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An Exploratory Study of Bloggers’ Information Sharing Behavior: The Role of Online Privacy Concerns

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ABSTRACT
Social networking websites have become very popular with Internet users as one of the latest forms of online communication tools. Blogs, recurrently updated web pages with a series of archived postings in social network websites have been discussed as a useful information sharing platform for knowledge management in a collaborative work environment.
However, blogs generate growing concerns regarding information privacy issues. This study, based on social capital theory, presents exploratory results about bloggers’ information sharing behavior. The survey results indicate that trust which has four second order factors: economy based trust, trust in reciprocity, trust in other bloggers and trust in social interaction positively affects bloggers’ information sharing behavior. However, online information privacy concerns have a negative impact on the relationship between trust and bloggers’ information sharing behavior.

Keywords
Online privacy concerns, knowledge management, blog, information sharing behavior, trust, social capital theory, moderating effect

INTRODUCTION
Blogs, which are chronological publications of personal thoughts and web links (http://www.marketingterms.com/dictionary/blog/), are gaining widespread popularity as one of the latest forms of online communication tools (Ojala 2005a; Schiano et al. 2004). According to a survey of the Pew Internet & American Life Project, 70% of the 120 million U.S. adults who use the Internet say that they have created blogs or web-based diaries. For instance, Myspace.com has 90 million members which is almost one third of the U.S population (Noguchi 2006). Blog is defined as a frequently updated web page with a series of archived photo images, text, and other multimedia in reverse-chronological order (Nardi et al. 2004). Early blogs did not seem to fit into an organizational knowledge management system. They were considered as personal journals advocating personal political views or chronicling personal daily events (Ojala 2005b).
However, recently the use of blogs has been discussed as a useful information sharing platform for knowledge management in a collaborative work environment. The research of Lang indicates the usefulness of blogs as an information-sharing tool with many business possibilities (Lang 2005). Since blogs can be created with blogging software that is free and simple, requires no special technical skills, blogging can be a great marketing and knowledge management option for small firms (Lang 2005). Active blog writers can add information and knowledge to knowledge repository for research projects by sharing industry and product knowledge, capturing and disseminating relevant news, and contributing valuable insights on specific subjects (Ojala 2005b). Blogs can encourage members to share their knowledge. In the field of education, institutions and many individual teachers have integrated blogging into their online educational strategies (Farmer et al. 2005). Blogs are suitable tools for supporting lifelong learning. Learners can record thoughts and experiences over time, build and maintain connection with peers, compile resources and create a body of knowledge representative of personal growth and achievement by blogging (Cameron et al. 2006).

While various advantages of blogs are discussed, there have been growing concerns regarding information privacy issues. Viégas contends that privacy issues stem from the nature of blogs (Viégas 2005). Many personal blogs contain self-disclosure characteristic contents (Qian et al. 2007) as a result of which blogs are full of personal information such as daily diaries, personal photos, and even home or work addresses. More over, this personal information can be easily searched by other visitors due to the archive-oriented characteristic of the contents.
According to Viégas, more than a third of the 500 survey respondents said they had negative experiences because of the material they posted on their blogs. There is a positive correlation between the frequency with which respondents reported publishing highly personal materials and how often they had faced problems because of their postings (Viégas 2005). Bloggers can face unexpected incidents such as dismissal from work because of their postings on blogs regarding their inappropriate behavior or negative opinions about their employer or workplace (Snyder et al. 2006). Moreover, personal information posted on blogs can cause various kinds of cybercrimes such as cyber stalking, identity theft, and cyber bullying which treating bloggers safety (Chai et al. 2006). Despite the fact that bloggers privacy can be at risk due to their information open to the public on their blogs, a lot of personal information is provided by a lot of bloggers. Gross, Acquisti, Heinz III explain this phenomenon based on a cost benefit framework. Bloggers’ perceived benefit from selectively revealing data to strangers may appear larger than the perceived costs of possible privacy invasions. Other reasons such as individual’s relaxed attitudes toward personal privacy, myopic evaluation of privacy risk, faith in the networking service, etc., may be driving factors for bloggers’ generous attitude toward privacy invasions (Gross et al. 2005).

Since information privacy and awareness regarding its importance are critical factors for production and dissemination of information (Park et al. 2006), this study investigates the role of online information privacy concerns on bloggers’ information sharing behavior.

The objectives of this study are as follows:
1. Identify factors affecting bloggers’ information and knowledge sharing behavior
2. Examine the relationship between bloggers’ online privacy concerns and factors driving their information sharing behavior

Based on social capital theory, this study presents exploratory results about bloggers’ information sharing behavior. The results of this study can provide useful insights on understanding blogging practice of users and the role of information privacy concerns on their information sharing behavior.

