Self-disclosure at social networking sites: An exploration through relational capitals

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Abstract In this research the authors examine member self-disclosure phenomenon at social networking sites. Self-disclosure enables member interactions, service customizations, and digital content generation and hence self-disclosure is imperative to the success of social networking sites. Drawing upon Social Capital Theory, we develop a succinct research model that examines the role of relational capitals in member disclosure behavior. This model also investigates the intricate relationships among relational capitals such as trust, reciprocity, and identification. This research model has been validated through survey data collected from 222 social networking site users and the analysis results provide strong support to the hypothesized relationships. The current study generates new knowledge on the exact role of relational capitals in sustaining social networking sites and it also informs the service providers of social networks to identify strategies that promote member disclosure.

Keywords Social networking · Social capital · Trust · Reciprocity · Identification

1 Introduction

Social networking sites have thrived since the recent years. Examples of networking sites are such as Facebook, Myspace, and FriendFinder. Boyd and Ellison (2007) defined social networking site as web-based services that

R. Chen (⊠) · S. K. Sharma Information Systems and Operations Management, Miller College of Business, Ball State University, Muncie, IN 47306, USA e-mail: rchen3@bsu.edu allow individuals to "(1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system". Social networking sites offer a platform for online users to interact with one another and to maintain interpersonal relationships. The ubiquitous computing technologies such as smart phones further fuel the growth of social networking sites. Millions of Internet users are now members of one or more networking sites. Facebook for example attracts more than 500 million active users who spend over 700 billion minutes per month on the site (Facebook 2010). The success of social networking sites has tremendous implications as it opens brand new frontier for business. In 2007, for example, 48% of brand marketers have deployed marketing on social networking sites. Educators nationwide have also tapped into the potentials of social networking sites on education as schools are increasingly using these sites in "pushing learning beyond the borders of the classroom" (Davis 2010). Government agencies across Federal, State, county and municipal levels have likewise invested in social networking sites to interact with the public. A recent report by Human Capital Institute finds that 66% of government agencies have adopted social networking sites as a preferred channel (HCI 2010).

Academia has recognized the significance of social networking sites as well. Several research streams of social networking sites exist, yet less is known as to why online users disclose themselves. Self-disclosure refers to any personal information one shares with the others and it may include "any information exchange that refers to the self, including personal states, dispositions, events in the past, and plans for the future" (Derlega and Grzelak 1979). New knowledge in this regard is imperative to the long-term

sustainability of social networking sites (Jia et al. 2010). Self-disclosure fosters friendships among site members. Draper et al. (Draper et al. 2008) noted that "friendship is influenced by the self-disclosure, regardless of the content, because it signifies trust." Through an experiment with 65 subjects, Walker and Wright (1976) confirmed that the level of friendship increases as a function of self-disclosure. Collins and Miller (1994) put "self-disclosure plays a central role in the development and maintenance of relationships." Through meta-analysis procedures, they confirmed that people who disclose more will be liked more than people who disclose less. Through a study involving cross-sex friendships, Morry (2005) found that self-disclosure is positively related to friendship closeness and satisfaction. Lampe et al. (2007) also found that Facebook users who populate their profile fields tend to have more friend connections. Lo (2010) added that "one common goal of SNSs is forming connections among users. To facilitate the formation of these connections, users must be willing to provide others with certain information about themselves (e.g. by populating their profile information) so that their friends and acquaintances can search for, identify, and connect with them. This holds true for the development of new relationships as well."

Self-disclosure generates user-generated contents. Member self-disclosure results in user generated contents such as commentaries, photos, videos, etc. User generated contents from member self-disclosure lays the foundation of social networking sites. In the case of Facebook, for example, an average user creates 90 pieces of content each month and, collectively, more than 30 billion pieces of user generated contents (web links, news stories, blog posts, notes, photo albums, etc.) are shared each month. Trepte and Reinecke (2010) put "there is no Web 2.0 without self-disclosure in virtual public spaces." Pike et al. (2009) suggested that user-generated content, the outcome of self-disclosure, "is key to the success of social networks." Jia et al. (2010) commented that "With SNSs, people's social networks are expanded by connecting to others with shared interests or values based on other users' self-disclosed personal information. Business organizations can mine the personal information embedded in SNSs to identify potential customers to generate revenues. However, the benefits of SNSs cannot be completely achieved if their users do not disclose enough personal information."

Self-disclosure contributes to the growth of user pool. Pike et al. (2009) put "Business models utilizing social networking technologies rely on individuals being willing to engage in self-disclosure because the disclosures attract new and returning users." Bateman et al. (2011) also suggested that the social networking organizations "need the disclosures to attract new and returning users." Jia et al. (2010) commended that self-disclosures "attract numerous users, which leads to the sustainable development and prosperity of these sites."

