilitate further research, such as determining how a site's culture or technical functionality influences user behavior.

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