THEORITICAL BACKGROUND

Social Capital Theory

The main idea of social capital theory is that a set of social resources embedded in a relationship which helps people’s collective action are productive social resources (Coleman 1988). Social capital is defined as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (Nahapiet et al. 1998). Based on the definition of Nahapiet and Ghoshal, Inkpen and Tsang defined social capital as “aggregate of resources embedded within, available through, and derived from the network of relationships possessed by an individual or organization” (Inkpen et al. 2005). Social capital represents embedded values, such as social ties, trusting relations, and value systems that facilitate actions of individuals (Tsai et al. 1998). Social capital promotes community members’ coordination and cooperation (Putnam 1995). If the environment is high in social capital which is identified by the existence of strong network, trust, shared behavioral norms, reciprocity and respect, the environment significantly contributes to the creation and sharing of knowledge (Nahapiet et al. 1998; Sharratt et al. 2003). Inkpen and Tsang explain knowledge transfer based on social capital theory framework (Inkpen et al. 2005). The research of Yli-Renko et al. empirically tested the effect of social capital on knowledge acquisition and exploitation in technology venture firms. Their research results indicate that strong social interaction and network ties dimensions are positively associated with knowledge acquisition (Yli-Renko et al. 2001).

In this study, we utilize the social capital theory to explore bloggers’ information sharing behavior in cyberspace. Since bloggers interact with their friends and audience through their blogging activity, we investigate the role of social capital (trust, reciprocity and social interaction) in their information sharing behavior.

RESEARCH MODEL AND HYPOTHESES

Trust

According to the study of Friedman et al. (2000), trust is defined as a belief that people would not harm others although others are vulnerable (Friedman et al. 2000). Trust is discussed as one of the important factors affecting knowledge transfer in society. Shapin states that trust plays a central role in the diffusion of knowledge (Shapin 1988). Trust towards
combination of technical aspects of the Internet and human community is the first step for users to participate in trust relationship of online transaction (Friedman et al. 2000). Traditionally, dense social network, personal contacts, membership, and social class are direct sources of trust and contribute to transmitting tacit knowledge (Collins 2001). Prior studies (Nahapiet et al. 1998; Tsai et al. 1998) indicate that dense social interaction or network have a significant positive impact on sharing knowledge. Tsai and Ghoshal suggest social interaction ties as channels for information and resource flows(Tsai et al. 1998).

When a trust relationship is established, people in the relationship are more willing to participate in cooperative interaction (Nahapiet et al. 1998). The research of Nonaka also pointed out the role of interpersonal trust in creating knowledge sharing atmosphere in the organizations(Nonaka 1994). In the online context, trust is discussed as one of the positive influential factors on user’s online information transaction decision making (Kim et al. 2007). Furthermore, trust plays significant role in a successful business relationship between customer and e-commerce company(Kim et al. 2008). For the online community members’ knowledge sharing, trust plays an critical role to promote member’s information and knowledge sharing (Chiu et al. 2006; Hsu et al. 2007; Ridings et al. 2002).

Trust has different dimensions (Gefen et al. 2003; Paul et al. 2004; Ratnasingam 2005). The research of Gefen et al. investigated the role of trust which consists of various dimensions on consumers’ online shopping adoption (Gefen et al. 2003). They divided trust into four dimensions, which are calculative-based trust, institution-based structural assurance, institution-based situational normality, and knowledge-based familiarity (Gefen et al. 2003). According to their definition, calculative-based trust can be formed by rational analysis of the costs and benefits due to a trustee’s cheating or cooperating in the relationship (Gefen et al., 2003). Ratnasingam (2005) also introduces an economic perspective of trust, defined as trust regarding economic benefits (Ratnasingam 2005). In his research, economic benefits are direct savings in costs, time, technical efficiencies and security solutions based on cost benefit analysis procedure. Paul and McDaniel also differentiated trust types as calculative trust, competent trust, and relational trust(Paul et al. 2004). In their research, relational trust is defined as individual’s feeling regarding personal attachment to the other party and belief that other party will take an action with good intention towards him/her (Paul et al. 2004).

Reciprocity has been identified as one of the driving factors for knowledge sharing in prior literature (Bock et al. 2005; Chiu et al. 2006; Davenport et al. 1998; Huber 2001; Wasko et al. 2005). Gouldner (1960) defined reciprocity as people’s helping actions of rewarding others who provide them help in order to maintain healthy relationships(Gouldner 1960). According to Bock et al. a reciprocal relationship, which defined as the degree to which one believes one can improve mutual relationships with others through one’s knowledge sharing, positively affect individual’s attitude toward knowledge sharing (Bock et al. 2005). The research of Davenport and Prusak's also confirmed the positive role of reciprocity on knowledge sharing (Davenport et al. 1998). Wasko and Faraj contend that the positive effect of reciprocity on knowledge sharing practice in electronic networks environment (Wasko et al. 2005).