To date prior literature has explored the self-disclosure inhibitors such as privacy and risk (Krasnova et al. 2009; Lo 2010; Lo and Riemenschneider 2010; Xu et al. 2010). Yet little is known about those impetuses that encourage self-disclosure behavior. The current study attempts to fill this research gap. The current study answers the research question of "What are the key motivators of user selfdisclosure at social networking sites?" Drawing upon Social Capital Theory (Adler and Kwon 2002), we develop and validate a succinct research model that provides preliminary answer to this question. This research makes a twofold contribution. First, it validates the important role of relational capitals in cultivating voluntary self-disclosure at networking sites. Relational capitals are not well studied in the literature of social networking sites. In their seminal work, Nahapiet and Ghoshal (1998) introduced the relational dimension of social capital. Chiu et al. (2006) further refined the relational dimension of social capital and identified trust, reciprocity, and identification as the pertaining theoretical constructs. To the best of our knowledge, the current study is the first one that completely follows Chiu et al.'s manifestations of the relational dimension of social capital and applies them to the study of self-disclosure at online networking sites, reflecting more accurately the importance of social capital in studying users' voluntary online behavior. Through survey data that is collected from 222 social networking site members, we find evidence that relational capitals such as reciprocity, trust, and identification strongly enhance self-disclosure behavior of site members.

Second, the current study makes a noticeable contribution by uncovering the internal relationships among relational capitals such as trust, reciprocity, and identification. While these constructs have been studied in the literature in their own rights, the systematic involvement of these constructs in one single research is strictly guided by the existing literature in social capital theory which recognizes the underlying psychological mechanisms integrating together these constructs (Chiu et al. 2006). While the three capitals may individually affect end user behavior, their internal relationships are not known to the literature (Kankanhalli et al. 2005).

In our study, we have developed and validated the potential associations among trust, reciprocity, and identification. Analytical results of survey data find that reciprocity and trust significantly enhance community identification and that reciprocity fosters the development of trust. The current study thus fills the research gap and expands our understanding of these three constructs within the theoretical framework of social capital theory. The rest of the paper is organized as follows: the subsequent section reviews the literature in social networking sites as well as the theoretical underpinning of the current study. Next we present the research model along with a set of research hypotheses. This is followed by research methodology and data analysis. We conclude the paper by discussing its theoretical and managerial implications and also offering suggestions for future research.

2 Literature review and theoretical development

2.1 Prior studies in social networking site

To date a number of research streams exist in the domain of social networking sites. One stream of research has examined site user self-presentation, impression management, and reputation management. Boyd (2004) conducted an ethnographic fieldwork on Friendster to study individuals' presentation of self and the status quo of presentation accuracy. Marwick (2005) summarizes the typical strategies that individuals adopt in constructing creative profiles, along with the impacts of these strategies on the collection of business intelligence. Others have explored the typology of social networks and their development. Through an examination of 362 million messages by 4.2 million Facebook users, Golder et al. (2007) analyzed the network structure of social relationships as well as the temporal rhythm of relationship expansion. Based on 30,773 user profiles, Lampe et al. (2007) investigated the associations between member profile attributes and the development of friendships at Facebook. Further research has explored user adoption of social networking sites. Sledgianoski and Kulviwat (2008) discovered the effect of playfulness, critical mass, trust, and normative pressure on the use of social networking sites. Rosen and Kluemper (2008) inspected the impact of the big five personality traits on the acceptance of social networking website. Hu and Kettinger (2008) developed a usage continuance model of social networking services to understand continued usage behavior and the enduring impacts of these services. When self-disclosure is concerned, the existing literature has mostly focused on the potential inhibitors and found that risk concerns significantly reduce self-disclosure (Krasnova et al. 2009; Lo 2010; Lo and Riemenschneider 2010; Xu et al. 2010). Yet little is known about the set of self-disclosure motivators in the social networking context. New research is therefore warranted.

2.2 Theoretical background

Social Capital Theory (SCT) is one of the most influential sociological theories that explore social relationships (Adler and Kwon 2002). In its essence, SCT suggests that the

behaviors of individual members in a social network are strongly influenced by the presence of social capital. Social capital is defined as those resources inherent in social relations that facilitate collective action and mutual benefit of parties within the networks. Unlike other forms of capital that are based on assets or individuals, social capital "resides in the fabric of relationships between individuals and in individuals' connections with their communities" (Wasko and Faraj 2005). By capitalizing social capital, individuals are able to increase the depth, breadth, and efficiency of interpersonal interactions. Nahapiet and Ghoshal (1998) categorize social capital into three categories: structural, relational, and cognitive dimension. Structural dimension captures the existing relationships that offer the opportunity for acquiring resources or acting together; the relational dimension includes the motivation of members to interact and act collaboratively; and the cognitive dimension assesses the ability of individuals to act together (Nahapiet and Ghoshal 1998). The current study explores the motivations in self-disclosure and hence we focus on relational dimension of social capital and investigate its potential impacts in shaping the extent of self-disclosure.

Prior literature considers trust, reciprocity, and community identification as the key assets in relational capital (Chiu et al. 2006; Nahapiet and Ghoshal 1998). Trust is defined as the expectation that the other party will act predictably, will fulfill its obligations, and will behave fairly even when the possibility of opportunism is present. Reciprocity refers to a shared understanding on continuing relationships of exchange and it involves mutual expectations that a benefit granted now will be repaid in the future. Community identification is defined as own conception of self with respect to the defining features of a social group. Existing literature has examined the behavioral impact of relational capitals within contexts other than self-disclosure at social networking sites. Findings of these studies are unfortunately inapplicable to this new frontier. For example, relational capitals have been found important in affecting knowledge sharing in organizations and communities (Chiu et al. 2006; Wasko and Faraj 2005). Yet self-disclosure drastically differs from knowledge sharing considering the sensitive nature of the information released. Information revealed in self-disclosure in general contains personal identification, private interest, and preference of life style. And thus, existing knowledge of relational capital can't be generalized to predict selfdisclosure behavior in social networking sites.

Studies of relational capital in self-disclosure at social networking context are scanty. Within the domain of social networking sites, relational capitals have only been studied in a very limited manner. Hu and Kettinger (2008) discussed relational social in their exploration of why people continue to use social networking sites, yet their research model did not examine any of the conventional relational capital constructs. Chai et al. (2008) considered relational capitals in studying blogger knowledge sharing, but their research model only examined the role of trust. In the current research, we synthesize the relevant literature and theorize the connection between relational capitals and self-disclosure at networking sites. Findings in this regard will make a noticeable contribution to the social networking literature. We also explore the internal relationships among trust, reciprocity, and community identification. The theoretical conceptualizations of these relational capitals are unlike yet prior social capital literature has seldom explored their internal relationships. New knowledge that uncovers the interplays will contribute to SCT literature. Lastly we are interested to explore whether the impacts of relational capitals on self-disclosure are uniform across all user groups. We expect that user attributes may affect the influences of relational capitals on online user behavior.

3 Research model and hypotheses

In this section we elaborate the development of research model as well as the research hypotheses. Illustrated in Fig. 1, our research model suggests that relational capitals such as community identification, reciprocity, and trust directly affect voluntary self-disclosure at social networking sites. The model also posits that reciprocity and trust jointly cultivate community identification. Additionally the model postulates a direct association between trust and reciprocity, suggesting that trust may improve member perception of reciprocity in a social networking site.

Nahapiet and Ghoshal (1998) suggested that "*identification is the process whereby individuals see themselves as one with another person or group of people*". Identification reflects the sense of belonging and positive feeling towards a group or community (Chiu et al. 2006). It acts as a bonding resource among social entities and influences the members' motivation to participate into communal activities. Stronger identifications are associated with cooperative and pro-social behaviors called citizenship behavior (Tyler and Blader 2000). Organ

Trust H2(+) H6(+) H5(+) Reciprocity H3(+)

Fig. 1 Theoretical model of social networking site use

(1988) defined citizenship behavior as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization." Lambert (2006) added that citizenship behavior is "a behavior that (a) goes beyond the basic requirements of the job, (b) is to a large extent discretionary, and (c) is of benefit to the organization." As discussed in paper introduction, member self-disclosure adds strategic value to the prosperity of social networking sites. The more a member is willing to reveal (e.g., text, video, and audio), the greater success a networking site will have, in respect to the growth of onsite friends hips, user generated contents, and member size. Self-disclosure is not a required member activity at a networking site; it is voluntary behavior that is driven by individual discretion; and it generates benefits to the social networking site as a whole. In line with Organ (Organ 1988) and Lambert (2006), therefore, members' voluntary self-disclosure is considered as a citizen behavior. When members perceive strong social unity and togetherness (i.e., identification) with a networking site, they are more motivated to engage in citizen behavior such as self-disclosure. That is, the members elevate their activeness and contribute more to the site through a greater extent of self-disclosure. Therefore we hypothesize:

H1 Community identification will positively relate to self-disclosure

Trust is critical when social interactions involve uncertainty and incomplete information (Ba and Pavlou 2002; Cazier et al. 2007). The two conditions are present in voluntary self-disclosure at social networking sites since personal privacy is exposed to strangers that cannot be verified due to the lack of social cues (Reidl et al. 2010). Existing literature suggests that trust is a precondition for self-disclosure because trust facilitates the reduction of perceived risks that are entailed in revealing private and sensitive information (Jarvenpaa et al. 2000; Metzger 2004). Rawlings (1983) noted that individuals bear high levels of vulnerability to be incurred in self-disclosure when the perceived trust in the recipient is high. Nickel and Schaumburg (2004) also suggested that "how much information is shared is highly dependent on the person's trust in the other party [or parties". Dwyer et al. (2007) found that Facebook users expressed greater trust in Facebook members than MySpace users did in MySpace and thus Facebook users were more willing to share information on the site. As a consequence we hypothesize:

H2 Trust will positively relate to self-disclosure

Reciprocity is a form of conditional gain and social members have a general expectation of future return (Blau 1964). Reciprocity is vital to sustain social relationships that exchange resources, either tangible (*e.g.*, goods) or

intangible (e.g., personal information). Social Exchange Theory suggests that members of online communities strike the balance between costs and benefits that are invested in a relationship (Molm 1997). In the context of social networking sites, reciprocity leads one to firmly believe that the others will appreciate own disclosure and in return reveal themselves, join mutual interaction, and offer assistance when needed. While self-disclosure risks personal privacy, reciprocity justifies the social exchange considering the expected gains. Moon (2000) has noted that "[t]here is substantial evidence that people will engage in intimate self-disclosure—even with relative strangers—if they first become the recipients of such disclosure from their conversational partners". Thus we expect that perceived reciprocity of the others affects one's self disclosures at social networking sites such that "disclosure begets disclosure" (Moon 2000).

H3 Reciprocity will positively relate to self-disclosure

Individuals derive their self and social definitions through the community in which they reside (Dutton and Dukerich 1991). Mael and Ashforth (1992) suggested that community identification is higher among individuals who believe their community has a favorable quality. Riketta (2005) found that feeling positive about one's community is among the strongest factors that link to a stronger identification. Social networking sites share with the other types of communities, either online or offline, in accommodating users for friendship and enjoyment. When one senses that the members of a networking site are characterized with premium qualities such as a high level of reciprocity and trust, one will be likely to develop a favorable feeling towards the specific networking site, and consequently build a greater attachment and community identification. We therefore hypothesize:

- H4 Trust will positively relate to community identification
- H5 Reciprocity will positively relate to community identification

Despite of the theoretical importance of trust and reciprocity, surprisingly little is known about their association in the context of social relationships. Social Penetration theory suggested that reciprocity is an effect way to build trust (Altman and Taylor 1973). Derlega et al. (1993) noted that one being willing to reciprocate allows the others to test successively deeper levels of interactions and thereby build trust in incremental steps over time. That is, a perception of reciprocity precedes the development of trust in a social setting. At the absence of reciprocity, however, social members may decline to interact with each other and consequently miss the opportunity to build interpersonal trust. Similarly, trust literature suggests that a confident expectation encompassing a beneficial outcome such as reciprocated return from the others directly contribute to the development of trust (Ba and Pavlou 2002; McKnight and Chervany 2000). And thus we expect:

H6 Reciprocity will positively relate to trust

The existing literature suggests that site use experience may influence individual online behavior within the context of social networking sites (Tow et al. 2008). We therefore consider site use experience as a control variable in the main research model.

4 Research methodology

The research model was tested using survey data. We collected survey responses from two hundred and twenty two undergraduate students who took undergraduate courses at a large institution in Midwest of the United States. College student is a significant segment of social networking site users. A recent Pew survey shows that college students present the largest portion of Facebook users (Lenhart et al. 2010). Also 85% U.S. college students use Facebook (2010). And thus student sample is appropriate for the current research. The respondents were recruited from four undergraduate courses that were offered in a business college. The samples consist of business and non-business major undergraduates and the samples are therefore heterogeneous. Respondents were guaranteed both confidentiality and access to the aggregated survey results. Participation in the survey was voluntary. Table 1 provides the descriptions on respondent demographic information.

Measurement items for the principal constructs in this study were all borrowed directly from existing measures to ensure validity. The items were measured in 7-likert scale. In Table 2, we present the list of measurements along with their sources in the existing literature.

5 Analysis and result

We tested the research model using structural equation modeling analysis. We employed partial least squares (PLS) which uses a component-based approach for estimation and places minimal restrictions on sample size and residual distributions. PLS is best suited for testing complex relationships by avoiding inadmissible solutions and factor indeterminacy (Chin 1998). PLS also supports exploratory research. Our paper studies an important yet understudied research perspective (i.e., the three relational capitals) in the context of social networking sites; PLS is therefore appropriate.

Table 3 reports the correlation matrix, the AVEs, and the descriptive statistics of the principal constructs. Measurement reliability was assessed using composite reliability (Werts et al. 1974) and Cronbach's alpha (Cronbach 1971).

Table 1 Demographic information

Gender	60% male and 40% female.
Age	20 on average. 98% respondents are within age group 18–24.
Year of experience in computer usage	10.6
Year of experience in Internet usage	9.2
Membership of social networking sites (in case of multiple memberships,	Facebook: 95% respondents;
only choose the one that is the strongest)	MySpace: 3% respondents;
	Friendster: 2% respondents
Use experience on the identified social networking site	35 months on average

Fornell and Larcker (1981) suggested that a composite reliability of .70 or greater is considered acceptable for research. Nunnally suggested that a Cronbach's alpha of .70 or greater is considered acceptable (Gefen et al. 2000; Nunnally 1976). As in Table 3, the internal consistencies of all variables are considered acceptable, signifying satisfactory reliability.