Based on above discussion, we divided trust into 4 dimensions; economy based trust (Gefen et al. 2003; Ratnasingam 2005), trust in reciprocity(Bock et al. 2005), trust in other bloggers(Chiu et al. 2006), and trust in social interaction (Nahapiet et al. 1998; Tsai et al. 1998). We hypothesize a positive relationship between trust and bloggers’ information sharing behavior (Davenport et al. 1998; Hsu et al. 2007). Thus, following hypothesis is stated:

**H1**: Bloggers’ trust is positively associated with their information sharing behavior.

**Online Information Privacy and Privacy Concerns**

Some scholars have defined privacy as “control over personal information”(Fried 1968; Parker 1974; Westin 1967). Westin (1967) has delineated information privacy as “the claim of individuals, groups or institutions to determine of themselves when, how, and to what extent information about them is communicated to others.” (Westin 1967) p.7) Introna (1997) has suggested that, to claim privacy is to claim the right to limit access or control the distribution of personal information(Introna 1997). The research of Malhotra et al.(Malhotra et al. 2004) defines information privacy concerns as a different and subjective perspective on fairness toward collection and use of personal information based on Campbell’s definition(Campbell 1997).

In the online environment, prior research examined the impact of privacy concerns on users’ intention to transact their information (Awad et al. 2006; Chellappa et al. 2005; Kim et al. 2008; Malhotra et al. 2004). Even though the website provide various measure protection online privacy, privacy sensitive people are not willing to provide their personal information for web-based personalization service(Awad et al. 2006). While a trust relationship with vendors positively associated with customers’ intention to provide their personal information, online privacy concerns is a significant negative
factor in the information transaction (Chellappa et al. 2005). Customers’ positive perception regarding privacy features of e-commerce websites are an important cause of level of trust toward an e-commerce website (Liu et al. 2005).

In this study, we investigate the role of online privacy concerns on bloggers’ information sharing behavior. Based on the definition by Malhotra et al. (Malhotra et al. 2004), this study defines bloggers’ online information privacy concerns as bloggers’ subjective and varied perceptions about fairness and the issue of collection of their personal information posted on their personal blogs. In our research, we assume both direct and indirect effect of online privacy concerns on bloggers’ information sharing behavior. Bloggers’ online privacy concern can negatively affect users’ information sharing practice. In addition, bloggers who have trust and have intention to share their information would reduce the amount of information posted on their blogs due to high online privacy concerns. This research suggests a negative effect of online information privacy concerns on bloggers’ information sharing behavior as well as moderating impact of bloggers’ online information privacy concerns on the relationship between trust and bloggers’ information sharing behavior. Thus, the following hypotheses are stated:

\[ H2: \text{Bloggers’ online information privacy concerns have a negative relationship with bloggers’ information sharing behavior.} \]

\[ H3: \text{Bloggers’ online information privacy concerns have a moderating effect on the relationship between bloggers’ trust and information sharing behavior.} \]

Figure 1 presents research model and hypotheses.

![Figure 1. Research Model](image)

**RESEARCH METHOD**

We used structured survey method for this research. Since this research is an ongoing one, we present the preliminary and exploratory study results based on a pilot survey, which was conducted in December 2007. 43 undergraduate students using blogs took part in the survey.

We adopted many of the measurement indicators from prior literature about online privacy and trust and modified them to fit the blog and information sharing context. For each measurement indicator, we used a 7 point Likert scale. Measurement indicators of online information privacy concerns are adopted from Malhotra et al (2004) and modified to reflect a blog environment. The measurements for each dimension of trust are adopted from prior literature and changed to fit the bloggers’
information sharing behaviors: economy based trust (Gefen et al. 2003; Ratnasingam 2005), trust in reciprocity (Bock et al. 2005), trust in other bloggers (Chiu et al. 2006), and trust in social interaction (Nahapiet et al. 1998; Tsai et al. 1998). Indicators for bloggers’ information sharing behavior are adopted from (Davenport et al. 1998; Hsu et al. 2007) and modified to reflect bloggers’ behavior (e.g. I frequently visit other blogs to get information and knowledge, I frequently leave my feedback/comments on other blogs, I update my blogs regularly, I frequently share my experience or know-how with other bloggers, I post useful documents or files on my blog to share with other bloggers etc.).