Convergent and discriminant validity are inferred when (1) the square root of each construct is larger than its correlations with the other constructs (i.e., the AVE shared between the construct and its indicators is larger than the AVE shared between the construct and the other items); (2) all AVEs are greater than .50; and (3) the PLS indicators load much higher on their hypothesized construct than on other constructs (i.e., own loadings are higher than cross loadings) (Chin 1998). As shown in Table 3, the square roots of the AVE are all greater than 0.5 and greater than all other cross correlations, indicating that the variance explained by each construct is much larger than the measurement error variance. As in Table 4, all items load high on their own constructs. These tests validate the measurement properties of principal constructs.

The research data was collected from a single survey and therefore we checked for the extent of common method bias. First, the Harman's one-factor test was performed by including all the variables in a principal components factor analysis (Podsakoff et al. 2003). Common method bias exists when one single factor emerges or when one factor accounts for the majority of the covariance among the variables. The results showed that none of emergent factors explain the majority of the covariance. Second, the partial correlation method was performed by adding the highest factor that was produced in principal component factor analysis into the PLS model as a control variable on dependent variables. This control variable contains "the best approximation of the common method variance if is a general factor on which all variables load" (Podsakoff and Organ 1986, p.536). This factor did not significantly increase the variance explained in dependent variables, indicating no common method bias. Third, the correlation matrix was examined for highly correlated factors. The common method bias exists when there exist extremely high correlations (r > .9). Table 4 does not reveal such evidence.

Table 2 Measurements of principle constructs	Table 2	Measurements	of	principle	constructs
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Trust (Chiu et al. 2006)	1. Members in this social networking site will not take advantage of the others even when the opportunity arises.				
	2. Members in this social networking site will always keep the promises they make to one another.				
	3. Members in this social networking site are truthful in dealing with one another.				
	4. Members in this social networking site will not knowingly do anything bad to each other.				
Community Identification	1. I have the feeling of togetherness or closeness in this social networking site.				
(Chiu et al. 2006)	2. I am proud to be a member of this social networking site.				
	3. I have a strong attachment towards this social networking site.				
Reciprocity (Chiu et al. 2006; Wasko and Faraj 2005)	1. I know that other members in this social networking site will share information with me if I need it.				
	2. I know that other members in this social networking site will communicate with me if I need it.				
	3. I know that other members in this social networking site will interact with me if I need it.				
	4. I know that other members in this social networking site will help me if I need it.				
Self-Disclosure	1. My profile tells a lot about me.				
(Al-Natour et al. 2009; Krasnova et al. 2009)	2. From this social networking site, it is easy to find out my personal interest and preference.				

Table 3 Descriptive statistics, correlations, and average variance extracted	Princ	cipal construct	Mean	Std	CR	CA	1	2	3	4
	1	Identification	4.24	1.20	.91	.85	.88	0	0	0
CR Composite Reliability, CA	2	Trust	3.16	1.29	.94	.92	.37	.90	0	0
Cronbach's Alpha	3	Reciprocity	4.91	1.08	.94	.89	.41	.18	.89	0
The diagonal elements (in bold) represent the square root of AVE	4	Self-Disclosure	3.94	1.56	.92	.83	.33	.30	.20	.92

5.1 Structural model

The PLS path coefficients are shown in Fig. 2. All these paths are statistically significant, except the impact of control variable use experience on self-disclosure. The structural model explains 13% of the variance in self-disclosure, 26% of variance in community identification, and 3% of variance in reciprocity. The theoretical model thus offers satisfactory explanatory power in capturing online self-disclosure behavior.

The PLS results find that community identification (b=.19, p<.01), trust (b=.15, p<.05), and reciprocity (b=.13, p<.05) jointly affect voluntary self-disclosure by members of a social networking site. Hypotheses 1, 2, and 3 are therefore supported. Further, trust (b=.31, p<.001) and reciprocity (b=.36, p<.001) are found to positively affect an individual's perception of community identification. Hypotheses 4 and 5 are thus supported. Finally the results indicate that reciprocity (b=.18, p<.01) enhances trust, supporting hypothesis 6. Overall the results provide strong evidence to support the research model that is proposed.

6 Discussion and conclusion

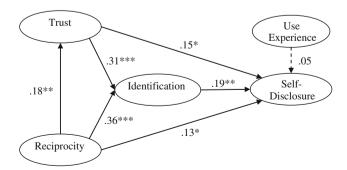
Social networking sites provide an open platform to accommodate online users and enable them to develop

Table 4 PLS item cross-correlation

	Trust (TR)	Identification (ID)	Reciprocity (RP)	Self-Disclosure (SD)
TR1	.86	.34	.18	.26
TR2	.91	.29	.15	.30
TR3	.92	.37	.19	.26
TR4	.90	.32	.12	.24
ID1	.37	.90	.38	.37
ID2	.33	.87	.34	.23
ID3	.26	.86	.36	.23
RP1	.26	.46	.91	.21
RP2	.18	.33	.90	.15
RP3	.04	.27	.87	.18
RP4	.10	.35	.87	.17
SD1	.31	.33	.16	.94
SD2	.23	.26	.22	.91

interpersonal networks. Social networking sites continue increasing in popularity. The latest Pew survey show that worldwide 47% of online adults use social networking sites and 73% of teens and young adults are a member of at least one social network (Lenhart et al. 2010). A 2010 Nielsen report found that the world now spends over 110 billion minutes on social networks and the numbers of people visiting these sites increased by 24% over last year (Nielsen 2010). To sustain the success of a social networking site, it is important that website members reveal themselves to initiate social interactions and propel the expansion of personal networks. In addition, self-disclosure enables personalized services, offer target marketing, and encourage digital content generation. Despite of its strategic importance, self-disclosure may be challenged due to the risky Internet environment and its extent at social networking sites is inhibited. Recent studies have confirmed that nowadays online users are reluctant to reveal themselves when they initiative relationships through social networking sites (Park et al. 2009). Drawing upon SCT, the current study employs relational capitals to explore the source of motivation on self-disclosure. We develop a research model to posit that trust, reciprocity, and community identification are the key instigators that drive individuals in selfdisclosure engagement. Further, the research model postulates that trust and reciprocity jointly influence the community identity and that reciprocity instills trust. We collect survey data from 222 social networking site users to validate the research model and find support on all the research hypotheses.

Social networking sites present an emerging research area in the IS field. Yet the research findings in this area are



*: p<.05; **: p<.01; ***: p<.001;

Fig. 2 PLS results

lacking. Take Information Systems Frontier (ISF) for example. Published articles that examine voluntary online user behavior on social networking sites include only Massari (2009) which provided an analysis of MySpace user profiles. New endeavors that further our understanding in social networking sites are warranted. While there are alternative mechanisms that help understand on-line selfdisclosure, the social capital oriented mechanism has received little attention in the literature. Social networking sites represent an online social community that is enabled by Internet and thus SCT is highly relevant to this research context in explaining the behavior of online community members. Prior literature in social networking site has however largely ignored SCT. To this end, the current study fills the research gap by examining this pertinent theoretical mechanism and validating its importance. Additionally, the current study generates new findings as it uncovers the internal relationships among the three relational capitals. Existing literature in SCT has overlooked these intrinsic associations and our study fills this research gap. Altogether, the current study makes meaningful contributions to the literature.

This study also informs practice. Member self-disclosure adds vital support to the sustainable success of networking sites and the website managers may stimulate the extent of member self-disclosure by cultivating the three relational capitals. To increase member reciprocity, a website may offer positive reinforcement (e.g., virtual currency) towards members who reciprocate the favors of the others. Literature also suggested that organizations may boost member reciprocity by creating greater commonality or mutuality of social goals (Williams 1996); As to social networking sites, website campaigns that advocate reciprocal social exchange for improved community may substantially help. In addition, a website may consider heightening community identification that is held by its participants. To this end, a website can honor users for their continuous participation and offer recognitions or rewards, which is suggested to strengthen the attachment between users and the community (Chiu et al. 2006). Finally, a website may lift the perceived member trust. Reputation systems that validate user credibility and monitor individual ethnical conducts may be implemented to encourage trustful behavior of the community (Zheng and Jin 2009).

Our study has certain limitations that should be noted. First, the current study utilizes self-reported survey data to assess Internet users' self-disclosure behavior at a networking site. In his study of social networks, Whinston (2009) noted that self-reported "reveal information that the user is willing to provide which might be biased or even inconsistent with her actual opinion or behavior". Future research may employ objective measurements to assess the actual disclosure of the research samples. Second, future study may develop a comprehensive model that involves both stimulus and inhibitors of self-disclosure and investigate their joint impact on disclosure behavior. A study as such will allow the researchers to capture any interactions between the two sets of predictors and better understand this phenomenon. Third, new research may employ samples of a wider diversity. While college students present the largest portion of Facebook users, teenagers and adults over age 22 are all actively engaged in Facebook. It is important to validate the research model among these populations and to identify whether the impetus of self-disclosure are uniform across different age groups. In addition, future study may adopt alternative theoretical frameworks to build an improved research model that explains online self-disclosure in the context of social networking sites. Next, more mechanisms on self-disclosure should be explored in future studies. Future endeavors like these will augment the current exploratory study to broaden the horizon in this growing research field. Lastly, the current study employs a cross-sectional design which gives no indication of the sequence of events and is limited in its ability to infer causality. To this end, alternative research designs (e.g., experiment or longitudinal design) may be adopted to further our understanding. Finally, the current research model examines the direct relationships between relational capitals and self-disclosure. Future research may also theorize potential mediating effects within the relational capitals and to empirically validate them.