To analyze the structural model, we used the Partial Least Square (PLS) method. Compared to AMOS or LISREL, PLS does not require assumptions about the population or scale of measurement (Haenlein et al. 2004). A bootstrap resampling procedure was performed to examine the stability of estimates (Chin et al. 2003) and to develop robust confidence intervals (Chin 1998). All loadings of 25 standardized indicators were above the ideal cutoff level of 0.7 (Barclay et al. 1995; Chin 1998b), which indicates that the reliabilities of each item are acceptable. The composite reliabilities (acceptance level is 0.7 (Fornell et al. 1981)) of constructs of our research model ranged from 0.911 (online information privacy concerns) to 0.950 (Bloggers’ Information Sharing Behavior) so that our search research model ensures construct level reliability. We tested for discriminant validity by comparing Average Variance Extracted (AVE) and inter-construct correlation. All AVEs for the latent variables measured by reflective indicators were greater than the required minimum level of 0.5 and every construct had a larger square root of AVE than its correlations with other constructs. This result shows that our measurement model ensures discriminant validity (Chin 1998a). The values of AVE, composite reliability and correlation are presented in Table 1.

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1:Bloggers’ Information Sharing Behavior
2:Online Information Privacy Concerns
3:Composite Reliability
4:Square Root of AVE

Table 1. Correlations, Composite Reliability and AVE of Latent Variables

RESULTS

To test the moderating role of online privacy concerns, this paper followed the direction of Carte and Russell (2003) (Carte et al. 2003). This study also computed Cohen’s $f^2$ in order to compare the $R^2$ values between the main and moderating effects, following Chin et al. (2003)(Chin et al. 2003). Based on the guidelines of Chin et al (2003), this study has f-statistic, 7.55 which is significant at $p<0.01$ and Cohen’s $f^2$, 0.112, medium/large effective size (Cohen 1998), which means that hypothesis 3 (Bloggers’ online information privacy concerns have a moderating effect on the relationship between bloggers’ trust and information sharing behavior.) is supported by our data analysis results. This result indicates bloggers’ online information privacy concerns have medium/large negative effect on the strength of relationship between trust and bloggers’ information sharing behavior. However, hypothesis 2, which states a direct negative relationship between online information privacy concerns and bloggers’ information sharing behavior, is not supported by our results.

In our research model, trust is a second order factor. All of its indicators had factor loadings above 0.7 ($P<0.01$) as well as load higher on the first order factors than on the second order factor. AVE of trust was greater than the square of the correlations between it and its four first order factors. These indicate that economy based trust, trust in reciprocity, trust in other bloggers and trust in social interaction reflect the second order factor well (Chin et al. 1995). Regarding the relative importance of the four dimensions, trust in social interaction (path coefficient: 0.841 $P<0.01$) has higher path coefficient among all the other three first order factors for trust which indicates that trust in social interaction is relatively more important than the other three dimensions.
Hypothesis 1: Bloggers’ trust is positively associated with their information sharing behavior. is supported by the results. Path coefficient between Trust and Bloggers’ information behavior is 0.481 which is significant at p<0.01, which means that bloggers’ trust has positive impact on their information sharing behavior.

Summarized research results are shown in figure 2.

CONCLUSION AND DISCUSSION

In this research, we explored bloggers’ information sharing behavior based on the social capital theory. In the context of bloggers’ online community, this study examined how social capital (economy based trust, trust in reciprocity, trust in other bloggers and trust in social interaction) influence their information sharing practice. According to our results, bloggers’ information sharing through personal blogs is significantly affected by their trust which consist of belief in economic benefits, trust in reciprocity, trust in other bloggers and trust in social interaction. When bloggers have beliefs that they can save information search time and cost by using blogs, they would share more information on their blogs. In addition, trust in other bloggers (e.g. other bloggers will not harm or misuse shared information) also has a positive influence on bloggers’ information sharing behavior. If there are frequent social interactions among bloggers, bloggers would provide more information on blogs. Bloggers’ expectations about reciprocal behavior (e.g. if I share knowledge and information, other blogger will help me when I need information/ knowledge) from other bloggers is another important component of trust.

Our research indicates that bloggers’ information privacy concerns weaken the relationship between trust and information sharing behavior resulting in bloggers’ less information sharing. However, the results could not support a direct negative impact of online privacy concerns regarding information sharing behavior. Based on the research results, we can conclude that bloggers’ online privacy concerns cannot solely affect on bloggers’ information sharing practice on the net. To adopt blog as an information and knowledge sharing platform for an organization, establishing a trusted relationships is important. In addition, online environment, which can ensure users’ information privacy, need to be provided.

The limitations of this study lie in the sample characteristics. Since our results are based on pilot surveys from a comparatively a small sample, a future study using diverse and a larger population, needs to be carried out to confirm our research results.

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