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References

- Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. Academy of Management Review, 27(1), 17–40.
- Al-Natour, S., Benbasat, I., and Cenfetelli, R. (2009). "The antecedents of customer self-disclosure to online virtual advisors," International conference on information systems.
- Altman, I., & Taylor, D. A. (1973). Social penetration: The development of interpersonal relationships. New York, NY: Holt, Rinehart, & Winston.
- Ba, S., and Pavlou, P.A. (2002). "Evidence of the effect of trust building technology in electronic markets: Price premiums and buyer behavior," *MIS Quarterly* (26:3), pp 243, 226.
- Bateman, P. J., Pike, J. C., & Butler, B. (2011). To disclose or not: Publicness in social networking sites. *Information Technology & People*, 24(1), 78–100.
- Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: John Wiley & Sons.
- Boyd, D. (2004). "Friendster and publicly articulated social networks," ACM conference on human factors in computing systems, New York, NY.

- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communications*, 13(1), 210–230.
- Cazier, J. A., Shao, B. B. M., & Lous, R. D. (2007). Sharing information and building trust through value congruence. *Information Systems Frontiers*, 9(5), 515–529.
- Chai, S., Das, S., and Rao, H.R. (2008). "An exploratory study of bloggers' information sharing behavior: The role of online privacy concerns," Americas conference on information systems.
- Chin, W. (1998). Issues and opinions on structural equation modeling. MIS Quarterly, 22(1), 7–10.
- Chiu, C. M., Hsu, M. H., & Wang, E. T. G. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems*, 42, 1872–1888.
- Collins, N. L., & Miller, L. C. (1994). Self-disclosure and liking: A meta-analytic review. *Psychological Bulletin*, 116(1), 457– 475.
- Cronbach, L. J. (1971). Test validation. In R. L. Thorndike (Ed.), *Educational measurement* (2nd ed.). Washington, DC: American Council on Education.
- Davis, M.R. (2010). "Social networking goes to school," Digital Directions, Bethesda, MD.
- Derlega, V., & Grzelak, J. (1979). Appropriateness of self-disclosure. In G. J. Chelune (Ed.), *Self disclosure* (pp. 151–176). San Francisco: Jossey-Bass.
- Derlega, V. J., Metts, S., Petronio, S., & Margulis, S. T. (1993). Selfdisclosure. Newbury Park: Sage Publications.
- Draper, M., Pittard, R., & Sterling, M. (2008). "Self-disclosure and friendship closeness". Hanover, IN: Hanover College.
- Dutton, J. E., & Dukerich, J. M. (1991). Keeping an eye on the mirror the role of image and identity in organizational adaptation. *Academy of Management Journal*, 34, 517–554.
- Dwyer, C., Hiltz, S.R., and Passerini, K. (2007). "Trust and privacy concern within social netoworking sites: A comparison of facebook and MySpace," Americas Conference on Information Systems.
- Facebook "Facebook Statistics," Facebook.Com, 2010.
- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(3), 39–50.
- Gefen, D., Straub, D.W., and Boudreau, M.-C. (2000). "Structural equation modeling and regression: Guidelines for research practice," *Communications of the Association for Information Systems* (4:7).
- Golder, S.A., Wilkinson, D., and Huberman, B.A. (2007). "Rhythms of social interaction: Messaging within a massive online network," The third international conference on communities and technologies, London, UK.
- HCI (2010). "Social networking in government: Opportunities and challenges," Human capital institute, Washington, D.C.
- Hu, T., & Kettinger, W. J. (2008). "Why people continue to use social networking services: Developing a comprehensive model," International conference on information systems. Canada: Montreal.
- Jarvenpaa, S. L., Tractinsky, N., & Vitale, M. (2000). Consumer trust in an internet store. *Information Technology and Management*, 1 (12), 45–71.
- Jia, Y., Zhao, Y., & Lin, Y. (2010). "Effects of system characteristics on users' self-disclosure in social networking sites," The seventh international conference on information technology. Las Vegas, Nevada: New Generations IEEE Computer Society.
- Kankanhalli, A., Tan, B. C. Y., & Wei, K. K. (2005). Contributing knowledge to electronic knowledge repositories: An empirical investigation. *MIS Quarterly*, 29(1), 113–143.

- Krasnova, H., Kolesnikova, E., and Guenther, O. (2009). "It Won't Happen to Me!: Self-disclosure in online social networks," Americas conference on information systems.
- Lambert, S. J. (2006). Both art and science: Employing organizational documentation in workplace-based research. In M. Pitt-Catsouphes, E. E. Kossek, & S. Sweet (Eds.), *The* work and family handbook: Multi-disciplinary perspectives, methods, and approaches. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Lampe, C., Ellison, N.B., and Steinfeld, C. (2007). "A familar Face (book): Profile elements as signals in an online social network," Conference on human factor in computing systems, New York, NY.
- Lenhart, A., Purcell, K., Smith, A., and Zickuhr, K. (2010) "Social media & mobile internet use among teens and young adults," Pew Internet, Washington, DC.
- Lo, J. (2010). "Privacy concern, locus of control, and salience in a trust-risk model of information disclosure on social networking sites,". Lima, Peru: AMCIS.
- Lo, J., & Riemenschneider, C. (2010). "An examination of privacy concernsand trust entities in determining willingness to disclose personal information on a social networking site,". Lima, Peru: AMCIS.
- Mael, F. A., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior*, 13, 102–123.
- Marwick, A. (2005). "I'm a lot more interesting than a friendster profile: Identity presentation, authenticity, and power in social networking services," Internet Research 6.0, Chicago, IL.
- Massari, L. (2009). Analysis of MySpace user profiles. *Information Systems Frontiers*, 12(4), 361–367.
- McKnight, D.H., and Chervany, N.L. (2000). "What is trust? A conceptual analysis and an interdisciplinary model," The 2000 Americas conference on information systems, Long Beach, CA.
- Metzger, M.J. (2004). "Privacy, trust, and disclosure: Exploring barriers to electronic commerce," *Journal of Computer Mediated Communication* (9:4).
- Molm, L. D. (1997). *Coercive power in social exchange*. New York, NY: Cambridge University Press.
- Moon, Y. (2000). Intimate exchanges: Using computers to elicit selfdisclosure from consumers. *Journal of Consumer Research*, 26 (4), 323–339.
- Morry, M. M. (2005). Allocentrism and friendship satisfaction: The mediating roles of disclosure and closeness. *Canadian Journal of Behavioural Science*, 37(3), 211–222.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and organizational advantage. Academy of Management Review, 23(2), 242–267.
- Nickel, J., & Schaumburg, H. (2004). "Electronic privacy, trust and self-disclosure in e-recruitment,". Vienna, Austria: CHI2004.
- Nielsen (2010) "Social networks/blogs now account for one in every four and a half minutes online," The Nielsen Company.
- Nunnally, J. C. (1976). Psychometric theory. New York: McGraw-Hill.
- Organ, D.W. (1988) Organizational citizenship behavior: The good soldier syndrome Lexington books, Lexington, MA.
- Park, N., Jin, B., and Jin, S.-A. (2009) "Motivations, Impression Management, and Self-Disclosure in Social Network Sites," In: *The Annual Meeting of the International Communication* Association, Chicago, IL.
- Pike, J.C., Bateman, P.J., and Butler, B. (2009). "I didn't know you could see that: The effect of social networking environment characteristics on publicness and self-disclosure," The fifteenth americas conference on information systems, San Francisco, CA.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-report in organizational research: Problems and prospects. *Journal of Management Studies*, 12(4), 531–544.

- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 839–903.
- Rawlings, W.K. (1983). "Openness as problematic in ongoing friendships: Two conversational dilemmas," *Communication Mono*graphs (50:1), 13.
- Reidl, R., Hubert, M., & Kenning, P. (2010). Are there neural gender differences in online trust? An FMRI study on the perceived trustworthiness of EBay offers. *MIS Quarterly*, 34(2), 397–428.
- Riketta, M. (2005). Organizational identification: A meta-analysis. Journal of Vocational Behavior, 66, 358–384.
- Rosen, P.A., and Kluemper, D.H. (2008). "The impact of the big five personality traits on the acceptance of social networking website," Americas Conference on Information Systems.
- Sledgianoski, D., and Kulviwat, S. (2008). "Social network sites: Antecedents of user adoption and usage," Americas Conference on Information Systems.
- Tow, W.N.-F.H., Dell, P., and Venable, J.R. (2008) "Understanding information disclosure behaviour in Australian facebook users," 19th Australasian Conference on Information Systems, Christchurch.
- Trepte, S., and Reinecke, L. (2010) "Young scholars network on privacy and web 2.0," German Research Foundation, Der Bildung.
- Tyler, T.R., and Blader, S.L. (2000). Cooperation in groups: Procedural justice, social identity and behavioral engagement psychology press, Philadelphia, PA.
- Walker, L. S., & Wright, P. H. (1976). Self-disclosure in friendship. Perceptual and Motor Skills, 42(3), 735–742.
- Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly*, 29(1), 35–57.
- Werts, C. E., Linn, R. L., & Joreskog, K. G. (1974). Interclass reliability estimates: Testing structural assumptions. *Educational* and Psychological Measurement, 34(1), 25–33.
- Whinston, A.B. (2009). "Opportunities and challenges in analysis of social netowrks," Americas Conference on Information Systems.

- Williams, T. A. (1996). Government regulation through voluntary cooperation: A follow-up study of the strategic impact of information technology. *The Journal of Strategic Information Systems*, 5(2), 149–156.
- Xu, H., Parks, R., Chu, C.H., and Zhang, X.L. (2010). "Information disclosure and online social networks: From the case of facebook news feed controversy to a theoretical understanding," Americas Conference on Information Systems.
- Zheng, W., and Jin, L. (2009) "Online reputation systems in web 2.0 Era," AMCIS2009.

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